

Final Draft

11 November 2015



**SEVENTH FIVE YEAR PLAN
FY2016 – FY2020**

Accelerating Growth, Empowering Citizens

General Economics Division (GED)
Planning Commission
Government of the People's Republic of Bangladesh

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ACRONYMS

6 th FYP	Sixth Five Year Plan
7 th FYP	Seventh Five Year Plan
ACC	Anti-Corruption Commission
ADB	Asian Development Bank
ADF	Augmented Dickey Fuller
ADP	Annual Development Programme
ADR	Alternative Dispute Resolution
AEZ	Agro Ecological Zone
AIDS	Acquired Immune Deficiency Syndrome
AMC	Alternate Medical Care
ANC	Antenatal Care
APR	Annual Performance Report
APTA	Asia and Pacific Trade Area
ASEAN	Association of Southeast Asian Nations
ATC	Agricultural Technical Committees
ATI	Agricultural Training Institute
AWD	Alternate Wetting and Drying
BADC	Bangladesh Agricultural Development Corporation
BAPARD	Bangabandhu Academy for Poverty Alleviation and Rural Development
BAPEX	Bangladesh Petroleum Exploration and Production Company Limited
BARD	Bangladesh Academy for Rural Development
BARI	Bangladesh Agricultural Research Institute
BAU	Bangladesh Agricultural University
BB	Bangladesh Bank
BBA	Bangladesh Bridge Authority
BBS	Bangladesh Bureau of Statistics
BCCRf	Bangladesh Climate Change Resilience Fund
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCTF	Bangladesh Climate Change Trust Fund
BCIC	Bangladesh Chemical Industries Corporation
BEPZA	Bangladesh Export Processing Zone Authority
BERC	Bangladesh Energy Regulatory Commission
BFDC	Bangladesh Fisheries Development Corporation
BFIDC	Bangladesh Forest Industries Development Corporation
BFRI	Bangladesh Forest Research Institute
BGMEA	Bangladesh Garments Manufacturers and Exporters Association
BHWDB	Bangladesh Haor and Wetland Development Board
BIDS	Bangladesh Institute of Development Studies
BIFF	Bangladesh Infrastructure Financing Facility
BIM	Bangladesh Institute of Management
BIMSTEC	Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BITAC	Bangladesh Industrial Technical Assistance Centre
BIWTA	Bangladesh Inland Water Transport Authority
BJMA	Bangladesh Jute Mills Association
BJSA	Bangladesh Jute Spinner's Association
BKMEA	Bangladesh Knitwear Manufacturers and Exporters Association
BLRI	Bangladesh Livestock Research Institute
BMET	Bureau of Manpower, Employment and Training

BNH	Bangladesh National Herbarium
BOP	Balance of Payment
BOU	Bangladesh Open University
BPD	Bangladesh Poverty Database
BPDB	Bangladesh Power Development Board
BRAC	Bangladesh Agricultural Research Council
BRDB	Bangladesh Rural Development Board
BREB	Bangladesh Rural Electrification Board
BRICS	Brazil, Russia, India, China and South Africa
BRRRI	Bangladesh Rice Research Institute
BRT	Bus Rapid Transit
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
BSCIC	Bangladesh Small and Cottage Industries Corporation
BSEC	Bangladesh Steel Engineering Corporation
B-SEP	Bangladesh - Skills for Employment and Productivity
BSFIC	Bangladesh Sugar & Food Industries Corporation
BSMIA	Bangabandhu Sheikh Mujib International Airport
BSTI	Bangladesh Standards and Testing Institute
BTEB	Bangladesh Technical Education Board
BUILD	Business Initiative Leading Development
BWDB	Bangladesh Water Development Board
CASE	Clean Air and Sustainable Environment
CBFM	Community Based Fisheries Management
CBOs	Community Based Organizations
CBR	Community Based Rehabilitation
CBT&A	Competency Based Training and Assessment
CC	Community Clinics
CCA	Climate Change Adaptation
CCF	Chief Conservator of Forest
CCGT	Combined-Cycle Gas Turbine
CCKN	Climate Change Knowledge Network
CDM	Clean Development Mechanism
CDMP	Comprehensive Disaster Management Programme
CDMS	Crime Data Management System
CDP	Committee for Development Policy
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CEGIS	Centre for Environmental and Geographical Information System
CEmOC	Comprehensive Emergency Obstetrical Care
CERDI	Central Extension Resources Development Institute
CGE	Computable General Equilibrium
CHT	Chittagong Hill Tract
CLDDP	Community Livestock and Dairy Development Project
CLP	Char Livelihood Programme
CMC	Central Monitoring Committee
CPA	Chittagong Port Authority
CPR	Contraceptive Prevalence Rate
CSBAs	Community Skilled Birth Attendants
CSO	Civil Society Organizations
CTP	Comprehensive Trade Policy
CVDP	Comprehensive Village Development Programme
DDM	Department for Disaster Management

DEMO	District Employment and Manpower Offices
DEMU	Diesel Electric Multiple Unit
DESCO	Dhaka Electric Supply Company
DFID	Department for International Development
DFQF	Duty-Free & Quota-Free
DGHS	Directorate General of Health Service
DHUTS	Dhaka Urban Transport Studies
DLS	Department of Livestock Services
DMA	Disaster Management Act
DMRD	Disaster Management and Relief Division
DNA	Designated National Authority
DNS	Directorate of Nursing Services
DOE	Department of Environment
DOF	Department of Fisheries
DPDT	Department of Patents, Designs and Trademarks
DPE	Directorate of Primary Education
DPEC	Departmental Project Evaluation Committees
DRF	Development Results Framework
DRR	Disaster Risk Reduction
DSHE	Directorate of Secondary and Higher Education
DSM	Demand Side Management
DSS	Department of Social Services
DTC	District Technical Committee
DTE	Directorate of Technical Education
DWA	Department of Women Affairs
EBA	Everything But Arms
EC	Election Commission
ECA	Environment Conservation Act
ECA	Ecologically Critical Area
ECCRP	Emergency Cyclone Recovery and Restoration Project
ECNEC	Executive Committee of the National Economic Council
EDI	Education Development Index
EEC	Energy Efficiency and Conservation
EED	Education Engineering Department
EEP	Economic Empowerment for the Poorest
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMIS	Education Management Information System
EPB	Exports Promotion Bureau
EPI	Environmental Performance Index
EPI	Expanded Programme on Immunization
EPZ	Export Processing Zone
ERP	Effective Rates of Protection
ETI	Enabling Trade Index
ETP	Effluent Treatment Plant
EU	European Union
EVI	Economic Vulnerability Index
FCDI	Flood Control, Drainage and Irrigation
FD	Forest Department
FDI	Foreign Direct Investment
FERA	Foreign Exchange Regulation Act
FFW	Food-for-Work

FIAC	Farmer’s Information and Advisory Centre
FIAS	Foreign Investment Advisory Service
FO	Fuel Oil
FPMU	Food Planning Monitoring Unit
FSMF	Fish Seed Multiplication Farms
FTA	Free Trade Agreement
GAP	Good Agricultural Practices
GCF	Green Climate Fund
GCI	Global Competitive Index
GDF	Gas Development Fund
GDP	Gross Domestic Product
GED	General Economics Division
GEM	General Equilibrium Model
GER	Gross Enrolment Rate
GGR	Gender Gap Report
GNI	Gross National Income
GNPL	Gross Non Performing Loans
GoB	Government of Bangladesh
GPMS	Governance Performance Management System
GRB	Gender Responsive Budgeting
GRS	Grievances Redress System
GSP	Generalized System of Preferences
GSTP	Global System of Trade Preferences
GTI	Graduate Training Institute
GVCs	Global Value Chains
HACCP	Hazard Analysis and Critical Control Point
HAI	Human Assets Index
HCU	Hydro Carbon Unit
HEQEP	Higher Education Quality Enhancement Project
HFA	Hyogo Framework for Action
HFWC	Health and Family Welfare Centre
HIES	Household Income and Expenditure Survey
HIV	Human Immunodeficiency Virus
HNP	Health, Nutrition and Population
HNPSP	Health, Nutrition and Population Sector Programme
HORTEX	Horticulture Export Development Foundation
HPNSDP	Health, Population and Nutrition Sector Development Programme
HPSP	Health and Population Sector Programme
HRD	Human Resource Development
HRH	Human Resources for Health
HRIS	Human Resource Information System
HSIA	Hazrat Shahjalal International Airport
HWF	Health Workforce
HYV	High Yielding Variety
IAP	Indoor Air Pollution
IAS	International Accounting Standards
ICM	Integrated Crop Management
ICOR	Incremental Capital Output Ratio
ICS	Improved Cooking Stove
ICT	Information and Communication Technology
IDA	International Development Association
IDB	Islamic Development Bank

IDCOL	Infrastructure Development Company Limited
IDM	Integrated Disease Management
IFC	International Finance Corporation
ILO	International Labour Organization
IMCI	Integrated Management of Childhood Illness
IMED	Implementation Monitoring and Evaluation Division
IMR	Infant Mortality Rate
INDC	Intended Nationally Determined Contributions
InM	Institute of Microfinance
IOC	International Oil Companies
IPCC	Intergovernmental Panel on Climate Change
IPHN	Institute of Public Health Nutrition
IPM	Integrated Pest Management
IPP	Independent Power Producer
IPR	Intellectual Property Rights
ISAC	Industrial Sector Adjustment Credit
ISI	Import-substituting Industrialization
IT	Information Technology
ITC	International Trade Centre
ITU	International Telecom Union
IUCN	International Union for the Conservation of Nature
IWM	Institute of Water Modelling
JCS	Joint Cooperation Strategy
JICA	Japan International Cooperation Agency
JRC	Joint Rivers Commission
KE	Knowledge Economy
KEI	Knowledge Economy Index
KPI	Key Performance Indicators
LAPM	Long Acting Permanent Method
LCD	Low Carbon Development
LDC	Least Developed Countries
LED	Light Emitting Diode
LFS	Labour Force Survey
LGD	Local Government Division
LGED	Local Government Engineering Department
LGIs	Local Government Institutions
LGLF	Local Government Legal Framework
LIC	Low Income Country
LMIC	Lower Middle Income Countries
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LPI	Logistics Performance Index
M&E	Monitoring and Evaluation
MACH	Management of Aquatic Ecosystems through Community Husbandry
MCS	Monitoring, Control and Surveillance System
MDG	Millennium Development Goal
MFA	Multi-Fibre Arrangement
MFI	Microfinance Institution
MFS	Mobile Financial Services
MG	Meter Gauge
MHVS	Maternal Health Voucher Scheme
MIS	Management Information System

MNCAH	Maternal, Neonatal, Child and Adolescent Health
MoA	Ministry of Agriculture
MoC	Ministry of Commerce
MoEWOE	Ministry of Expatriates' Welfare & Overseas Employment
MoF	Ministry of Finance
MoHA	Ministry of Home Affairs
MoHFW	Ministry of Health and Family Welfare
MoLGRDC	Ministry of Local Government, Rural Development and Cooperatives
MoPA	Ministry of Public Administration
MoWCA	Ministry of Women and Children Affairs
MPS	Monetary Policy Statement
MRA	Microcredit Regulatory Authority
MRT	Metro Rail Transit
MRTS	Mass Rapid Transit System
MT	Metric Tonne
MTBF	Medium Term Budgetary Framework
MW	Mega Watt
NAEP	New Agricultural Extension Policy
NAFTA	North American Free Trade Agreement
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NASP	National AIDS/STD Programme
NAWASIC	National Water Supply & Sanitation Information Centre
NBR	National Board of Revenue
NCD	Non-Communicable Disease
NEC	National Economic Council
NEMAP	National Environment Management Action Plan
NEP	National Education Policy
NER	Net Enrolment Rate
NFE	Non Formal Education
NFP PoA	National Food Policy Plan of Action
NGO	Non-Governmental Organization
NLASO	National Legal Aid Services Organization
NLDC	National Load Dispatch Centre
NNP	National Nutrition Programme
NNS	National Nutrition Services
NPD	Norwegian Petroleum Directorate
NPDM	National Plan for Disaster Management
NPL	Non-Performing Loan
NPR	Nominal Protection Rate
NPSC	National Project Steering Committee
NRM	Natural Resource Management
NSDC	National Skill Development Council
NSDP	National Skill Development Policy
NSDS	National Strategy for the Development of Statistics
NSDS	National Sustainable Development Strategy
NSIS	National Social Insurance Scheme
NSS	National Statistical System
NSSS	National Social Security Strategy
NTCC	National Technical Co-ordination Committee
NTVQF	National Technical and Vocational Qualifications Framework

NUPHCC	National Urban Primary Health Care Committee
NWDP	National Women Development Policy
NWMP	National Water Resources Management Plan
NWRC	National Water Resources Council
NWRD	National Water Resources Database
O&M	Operations and Maintenance
OAG	Office of the Auditor General
OECD	Organisation for Economic Co-operation and Development
OMS	Open Market Sales
OWG	Open Working Group
PA	Precision Agriculture
PBES	Performance Based Evaluation System
PCA	Principal Component Analysis
PCBs	Polychlorinated Biphenyls
PCR	Polymer Chain Reaction
PDB	Power Development Board
PDBF	Palli Daridro Bimochon Foundation
PEDP	Primary Education Development Programme
PHC	Primary Health Care
PKSF	Palli Karma-Sahayak Foundation
PLAU	Policy Leadership and Advocacy Unit
PMT	Proxy Means Test
PPP	Public-Private Partnerships
PSC	Public Service Commission
PSCs	Production Sharing Contracts
PSHT	Prevention and Suppression of Human Trafficking
PSMP	Power Sector Master Plan
PSPGP	Private Sector Power Generation Policy
PTA	Preferential Trade Agreement
PTS	Primary Textile Sector
PVP	Private Voluntary Pension
PWD	Persons with Disability
PWD	Public Works Department
QC	Quality Control
R&D	Research and Development
RBME	Results-Based Monitoring and Evaluation
RDA	Rural Development Academy
RDCD	Rural Development and Cooperatives Division
REB	Rural Electrification Board
REDD	Reducing Emission from Deforestation and Forest Degradation
REER	Real Effective Exchange Rate
RF	Results Framework
RFID	Radio-Frequency Identification
RHD	Roads and Highways Department
RIA	Regulatory Impact Assessment
RMF	Road Maintenance Fund
RMG	Ready-Made Garment
RPL	Recognition of Prior Learning
RRI	River Research Institute
RTC	Regional Technical Committee
RTI	Right to Information
RYMG	Rice Yield Gap Minimization

S&D	Special and Differential
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Area
SASEC	South Asia Sub-Regional Cooperation
SCBs	State-owned Commercial Banks
SD	Supplementary Duties
SDG	Sustainable Development Goals
SDT	Special and Differential Treatment
SEC	Securities and Exchange Commission
SEZ	Special Economic Zones
SFDF	Small Farmers Development Foundation
SFYP	Sixth Five Year Plan
SHS	Solar Home Systems
SIA	Social Impact Assessment
SID	Statistics and Informatics Division
SLIP	School-Level Improvement Plans
SMEF	Small and Medium Enterprise Foundation
SMEs	Small and Medium Enterprises
SMI	Survey of Manufacturing Industries
SOD	Standing Orders on Disasters
SOE	State Owned Enterprises
SPPs	Social Protection Programmes
SPS	Sanitary and Phyto-sanitary Standards
SREDA	Sustainable and Renewable Energy Development Authority
SRF	Sundarbans Reserve Forest
SRO	Self-Regulatory Organization
SSN	Social Safety Net
SSNP	Social Safety Net Programme
STEP	Skills and Training Enhancement Project
STP	Strategic Transport Plan
SWAp	Sector Wide Approach
TBT	Technical Barriers to Trade
TCB	Trading Corporation of Bangladesh
TFP	Total Factor Productivity
TFR	Total Fertility Rate
THNPP	Tribal Health, Nutrition and Population Plan
TICFA	Trade and Investment Cooperation Forum Agreement
TPO	Trade Promotion Organizations
TPS-OIC	Trade Preferential System of the Organization of the Islamic Conference
TQM	Total Quality Management
TS	Technical School
TTRI	Trade Restrictiveness Index
TVET	Technical and Vocational Education Training
UDMCs	Union Disaster Management Committees
UGC	University Grants Commission
UHC	Upazila Health Complex
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
URC	Upazila Resources Centre
US	United States

USAID	United States Agency for International Development
USF	Unclassified State Forests
USG	Urea Super Granule
USGS	United States Geological Survey
VAT	Value Added Tax
VAW	Violence Against Women
VDP	Village Development Party
VGD	Vulnerable Group Development
VGf	Vulnerable Group Feeding
VTE	Vocational and Technical Education
VTRT	Village Tiger Response Team
VWB	Vulnerable Women's Benefit
WARPO	Water Resources Planning Organization
WASA	Water Supply and Sewerage Authority
WATSAN	Water and Sanitation
WB	World Bank
WDF	Washing, Dyeing and Finishing
WEF	World Economic Forum
WFP	World Food Programme
WHO	World Health Organization
WMO	Water Management Organization
WPD	Women Development Policy
WSIS	World Summit on Information Society
WSS	Water Supply and Sanitation
WTO	World Trade Organization
WZDC	Western Zone Distribution Company

“A plan is not merely a technical and an economical document but also a socio-political document. It must be able to enthuse, mobilise and motivate people. It must provide a vision and perspective for the nation.”

- The First Five Year Plan (1973-78) of Bangladesh

EXECUTIVE SUMMARY

Introduction

Bangabandhu Sheikh Mujibur Rahman the father of the nation, dreamt of a 'Shonar Bangla' where the common citizens of the country live in prosperity and have equitable access to quality education, healthcare, rule of law and employment opportunities. The Awami League-led alliance resurrected that dream in its election manifesto 'Charter for Change' in 2008 with the proclamation of Vision 2021 to drive the country's sustainable development agenda by striking the right balance between equitable national economic progress and human development. For the first time in the country's history, such a comprehensive and audacious vision, steeped in self-reliance, to reach middle-income status by the 50th anniversary of the nation was presented to the people. This vision greatly resonated with the aspirations of the people and received overwhelming support in the 2008 national elections.

The boldness of vision embodied by the dynamic leadership of Prime Minister Sheikh Hasina permeated to different tiers of government and society, and galvanized widespread collaboration and unprecedented innovation to fast track the country's rate of development. In the last 7 years, Bangladesh has established a new development paradigm through its novel approach to socioeconomic development which is high-growth and yet inclusive, self-dependent and yet collaborative, respectful of heritage and yet opportunistic in its use of new technologies. The country has moved up to low middle income status but, more importantly, by human development indicators, achieved a level of development commonly predicted for twice its per capita income.

A Perspective Plan (2010-2021) and two five year plans, 6th (2011-2015) and 7th (2016- 2020), were to implement Vision 2021. The 6th Five Year Plan (FYP) moved the nation from the somewhat investment-driven and resource dependent framework to a broader socio-economic transformation vision, unifying the various state and non-state actors with specific milestones and complementary roles. The ambitious plan was anchored around courageous entrepreneurship by the government, complementary efforts of the non-state actors, and innovation by the people. The goals that the government set for itself and the people were far beyond those of any previous administration. Its implementation was characterized by truly visionary top-down policy making, complemented by robust bottom-up development. Contextualized R&D was introduced in critical sectors like agriculture, health, education, financial inclusion, science and technology. The whole government machinery was mobilized and its psyche re-engineered to be innovative in enlarging the resource envelop and co-creating strategic solutions to national problems. Such 'out of the box thinking' supported by entrepreneurial initiatives have paid handsome dividends in terms of social inclusion, human and infrastructural development.

The sheer audacity and inspirational leadership demonstrated by the government - embodied by bold decisions such as continuing with the construction of the Padma Bridge despite myriad challenges - has invigorated people's hopes, aspirations and self-belief and effectively raised the frontiers of the country's growth. In 2015, as the 6th FYP draws to a close, Bangladesh has

accelerated the pace of socioeconomic transformation - in many instances surpassing its targets - even in the backdrop of a global recession during this period. In that respect, Bangladesh is a 'development outlier' to its credit. The 7th FYP has been formulated with full recognition that the 'outlier' phenomenon is not merely a blip on the development path but rather a sustainable occurrence chartering a new development trajectory. Lauded as a 'Development Surprise' by prominent international media, Bangladesh has emerged as a shining example for countries throughout the world as it continues to defy traditional, linear development models and innovate a novel, alternative pathway for socioeconomic progress.

Review of Progress under the Sixth Plan and Key Drivers

Growth and Development outcomes: One of the key ingredients of Bangladesh's impressive story of progress is its resilient GDP growth which held steady at 6% for a number of years and recently moved up to 6.5% which the country could attain amid a global recession and financial meltdown. Bangladesh's success in achieving this commendable GDP growth is only matched by few countries in the Asia-Pacific region. Also, this growth was balanced and broad based covering all the major sectors of the economy. Compared with 2008, the per capita income increased from \$619 to \$1,314, inflation was brought down from 8.9% to 6.2% and fiscal deficit maintained around 5% of GDP. The incidence of poverty and extreme poverty have both exhibited significant reduction, falling below 25% and around 12 % respectively, achieving the MDG target of halving the incidence of poverty between 1990 and 2015. It has already gone past the MDG target for child mortality 48 per 1000 live births, Net enrolment in primary education is almost 100% and the retention rate is 80% and consistently rising, female students outperforming their male counterparts in primary and secondary education. On other socioeconomic indicators, Bangladesh is performing equally well.

Even in the face of global recession, Bangladesh's exports maintained healthy growth and the current account was mostly in surplus. Along with unfolding export diversification and moving up the value chain of traditional exports, Bangladesh has emerged as the second largest readymade garments exporting country in the world rising in value from \$12 billion to over \$25 billion, defying all predictions of slowdown made by analysts. Remittances sent by nearly 10 million expatriate workers have risen from \$10 billion to more than \$15 billion recently. These factors have contributed to significantly increase of country's foreign reserve from \$5.8 billion to a record \$26 billion, second highest among the SAARC countries and enough to meet the country's import bills for more than 8 months.

Unlike most countries, the GDP growth story has one important twist: the growth was so engineered that it resulted in expansion of the much needed job market and promoted inclusion. According to the Labour Force Survey 2013, total domestic employment increased from 54 million in 2010 to 58 million in 2013. The number of male workers grew from 37.9 million in 2010 to 41.2 million in 2013 and the female workers from 16.2 million to 16.8 million over the same period. Manpower exports abroad averaged 0.5 million per year during this period. As a result, the total number of additional workers who found employment in the domestic market or abroad exceeded the number actively seeking work in the domestic economy making a significant dent on underemployment. Carried forward to 2015 this trend would imply further improvement in reducing the number of those who are underemployed.

Visionary top-down policy making complemented by robust bottom-up development: The distinguishing feature of this new evolving paradigm witnessed during the realization of the 6th FYP is a simultaneous emphasis on top-down and bottom-up development paths that are convergent and reinforcing. For instance, at macro level, economic growth was pursued while strengthening the macro balances; infrastructure investments were broadened and deepened with private capital complementing public resources and crowding-in investments in the exclusive domain of the private sector; labour intensive manufacturing led the industrialization process boosting wage incomes; expansion of the rural economy contributed to food security as well much needed jobs for rural labour force.

A major hallmark was policy led reforms influencing and augmenting the flow of budgetary resources. One of the major challenges to economic growth was the acute shortage of power. Bold and innovative policy not only pushed the resource envelope beyond traditional financial sources but also harnessed private sector's potentials to jointly overcome the crisis-mobilizing over \$ 8 billion and more than doubling generation capacity to about 14,000 MW in 2015. Also, currently, Bangladesh has around 4 million solar home systems (SHS) covering 10% of all households-which is the largest SHS in the world. During the 6th Plan period, breakthrough was made in establishing regional power connectivity, Bangladesh importing first ever power, 500 MW from India. Another example is the Skills Development Policy which set the stage for planning and investing resources for increased productivity, employability and mobility of the labour force to reap the benefits of demographic dividend and support the economic transformation in the future. The Women Development Policy consolidated a national vision for social, legal and economic empowerment of women and guided a set of actions and resources for all stakeholders. Going beyond the traditional emphasis on boosting ICT related exports only, the ICT policy, among others, focused on improved governance by increasing transparency, accountability and efficiency of service delivery and ensuring better value for money.

At the same time, bottom-up interventions were designed and launched with an uncompromising focus on the felt needs of the people, in particular, the poor and the marginalized - a distinguishing trait of the present government. For instance, Digital Centres were established in all the 4500+ Union Parishads, taking services to the door steps of millions of underserved citizens; more than 13,000 Community Clinics deliver quality basic healthcare in close proximity of rural communities. Targeted and affirmative programs have been designed and implemented for promoting primary and secondary education, in particular for girls who contributed to significant improvement in school retention with the added benefits of reduced under-age marriage, maternal and child mortality and enhanced women empowerment.

Agriculture is an example of policy convergence: top down and bottom up. Policy driven resources were made available from the top to support availability of inputs, extension services, credit to farmers and R&D to meet the challenges for increasing productivity and sustainability. At the same time, bottom up reforms were put in place to ensure the rights of intended beneficiaries. Bank accounts were opened for as small as Tk. 10, beneficiary cards were issued and beginning was made to leverage IT enabled services for extension services, crop protection and technology diffusion. The outcomes are reassuring. Bangladesh has tripled its rice production since its independence, from 10 million MT in 1971 to around 34 million MT today even in the face of declining arable land. Bangladesh is now world's sixth largest producer of

rice, on the threshold of exporting food grains. The impact is also seen in accelerated growth of rural wage rates especially since 2010 which was a key driver of inclusive development in Bangladesh.

Bold entrepreneurship by the government: Harnessing the broad based mandate and widespread support, the present government could make bold decisions necessary to lead the nation towards the extraordinary progress that Bangladesh achieved in the last plan period. It is this strength of extremely enterprising decisions that enabled the country to expand the access to electricity from 45% in 2008 to over 74% in 2015; move ahead to build the \$3 billion Padma bridge through its own initiative, extend the broadband network to remote countryside, etc. Embarking on such bold programs needed careful management of resources, proper planning and above all, a creative vision. In many ways, the powerful signals coming from the government set the tone for mobilizing private investments, domestic and foreign, in large volumes.

There has been a sea change in civil bureaucracy. Encouragement and policy support from senior officers at the ministry and directorate levels to take risks coupled with a Service Innovation Fund to incubate innovation in service delivery is recognizing, rewarding and catalysing new and promising ideas from field level officers in re-engineering, decentralization and public-private partnerships. Harnessing the near ubiquitous presence of the internet, flourishing mainstream and social media, mechanisms have been created by the government, private sector and civil society that allow people to come together for development.

This change in mind-set was crucial to establishing a culture of innovation within government that has contributed immensely to breaking the mould and sharply increasing the gradient of the country's development. The result has been an increasingly visible public service innovation ecosystem that has already seen 58% reduction in time taken for citizens to access certain services along with 32% cost savings and 80% less visits. A new governance paradigm is emerging.

Investing in caring society: The Bangladesh government currently has over 140 social safety net programs, covered 25% households and 1.6 billion US\$ disbursed to date. Poverty has come down to below 25% and extreme poverty down to around 12%. 'Ekti Bari Ekti Khamar', 'Food for All' and 'Shelter for all' are examples of a caring government focused on identifying citizens and communities living on the margins and reaching out to them. Seasonal starvation in northern region is now firmly a thing of the past. Large national workfare programs like the Food for Work Programme (FWP) and the Employment Generation Programme for the Poor (EGPP) disburse as much as TK. 45 billion annually and help create employment in rural areas during agricultural slack periods for those who need them, especially women. ICT has been leveraged for financial disbursements under Ekti Bari Ekti Khamar to reach out to the beneficiaries, expand the network cooperatives in all Union Parishads across the country and forced savings among members which are matched by the government, ensuring not only credit but also promoting savings behaviour among poor women.

Key institutions like Bangladesh Bank were empowered to take revolutionary steps in enhancing financial inclusion. The number of mobile money clients in Bangladesh grew from zero to 25 million users, with the number of daily transactions reaching 77 million. Nearly 10

million farmers, 110 thousand freedom fighters, and 2.6 million Social Safety Net Program (SSNP) beneficiaries have opened '10 Taka Accounts' across the country. Bangladesh Bank issued a guideline on 'Agent Banking' aimed at creating the platform to take full service banking facilities to every corner of the country by allowing public and private banks to leverage the established networks of Digital Centres and Post Offices. Nobel Laureate in Economics, Prof Kenneth Arrow while defining a 'good society' identified two critical aspects; "respect for others and concern for others". Bangladesh of today in a way exemplifies this description.

Empowering women and reducing gender inequality: The mobilisation of the "active agency of women" has been a distinctive feature of the vision that has moved Bangladesh forward in terms of their social, economic and legal empowerment. Public services, such as school teaching, health care, and family planning are directed towards and employ a much higher proportion of women than is the case in most developing economies, including in Bangladesh's neighbours. Led by such industries as ready-made garments, women have entered the economic work force in plentiful numbers. Indeed, recent trends show more women have entered the labour force than men. Apart from marked improvements in important health indicators like reduction in maternal mortality, the government has worked relentlessly to ensure women's overall development, particularly by tackling gender disparity. Gender sensitive budgets have been introduced in 40 ministries. Significant affirmative actions have pushed up women's participation in political and administrative leadership.

Harnessing technology and innovation to fast track development: Service delivery processes have been reengineered to provide greater access to common people, particularly those living in remote, rural areas. Digital Centres - over 5000 ICT based one stop outlets run by 'citizen entrepreneurs', one within 4 km of every citizen in Bangladesh- provide 4.5 million citizens access to public information and services (birth certificates, land records, passports, and application to various other government services) as well as private services (mobile financial services, insurance, various types of computer and vocational training, etc.) each month. 27,000 primary and secondary schools are now featured with Multimedia Classrooms which are starting to revolutionize teaching-learning practices in underprivileged classrooms and fundamentally changing the dynamics between teachers and students. This new paradigm is disrupting traditional teacher training methods.

The National Portal, the world's largest government portal with 2 million contents, has virtually integrated nearly 42,000 offices of the government in one address bangladesh.gov.bd and has become the boldest driver of progressive information disclosure by various government agencies. The Digital Centres won ITU's World Summit on the Information Society (WSIS) Award in 2014 and the National Portal in 2015 - a rare feat by the same country in consecutive years. Over a hundred e-Services have sprung up through central planning or through field level execution. Each Ministry has signed an Annual Performance Agreement (APA) with the Cabinet Division to launch a new electronic service every year - this one initiative alone could significantly and rapidly change the service delivery paradigm from one falling prey to unscrupulous middle-men to one that is driven by a culture of transparency, accountability and responsiveness.

Championing environmental issues: Sustainability has been a conscious and overarching strategy of the present government since 2009. Natural calamities such as storms, cyclones,

floods, and droughts have acted as a persistent drag on the country's progress. Bangladesh, being one of the most vulnerable countries to the adverse effects of climate change, promoted innovation, designed and implemented its own programs spanning agriculture, energy, water resources etc. from its own resources. Prime Minister Sheikh Hasina received the United Nation's highest environmental accolade 'Champions of the Earth' in recognition of Bangladesh's far-reaching initiatives to address climate change during UNGA 2015.

Allowing 'development space' to non-state actors: Most orthodox, ideologically oriented frameworks favour either exclusive reliance on private enterprise or exclusive use of state-based programmes. A striking feature of Bangladesh's unique pathway for socio-economic progress has been the multiplicity of actors and models engaged in the development space. NGOs and private enterprises have played an important role in supplementing the efforts of the public sector. In particular, the intelligent use of community-based approaches in the delivery of education, health, financial and various rights-based services, extended the reach of the initiatives and their impact in a frugal yet remarkably effective manner. This combination has allowed Bangladesh to benefit from the necessary variety and depth of social advancement interventions.

Proactive international engagement promoting developing: From opening closed international markets and initiating new ones for Bangladeshi manpower to creating an extremely honourable image of Bangladesh-the proactive and productive international engagement during the 6th FYP was a key highlight of Bangladesh's development journey in the last few years. Settlement of long standing regional issues such as disputed land and marine boundaries with India and enclaves, activation of platforms for dialogue such as with the US, India, China, Japan, Russia, Malaysia and several other countries opened up unprecedented opportunities for concessional G2G loans and FI into power and energy, transportation, telecommunications and ICT, economic zones amongst others.

With the Prime Minister Sheikh Hasina at the helm, Bangladesh has assumed global centre-stage leadership presence through engagement with the UN and other international processes in myriad issues such as sustainable development, climate change adaptation, women's empowerment, maternal and child health improvement, mainstreaming of disability issues, poverty reduction, anti-terrorism, and even cutting edge issues such as ICT-facilitated social and economic development. This recognition clearly stemmed from the vision of an independent and self-respecting nation.

Development Approach of the 7th Plan

The solid development performance under the 6th Plan suggests that the Government's development strategy is on track and the challenge for the 7th Plan is to build on the successes while taking further actions to address the areas of shortfalls. Importantly, the 7th FYP, spanning fiscal years 2016-2020, begins with the country having entered the ranks of middle income countries. The first year of the 7th Plan also coincides with the launch of the UN post-2015 Sustainable Development Goals (SDGs). In the backdrop of these factors, the 7th Plan centres on three themes:

- GDP growth acceleration, employment generation and rapid poverty reduction;

- A broad-based strategy of inclusiveness with a view to empowering every citizen to participate full and benefit from the development process.
- A sustainable development pathway that is resilient to disaster and climate change; entails sustainable use of natural resources; and successfully manages the inevitable urbanization transition.

Accelerating growth with inclusion under the 7th FYP

The economic growth strategy of 7th FYP includes four pivotal themes:

- Break out of the sphere of 6% growth and raise the annual average growth rate to 7.4%.
- Growth will be inclusive, pro-poor, adapt well to the urban transition and be environmentally sustainable.
- By the end of the 7th FYP, poverty and extreme poverty will be substantially lowered.
- All the additional labour force will be gainfully employed, including much of the under-employed.

High Growth and inclusiveness: The 7th Plan seeks to raise the GDP growth rate progressively from 6.5% in FY15 to 8% by FY20. The average growth rate is projected at 7.4% over the Seventh Plan period. Along with strategies for rapid economic growth of 7% plus, the 7th FYP will ensure that complimentary strategies and policies are in place to make the growth path inclusive, responsive and adaptable to the ongoing transformations, is resilient to climate change and is sustainable over the long term without damaging the natural environment. It therefore encapsulates a strategy for inclusive growth which empowers people by creating employment opportunities, fostering the scope for greater labour force participation, particularly of women, supporting skill development in response to market demand, enabling access to credit for small and medium enterprises, and improving health and education for people to be more productive. Thus, inclusiveness is meant to capture more than income, to include opportunity, productive employment, and access to services for the marginalized and physically challenged people.

Growth and poverty reduction: With about a quarter of the population of 160 million still living below the poverty line, faster growth is a necessary condition for attacking poverty. While addressing the poverty problem, special focus will be given to cutting back as much extreme poverty (defined as people living below the lower poverty line) as possible. Specifically, the 7th Plan seeks to reduce poverty rate to 18.6% and extreme poverty to around 8.9% by FY20. Along with growth, the 7th Plan will emphasize human development, social protection and social inclusion as essential elements of a comprehensive poverty reduction strategy.

Growth and employment challenge: Inclusive growth is defined here as growth that is both sustainable, broad-based in terms of employment opportunities and reaches out to people on the margin. It is estimated that some 12.9 million additional jobs will be available during the five years of the 7th FYP, including some 2 million jobs abroad for migrant workers, for the 9.9 million labour that will join the workforce during the same period. Thus job creation, both domestic and foreign, will exceed the additional labour force that will be looking for work so

that the backlog of under-employment will also be dented significantly, if the targeted GDP growth materializes.

Higher growth on aggregate and at the sectoral level will require higher investment in physical and human capital. The financing of this investment will have to be done in a way that it does not create problems for macroeconomic stability. The 7th Plan will continue the emphasis on prudent macroeconomic management. Thus, the objective of higher growth will be balanced with efforts to further reduce inflation to 5.5% by FY20. The strong performance in the balance of payments will be preserved by promoting a strong and diversified export base.

The experience of the Sixth Plan clearly highlights the importance of investment in realizing higher growth and employment. The key challenge is to increase the rate of investment by about 5.5% of GDP over the plan period (i.e. from 28.9% of GDP in FY15 to 34.4% of GDP by the end of the Plan in FY20). Both public and private investment rate will need to increase. Additionally, the efficiency of domestic investment, particularly in the public sector, will be important for realizing the maximum benefits out of the limited public sector investments. As in the past, much of the public sector investment needs to be directed to major infrastructure projects including the 8 transformational projects identified by the government and in realizing the Power Sector Master Plan.

As in the past, much of the investment in the economy could be financed through national savings, although foreign investment (FI) is expected to play a bigger role under the Seventh Plan. Out of the planned 7.5% of GDP increase in gross investment, about one-fourth would need to come in the form of FI. Increased levels of FI would also be desirable from the point of view of improved management, new technology, and greater market access for Bangladeshi exports. Overall, the 8% growth target by the end of the 7th Plan, although challenging should be attainable, provided that necessary supportive reforms and policies are put in place and external conditions are favourable for the private sector to move forward and invest in the future of Bangladesh.

Development expenditure: Thrust on development expenditure to alleviate infrastructure constraints by fast tracking nationally important projects will continue. In addition initiatives will be taken to broaden and accelerate the implementation of other major highways and bridges, power sector projects, and providing access to serviced land to foreign and domestic investors in the context of the Special Economic Zones (SEZ) initiative. Budgetary allocations to the priority social sector programmes in the health and education sectors will be increased to create better human capital through universal general education, skill development programs, and greater access to improved public healthcare systems. Phased implementation of the recently adopted rational Social Security Strategy of the Government of Bangladesh will provide comprehensive social protection to all poor and vulnerable citizens.

Annual Budgets: Taking these considerations into account, Annual Budgets will be formulated in a manner consistent with the realization of the Seventh Plan objectives. Financing of this national Plan will require increased private and public sector savings, rapid income growth for the private sector and increased revenue mobilization through reform and modernization of tax policy and tax administration. Prudent spending of public sector resources for better public

service delivery and subsidy/transfer programmes, and improved efficiency of public sector enterprises will be important for public sector resource efficiency and productivity.

Resource Envelope: Total investment over the 5 year of the 7th Plan will amount to Tk. 32 trillion in constant FY16 prices (the first year of the Plan). As during the 6th Plan, private sector investment will continue to play its dominant role, accounting for 77% of the total planned investment. Although domestic private investment would take the lead, the role of FI would need to increase significantly. Increasing the inflow of FI in Bangladesh to 3% of GDP would be critical for achieving the financing of the investment target of the 7th Plan. Thus, the external financing for private investment, comprising primarily private FDI and external borrowing in foreign currency by the private sector, will increase markedly in the 7th Plan as compared with the 6th Plan.

Public investment priorities: Public investment priorities will emerge from the key 7th Plan targets with respect to real GDP growth, poverty reduction and social protection for the poor and the vulnerable. Additionally, the public investment programme will emphasize human resource development, enhancing social equity through inclusive growth and ensuring the sustainability of growth through continued macroeconomic stability and protection of the natural environment.

Plan Goals and Targets

The 7th FYP reflects a continuation of the major goals articulated in the 6th FYP. The core targets set in accordance with the vision and goals of the Perspective Plan under the 7th FYP include:

A. Income and poverty

- Attaining average real GDP growth rate of 7.4% per year over the Plan period
- Reduction in the head-count poverty ratio by 6.2 percentage points
- Reduction in extreme poverty by about 4.0 percentage points
- Creating good jobs for the large pool of under-employed and new labour force entrants by increasing the share of employment in the manufacturing sector from 15 percent to 20 percent

B. Sector Development

- Significant growth of the agriculture, industry and service sectors
- Increase the contribution of the manufacturing sector to 21% of GDP by FY20
- Substantial improvement of exports to \$54.1 billion by FY20
- Achieving a Trade-GDP ratio of 50% by FY20

C. Macroeconomic Development

- Total revenue to be raised from 10.7% of GDP to 16.1% by FY20
- Maintain the current fiscal deficit of 5% of GDP
- Government spending to be increased to 21.1% of GDP by FY20
- FDI to be increased substantially to \$9.6 billion by FY20

D. Urban Development

- Infrastructural investment and civic facilities in peri-urban growth centres especially around Special Economic Zones
- Inclusive housing and other civic services for urban inhabitants including for people living in informal settlements and slums
- Inclusive urban planning based on sustainable land use planning and zoning
- Increased productivity, access to finance, and policy support for urban micro-small and medium enterprises

E. Human Resource Development (Education, Health and Population)

- Achieving 100 percent net enrolment rate for primary and secondary education
- Percentage of cohort reaching grade 5 to be increased to 100 from current 80 percent
- Under 5 mortality rate to be reduced to 37 per 1000 live birth
- Maternal Mortality Ratio to be reduced to 105 per 100,000 live births
- Immunization, measles (percent of children under 12 months) to be increased to 100 percent
- Reduce proportion of underweight children among under-five children to 20 percent
- Births attended by skilled health staff to be increased to 65 percent
- Reduction of Total Fertility Rate to 2.0
- Increasing Contraceptive Prevalence Rate to 75 percent

F. Water and Sanitation

- Safe drinking water for all
- Proportion of urban population with access to sanitary latrines to be increased to 100 percent
- Proportion of rural population with access to sanitary latrines to be raised to 90 percent

G. Energy and Infrastructure

- Installed Generation Capacity of electricity to be increased to 23,000 MW by 2020
- Ensure energy mix for energy security
- Electricity coverage to be increased to 96 percent with uninterrupted supply to industries
- Reduce system loss from 13% to 9%, improve energy efficiency & conservation
- Construction of 6.15 km. long Padma Multipurpose Bridge at Mawa-Janjira
- Construction of about 26 km. long Dhaka Elevated Expressway
- Construction of Dhaka-Chittagong expressway and upgradation of Dhaka-Chittagong highway to 4-6 lane.
- Improve the multimodal transport network with a significant increase in the share of rail and waterways traffic
- Reduce urban traffic congestion with focus on Dhaka and Chittagong cities
- Reduce the incidence of road accidents
- Completion of the following high Priority Mega Projects:

Padma Bridge, Deep Sea Port Project; MRT-6 project; LNG terminal project; Payra Port Project; Rooppur Nuclear Power Plant Project; Rampal Coal Power Project; Matarbari Coal Power Project

H. Gender equality, income inequality and social protection

- Female to male ratio in tertiary education to be raised from current 70 percent to 100 percent
- The ratio of literate female to male for age group 20-24 to be raised to 100 percent from the current 86 percent
- Encourage female enrolment in technical and vocational education
- Reduce or maintain the current income inequality of 0.45
- Spending on Social Protection as a share of GDP to be increased to 2.3% of GDP

I. Environmental Sustainability

- Increase productive forest coverage to 20 percent
- Improve air quality in Dhaka and other large cities and enact Clean Air Act
- Promote Zero discharge of industrial effluents
- Urban wetlands are restored and protected in line with Wetland Conservation Act
- At least 15% of the wetland in peak dry season is protected as aquatic sanctuary
- 500 meter wide permanent green belt established and protected along the coast
- Land zoning for sustainable land/water use completed
- Environmental, Climate Change and disaster risk reduction considerations are integrated into project design, budgetary allocations and implementation process
- Canals and natural water flows of Dhaka and other major cities restored

J. ICT Development

- Improve tele density to 100%, internet penetration to 100% and broadband coverage to 50%
- All primary schools to have at least 1 and all secondary schools to have at least 3 multimedia classrooms; 30% of primary schools and 100% of all secondary schools to have an ICT laboratory
- 25% Community Health Clinics provide teleconsultation with specialists in urban areas
- All G2P cash transfers and most P2G and B2G payments done digitally
- Most vital government services are made available at all Digital Centres, through the national portal and over mobile devices; 100% of citizens and residents have digital ID that is used in service delivery
- Social media is regularly used for communication with various demand and supply side stakeholders
- Open government data and big data analysis are regularly used in public decision support. Increase domestic ICT earnings to \$2 billion and export earnings to \$2 billion; 1 million trained HR for the ICT industry
- Spending on Research and Development to constitute 1 % of GDP
- Robust cyber security measures are institutionalized

Development Results Framework (DRF)

The 7th Plan emphasizes the need for adopting an effective results-based Monitoring & Evaluation (M&E) strategy which can help monitor the implementation of the plan and associated programmes. In this regard, the 7th Plan will build on the M&E results framework introduced during the 6th Plan and adopt much coherent and well-crafted development results framework (DRF) with measurable indicators. Both core macro and sectoral quantitative results will be monitored to measure the effective implementation of the 7th Plan. A total of 90 indicators, shaped by intensive consultations with all the concerned, comprised the DRF to monitor implementation of the Plan.

Strategies for sectoral development

The chapters on the sectoral development strategies of the 7th FYP have been structured to align with the recently adopted 14 uniform sectoral divisions. Previously, there was a lack of uniformity of sectoral classification among the ministries - Planning Commission followed 17 sectors; Ministry of Finance used 13 sectors for resource allocation while Sixth Five Year Plan focused on 10 thematic areas. This recently adopted change of having the same sectoral classification for ministries will bring harmony among planning, resource allocation, implementation and monitoring and with this spirit the sectoral chapters of the Plan have been arranged.

Sector 1 and 2: General Public Services and Public Order and Safety

The government's scope to meet the desired milestones of Vision 2021 - articulated under the "Perspective Plan of Bangladesh 2010-2021" critically depends on meeting the governance challenges. In the 7th Plan, the Government will adopt strategies and policies that are adequately tuned for meeting contemporary challenges with special focus on reforms to improve overall development performance. Important areas for intervention include: (i) judiciary; (ii) public administration capacity; (iii) financial sector; and (iv) public order and safety.

Sector 3: Industrial and Economic Services

The advancement of the manufacturing sector will remain, for some time to come, the main driver of growth in Bangladesh. To continue on a path of sustainable export growth with a diversified basket of goods, trade and industrial policies have to be geared towards a dynamic and globally competitive manufacturing sector of the future. For one, Bangladesh would have to restructure its tariff regime in order to gradually reduce effective protection levels and consequent anti-export bias. This trend in the structure of output-input tariffs seems to be the only way to go if Bangladesh is to undergo transformative change in its structure of production, where production, jobs and income hinge on the success of exports which, by FY2020, could reach \$54.1 billion and constitute 30% of GDP, from 17% in FY2015.

Seventh plan strategy for enhancing the role of the services sector in economic development includes: i) Modernizing the service sector with emphasis on export of non-factor services; ii) Improve the incentive policies for boosting private investment in services; iii) Increasing public investment in key service sector infrastructure; iv) Strengthening the skills base for the service industry; v) Strengthening implementation of prudential regulations to boost service quality,

increase public safety, improve compliance and ensure accountability of service providers; vi) Strengthen monitoring and enforcement services on overseas employment related recruitment services and vii) Strengthening public institutions to support the growth of services sector and improve service quality, safety and accountability.

The emphasis on non-factor service exports such as ICT, aviation, shipping and tourism is a critical element of the service sector development strategy for the 7th Plan. These activities are high value-added and will help generate high income jobs both directly and indirectly. The strategy will also continue to support the development of banking and financial activities, education, health, transport and trading. A modern transport sector is also important for the expansion of manufacturing and duly emphasized in the 7th FYP.

Sector 4: Agriculture

Agriculture sector is overwhelmingly driven by private initiatives, and the overall strategy for 7th FYP will be to accelerate the process of transformation from already existing semi-subsistence farming to commercialization of agriculture. This strategy will require achieving productivity gains, diversification, value addition and agro-processing commensurate with national environmental protection and climate change adaptation strategies. The past growth in crop subsector was helped by the new HYV (high yielding variety) technology, particularly in rice, in which both the state and the market played important roles. So, for the crop subsector, encouraging agricultural growth through various policy changes/adjustments ranging from applying new technology and extension services to providing credit to small farmers will be intensified.

Livestock sub-sector development strategies and policies for 7th FYP includes support for dairy product development, production of better beef breeds and the block Bengal goat for higher meat production, and poultry development for both meat and egg production and finding export markets. On the other hand, the key elements of the strategy for the Fisheries subsector include improvement and development of open water fisheries management, inland aquaculture through maintaining purity of brood stock of indigenous fish species, shrimp and coastal aquaculture, and that of marine fisheries. Adequate support will be designed and implemented to increase export. A very important part of the strategy for the agriculture sector as a whole will be strengthening extension and research capacity of different Departments, Institutes, and Universities.

The Forestry sub-sector strategy will include continuing moratorium on felling in the natural forests, increasing tree density of the existing forests and older plantations through 'enrichment planting' and 'assisted natural regeneration', and intensification of plantation activities in coastal zones. Different measures will be taken to conserve and protect wildlife with special attention to Royal Bengal Tiger. Social forestry development will continue to be an important strategy.

Strategies have also been proposed for improvement of water resource management for supporting agriculture growth. Water management will emphasize the sustained and balanced use of water resources for irrigation, drinking water and water transport while reducing vulnerabilities from flooding, water logging, salinity and river siltation. A comprehensive long

term water resource management plan is in the making under the umbrella of the Bangladesh Delta Plan.

Sector 5: Power and Energy

Accelerating GDP growth during the 7th FYP depends on assuaging the infrastructure constraint, especially power and energy, by focusing priority attention to infrastructure development.

Power generation: The total power generation capacity in 2015 stands around 14000 MW which will be increased to 23000 MW by 2020 at the end of the ill Plan, the increase is estimated to be shared at 60:40 ratio between public and private sector. The target is to provide electricity to almost all the population with special emphasis on reliable power to productive sectors which will require major expansion and up gradation of transmission and distribution networks. Energy mix will be a key to ensuring security of supply. Most of the new generation would come from coal based power plants with state of the art technology that minimizes impact on environment and ensures high efficiency. Renewable energy is expected to provide 5-10% of total generation. Energy efficiency and conservation will be enhanced across the industry from generation to the consumer end. Regional connectivity will be expanded and strengthened. Rooppur Nuclear Power Project's first plant (1000 MW) will be commissioned immediately after 2020.

Strategy for Primary Energy Sector: The important strategic issue relating to energy in the 7th Plan is the strategy for supply of primary energy with domestic supply of gas likely to decline from existing fields. The strategy during the 7th Plan will be to meet the shortfall in domestic gas with coal, particularly imported and LNG while moving ahead with accelerated exploration of hydrocarbons in the offshore and the deep sea. Industrial users of gas as well as captive generators will have to increase efficiency through cogeneration/tri-generation. Regional cooperation will also be pursued, in particular, to harness hydropower.

Sector 6: Transport and Communication

The 7th FYP recognizes importance of modern transportation and communication for achieving the target growth of 8% at the end of plan period. The key elements of the transport sector strategy for the Seventh Plan are as follows: i) Timely completion of all ongoing roads and bridges projects especially related to inter-city highways; ii) A top priority is to focus on fast tracking a number transformational infrastructure investment; iii) to promote regional connectivity and support for the Trans-Asian Highway Project; iv) Address the anticipated Chittagong port capacity constraints owing to growing income and international trade; v) Significantly expand the capacity of the civil aviation to handle growing international and domestic air traffic through investments in new airports and other supportive infrastructure; vi) Address the major institutional constraints that have hampered implementation of infrastructure projects in the Sixth Plan; vii) Reform the PPP strategy with a view to achieving stronger progress under this approach in the 7th Plan; viii) Address the urban transportation challenge of increasing traffic congestion; ix) Strengthen the use of river and rail transport to provide a low cost and more environment-friendly alternative to road transport; x) Coordinate the Roads, Railway and inland water cargo linkages to strengthen the performance of

Chittagong Port and the competitiveness of the manufacturing sector; and xi) Address the broader governance and institutional challenges of the sector.

Sector 7: Local Government and Rural Development

The Government places special emphasis on strengthening the local government in order to bring the public services closer to the people and also to make sure local people's preferences are well reflected in the planning process. Thus the 7th FYP is committed to undertake a comprehensive set of actions, including: i) A Local Government Legal Framework (LGFL) - This single legal instrument (LGFL) will cover all units and tiers, irrespective of urban and rural, regarding their formation, function, jurisdiction, taxation, finance, budget account, electoral process, and central-local and local-local relationships; ii) Building the capacity of local governments through assignment of appropriate officials, technical assistance and training programmes; iii) Developing planning and budgeting capacities at the local level to help design and implement local level programmes; iv) Fostering initiatives to provide technical assistance to link local level plan to the national medium to long term planning.

7th Five Year Plan also focuses on issues related to development of rural areas of Bangladesh and identification of priority areas, such as increasing local production, solving energy problems, reducing poverty through undertaking programmes on agriculture, employment generation and rural infrastructure. The rural institutions will be strengthened to support the ongoing rural transformation including support for non-farm job creation, rural mobility, and rural finance.

Sector 8: Environment and Climate Change

The Plan has set national environmental targets and goals to move the country towards more sustainable economy and society. The main objective of the Seventh Five Year Plan is to ensure environmental sustainability through conservation of natural resources and reduce air and water pollution. The Seventh Plan has stressed the need to take into account environment, climate change adaptation and mitigation in a broader development context. In this regard, this Plan recognizes climate change as an added challenge to reduce poverty and environmental degradation. Thus, the Seventh Plan focuses on key strategic element for natural conservation with increased forest coverage with appropriate tree density, water bodies and protected areas and maintenance of natural resource quality and wildlife at a desired level. Creation of alternative livelihoods and building resilience for community to lessen anthropogenic pressure on resources will be enhanced. Relevant programmes for environmental and climate change capacity building at local and national level will be the main interventions of this Plan. Government will offer greater attention to the areas in research for knowledge generation concerning environment and climate change.

Sector 9: Housing and Community Amenities

Various projections estimate that the urban population in 2020 to be anywhere from 60 to 80 million. Providing better urban services to this increased population would be the key challenge. In order to achieve sustainable urbanization, policies and strategies are proposed keeping in view the multi-dimensional nature of urbanization challenges. Creating an urban vision for the country is important. Bangladesh will pursue towards compact, networked,

resilient, competitive, inclusive and smart urban development. The nature of urban governance is of crucial importance and should encompass better transparency and accountability of institutions, institutional strengthening and capacity building, decentralization, community participation, more efficient resource mobilization, and involvement of the private sector in the development of the urban sector. As a part of improving availability of housing facilities, the strategy will be one where the government's main role will be a regulator and facilitator rather than a provider of low-cost housing.

Provision of adequate and affordable basic infrastructure and services, essential for safeguarding health, safety, welfare and improved living environment of the people, will be an important strategic focus under the 7th Plan. Basic infrastructure and services at the community level, including delivery of safe water, sanitation, waste management, social welfare, transport and communications facilities, energy, health and emergency services, schools, public safety etc., will primarily be the responsibility of the central government agencies and the local government bodies with increasingly greater involvement of the private sector.

Sector 10: Health

Health is one of the largest sectors of the government and its commitment to deliver quality health services for all continues in the 7th FYP. The Plan places special emphasis on the following areas on health: i) To improve service delivery and utilize the vast health network, innovative approaches will be explored, including field-based service delivery, decentralization of the management of facilities, providing autonomy to hospitals by protecting the interests of poor; ii) The health service delivery system will ensure that the poor and marginalized population are able to access and utilize such services; iii) Since a considerable portion of the population turn to the private sector for health services, proper regulation to protect the people from malfeasant practices is considered very crucial in the Plan; iv) To make better and effective use of government trained Community Skilled Birth Attendants (CSBAs), proper technical mentoring and supervision will be introduced; iv) Recognizing the epidemiological transition, massive health promotion and prevention efforts for impending non-communicable diseases will be carried out; v) Gender and adolescent friendly services together with availability of proper information for the adolescent will be ensured; v) special emphasis will be placed on tribal health, autism, mental health, geriatric care, and health education; vi) In addition to addressing service delivery issues, the 7th FYP will also take into account the deficiencies in governance and management of the health sector. Issues related to the inadequacies in the health workforce, finance, surveillance, drugs and equipment, information and research will be addressed.

A strategy for nutrition planning is outlined in the National Food Policy (2006) and the National Food Policy Plan of Action - NFP PoA (2008-2015), which was developed by 11 line ministries. The main objectives of the NFP PoA are to achieve adequate and stable supply of safe and nutritious food for everyone, especially women and children. The Institute of Public Health and Nutrition (IPHN) of DGHS has been assigned as the institutional home for nutrition. Nutrition Programme of the MoHFW has been mainstreamed within the DGHS and DGFP through a new operational plan for National Nutrition Services (NNS) will be used to provide regular nutritional services. The responsibilities of relevant sectors and institutions will be expanded and capacity developed accordingly. Capacities of the Community Clinics, Upazila

health complexes and district hospitals will be further strengthened to adequately manage severely malnourished cases.

Given the current scenario and projections of population growth, the population subsector of HNP is particularly important for future development of Bangladesh. The Government has set a target to reduce the fertility rate to 2.0 by the end of the plan implementation period which is achievable with diligent actions on all fronts. Improved population and family planning services will primarily be ensured through following interventions: i) Promoting delay in marriage and child bearing, use of post-partum FP and FP for appropriate segments of population; ii) Strengthening FP awareness building efforts through Information, Education and Communication (IEC) activities with special emphasis on mass communication and considering local specificities; and iii) Strengthening advocacy for male participation in permanent and other methods of contraception.

Sector 11: Education and Technology

Under the 7th Plan, the human capital base will be prepared such that they are able to respond to the anticipated needs generated by a growing and changing economy. Accordingly, greater emphasis is being placed on secondary and higher education, as well as vocational and technical education, skill development training for employment and life skills training programme. The importance of a well-rounded scientific education is also highlighted. To promote inclusive development, special attention will be given to the disadvantaged groups, women, children and persons with disabilities. Enhancing the quality of education at all levels, including madrasa, through expanding capacity of the teachers, use of ICT and better infrastructure is also the core of the Plan. The Government's current education vision is articulated in the 2010 National Education Policy (NEP). The Policy is derived from the Government's commitment to the goals of Education for All and the just completed Millennium Development Goals.

The strong progress with the implementation of the Digital Bangladesh Initiative during the Sixth Plan provides a solid foundation on which the Seventh Plan can build forward. By transferring knowledge, by facilitating financial transactions, by eliminating needless intermediation in transactions, and by enhancing and speeding up access to a range of public and privately provided service, 7th FYP envisages to contribute in, lowering production and selling costs of products and services for the poor. This in turn is increasing their productivity and income, thereby contributing to poverty reduction and improvement in mass welfare. Detail plan has been chalked out to enhance quality of education, facilitate youth empowerment, and make efficient and transparent public service delivery through the use of ICT. The Plan stresses on creating the enabling legal environment with the effective rules and regulations for greater use of ICT in every sphere of life.

Sector 12: Recreation, Culture and Religion

The 7th FYP underscores the importance of the role of recreation, especially sports, culture and religion, especially mental and physical health for human resource development and to inculcate human values. The Government's commitment to this sector and goals as well as targets of 7th FYP are manifested through the activities and broad goals of Ministry of Youth and Sports, Ministry of Religious Affairs, Ministry of Cultural Affairs and Ministry of

Information. Each Ministry provides services that tend to help shape a balanced and well-informed citizen group. Department of Youth Development under the Ministry of Youth and Sports has been assigned the task of transforming the disorganized and unproductive youth into a disciplined and productive workforce. Efforts will be made under 7th FYP to strengthen sports and physical education programme at the school stage in all districts. Religious institution based literacy programmes will be emphasized under Ministry of Religious Affairs. In 7th FYP period, various activities will be undertaken that will promote the healthy growth of cultural activities throughout the country under the Ministry of Cultural Affairs.

Sector 13: Social Protection

The main challenge for the Seventh Plan in the area of social protection is the successful implementation of the National Social Security Strategy (NSSS). The successful implementation of NSSS will provide a strong basis for Bangladesh to extend proper social protection to its poor and vulnerable population. The Proposed reforms will be instrumental in eliminating leakages, improving targeting, increasing the average value of the transfers, lower the risks faced by the poor and vulnerable population, reduce poverty, help reduce income inequality and build social capital. Additionally, effort will be made to increase public spending on social protection from 2.02% of GDP in FYI5 to 2.3% of GDP by FY20.

Food security strategy under the 7th Five Year Plan will be in line with the three objectives of the National Food Policy (NFP 2006) and the National Food Policy Plan of Action (2008-2015). Twenty six key areas of interventions have been identified with more than 300 action agenda of which some were prioritized.

The overall objective of disaster management during 7th FYP is to build resilience of the poor and reduce their exposure and vulnerability to geo-hydro-meteorological hazards, environmental shocks, man-made disasters, emerging hazards and climate related extreme events to make our cities, human habitat and resources safe, resilient and sustainable.

The objective of 7th FYP regarding gender is to ensure women's advancement as self-reliant human beings and reduce discriminatory barriers by taking both developmental and institutional measures. Gender equality and women's empowerment agenda for the 7th FYP is based on pursuing strategies and actions that not only enhance women's capabilities and access to resources and opportunities but also address the barriers in structures and institutions and aim at changing social norms and protecting their rights are critical to integrate within the plan. Establishing monitoring, oversight and accountability mechanisms is equally important.

The Seventh Plan strategy for inclusion is based on implementation of the Constitution of the People's Republic of Bangladesh, which provides equal rights and opportunities to all citizens irrespective of race, religion, caste, creed or profession. It will build on the positive lessons and experience of the Sixth Plan and move forward for empowering citizens.

Part 1

MACROECONOMIC PERSPECTIVE: STRATEGIC DIRECTIONS AND POLICY FRAMEWORK

CHAPTER 1

PROGRESS WITH IMPLEMENTATION OF THE SIXTH PLAN

1.1 SOCIO-POLITICAL CONTEXT

The present Awami League (AL) government led by Prime Minister Sheikh Hasina came to power in 2009 January with a sweeping mandate from the national elections of December 2008. The AL won this mandate from the people based on its election manifesto Vision 2021. This Vision 2021 reflects the fundamental socio-political philosophy that people are the source of all power and all development is for the well-being of the people. This philosophy that people come first originated from the political platform developed by the Father of the Nation Bangabandhu Sheikh Mujibur Rahman, which underlay the fight for Liberation in 1971. After independence, Bangabandhu converted this political philosophy into his vision for the people of independent Bangladesh. He dreamt of a country that was prosperous, was free of poverty, provided equal opportunities for all, where social justice prevailed and there was social protection for the poor and vulnerable against downside risks. This vision was reflected in the National Constitution and the first national plan of 1973. Vision 2021 is a continuation of the current AL government's commitment to pursue the dream of Bangabandhu.

When the government took office in January 2009, it faced daunting immediate challenges. Severe electricity shortages threatened economic activities and disrupted social welfare. The global economic depression of 2008-09 constrained the prospects for exports. A series of natural disasters lowered agricultural production and increased food prices. While mindful of the need to address these immediate concerns, the government decided that the underlying policy reforms should be linked to longer term development goals defined under Vision 2021. Accordingly, the government developed a perspective plan 2010-2021. To implement the perspective plan the government decided to formulate two 5-year plans, the Sixth Five Year Plan (FY2010-FY2015) and the Seventh Plan (FY2016-FY2020). The Sixth Plan was completed in June 2015.

This chapter broads a brief review of the implementation experience of the Sixth Plan. The record shows that Bangladesh achieved considerable development progress under the Sixth Plan. Growth has increased substantially, the number of new jobs created exceeds the increase in the labour force, real wages have increased, poverty has reduced and human development has improved. As a result of acceleration of income growth, Bangladesh has attained lower middle income status as defined by the World Bank. It has also met or exceeded all socio-economic MDG targets for 2015. This impressive record of development progress has received international appreciation and recognition.

1.2 PROGRESS WITH ECONOMIC GROWTH, ECONOMIC TRANSFORMATION AND JOB CREATION

The broad picture of performance of the Sixth Plan in terms of achieving major development targets relating to economic growth, economic transformation and job creation is positive. The economy has made solid progress in all these areas. Progress in transforming the economy from a rural-based agrarian economy towards a more modern urban-based manufacturing and services based economy provides a sound basis for further transformation during the Seventh Plan. Export performance is broadly on track, which has provided the impetus for the expansion of the manufacturing sector.

1.2.1 GDP Growth

The rate of expansion of GDP and other socio-economic indicators over the different plan periods is indicated in Table 1.1. The Table tells a remarkable story of a rapidly growing economy with lower poverty rates and higher life expectancy. Foreign exchange reserve and per capita GNI also grew over the time. The table clearly depicts that the most successful plan period was sixth plan period. The average GDP growth was fairly stable at around 4 percent per year during the first 4 five year plans over the periods 1973-1995. There was a substantial break from this slow-growing historical past as GDP growth took off during the fifth plan (1997-2002), reaching 5 percent and then accelerated during the sixth plan in the 6 plus percent range. Aided by a very successful population management policy, per capita GDP growth moved up in every plan period, initially very slowly (1-2 percent range) but then accelerated to around 5% average rate during the Sixth Plan. The implication of these very positive GDP growth and population management outcomes for the expansion of per capita GDP is indicated in Figure 1.1. The GDP growth acceleration achieved during the Sixth Plan has been instrumental in taking Bangladesh to the threshold of low middle-income status.

Table 1.1: Achievements in Various 5-Year Plan Periods

Specific Plan	Plan Periods (FY)	Average GDP Growth Rate		Per Capita GDP growth (%)	Per Capita GNI** (USD)	Life** Expectancy (Years)	Forex Reserve (Million USD*)	Headcount Poverty Ratio*** (%)
		Plan (%)	Actual (%)					
First Plan	1973-1978	5.5	4.0	1.3	111	53.07	-	82.1
Second Plan	1980-1985	5.4	3.8	1.5	145	55.10	395	69.9
Third Plan	1985-1990	5.4	3.8	1.6	204	56.10	520	56.6
Fourth Plan	1990-1995	5.0	4.2	2.4	253	58.70	3070	50.1
Fifth Plan	1997-2002	7.1	5.1	3.5	431	64.90	1583	48.9
Sixth Plan	2011-2015	7.3	6.3	4.9	1314	70.70	24141	24.8

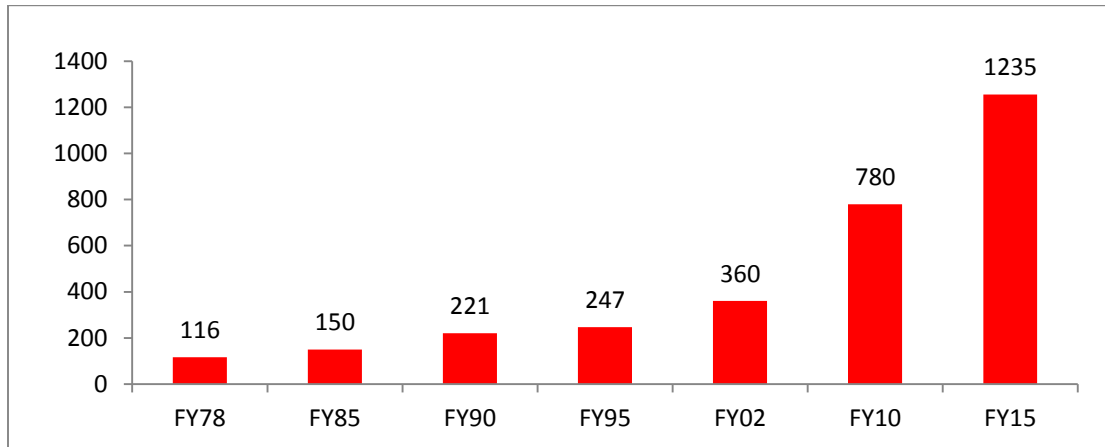
Source: Bangladesh Bureau of Statistics (BBS) and Sixth Plan;

*Balance of last day of corresponding terminal year

**For the terminal year of Plan period

***Corresponding HES, HIES year's figure

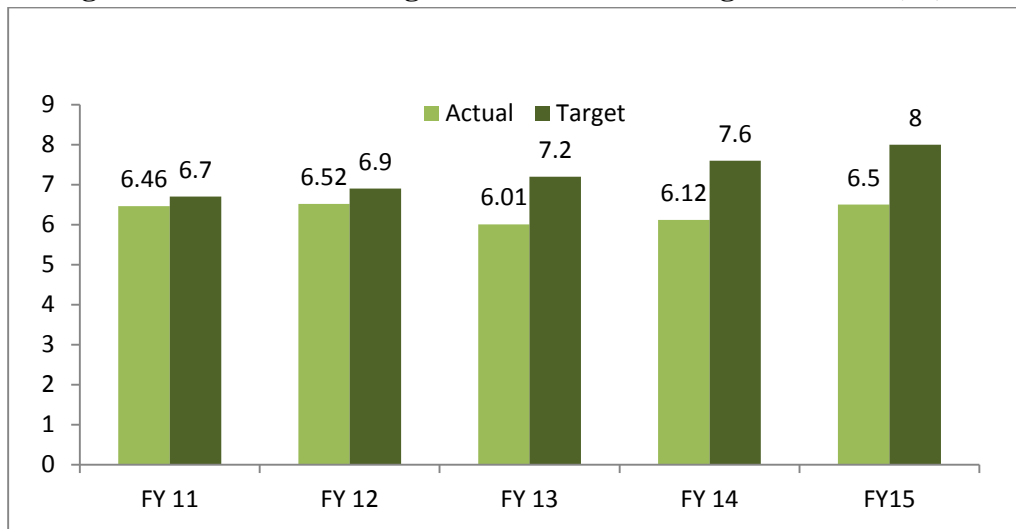
Figure 1.1: US Dollar Per Capita GDP over Various Plan Periods (end of period)



Source: Sixth Plan and BBS

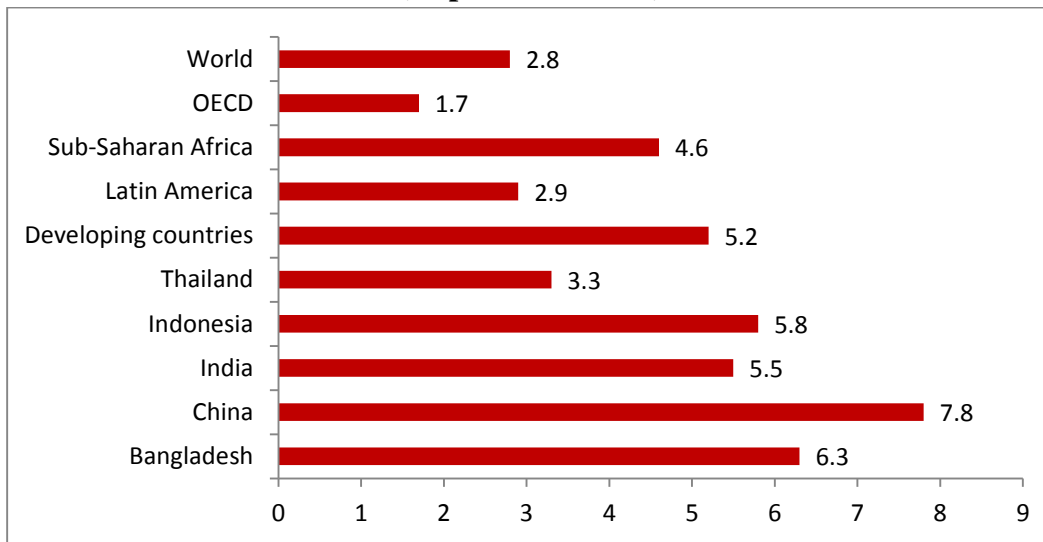
As in previous Plans, the actual GDP growth rate fell below the target rate. The shortfall is particularly noticeable during the later-half of the Sixth Plan (Figure 1.2). In addition to the constrained growth of the services sector, the main contributing factors were the shortfall in the investment rate, both public and private, and the inability to achieve the projected growth rate in agriculture. Nevertheless, the ratio of actual GDP growth to the average planned GDP growth achieved in the Sixth Plan was the highest among all Plans. Most importantly, the GDP growth performance in the Sixth Plan puts Bangladesh amongst the best performing nations globally (Figure 1.3).

Figure 1.2: Actual Vs Target GDP Growth during Sixth Plan (%)



Source: BBS

**Figure 1.3: 6th FYP Growth Performance in International Context
(% p.a. 2011-2015)**



Source: World Bank Global Economic Prospects, 2013 and 2014

Growing at an average pace of 7.8 percent per annum over the five years of 2011-2015, China remains the global GDP growth leader. Remarkably, Bangladesh grew at 6.3 percent, ahead of India, Thailand, Indonesia and the average for all developing countries. The performance is even more impressive when compared with average growth in sub-saharan Africa, Latin America and the global average. There is much to celebrate this strong growth performance. But the challenge ahead for the 7th Plan is to sustain and further accelerate the growth effort building on the areas of strength while also addressing the areas of concern indicated by the implementation experience of the 6th Plan. In particular, utmost attention is needed to increase both private and public investment rates.

1.2.2 Structural Change and Economic Transformation

The development strategy followed in the Sixth Plan emphasized two areas of structural change and economic transformation. First, on the production side, the strategy was to strengthen the economic transformation of Bangladesh from an agrarian economy towards a more manufacturing and modern service economy. Second, on the rural-urban divide, the strategy was to diversify and strengthen the economic activity base of the rural economy.

Accordingly, a major objective of the Sixth Plan was to substantially boost the manufacturing growth rate to an average of 9.8 percent during FY2011-2015, but exceeding double digits in the latter two years of the plan period. Additionally, the services sector was projected to blossom at an 8.2 percent average growth, supported by substantial increases in the growth of modern services and service exports. Significant progress was made in strengthening the production structure. As expected, the manufacturing sector grew much faster than agriculture. Growing at an average pace of 9.4 percent per year, this was a record average growth over any previous 5- year period. Expanding at an average rate of 6 percent, the services sector also performed well. Modern

services such as banking, other financial services and information communications technology did particularly well. As a result of these achievements noticeable progress was made in improving the structure of the Bangladesh economy (Table 1.2). Thus, the GDP share of industry increased from 26 to 28 percent, with the share of manufacturing growing to 20 percent from 17 percent.

Table 1.2: Structural Change in the Economy during the Sixth Plan (% of GDP)

Structure of the Economy	FY2010	FY2015
Agriculture	17.81	15.59
Industry	26.14	27.98
-of which Manufacturing	16.89	20.17
Services	56.05	56.42

Source: BBS

Regarding the objective of narrowing the rural-urban divide by diversifying the economic activity base, there was considerable progress. Already before the Sixth Plan, the rural economy was transforming from a pre-dominantly agriculture based production structure towards more non-farm based production activities. The Sixth Plan further pushed this transformation. Evidence shows that agriculture is no longer the pre-dominant source of income. The expansion of non-farm rural enterprises and services has opened up new sources of income and employment. The growth of income from non-farm sources and the rapid inflow of foreign remittances have supported the increase in demand for a range of activities in construction, housing, trade, transport, schooling, health and other services. The expansion of ICT network and related services along with growth of rural electricity and rural roads have reduced the transaction costs between the rural and urban economies, thereby facilitating better trade and higher prices for the products of the rural economy. The progress on rural transformation is very re-assuring and provides a strong base to move forward further in the Seventh Plan.

1.2.3 Employment and Labour Productivity

Employment challenge of the Sixth Plan: There were two dimensions of the employment challenge of the Sixth Plan.

First, there was the quantitative challenge. The combined effects of the ongoing demographic transition, whereby the share of the working population is increasing, and the growing labour force participation of women has contributed to a rapidly growing labour force (3.0 % per annum), much in excess of a slowing population growth (1.37% per annum). While this presents a huge potential dividend, this also requires the ability of the economy to create sufficient number of jobs to absorb this growing labour force (demand for 1.5 million new jobs per year in the Sixth Plan period).

The second dimension is the quality aspects. The last available Labour force Survey (LFS 2013) showed that some 47% of the total employment is in low productivity agriculture. Research shows that labour productivity and real wages are higher in manufacturing and services sectors, especially organized services. Accordingly, a major objective of the Sixth Plan was to create more jobs in manufacturing and organized services relative to agriculture and informal economy.

Employment strategy: The employment strategy of the Sixth Plan was based on expanding the rate of the growth of the economy, with special emphasis on the rate of growth of manufacturing and organized services. Second, the Sixth Plan also took note of the fact that Bangladesh being a labour abundant economy it will have a comparative advantage in producing and exporting labour intensive products. The experience from RMG manufacturing provides a very strong foundation to this analytical basis of the Sixth Plan. And third, the Sixth Plan sought to build on the successes achieved in export of labour services especially to the Middle East.

Sixth Plan employment outcome: A major problem with assessing the employment outturn is the absence of an updated employment database. The latest available labour force data refers to the Labour Force Survey (LFS) conducted in 2013. In view of this knowledge gap, the approach used to estimate domestic employment is to use the sectoral employment elasticities underlying the Sixth Plan employment projections and apply them to the actual sectoral and total GDP growth rates. Data on overseas employment are obtained directly from the Bureau of Manpower, Employment and Training (BMET). The estimated results are shown in Table 1.3.

Table 1.3: Estimated Job Creation in the Sixth Plan (million workers)

	FY2010 (Base Year)¹	FY2015 (Estimated)	FY 2015 (Adjusted Plan Target)
Domestic Employment			
-Agriculture	25.7	24.4	24.5
-Manufacturing	6.7	9.6	10.0
-Other industry	2.8	4.3	4.4
-Services & Others	18.9	23.1	24.4
Total Domestic Employment	54.1	61.4	63.3
Additional Domestic Employment	-	7.3	9.2
Additional Overseas Employment	-	2.2	1.2
Additional Employment	-	9.5	10.4
Additional labour force	-	7.7	9.2

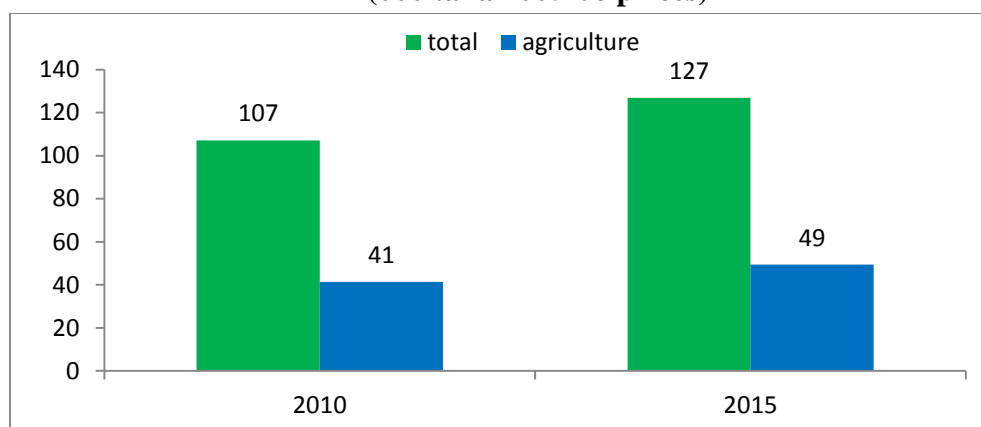
Source: GED Estimates

¹ Base year was updated using LFS 2010 data, which was not available when the Sixth Plan was drafted. All projections are similarly adjusted to be consistent with the revised base year.

The shortfall in the growth of total GDP as compared with the Sixth Plan targets has reduced the overall additional job creation from domestic employment, especially in the services sector, but the shortfall has been partially compensated by a much more impressive expansion of overseas employment than was envisaged in the Sixth Plan. As a result, the total number of estimated job creation (9.5 million jobs) has likely exceeded the addition to the labour force (7.7 million). This has lowered the rate of under-employment. On the qualitative side, the growth of manufacturing employment has largely been on track. Importantly, the total demand for labour in agriculture has exceeded the supply, as indicated by wage data that shows that the agricultural labour market has tightened progressively with sharp increases in the real wages of agricultural male and female workers.

Labour productivity: A major objective of the Sixth Plan was to create jobs in a way that average labour productivity also expands economy wide and especially in agriculture. This is in recognition of the fact that productivity increases are the only sustainable way of increasing real income of the workers. The changes in average labour productivity are indicated in Figure 1.4. Based on the use of the estimated employment pattern of the Sixth Plan, there is a noticeable increase in average labour productivity during the Sixth Plan. Thus, labour productivity grew by a healthy 3.5 percent per year. Importantly, average labour productivity in agriculture is also estimated to have increased by 3.6 percent per year. This is an important result and provides the basis for sustained increases in real wages and income economy wide and in agriculture.

Figure 1.4: Growth in Labour Productivity during the 6th Plan
(000 taka 2005-06 prices)



Source: BBS

1.3 PROGRESS WITH REDUCING POVERTY AND INCOME INEQUALITY

1.3.1 Poverty Reduction

The Sixth Plan sought to reduce head-count poverty from 31.5 percent in 2010 to 22.5 percent by 2015. Unfortunately, the last Household Income and Expenditure Survey (HIES) was done in

2010. Since there is no survey based evidence on what has happened to poverty since 2010, projections are made based on relationship between GDP growth and poverty reduction during the two most recent years for which HIES data are available: 2005-2010. This aggregative elasticity of poverty reduction with respect to GDP assumes unchanged consumption-GDP relationship and unchanged income distribution. The projected decline in poverty is shown in Table 1.4. The incidence of poverty and extreme poverty both exhibit considerable reduction, with faster progress in the reduction of extreme poor. The incidence of poverty falls to below 25 percent while that of extreme poverty declines to below 13 percent. Importantly, Bangladesh achieves the MDG target of halving the incidence of poverty between 1990 and 2015. The 2015 estimated headcount poverty is below the MDG target of 28.5 percent for 2015. The main strategic elements of the Sixth Plan's poverty reduction strategy are summarized in Table 1.5.

Table 1.4: Projected Reduction in Poverty during the Sixth Plan Period (%)

Year	Poor (Head Count Poverty with Upper Poverty Line (%))	Extreme Poor (Head Count with Lower Poverty Line (%))
2011	29.9	16.5
2012	28.4	15.4
2013	27.2	14.6
2014	26.0	13.7
2015	24.8	12.9

Source: GED estimates based on 2005-2010 GDP-Poverty Relationship

Table 1.5: Major Determinants of Poverty in the Sixth Plan

Performance Indicators	Baseline (2010)	Target 2015	Projected 2015
Poverty headcount rate CBN method (%)	31.5	22.5	24.8
Average growth of GDP (%)	6.1	7.3	6.3
Expansion of domestic employment (million)		9.2	7.5
Expansion of foreign employment (million)		1.2	2.2
Employment share of manufacturing (%)	12.0	15.8	15.4
Rate of growth of agricultural GDP (%)	6.15	4.3	3.5
Growth of Real Wages in Agriculture (kg of rice) (%)	6	Real GDP growth plus 0.4	14.3

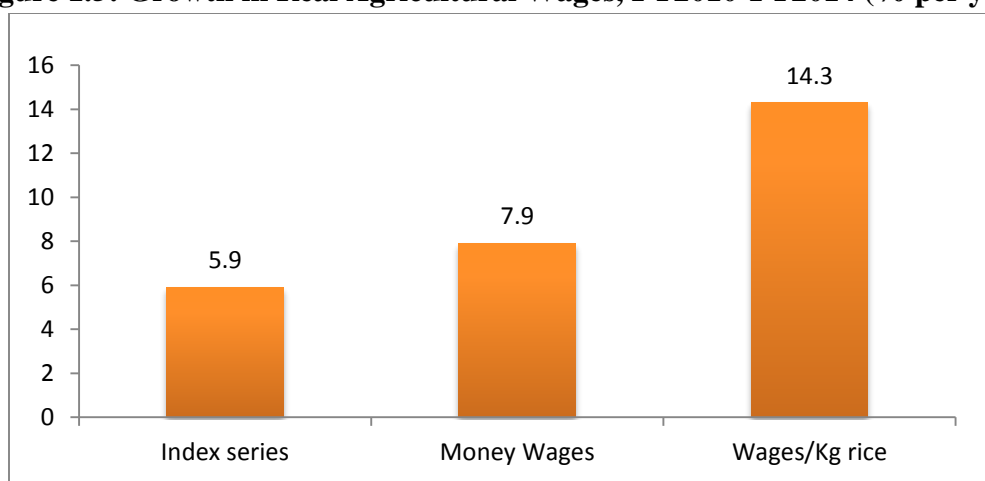
Source: Sixth Five Year Plan; BBS.

Growth in employment, labour productivity and real wages: These three are the most important factors for sustainable reduction in poverty. The strong growth in total employment, growing faster than labour force growth, along with increases in labour productivity economy wide and especially in agriculture, supported the rapid growth in real wages in agriculture throughout the country.

Agricultural workers tend to be amongst the poorest and an increase in productivity and real wages is the most sustainable way of securing reduction in extreme poverty.

Figure 1.5 shows the trend in real agricultural wages measured in three ways: (1) real wages based on the index of wages series published by the BBS; (2) real agricultural wages based on daily wage rate data in taka terms in the districts of Bangladesh also published by BBS; and (3) real wages measured in terms of the purchasing power of rice based on daily taka wages. The average periodic wage growth implied by the three real wage series is summarized in Table 1.5. Agricultural wages have surged during FY2010 and FY2014, ranging from annual real increases of 6.0% to an awesome 14.3%. The largest gains are registered in terms of purchasing power of wages over rice.

Figure 1.5: Growth in Real Agricultural Wages, FY2010-FY2014 (% per year)



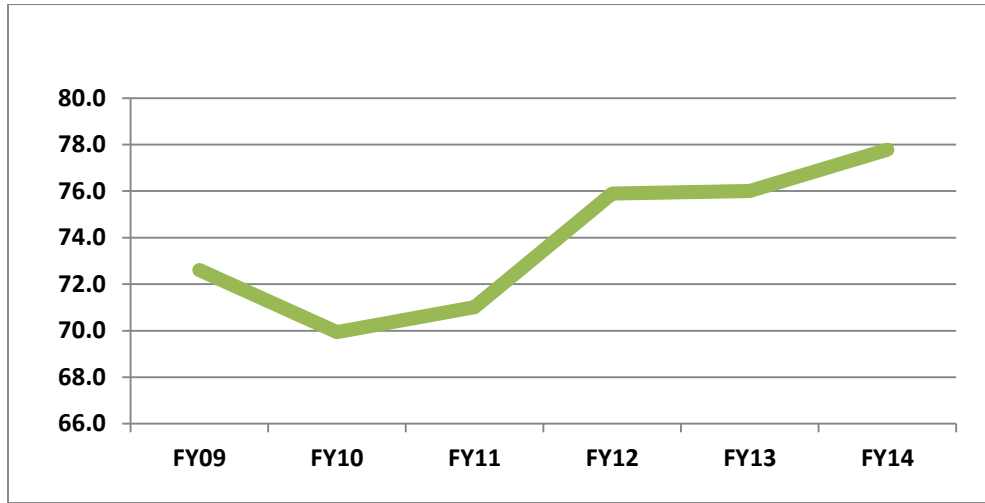
Source: BBS

Male-Female wage gap in agriculture: As a part of the rural transformation, an increasing proportion of women are getting into wage employment in the rural economy including in agriculture. Women have traditionally worked in their own farms and home-based enterprises. What is changing now is their growing presence in the labour market. Data shows that while the absolute gap in wages continues to prevail, the relative gap has narrowed significantly. Thus, the ratio of female to male wage rate has narrowed from 73% in FY2010 to 78% in FY2014 (Figure 1.6). This is yet another indication of a tightening of the labour market in agriculture. The narrowing of the gender wage gap is also a welcome development and an indicator of positive social change in the rural economy.

Spatial wage differential: Availability of district level wage data makes it possible to compare developments in agricultural labour markets and wages across the country. This also provides evidence on labour mobility and indications about possible pockets of rural areas that may be left out of the process of development progress. Traditionally, the district of Rangpur exhibits among the highest level of rural poverty and lowest daily agricultural wages. The wage gap between male agricultural workers in Rangpur and the national average is indicated in Figure 1.7. The wage gap

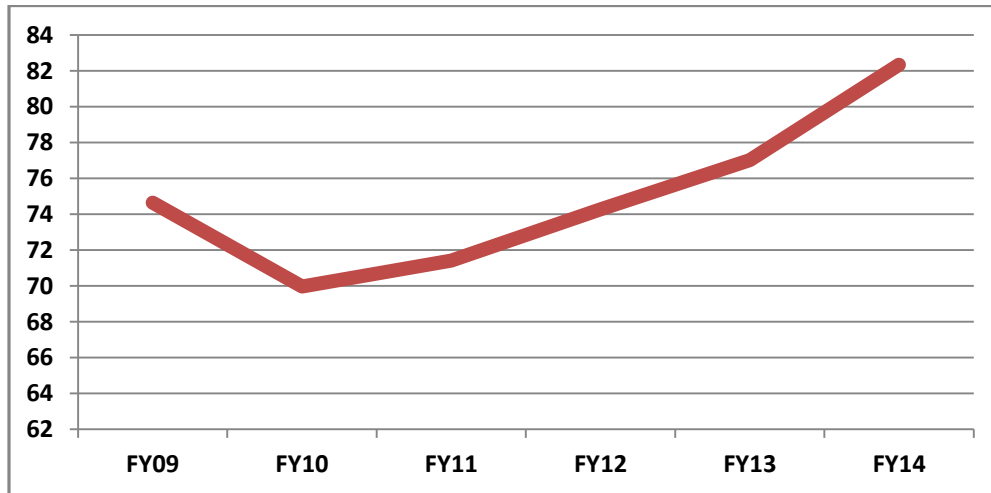
was as high as 30% in FY2010. This gap has progressively narrowed and declined to 17% in FY2014. If this trend continues, the gap will narrow further in the coming years. This is a very positive development as the Rangpur rural side has been the subject of immense research and policy concern. High rural poverty and frequent episodes of seasonal hunger presented a major policy challenge to Bangladesh. The evidence of rapidly rising agricultural wages in Rangpur, faster than the national average which itself is rising, is welcome news and has contributed positively to poverty reduction while eliminating the seasonal hunger issue.

Figure 1.6: Female/Male Wage Ratio in Agriculture (%)



Source: BBS.

Figure 1.7: Rangpur Wages as Percent of National Average (%)



Source: BBS

Remittances: Remittance inflows from migrant workers have continued to perform outstandingly throughout the Sixth Plan period. Government has supported this through a range of policies as envisaged under the Sixth Plan. To facilitate remittance 27 microfinance institutions have been authorized along with 28 banks through mobile banking. The number of overseas jobs achieved in

the Sixth Plan (2.2 million) substantially exceeded the projected employment (1.2 million). The share of skilled and semi-skilled migrant workers has increased from 28.42% in 2010 to 53.79% in 2014. Moreover, the share of migrant workers in lagging regions has also increased from 13.43% in 2010 to 20.53% in 2014. The share of female migrant workers has increased from 7.09% in 2010 to 17.86% in 2014. These have been the major contributory factors to the growth of remittances that swelled from US\$ 11 billion in FY2010 to US\$ 15.2 billion in FY2015. Some 60 percent of these remittances accrue to the rural economy. Several research investigations have indicated the highly positive impact of remittances on poverty reduction. Remittances have lowered poverty through several channels. First, the migration of rural workers to international work places is one important factor for the tightening of rural labour market, thereby supporting the growth of real wages. Second, income transfers from remittances have directly supported poverty reduction by increasing the income and consumption of the rural poor. Thirdly, and very importantly, the massive inflow of remittance income into the rural economy has supported the expansion of housing, construction, trade and other services. These in turn have provided a diversified employment base for rural workers. The multiplier effects of remittance inflows are a major contributor to rural transformation and diversified employment and income base for the rural poor.

Expansion of microcredit: Lots of rural and urban poor are self-employed. Access to credit is an important determinant of income opportunities for these poor. Additionally, access to credit allows a smoothing of consumption that supports poverty reduction. Bangladesh is justly famous globally for pioneering the growth of the microcredit. These programmes have continued to improve access and services during the Sixth Plan. The Bangladesh Bank has taken a strong pro-active role to improve the access of credit and other financial services. New financial instruments based on ICT (mobile banking) are slowly changing the landscape of financial service access to the poor in both rural and urban areas. In the area of micro-credit, rules were developed for the Microcredit Regulatory Authority (MRA) in 2010 to properly supervise MFIs and protect both the borrowers and the lenders. The number of registered MFIs, as well as the number of borrowers and saving per borrowers has been steadily increasing throughout the Plan's time frame. Up to 2012, 673 MFIs were registered with the MRA, and in 2011, the savings per borrowers had increased by 19%. There are now about 1212 applications under process from microcredit related organizations for MRA registration. The Government has provided microcredit financing through 272 partner organizations (NGOs). So far through the PKSf programme about 8 million borrowers have received microcredit of which 91% are women. The present outstanding loan from PKSf partner organizations is 35.64 billion taka. Accumulated savings by the all MFIs was 27.5 billion taka in 2006 which has risen to 106.99 billion taka in 2014, with a growth of 289% over this period. Policies and programmes for small and medium enterprises (SMEs) were also formulated in 2010 to enhance financing services for SME entrepreneurs. According to the Bangladesh Bank data, almost 700 billion taka was distributed to SMEs, 15% of which went to women entrepreneurs.

1.3.2 Income Inequality

The Sixth Plan recognized that income inequality is a challenge for Bangladesh. While the access to credit, the inflow of remittances and social safety nets have helped contain the inequality of consumption and even lower it slightly over the longer term, the inequality of income has continued to rise from the early 1980s to FY2010. Notwithstanding the rapid growth in income and a substantial reduction in poverty, income inequality is not a healthy sign for social stability and progress. Accordingly, the Sixth Plan sought to tackle income inequality through a number of strategies and policies including increase in employment, labour productivity and wages, the development of human capital with better access to poor, the expansion of micro-credits and loans for SMEs, increase in spending on social protection and improving its effectiveness, reform of public spending with greater emphasis on health, education, agriculture, rural development, and reform of taxes with emphasis on progressive personal income taxation.

Data to measure income inequality will have to wait until BBS conducts and publishes the next round of HIES. As such it is hard to say quantitatively what has happened to inequality during the Sixth Plan. However some qualitative assessment can be made. On the positive side, the growth in employment, agricultural labour productivity and real wages are the most promising factor that may have contributed to an improvement in the income distribution. A second positive factor is the expansion of microcredit and credit to the SMEs. As against these positive factors, the implementation of other policy interventions has been less effective. The reform of income taxation into a modern system that taxes all income at progressive rates is still in the making. Expenditure policies are broadly on the track but the planned expansion in public expenditure as a percent of GDP on health, education, rural development and social protection has not happened owing to tax revenue shortfalls, growing incidence of subsidies and the massive financing needs in infrastructure. On balance, this area remains a major challenge for Bangladesh. The Seventh Plan will need to take a fresh endeavour and provide renewed commitment to reversing the pattern of long-term increase in income inequality in Bangladesh.

1.4 GENDER EMPOWERMENT, SOCIAL INCLUSION AND SOCIAL PROTECTION

1.4.1 Gender Equality

Bangladesh already stands out well on gender equality among comparable per capita income countries. Further progress was achieved in most dimensions during the Sixth Plan. Bangladesh continues to perform especially well in gender parity in education. Having eliminated the gender disparity in primary and secondary education, solid progress has been made in reducing the large gap between male and female students at the tertiary level. Bangladesh has also advanced well in providing the regulatory framework for protection of women's rights and privileges. The most important step has been to ratify the National Women Development Policy (NWDP) in 2011. Its vision is to "create a society where men and women will have equal opportunities and will enjoy

all fundamental rights on an equal basis”. A list of 20 goals was formulated in order to empower women in all aspect of life: socially, legally, economically and politically. Political empowerment has been boosted through increased membership in the national parliament. In recognition of this progress, Bangladesh was ranked 10th out of 136 countries for women political empowerment according to the Gender Gap Report (GGR) of the World Economic Forum, 2014. In the area of economic empowerment progress is ongoing in expanding labour force participation of women. With progress in education, more and more women are entering the labour force, although there is still a long way to go.

Notwithstanding strong progress on the gender agenda, there are few unfinished agenda which need most attention concerning economic empowerment. The GGR shows that the Bangladesh ranking is low on this count owing to a number of factors including: continued low female labour force participation, wage discrimination against women, inadequate representation of women in senior civil service positions and inadequate female managerial jobs in the private sector. In social empowerment, laws are adequate but implementation is weak. Stronger implementation of CEDAW and other gender related laws to prevent social violence and eliminate all discriminations against female in social and economic spheres remains a major challenge. These issues will be addressed in the Seventh Plan. Gender issues are discussed in greater detail in sectoral Chapter 14 of Part 2.

1.4.2 Social Inclusion

Regarding social inclusion, the Sixth Plan’s strategy and programmes have been broadly on track. Particular progress has been made in the area of child protection. Of particular note is the adoption of legislation, Children Act of 2013, based on the Convention of the Rights of the Child. It provides legal instruments to protect children with regards to a wide range of potential exploitation and abuse such as child marriage, work, and issues with the justice system. The concept of Child Focused Budget has been introduced and implemented as a pilot in the Ministry of Women and Children Affairs. The incidence of child malnutrition has reduced significantly. However, progress in the area of children nutrition requires additional effort. Implementation capacity for enforcement of the Children Act 2013 also needs considerable strengthening.

Regarding Ethnic population, the Government has been successfully implementing the 1997 Chittagong Hill Tracts (CHT) accord. Efforts are ongoing to expand education, health, social protection and other basic social services to the tribal population. Progress is generally satisfactory, although continued efforts are needed. One particular concern that needs more attention is the issue of resolving land disputes emerging from common-law and tradition based land use patterns. In the absence of well-defined property rights, this is a sensitive matter and requires informed resolution.

Regarding persons with disability (PWD), Bangladesh has come a long way in terms of promoting and protecting their rights. Both the UN Convention on Rights of Persons with Disabilities and the Beijing Proclamation on the Full Participation and Equality with Disability in Asia and the Pacific

Region have been ratified. A 5 year National Disability Action Plan in 2006 was also implemented, making all relevant ministries responsible for undertaking various initiatives to include and protect PWD. The Sixth Plan built on these foundations to further consolidate the gains. In the FY2012, the Government conducted a “Disability Detection Survey” to map out the location, number and type of PWD. The survey’s intention was to allow for more informed policy, social protection programmes, health services and other projects aiming at enhancing PWD’s well-being and social inclusion. In addition to this, many of the recent policies and programmes aimed at improving Human Resource Development have made provisions for PWD, such as the National Education Policy, the PEDP 3 and the HPNSDP. Furthermore, the Department of Social Services (DSS) has introduced new projects and strengthened existing ones to improve the welfare of PWD. These include the Integrated Education Programme for the Visually Impaired project, the establishment of a hostel for visually impaired children, and the expansion of the PROYASH institute dedicated to the wellbeing of persons and children with special needs. Finally, various centres were set up to provide one stop services for PWD and mobile physiotherapy with necessary equipment centres have been made available for PWD located in rural areas.

Another very important advancement was the ratification of the 2013 Disabled Persons Protection and Rights Act to protect PWD’s rights. Amongst other things, this law bans educational institutions, enterprises and other organizations from discriminating against PWD. Organizations and individual will face fines and imprisonment if they discriminate against PWD, for instance by “creating obstacles to them in getting due share of inherited assets, giving negative impression of them in books, publications and media both directly and indirectly and forgery of identity cards”. A national committee has been established as per the Act to oversee and coordinate activities regarding PWD’s rights and protection.

Nevertheless, discrimination, exclusion and neglect of PWD and their household are still prevalent, as the laws are not being sufficiently enforced. In terms of health, services are too costly for many households with a PWD to afford treatment, driving them further into poverty. With regards to education, the support given to students with disabilities and special needs is inadequate. Financial incentives for students with disabilities to participate in the education system are low with limited coverage. Additional efforts will be needed on these aspects during the Seventh Plan.

Finally, regarding the inclusion of socially marginalized population such as “dhopa, muchhi, napit, and other traditional low caste people”, the Sixth Plan aimed to include these disadvantaged individuals in the socio-economic realm and protect their rights through different strategies. The Government remains committed and highly sensitive to the needs of these marginalized groups. Legal provisions are in place to protect them against social discrimination. Yet the weakness in public administrative capacity and the absence of strong local governments have limited the implementation of government policies. The focus on strengthening public administration and local governments will be a key priority for the Seventh Plan.

1.4.3 Social Protection

In social protection, the Government has continued to implement ongoing programmes. Additionally, it has prepared and adopted a new National Social Security Strategy (NSSS) with a view to strengthening the poverty impact of the public spending on social protection and to modernize the social security system to address the social security challenges of a middle income economy.

The NSSS provides a sound strategy that defines the various life-cycle risks faced by poor and vulnerable population and seeks to mitigate those risks by instituting a well-designed income transfer system that reaches the poorest and most vulnerable segment of the population (the young children, school going children, vulnerable women, the elderly and the physically challenged). The NSSS is inclusive of all population irrespective of race, religion, profession, location or ethnicity. It seeks to modernize the Bangladesh social security by combining tax-funded safety net programmes with contributory social insurance and employment regulations to protect the workers. It also seeks to considerably improve the administrative arrangements for social protection programmes by consolidating complementary programmes, by strengthening staffing and institutions, by instituting a modern MIS system, by gradually replacing food-based transfer payments with cash-based payments using the financial sector based G2P (government to people) system, by introducing a grievance redressing mechanism and by installing proper results-based M&E system.

The NSSS is a major endeavour. The associated reforms will be instrumental in eliminating leakages, improving targeting, increasing the average value of the transfers, lower the risks faced by the poor and vulnerable population, reduce poverty, improve social inclusion, help reduce income inequality and build social capital. The proper implementation of the NSSS will be a major task for the Seventh Plan.

1.5 PROGRESS WITH MACROECONOMIC MANAGEMENT

Prudent macroeconomic management has been the hallmark of Bangladesh's long-term development. This was underscored in the Sixth Plan and the implementation record shows considerable success. The key macroeconomic targets and actual performance are indicated in Table 1.6.

Table 1.6: Sixth Plan Key Targets of the Macroeconomic Framework

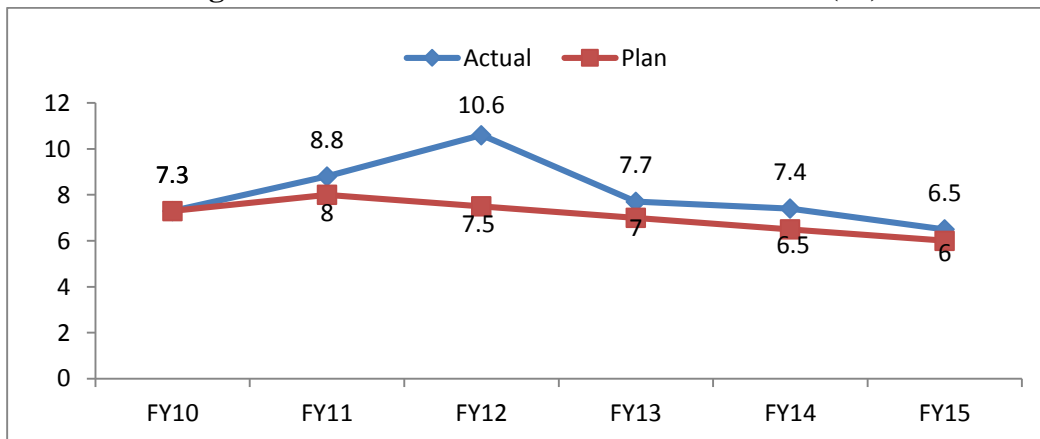
Policy Area	Performance Indicators	Baseline (FY2010)	Plan (FY2015)	Actual (FY2015)
Fiscal Policy	Tax to GDP ratio (%)	7.8	12.4	9.3
	Fiscal Deficit (% of GDP)	3.4	5.0	5.0
Balance of Payments	Average growth rate of Exports (%)	-	17.5	14.0
	Current account balance (% of GDP)	3.7	(-) 0.4	0.8
	Remittance (US\$ billions)	10.9	17.8	15.2
	Foreign Reserves (month of imports)	3.0	3.3	6.3
Inflation	Rate of CPI inflation (%)	6.8	6.0	6.5
Management	Growth of M2 (%) (end of year)	22.0	16.0	16.2

Source: Sixth Plan and GED Estimates

1.5.1 Inflation Management

One of the top priorities of the Sixth Plan’s macroeconomic management was to keep inflation under control in the 6-7 percent range. More specifically, as shown in Table 1.6, the target was to reduce the average inflation rate from 6.8 percent in FY2010 to 6.0 percent by the end of the plan period. The trend in actual inflation in relation to the Sixth Plan is shown in Figure 1.8. Following off-track performance during the first two years of the plan, corrected measures restored the inflation reduction path. Inflation rate surged to double digit in FY2012, owing to highly expansionary monetary policy. This was soon corrected and monetary discipline was restored from the later-half of 2012. Successful implementation of prudent monetary policy helped put inflation control policy on track with remarkable success. The inflation rate has come down to 6.5 percent in FY2015. Although this is still higher than the 6.0 percent target in the Sixth Plan, the midway correction is an important indicator of the flexible policy management in Bangladesh. It also shows the commitment that the Government will take measures to restore prudent macroeconomic management when there are temporary slippages.

Figure 1.8: Trend in Inflation in the Sixth Plan (%)



Source: BBS and Sixth Plan

1.5.2 Fiscal Management

In the area of fiscal policy, the performance is on track regarding fiscal prudence. The budget deficit has been constantly below 5% of GDP and total debt to GDP ratio has been falling. This is a very strong fiscal performance from the point of view of macroeconomic stability. This has supported private investment by avoiding a crowding out impact of fiscal policy and has helped the implementation of monetary policy in fighting inflation. However, there are a number of concerns. First, there is a major shortfall in tax performance. Compared with the Sixth Plan target of increasing tax to GDP ratio by 4.6 percentage points to 12.4 percent of GDP by FY2015, the actual tax to GDP ratio increased to 9.3 percent of GDP only, which is an increase of 1.5 percentage points. This is partly because of upward adjustment of GDP that has compressed all ratios, but also due to fact that the implementation of the Tax Modernization Plan has been much slower than expected. Second, fiscal discipline has often required either cutbacks or inability to meet the Sixth Plan commitments in certain high priority areas of spending (e.g. in education, health, social protection and environment). Third, procurement problems have slowed down the implementation of major infrastructure projects. Fourth, the important policy initiative of public-private-partnership in infrastructure did not gain momentum. The Seventh Plan will pay particular attention to these areas to strengthen the implementation of fiscal policy.

1.5.3 External Sector Management

The performance of the Sixth Plan in the external sector is solid in terms of maintaining external stability. The current account has been in surplus, the reserve level has accumulated at a very fast pace and external debt to GDP ratio has been falling. Remittance inflows have also been very strong, although the end year inflow is lower than planned. The stability aspects of the balance of payments' outcome exceed the respective targets in the Sixth Plan. This strong performance in the balance of payments has allowed the maintenance of a stable exchange rate and provided great flexibility in managing foreign borrowing. Bangladesh Bank has progressively liberalized the foreign exchange regime including private foreign borrowing for investment. These steps constitute a positive factor for encouraging domestic and foreign direct investment

As against these highly positive aspects of performance of the external sector, there are two areas where further efforts will be needed in the Seventh Plan. First, the rate of growth of exports fell short of the Sixth Plan target. The Plan aimed at securing an average growth in export earnings of 17.5% in nominal US Dollars. The actual growth was 14%. This, however, is still a solid performance. A second concern is the inability to broaden and diversify the export base away from excessive reliance on readymade garments (RMG). On the contrary, the share of RMG exports has increased further, growing from 76% of total exports in FY2010 to 78% in FY2015. Some other exports like leather and processed food have shown promise but their individual contributions to export earnings are dwarfed by the earnings from RMG. Another dimension of the diversification challenge is in the area of services exports. Bangladesh continues to perform admirably in exporting labour services and benefitting from hefty inflows of remittances. But

other service export prospects like ICT, shipping and tourism have not shown dynamism. The diversification of sources of export earnings will be a major challenge for the Seventh Plan.

1.6 PROGRESS WITH INFRASTRUCTURE DEVELOPMENT

1.6.1 Power and Primary Energy

In the area of electricity, the Government adopted a strong and well-rounded reform Programme to increase the supply of electricity involving substantial investment, sector reforms and regional trade. The implementation review suggests that the most impressive performance has been the expansion of installed grid-based power generation capacity to 13,540 MW (including captive power) of generation by FY2015, out of this grid based total installed generation capacity is 11,532 MW. This success with the expansion of generation capacity along with expansion of transmission and distribution networks helped achieve considerable progress for power sector. The population's access to electricity increased from the FY2010 baseline of 48% to 72% in FY2015. The other target indicator, per capita electricity generation, also increased from 220 kWh to 371 kWh. On the whole, these numbers suggest an impressive performance in electricity production, distribution and consumption during the Sixth Plan. Progress was also made in engaging on energy trade. Some 500MW of power was added to the national grid based on purchase from India.

Petroleum storage capacity has been increased by 268,000 metric tons during 2009-10 to 2014-15 financial year through implementation of 04(four) projects and other development works to strengthen energy security and smooth supply of oil throughout the country. Modern hydrant system has been installed at Hazrat Shah Amanat International Airport, Chittagong and Osmani International Airport, Sylhet to upgrade refueling facilities for the aircrafts.

There is an important need to address the fuel diversification challenge to restore the financial sustainability of the power sector. The recent decline in international oil prices has provided an important break in the economics of power production and supply during 2015. Yet future oil price trends are uncertain and the Seventh Plan will have to put considerable emphasis on coal, possibility of new gas exploration, nuclear power and imports from India, Nepal and Bhutan. The future power expansion Programme must also be based on least-cost expansion path.

Meanwhile, after the settlement of demarcation of Maritime boundary with Myanmar and India, necessary steps have been set to start a new bidding round. Relevant documents, revised block map, revised Model PSC etc. have been formulated for the new upcoming bidding round. As a part of this, Petrobangla has initiated to conduct marine 2D Non-Exclusive Multi-Client Seismic Survey within the sovereign offshore areas of Bangladesh. The objective of the survey is to provide the oil and gas industry with 2D Non-Exclusive Multi-Client seismic data of the offshore areas of Bangladesh in order to help with basin evaluation, prospect generation and robust future bid round participation.

Simultaneously, to cater the increasing gas demand of the country particularly in the Chittagong region necessary steps have been taken to add about 4 million ton per annum (MMTPA) imported LNG by installation of a Floating Storage and Re-gasification Unit (FSRU) at Moheshkhali on Build Own Operate Transfer (BOOT) basis. In this regard, a term sheet for LNG terminal use agreement was signed with M/s. Excelerate Energy Limited Partnership on February 25, 2015. It will be possible to supply 500 million cubic feet per day (mmcf/d) gas through this facility by end of 2017. Moreover, the Government is going to undertake two land based LNG terminal in the country. The capacity of the proposed each land based LNG terminal is 6 MMTPA. The land based LNG terminal would be completed within 5-7 years. Location of the terminal would be selected as per recommendation of an upcoming feasibility study.

Five coal fields in the country contain 3,300 million tons coal. Recently rate of coal production from Barapukuria has been increased significantly due to application of modern coal extracting method. At present daily 4,500-5,000 million ton of coal is being produced from this mine. Beside, feasibility study for extension of existing underground mining operation of Barapukuria Coal Mine towards the southern and the northern side of the basin without interruption of the present production is being undertaken. Moreover, 2-D seismic survey of Dighipara Coal Field has been completed with own fund of Petrobangla. From the result of the survey the coal field is considered to be prospective for development.

In the world, the gas is being produced from many other sources other than the conventional sources. A Coal Bed Methane (CBM) feasibility study project has been undertaken to evaluate the methane gas reserve as well as to examine the commercial viability for extraction of CBM from Jamalganj coal field which is about one kilometer deep. A foreign consulting firm has been engaged for this study. It is expected that the drilling work will be started from November 2015.

Efficiency improvement can be one of the measures to save gas as well as energy conservation. Developed countries have succeeded to save gas by increasing the efficiency of gas utilization. In view of this, TA to Review the Approaches for Increasing the Efficiency of Gas Utilization in Certain Major Users (TAIEGU) Project was successfully implemented by Petrobangla. Under the project, the efficiency of the existing major gas users such as Fertilizer industries, Captive power plants, Glass industries, Re-rolling mills and other industrial establishments that use boilers were reviewed and assessed. Three Pilot Programs to ensure effective utilization of natural gas by selecting three different inefficient units (captive power generator, re-rolling mill and industrial boiler) were executed and some industrial norms and standards which will be beneficial for the users were developed. Industrial and captive power consumption of Natural Gas is almost 63% of the total non-bulk consumption of which mostly is consumed through boilers, captive power generators and industrial furnaces/kilns. In line with the Government precedence to the promotion of Energy Efficiency (EE) and Energy Conservation (EC) programmes, the different energy saving targets has been set to improve efficiency of industrial Boiler, Captive Power Generator and industrial furnaces/kilns in order to ensure energy conservation.

1.6.2 Transport Sector

Transport infrastructure needs are substantial and the Sixth Plan developed a strong programme in all areas of transport: roads, bridges, railways and ports. The annual budget provided adequate resources, reflecting the priority attached to transport. Some important road network projects, including projects to ease urban congestion, were completed and many new projects initiated. The most notable is the initiation of the Padma Bridge Project. The Chittagong seaport performance is excellent. The airport performance is also solid.

The government recognizes that the transport infrastructure challenge is enormous. Many road projects were initiated but completion rates have been slow. Investments in railways and inland water have lagged behind. Despite the completion of a number of projects, the urban transport issues in terms of congestion and traffic management remain overwhelming in the capital city of Dhaka. Importantly, the PPP initiative for infrastructure did not take off as expected. These issues will be tackled in the 7th Plan.

1.7 PROGRESS WITH HUMAN RESOURCE DEVELOPMENT

The focus on human development has been a major strength of development policy in Bangladesh. The Sixth Plan put considerable emphasis to further accelerate progress, especially in terms of increasing the quality of education. Gender parity was a key objective at all levels of education. Improvement in health and nutrition indicators, reduction in the rate of population growth and better equity in health and education were major objectives of the Sixth Plan human development strategy.

The evaluation of performance shows progress in many areas. On the quantitative front, 100 percent net enrolment in primary education has already been achieved. Net enrolment in secondary education has continued to make progress and the Sixth Plan target is likely to be met. In tertiary education, although there was no quantitative target, there has been a big expansion based on both public and private institutions. Regarding gender, Bangladesh has been a leader among developing countries in eliminating gender gap at primary and secondary level. Indeed net female enrolments exceed male enrolments in both primary and secondary education. Regarding efficiency of the education system, there has been encouraging progress in reducing dropouts and increasing completion rates for both male and female in primary and secondary education. Available evidence suggests that the related Sixth Plan targets will be met. In terms of quality of education, some progress has been made as indicated by public exam results, but there is a long way to go.

Regarding health, available evidence suggests there has been further progress in reducing rates of infant and under-5 mortality, and maternal mortality ratio. Importantly, progress has been made in

reducing the incidence of child mal-nutrition, which has been a major concern in Bangladesh. Reduction in total fertility rate and population growth rate are also broadly on track.

These are important gains, especially in the areas of child nutrition and maternal mortality, yet there are areas which need interventions to improve equity.

First, education quality remains a serious concern in terms of learning and relevance to markets. Technical and scientific education continues to lag behind demand.

Second, stronger efforts are needed to implement the Sixth Plan's recommendation to devolve service responsibilities in health and education to the local governments. This agenda is high on the Government's list but actual implementation is slow.

Third, the coordination within the Government (between ministries, directorates and other levels) needs to be improved. Greater decentralization, with responsibilities and budgets actually divided between the different institutions and levels will help this coordination process considerably. This will avoid overlaps of projects and programmes and ensure that the objectives and targets are aligned.

Fourth, a re-examination of budgetary priorities is needed to allocate greater resources for health and education. The target should be to allocate at least 1.2% of GDP more resources to these activities by the end of the Plan period. The implementation of the Government's health insurance programme will also help.

Fifth, the equity aspects of education spending can be improved by providing additional resources for stipends for the children of the poor and vulnerable families as proposed under the National Social Security Strategy (NSSS). Partnership with NGOs could be strengthened to deliver health and education services in the hard-to-reach areas as well as to reach out the socially-excluded groups.

Sixth, the nutrition programmes need additional efforts. Outreach programmes need to be strengthened. Stronger partnership with international institutions such as UNICEF and with NGOs can provide greater push and visibility to this effort.

Finally, the upgrading of skills for the workforce needs renewed attention. Greater efforts are needed to learn from the East Asian experiences with training, including stronger partnership with private sector in the design and implementation of training programmes including support for on-the-job training. Consultations with the various chambers of business and commerce on a training strategy and associated policies can be a useful first step.

1.8 PROGRESS WITH ENVIRONMENT, CLIMATE CHANGE AND DISASTER MANAGEMENT

Bangladesh has shown success in developing national level scientific expertise and government level actions on the environmental sustainability issues. The knowledge capacity in the country, compared to many other LDCs is relatively high and policies and institutions are taking shape. The Sixth Plan has continued to push ahead with its policies and programmes. The challenge remains to implement policies in a more effective manner and make sure that lessons are learnt and acted upon in a timely manner.

In the area of environmental management and climate change, there is a large unfinished agenda. The M&E effort is weak that makes it much more difficult to assess progress adequately. A more focused and results-oriented strategy combining elements of policies, regulations, incentives, investment and capacity building are needed. An integrated approach to climate proofing of Bangladesh development strategy is the way to move forward.

The disaster management programmes have generally performed well in the recent years and the progress continued under the Sixth Plan. The ability to sharply reduce the loss of lives and injuries based on a combination of early warning system, construction and availability of shelters and timely provision of relief and support measures are indicative of the good progress here. However, further efforts are needed to build the resilience of the people and minimize the adverse impacts of natural disasters on people's livelihood. A major challenge is the management of the river system. The other challenges relate to managing the climate change agenda. Long-term planning and substantial public investment will be necessary. The formulation of the Bangladesh Delta Plan-2100 and its timely implementation during the Seventh Plan will be a major long-term policy and institutional initiative for building resilience and reducing the effects of disaster.

1.9 PROGRESS WITH GOVERNANCE AND INSTITUTIONS

In recognition of the importance of good governance and institutions for the long-term development of Bangladesh and for the timely delivery of results, the Sixth Plan adopted a long-term Programme for governance improvement and institutional development. The Plan emphasized strengthening of judiciary, law enforcing agencies, democratic institutions, economic policy making institutions, decentralization and public administration. Important progress has been made in a number of areas but there are several challenges.

The Government has approved a National Integrity Strategy (NIS) in 2012 which identifies the contexts and challenges faced by different state and non-state institutions and it sets goals for a large array of institutions to ensure integrity in their respective operations. In addition, given corruption is largely held responsible for underperformance of the state, NIS document pinpoints a coordination strategy on prevention of corruption and promotion of integrity based on the

constitutional spirit, electoral commitments of the government, UN Convention against Corruption and the experiences of the different countries.

The Sixth Plan's culture of introducing results-based monitoring and evaluation is itself a major step forward in instituting better governance. Progress in areas relating to e-governance, the Right to Information (RTI), elected local governments, and the medium-term budgetary framework (MTBF) are all indicators of the Government's commitment to improve governance over the longer term.

The priorities for the future include:

- (i) Further strengthening of the democratic governance process to ensure participation of all citizens and the sound functioning of all democratic institutions.
- (ii) Strengthening of the local government institutions based on a well-defined legal framework that assigns responsibilities along with commensurate financial autonomy.
- (iii) Strengthening of civil services with the institution of merit based promotion and improved incentives in terms of remuneration and training facilities with a view to attracting skills in a number of areas that are deficient.
- (iv) Financial and legal support to the judiciary to strengthen its capacity to ensure faster disposal of civil and criminal cases.
- (v) Reform of public banks to reduce non-performing loans and bad lending decisions.
- (vi) Stronger implementation of the Tax Modernization Project with a special focus on strengthening income tax collections.
- (vii) Strengthening the Anti-Corruption Commission in securing better quality investigations and fair resolutions.

Box 1.1: Commendation for Outstanding Leadership for Development Endeavours in Bangladesh

Socio-economic development is a product of political commitment and leadership as much as of conducive policies. The recent economic progression of Bangladesh from a lower income country to lower middle income country can be attributed to the political commitment of the Government of Sheikh Hasina and her dedicated leadership. Aside the economic sphere, under her dynamic and resolute leadership, the country has achieved an enviable level of human development in key social indicators like reducing infant mortality and maternal mortality, achieving near about 100 percent primary school enrolment rate, gender parity in education, seriously denting poverty level, women empowerment, digitization, climate change adaptation etc. well ahead of its neighbours in South Asia and some upper middle income countries. Bangladesh has accomplished these successes at a steady growth rate of about 6.3% without any deterioration in equity or inequality. Despite being one of the most densely populated country, Bangladesh has achieved self-sufficiency in food grain production.

Bangladesh's achievements are well recognized by the world community. There has been a general appreciation of the achievements of Bangladesh in promoting socio-economic development. Bangladesh is well and truly on course of achieving her development dream of poverty and hunger free Bangladesh under the dynamic leadership of Bangladesh's present Hon'ble Prime Minister Sheikh Hasina, daughter of Father of the Nation Bangabandhu Sheikh Mujibur Rahman. International organizations like the

United Nations and other organizations, recognized achievements of Bangladesh and relentless efforts of the leadership. She was awarded with 'UN MDG Awards 2010' for reducing child mortality and 'UNESCO Peace Tree Award' for her commitment to women's empowerment and girls' education. That is not all; Bangladesh was awarded 'South-South Award' titled 'Digital Health for Digital Development' award for using ICT for progress of the health of women and children which had a huge impact on attainment of MDG targets.

She received an award titled 'South-South Award' for her prudent leadership in achieving the MDG targets of alleviating poverty well ahead of the deadline. In this regard Bangladesh was honored with the 'special recognition' and received award from FAO titled 'Diploma Award' for achieving the MDG target of halving the poverty well ahead of the deadline. Recently Hon'ble Prime Minister of Bangladesh received the most prestigious environment accolade from the UNEP named "Champions of the Earth" in recognition of Bangladesh's pragmatic initiatives to address climate change. Last but not least, Bangladesh received 'ICTs in Sustainable Development Award' from ITU as a gratitude for digitizing Bangladesh.

The achievements of Bangladesh in the context of socio-economic development and her dream laid in the Vision 2021 is the dividend of the strong and determined leadership of the Prime Minister of Bangladesh, Sheikh Hasina.

1.10 IMPLICATIONS FOR THE SEVENTH PLAN

The overall positive record of Sixth Plan implementation and associated progress in development measured in terms of poverty reduction, employment, human development and growth in incomes suggests that the Sixth Plan strategy were on the right track. Important gains have been made in moving towards the targets of Vision 2021. In particular, Bangladesh has attained lower middle income status earlier than in 2021 while also achieved the MDG targets in most areas, especially poverty reduction. This solid performance suggests that the Seventh Plan should stay the course of the Sixth Plan and focus on areas where there are important performance gaps remain. The approach would be to pursue the same strategy in a way that consolidates the gains while addressing the several implementation gaps identified above.

There are four areas where the Seventh Plan would probe deeper and take a more focused and comprehensive approach than was possible in the Sixth Plan. The first concerns the need to build stronger institutions. The Sixth plan's efforts to build important institutions like the local government, the urban institutions, land administration, strengthening of the National Board of Revenue and the Public-Private Partnership require further efforts. The strengthening of the judiciary, the Elections Commission and other democratic institutions are also long-term challenges that will be continued. Secondly, building implementation capacity in public agencies and ministries requires further efforts. Thirdly, stronger policy focus will be given to the area of income inequality. In particular, reform of public finances that increases the equity of tax collection and public spending are of substantial importance. Especially, the equity aspects of public spending on education and health require considerable effort. Also important is the need to implement the newly approved National Social Security Strategy. This is a fundamental win-win

reform that will modernize the social security system of Bangladesh and provide a major impetus to reducing income inequality by providing financial assistance to the poor and vulnerable population. Finally, the programmes in environmental management and climate change will be strengthened and incorporated in the mainstream economic policy management. Successful development of the Delta Plan strategy for water management and management of other environmental hazards will be a major challenge for the Seventh Plan. The integration of climate change and environmental management issues in growth and fiscal policy management will be another high priority issue for the Seventh Plan.

CHAPTER 2

STRATEGIES FOR PROMOTING PRO-POOR AND INCLUSIVE GROWTH

2.1 OVERVIEW

As noted in Chapter 1, the 6th Five Year Plan, which defined the first phase of implementation of the Perspective Plan 2010-2021 and the Vision 2021 document, has laid the groundwork for achieving priority national targets related to Bangladesh's economic and social progress by the year 2021. The 6th Plan's achievements show the enormous resilience of the Bangladesh economy against heavy odds, in light of the global economic slowdown following the worst economic crisis since the Great Depression of the 1930s. The 7th Five Year Plan 2016-2020 marks the second phase in the attainment of our long-term vision for accelerated but inclusive growth, and eradication of poverty, inequality, and human deprivation. In view of this solid performance, the 7th FYP takes on board the basic strategies of growth, employment and poverty reduction, while focusing on addressing the important gaps in performance under the 6th FYP.

The present chapter articulates the strategy of economic growth embedded in the various components of this Plan with four pivotal underlying themes:

- Break out of the sphere of 6% growth and raise the average annual growth rate to 7.4%
- Growth will be inclusive, pro-poor, and environmentally sustainable
- By the end of the 7th FYP, extreme poverty will be around 8.9%
- All the additional labour force will be employed, including much of the under-employed

2.2 SEVENTH PLAN CORE TARGETS IN THE CONTEXT OF VISION 2021

The Perspective Plan sets the strategic directions and provides a broad outline for the course of actions for making the Vision 2021 a reality. The broad development goals underlying the Perspective Plan include:

- building a secular tolerant liberal progressive democratic state
- promoting good governance and curbing corruption
- promoting sustainable human development
- reducing the growth of population
- instituting a prudent macroeconomic policy mix
- promoting a favourable industrialization and trade policy regime

- addressing globalization and regional cooperation challenges
- ensuring adequate supply of electricity and fuel
- achieving food security
- making available adequate infrastructure
- pursuing environmental friendly development, and
- building a digital Bangladesh

The Sixth Five Year Plan (FY11-FY15) was formulated within this broad framework and has left a solid footprint of progress for the Seventh Five Year Plan (FY16-FY20) to pick up and carry out the remaining agenda. The 7th FYP therefore reflects a continuation of the major policy goals articulated in the 6th FYP. The core targets set in accordance with the vision and goals of the Perspective Plan that can be identified for monitoring progress under the 7th FYP may be divided into ten broad categories which arose from the fourteen sectoral strategic sectors (Table 2.1):

A. Income and poverty

- Attaining average real GDP growth rate of 7.4% per year over the Plan period
- Reduction in the head-count poverty ratio by 6.2 percentage points
- Reduction in extreme poverty by about 4.0 percentage points
- Creating good jobs for the large pool of under-employed and new labour force entrants by increasing the share of employment in the manufacturing sector from 15 percent to 20 percent

B. Sector Development

- Significant growth of the agriculture, industry and service sectors
- Increase the contribution of the manufacturing sector to 21% of GDP by FY20
- Substantial improvement of exports to \$54.1 billion by FY20
- Achieving a Trade-GDP ratio of 50% by FY20

C. Macroeconomic Development

- Total revenue to be raised from 10.7% of GDP to 16.1% by FY20
- Maintain the current fiscal deficit of 5% of GDP
- Government spending to be increased to 21.1% of GDP by FY20
- FDI to be increased substantially to \$9.6 billion by FY20

D. Urban Development

- Infrastructural investment and civic facilities in peri-urban growth centres especially around Special Economic Zones
- Inclusive housing and other civic services for urban inhabitants including for people living in informal settlements and slums

- Inclusive urban planning based on sustainable land use planning and zoning
- Increased productivity, access to finance, and policy support for urban micro-small and medium enterprises

E. Human Resource Development (Education, Health and Population)

- Achieving 100 percent net enrolment rate for primary and secondary education
- Percentage of cohort reaching grade 5 to be increased to 100 from current 80 percent
- Under 5 mortality rate to be reduced to 37 per 1000 live birth
- Maternal Mortality Ratio to be reduced to 105 per 100,000 live births
- Immunization, measles (percent of children under 12 months) to be increased to 100 percent
- Reduce proportion of underweight children among under-five children to 20 percent
- Births attended by skilled health staff to be increased to 65 percent
- Reduction of Total Fertility Rate to 2.0
- Increasing Contraceptive Prevalence Rate to 75 percent

F. Water and Sanitation

- Safe drinking water for all
- Proportion of urban population with access to sanitary latrines to be increased to 100 percent
- Proportion of rural population with access to sanitary latrines to be raised to 90 percent

G. Energy and Infrastructure

- Installed Generation Capacity of electricity to be increased to 23,000 MW by 2020
- Ensure energy mix for energy security
- Electricity coverage to be increased to 96 percent with uninterrupted supply to industries
- Reduce system loss from 13% to 9%, improve energy efficiency & conservation
- Construction of 6.15 km. long Padma Multipurpose Bridge at Mawa-Janjira
- Construction of about 26 km. long Dhaka Elevated Expressway
- Construction of Dhaka-Chittagong expressway and upgradation of Dhaka-Chittagong highway to 4-6 lane.
- Improve the multimodal transport network with a significant increase in the share of rail and waterways traffic
- Reduce urban traffic congestion with focus on Dhaka and Chittagong cities
- Reduce the incidence of road accidents
- Completion of the following high Priority Mega Projects:
Padma Bridge, Deep Sea Port Project; MRT-6 project; LNG terminal project; Payra Port Project; Rooppur Nuclear Power Plant Project; Rampal Coal Power Project; Matarbari Coal Power Project

H. Gender equality, income inequality and social protection

- Female to male ratio in tertiary education to be raised from current 70 percent to 100 percent
- The ratio of literate female to male for age group 20-24 to be raised to 100 percent from the current 86 percent
- Encourage female enrolment in technical and vocational education
- Reduce or maintain the current income inequality of 0.45
- Spending on Social Protection as a share of GDP to be increased to 2.3% of GDP

I. Environmental Sustainability

- Increase productive forest coverage to 20 percent
- Improve air quality in Dhaka and other large cities and enact Clean Air Act
- Promote Zero discharge of industrial effluents
- Urban wetlands are restored and protected in line with Wetland Conservation Act
- At least 15% of the wetland in peak dry season is protected as aquatic sanctuary
- 500 meter wide permanent green belt established and protected along the coast
- Land zoning for sustainable land/water use completed
- Environmental, Climate Change and disaster risk reduction considerations are integrated into project design, budgetary allocations and implementation process
- Canals and natural water flows of Dhaka and other major cities restored

J. ICT Development

- Improve tele density to 100%, internet penetration to 100% and broadband coverage to 50%
- All primary schools to have at least 1 and all secondary schools to have at least 3 multimedia classrooms; 30% of primary schools and 100% of all secondary schools to have an ICT laboratory
- 25% Community Health Clinics provide teleconsultation with specialists in urban areas
- All G2P cash transfers and most P2G and B2G payments done digitally
- Most vital government services are made available at all Digital Centres, through the national portal and over mobile devices; 100% of citizens and residents have digital ID that is used in service delivery
- Social media is regularly used for communication with various demand and supply side stakeholders
- Open government data and big data analysis are regularly used in public decision support. Increase domestic ICT earnings to \$2 billion and export earnings to \$2 billion; 1 million trained HR for the ICT industry
- Spending on Research and Development to constitute 1 % of GDP
- Robust cyber security measures are institutionalized

Table 2.1: 7th Five Year Plan Targets in Context

	Targets	Base Year 2010	Vision 2021	Progress under 6 th FYP 2015	7 th FYP 2020
A.	Production, Income Generation and Poverty				
1	Real GDP Growth (%)	6.1	10	6.5	8
2	Head Count Poverty (%)	31.5	13.5	24.8	18.6
3	Reduction of extreme poverty (%)	17.6		12.9	8.9
4	Share of manufacturing in GDP	16.89	27	17.78	25.1
5	Share of manufacturing employment (%)	12.4	20	15.4	20
6	Gross National income per capita (in US \$)	843	2000	1314	2009
B.	Sector Development				
7	Growth in agriculture (%)	6.15		3.04	3.34 [†]
8	Growth in industry (%)	7.03		9.6	10.9 [†]
9	Growth in services (%)	5.53		5.83	6.49 [†]
10	Rice production (millions MT)	33.54		34.9	36.81
12	Exports (US\$ billions)	16.2	82	31.7	54.1
13	Trade-GDP ratio (%)	34.65		42.97	50
C.	Macroeconomic Development				
14	Total Revenue (% of GDP)	9.98		10.7	16.1
15	NBR Tax Revenue (% of GDP)	8.03		9.0	13.7
16	Fiscal Deficit (% of GDP)	3.3		4.7	4.7
17	Remittances (\$ billions)	10.9		15.6	25.4
18	Total Government Spending (% of GDP)	13.88	25	15.7	21.1
19	National Savings (% of GDP)	29.44		29.01	32
20	Gross Domestic Investment (% of GDP)	26.25		28.97	34.4
21	FDI (\$ billions)	0.913		1.60	9.56
22	CPI Inflation (average)	6.82	5.2	6.5	5.5
D.	Urban Development				
23	% of urban population with access improved water source	85	100	86	100
24	Coverage of drainage system in Dhaka (%)			60	80
25	Sanitation facilities for city dwellers (%)			40	60
E.	Human Resource Development (Education, Health and Population)				
26	Net Enrolment at Primary Level (%)	91		97.3	100
27	Net Enrolment at Secondary Level (%)	43		57	100
28	Net Enrolment at Tertiary Level (%)	9		12	20
29	Percentage of cohort reaching grade 5 (%)	55		80.5	100
30	Total Fertility Rate	2.7	1.8	2.11	2.0
31	Increase Contraceptive Prevalence Rate (%)	60	80	62	75
32	Under 5 Mortality Rate (per 1000)	62		46	37
33	Immunization, measles (% children under 12 months)	87		84	95
34	Population Growth Rate (% per annum)	1.4	1	1.37	1
35	Maternal Mortality Ratio (per 100,000 live births)	194		170	105
36	Births attended by skilled health personnel (% of total staff)	24		42.1	65
37	Literacy Rate (7+)		100	57.2	100
F.	Water and Sanitation				
38	Access to improved sanitation facilities (% of population)	53	100	57	100

	Targets	Base Year 2010	Vision 2021	Progress under 6th FYP 2015	7th FYP 2020
39	% of rural population with access to improved water source	83	100	84	100
G.	Energy and Infrastructure				
40	Installed Generation Capacity (MW)	5823	24000	13,540	23000*
41	Electricity Coverage (%)	48	100	74	96
42.	Per Capita Electricity Consumption	220 kWh		371 kWh	514 kWh
43.	Transmission and Distribution Loss	16%		13%	9%
44	RHD National Highway in 'Good and fair' condition (% of network)	66%	85%	76%	85%
H.	Gender Equality and Social Protection				
45	Ratio of girls to boys in tertiary education (%)	32		70	100
46	Ratio of literate females to males (percent of ages 20-24)	85		86	100
47	Female enrolment in technical and vocational education (%)			27	40
48	Income Inequality (Gini coefficient)	0.458			0.450
49	Spending on Social Protection (% of GDP)			2.02	2.3
I.	Environmental Sustainability				
50	Productive Forest Coverage (%) (70 % tree density)	13	20	13.14	20
51	Dry season water availability (% of total flow)			15	25
52	Average flood extent (% of total area)			30	25 [‡]
53	Flood vulnerable people (in millions)			88	60 [‡]
54	Cyclone damage extent (% of total area)			10	4 [‡]
55	Water logging extent (% of total coastal area)			2.5	0.5 [‡]
J.	ICT Development				
56	Research and Development Spending/GDP (%)	0.6	1.4		1
57	Increase tele density (%)		90	78	100
58	Expansion of Broad Band Coverage (%)		40	30	35
59	Earnings from ICT, travel and tourism (\$ billions)			1.5	6

Note: (*) set in the Power Sector Master Plan. (†) represents average of the five years in the respective Plans (‡) set in the Delta Plan 2100 for 2021

In addition, since the start of the 7th FYP coincides with the final year of MDGs and the launch of UN's post-2015 Sustainable Development Goals (SDGs), the development approach underlying the 7th Plan is consistent with the global agenda for higher growth in developing countries with appropriate measures for protection of the environment. The 7th FYP embraces the goals proposed by the Open Working Group (OWG) as the post-2015 SDGs (Box 2.1) and endorsed the Rio+20 outcome document, *The future we want*, which encourages nations to forge compacts for sustainable and inclusive development in line with the UN post-2015 development agenda. Indeed, growth, and its acceleration, with a broad-based strategy of inclusiveness to reach the benefits of progress to all citizens on a sustainable basis, is the pivot around which the 7th Plan has been formulated.

Accordingly, eradication of extreme poverty will be a cardinal principle of the strategies laid out in the 7thFYP document. Drawing from the lessons of economic development across countries, the 7th FYP endorses the notion that it is not enough to look only at the growth of GDP or some other

indicators of over-all economic expansion. It is just as important to ensure that the benefits of growth is equitably shared by the widest possible group of citizens whose lives and capabilities are improved through the fruits of democracy along with economic progress.

**Box 2.1: Post-2015 Sustainable Development Goals (SDGs)
as proposed by the Open Working Group (OWG)**

SDG 1 End poverty in all its forms everywhere

SDG 2 End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

SDG 3 Ensure healthy lives and promote well-being for all at all ages

SDG 4 Ensure inclusive and equitable quality education and promote life-long learning opportunities for all

SDG 5 Achieve gender equality and empower all women and girls

SDG 6 Ensure availability and sustainable management of water and sanitation for all

SDG 7 Ensure access to affordable, reliable, sustainable, and modern energy for all

SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

SDG 10 Reduce inequality within and among countries

SDG 11 Make cities and human settlements inclusive, safe, resilient and sustainable

SDG 12 Ensure sustainable consumption and production patterns

SDG 13 Take urgent action to combat climate change and its impacts*

SDG 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

SDG 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

*Acknowledging that the UNFCCC is the primary international, intergovernmental forum for negotiating the global response to climate change

2.3 GROWTH AND STRUCTURAL TRANSFORMATION

History shows that high sustained growth has a significant transformative impact on economies. Poor countries could become rich or middle income countries in the span of 20-25 years, if they experience sustained high growth. A number of countries that were initially poor were transformed into highly industrialized economies as a result of 20-25 years of 7% plus growth, during the post-

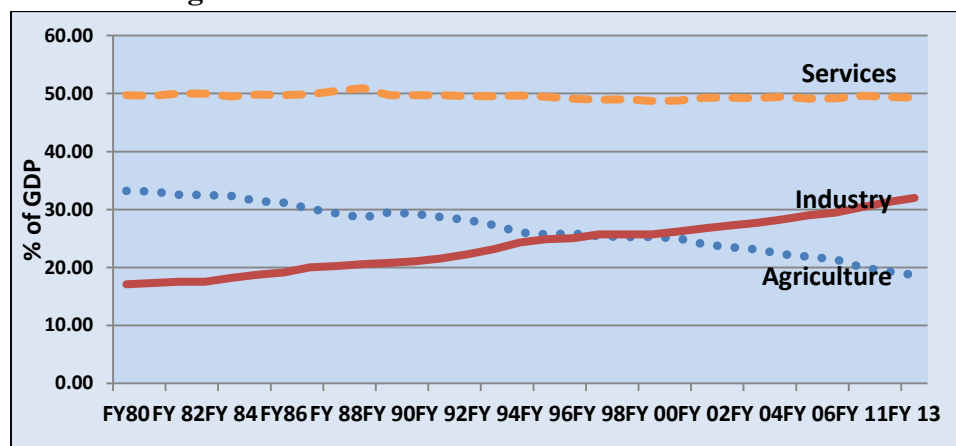
WWII period. These countries include Brazil, China, Hong Kong (China), Indonesia, Japan, South Korea, Malaysia, Singapore, Taiwan (China), and Thailand.

There is evidence that countries that experienced growth for long periods have also undergone structural transformation of their economies and societies. Leading economists who studied structural change over centuries have described structural transformation (ST) as consisting of:

- 1) declining share of agriculture in Gross Domestic Product (GDP),
- 2) declining share of agriculture in employment,
- 3) rural-urban migration,
- 4) growth of the service and manufacturing sectors,
- 5) steady growth of overseas employment and international remittances, and
- 6) Demographic transition with reduction in the population growth rates.

All of these facets of transformation are in motion in the Bangladesh economy, perhaps at a slower rate than those witnessed in countries noted above.

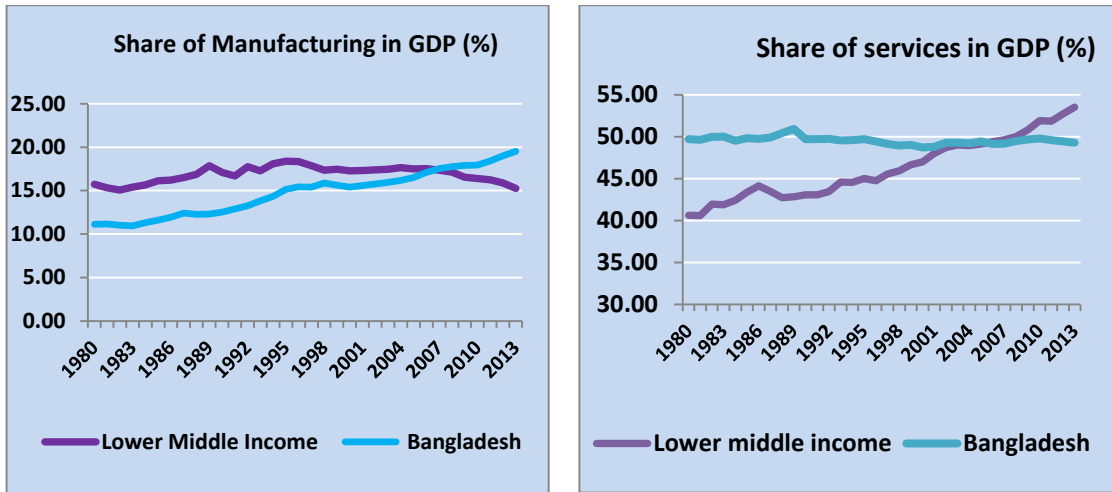
Figure 2.1: Structural Transformation over time



Source: BBS

Structural transformation in the economy has been in keeping with the stylized facts (1) to (5) in developing economies (Figure 2.1). The share of agriculture in GDP declined from over 60% in 1972 to 16% in 2014, with a decline in employment from about 75% to 45% today. Nevertheless, in its structural transformation, there are two distinctive features when compared to the average for Lower Middle Income countries (LMIC), a country group in which Bangladesh now belongs. Since 1980, while the share of manufacturing has been on the rise, approaching 20% of GDP in 2014, compared to 15% for LMICs, the average share of services in LICs have happened as manufacturing and broad industry augmented their share to 19% and 30%, respectively. Services, mostly informal, continued to make up the bulk of economic activity, holding at about 56% in 2014 compared to about 45% in 1972.

Figure 2.2: Trend in Services and Manufacturing compared to LMIC



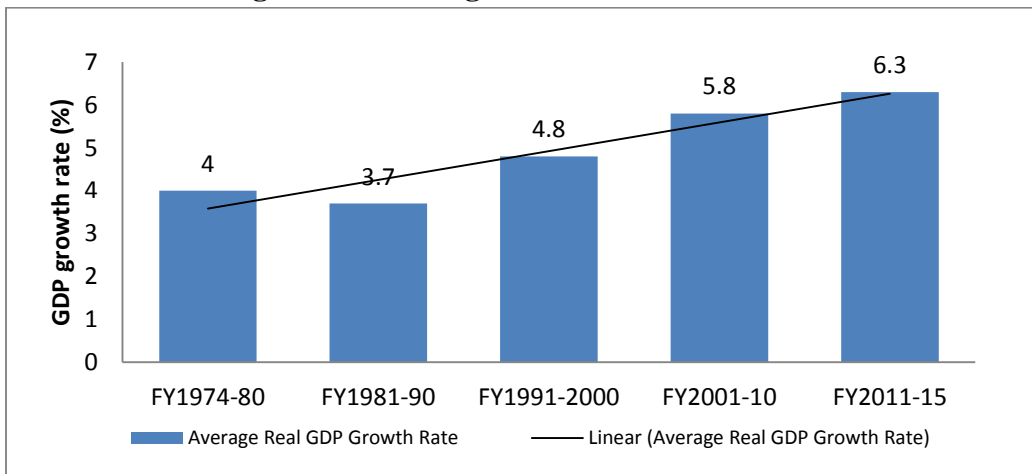
Source: BBS, World Bank

That seems to indicate that Bangladesh has a more dynamic manufacturing sector than the average LMIC, though the transformation in services has not taken place just yet. The good news is that a more dynamic manufacturing sector is a pre-requisite for higher growth that is expected to propel Bangladesh into the Upper Middle Income Country (UMIC) group in the coming years.

2.4 GROWTH PERFORMANCE IN HISTORICAL CONTEXT

Bangladesh economy has been experiencing steady acceleration in economic growth over the last several decades (Figure 2.3). Starting at a slow pace in the 1970s growth picked up speed in the 1990s and beyond. Thus, the average growth rate of GDP rose from less than 4% per year during 1970-90 to 4.8% in 1990-2000; to 5.8% in 2001-2010, and then crossed the 6% threshold during the Sixth Five Year Plan period. GDP growth averaged 6.3% for the five-year period of the Sixth Plan.

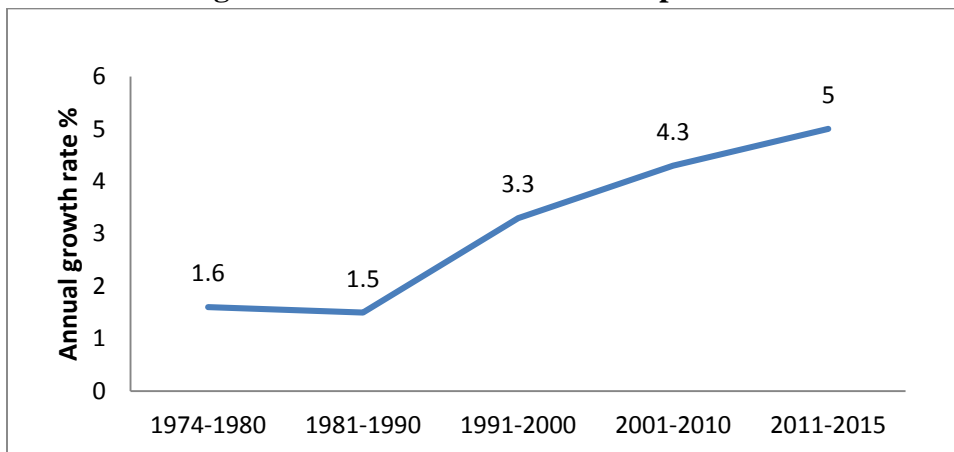
Figure 2.3: Average Real GDP Growth Rate



Source: Bangladesh Bureau of Statistics (BBS)

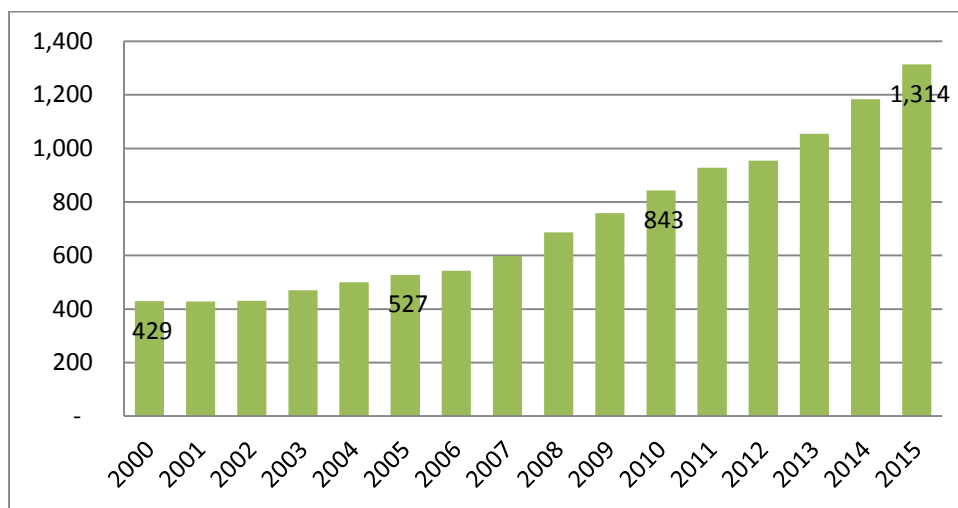
The performance is just as good in per capita terms (Figure 2.4). The increase in GDP growth combined with a successful population management policy allowed Bangladesh to secure a fairly rapid expansion in the rate of growth of per capita GDP, contributing to a rising trend in Gross National Income (GNI) per capita (Figure 2.5).

Figure 2.4: Growth Rate of Per Capita GDP



Source: Bangladesh Bureau of Statistics (BBS)

Figure 2.5: Trend in Per Capita GNI, 1980-2014 (Nominal US Dollars)



Source: Bangladesh Bureau of Statistics

Whereas it took more than 20 years for per capita income to double, from \$200 in 1980 to US\$400 in 2002, it took only seven years to double from \$600 (in 2007) close to \$1200 in 2014. It was the outcome of a combination of growth acceleration and declining rate of population growth. Having averaged a respectable 6% annual GDP growth during the first 15 years of the 21st century, the Bangladesh economy is now well poised to move to a trajectory of high sustained growth, at rates of 7%+ over the next few decades. The strategy of the 7th FYP is to ensure that the growth acceleration does occur by putting place the right combination of investment in human and

physical capital supported by the right package of policies. Moreover, in keeping with the Vision 2021 and the Perspective Plan, the goal is to make this growth inclusive and employment generating, with the maximum possible poverty reduction impact. The 7th FYP articulates the road map towards fulfilment of that vision.

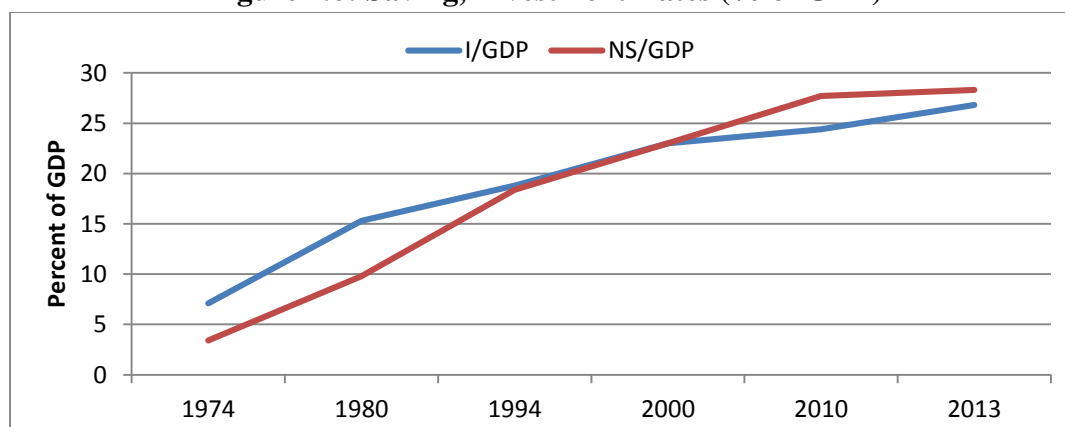
2.5 SOURCES OF GROWTH, GROWTH DRIVERS, CAPITAL EFFICIENCY

To formulate an effective strategy for growth acceleration, the 7th FYP takes on board the analytical evidence regarding sources of growth and its key drivers. Theory and empirical evidence suggest that among the most important growth drivers are: the accumulation of capital, the growth of labour force, quality of labour force, and the contribution of the growth of total factor productivity (TFP). Several researches have investigated quantitatively the contribution of these factors to the growth outcome in Bangladesh. Empirical evidence from these researches decisively concludes that the most important determinant of growth in Bangladesh has been capital accumulation. This is hardly surprising and pretty much consistent with the experience of most developing economies in the early stages of development. Results of growth accounting show as expected that the expansion of labour force and investment in human capital have contributed to growth. While the contribution of TFP growth appears not to be significant yet, there are signs that TFP contribution has improved appreciably during 2001-12.

2.5.1 Role of Capital Accumulation

Driven by a rising rate of national savings, the rate of investment as a percent of GDP has been on the increase, at a rapid pace in the past two decades as shown in Figure 2.6. The investment rate expanded from a low of 10% of GDP in the 1970s to 28.9% in FY2015. This accumulation of capital (capital deepening) has been the key driver of growth in Bangladesh so far. The accumulation of capital has allowed the expansion of production capacities in agriculture, in manufacturing, especially in the export-oriented garments sector, in infrastructure and in human development. These in turn have fuelled the expansion of economic activities in Bangladesh.

Figure 2.6: Saving, Investment Rates (% of GDP)



Source: Bangladesh Bureau of Statistics

Several factors have contributed to the rapid expansion of investment and saving. These include:

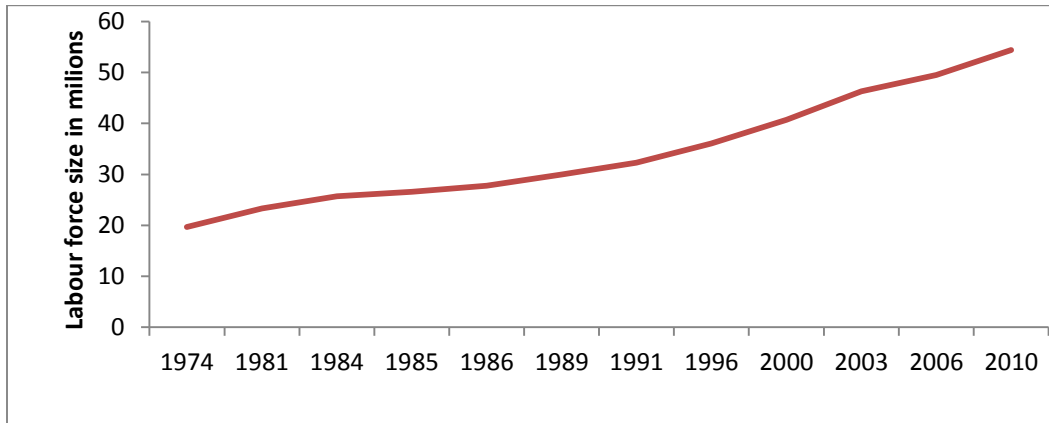
- The positive role of a stable macroeconomic environment, which has been a hallmark of long-term macroeconomic management in Bangladesh. By and large, fiscal policies have maintained low fiscal deficits and kept public debt – domestic and external -- under control. Monetary policy has been generally prudent keeping inflation under control. Exchange rate management has been sound, avoiding long periods of appreciation of the real exchange rate. All these have helped preserve the confidence of private investors.
- Good progress has been made in banking and other financial sector reforms, especially since 2000. As a result, there has been considerable increase in financial deepening (reflected in M2/GDP ratio) that has contributed to investment financing. Real interest rates have been generally within manageable range.
- Progressive investment deregulation has provided incentives to private domestic and foreign investment. Domestic private investment in particular has benefitted from this deregulation drive.
- The expansion of national savings has benefitted tremendously from the rapid inflow of remittances, which now account for over 8% of GDP.

Whereas in the early years since independence (1974-1990) the expansion of investment was facilitated by foreign saving mostly in the form of concessional aid, since the early 1990s much of the investment has been financed by national saving. This is a remarkable result and somewhat different from the experience of many developing countries that have faced a saving constraint for a fairly long time. Indeed, the expansion of national saving (which includes factor income from abroad) in recent years has exceeded the investment rate thereby contributing to current account surpluses, which is very unusual for a developing country. This is suggestive of an incentive problem and other demand side constraints on investment which if removed would allow a greater pace of capital accumulation. These barriers to investment will have to be addressed in order to get the most out of this traditional source of growth.

2.5.2 Role of Labour force

Supported by progressive capital deepening and the demographic transition that has lowered the dependency ratio, growth in the labour force and increases in its productivity have been the other drivers of growth in the Bangladesh economy. The trend in labour force is shown in Figure 2.7. On average the labour force has grown by 2.9% per year between 1974 and 2010, as compared with a population growth rate of 2.1%. The faster expansion of the labour force is caused by two factors. First, there is a rising share of population in the working age group of 15 plus. Second, overall labour force participation has been increasing owing to the growing participation of female workforce (Figure 2.8).

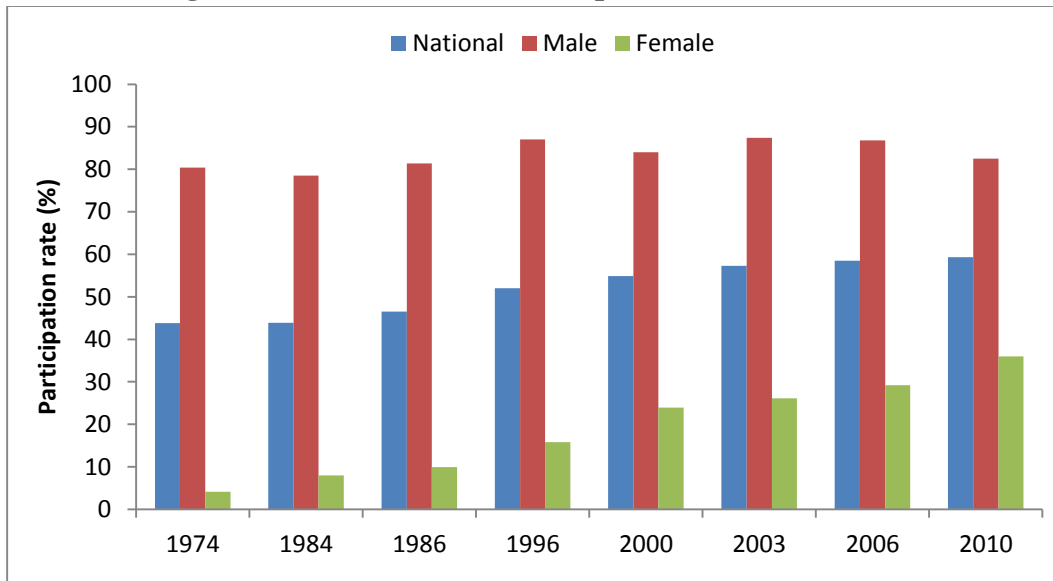
Figure 2.7: Trend in Labour force, 1974-2010 (millions)



Source: Bangladesh Labour Force Survey Various Years, BBS

Because of the growing female participation, the share of female labour in total labour force is rising, expanding from a low base of only 12% in 1989 to 30% in 2013. Yet, the level of female participation (only 33.5% in 2013) remains low by international standards. This is another important area where greater policy efforts would contribute to higher growth.

Figure 2.8: Labour force Participation Rates, 1974-2010



Bangladesh Labour force Survey Various Years

Alongside the contribution of the expansion of labour force, investments in human capital have helped improve the skill of the workforce thereby contributing to higher growth. Bangladesh has put strong emphasis on the expansion of education with impressive progress in primary and secondary education enrolments as well as vocational and technical education. With progress in literacy and education, some improvement has happened in the quality of the labour force. Yet, the facts that 40% of the workforce had no education and 23% had only primary level education

in 2010 are indicative of a very low skilled workforce. Clearly, addressing the skills gap presents a fundamental policy challenge that has to be met in the 7th FYP.

2.5.3 Role of Total Factor Productivity (TFP)

TFP growth measures the improved efficiency with which all inputs, capital, labour, and technology, are applied in the production process. Evidence based on recent research shows an increased contribution of TFP growth to Bangladesh's GDP growth, particularly since the onset of broad-based economic reforms since 1990. This is indicative of the potential of raising TFP growth through a whole host of factors that could improve growth prospects in Bangladesh. TFP is an endogenous variable and can be influenced by government policies. The most important policy is the investment in technology that contributes to improvement in capital efficiency. Spending on research and development (R&D) is a major determinant of technology development, innovation and adoption of technological change. Technology can also be imported from abroad through foreign direct investment which brings the latest equipment, management skills, and technical know-how. There has been notable progress in all these areas. R&D spending has been especially beneficial for agricultural production and has contributed tremendously to increase rice yields that have been instrumental in helping Bangladesh achieve rice self-sufficiency. In manufacturing much of the technological progress has happened from new brand of entrepreneurs trained in foreign universities who have helped transfer new technology and from foreign direct investment in EPZ. A particular example is the technology transfer in the garment industry from partnership with foreign investors. Since much of the growth in garment industry so far has come from indigenous entrepreneurship, there is potential for substantial productivity gains through the infusion of FDI in RMG outside of EPZ, a process that could be effective in pushing garment exports up the value chain.

One important factor that is likely to have contributed to TFP growth is the increase in competition resulting from broad-based market-oriented economic reforms involving investment deregulation and trade openness. The rapid decline in the share of inefficient nationalized enterprises in manufacturing since the mid-1980s and the emergence of competitive private manufacturing in textiles, readymade garments (RMG), pharmaceuticals, food processing and leather products based on trade and investment deregulation are an indication of the increased efficiency of production in manufacturing. The expansion in manufacturing exports, mainly in RMG, has been a major source of GDP growth and employment during 1990-2015. Greater trade openness, sound exchange rate management, and import liberalization stimulated exports by reducing anti-export bias while infusing greater competition into the import-substitution regime that largely dominated the domestic market. The combined effect of market orientation, deregulation, and trade liberalization was to set in motion forces that has surely raised production quality and standards on the one hand, and lessened the gap between potential and actual output.

2.5.4 Progress with Institutions

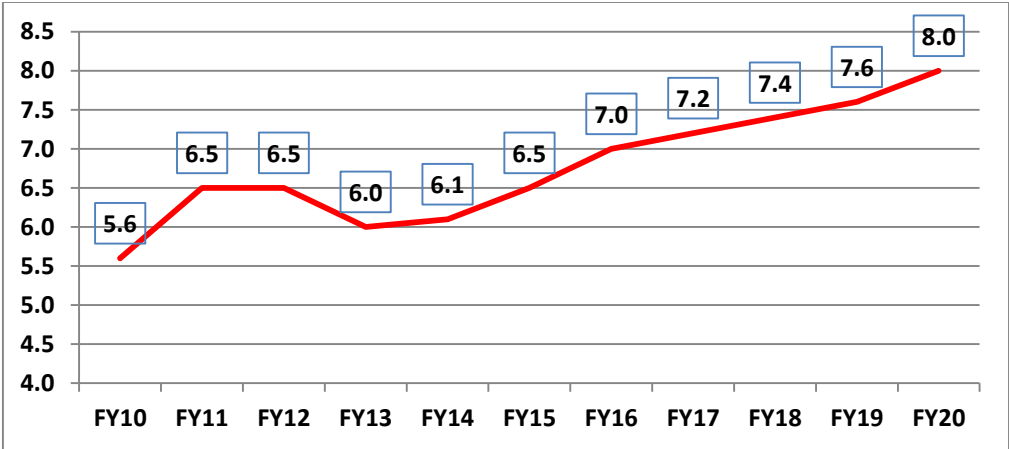
When it comes to the matter of institutions, Bangladesh is regarded by many as a development surprise because good development outcomes, including higher GDP growth, human development

and poverty reduction, have happened despite the fact that economic institutions are not effectively strong. While it is true that some standard indicators of governance as developed by international agencies show Bangladesh in poor light, it cannot be ignored that there are also strong underlying social and economic forces that help generate higher growth and reduce poverty over time. Some of these institutions include a resilient population and hard-working labour force quick in learning skills (e.g. garment, footwear workers), social and ethnic cohesion, family values, world class micro-credit institutions, world-renowned NGOs, Export Processing Zones, to name a few. Notwithstanding all these, it is generally accepted by most independent observers that weakness in economic institutions are major challenges for Bangladesh as it strives for accelerating growth and reducing poverty. There is also sufficient international evidence that stronger institutions improve total factor productivity. So, the 7th FYP strategies are geared to pay greater attention to the establishment of stronger institutions to support and sustain higher growth over the longer term.

2.6 SEVENTH PLAN GROWTH STRATEGY: ACCELERATING GROWTH BY STIMULATING GROWTH DRIVERS

What rate of growth should Bangladesh strive for? In the post-World War II era, only thirteen economies have achieved an average annual growth rate of seven percent or higher for 25 years or more. The UN Growth Commission, headed by Nobel Laureate Michael Spence, concluded that high growth that is transformative in impact for economies would have to be 7% or higher annually for consecutive twenty years or more. This is also the minimum growth rate for LDCs proposed by the Open Working Group (OWG) of the post-2015 UN Development Agenda. The Bangladesh Government has ample reason to believe, quite rightly so, that given past performance and future outlook, average annual growth rate of 7.4% during the five years, FY2016-20, is realistic and feasible. The 7th FYP will strive to achieve this target rate of growth on a sustainable basis. The projected growth path for the 7th Plan is illustrated in Figure 2.9.

Figure 2.9: GDP Growth Targets in 7th FYP



Source: 7th Plan Projections

The underlying strategy for achieving this growth path is grounded on the external environment facing Bangladesh, the lessons of past experience and the growth drivers for the 7th Plan.

2.6.1 Global External Environment

External environment is less likely to improve in a dramatic fashion; it may take few more years for the world economy to rebound. The prognosis is so far sombre with the medium-term outlook for trade and output growth in developed countries – the two critical growth enablers for Bangladesh economy – is for modest improvement at best (Table 2.2). Prospects for the emerging market economies like China, India, and Brazil, also look challenging. A less than optimistic global scenario has been characterized by leading experts as the “new normal”. That is the sobering context in which the 7th FYP has to articulate its strategies for accelerating growth – a formidable challenge indeed.

Table 2.2: Global Economic Outlook and Bangladesh

	2013	2014	2015	2016	2017	2018	2019	2020
GDP at constant prices (% change)								
World	3.3	3.3	3.8	4	4.1	4	4	NA
Advanced Economies	1.4	1.8	2.3	2.4	2.4	2.3	2.3	NA
Euro Zone	-0.4	0.8	1.3	1.7	1.7	1.6	1.6	NA
Emerging /Developing Economies	4.7	4.4	5	5.2	5.2	5.2	5.2	NA
Developing Asia	6.6	6.5	6.6	6.5	6.5	6.4	6.3	NA
<i>Memorandum item</i>								
<i>GDP at constant prices (% change)</i>								
<i>Bangladesh</i>	<i>6.0</i>	<i>6.1</i>	<i>6.5</i>	<i>7.0</i>	<i>7.2</i>	<i>7.4</i>	<i>7.6</i>	<i>8.0</i>
<i>India</i>	<i>5.0</i>	<i>5.9</i>	<i>7.5</i>	<i>8.1</i>	<i>8.5</i>	<i>9</i>	<i>9.5</i>	<i>10.0</i>
<i>China</i>	<i>7.7</i>	<i>7.4</i>	<i>7.1</i>	<i>6.8</i>	<i>6.6</i>	<i>6.4</i>	<i>6.3</i>	NA
<i>Investment/GDP ratio (%)</i>								
<i>Bangladesh</i>	<i>28.4</i>	<i>28.3</i>	<i>28.9</i>	<i>30.1</i>	<i>30.9</i>	<i>31.8</i>	<i>32.7</i>	<i>34.4</i>
<i>India</i>	<i>31.4</i>	<i>32.2</i>	<i>32.6</i>	<i>34.0</i>	<i>35.0</i>	<i>36.0</i>	<i>37.0</i>	NA
<i>China</i>	<i>47.8</i>	<i>47.7</i>	<i>47.4</i>	<i>47</i>	<i>46.6</i>	<i>46.2</i>	<i>45.8</i>	NA

Source: IMF WEO; India Economic Survey 2015; 7th Plan projections

2.6.2 Lessons from Past Experience

The growth and employment experience of Bangladesh and related international experiences provide a number of important lessons that could guide the formulation of the strategy to move from the current 6 percent growth path to the 8 percent growth rate by the close of the 7th FYP. The important lessons are:

- The rising growth path in Bangladesh has been underpinned by growing rates of national savings and investment. Accelerating this rate of growth will require even higher saving and investment rates to support capital formation.
- Higher growth in Bangladesh has benefitted from a rising labour force both due to the demographic transition of a larger share of working population and an increasing labour force participation rate of the female labour. Encouraging greater female participation in the labour

force and enabling them to undertake gainful jobs and stay in the labour market will contribute to higher growth.

- In addition to factor accumulation, growth would also benefit from improvements in total factor productivity. The productivity of both labour and capital can be raised through adoption of better technology and efficiency improvements.
- The sectoral composition of growth has to change in favour of a much higher share of modern manufacturing and organized services to create a more rapid expansion of good jobs. The employment responsiveness of growth in manufacturing needs to increase to absorb more labour.
- The average productivity of all sectors, but especially agriculture, has to grow to provide better returns to labour and capital.
- Economic growth, employment and investment respond to policy and institutional reforms. The Bangladesh government's past strategy to increasingly rely on private sector and export-led growth has paid off. Many good policies have helped increase private saving, investment and exports and supported economic growth. These include: good macroeconomic management; trade liberalization; export processing zones; investment deregulation; and financial sector improvements.

2.6.3 Growth Drivers for the Seventh Plan

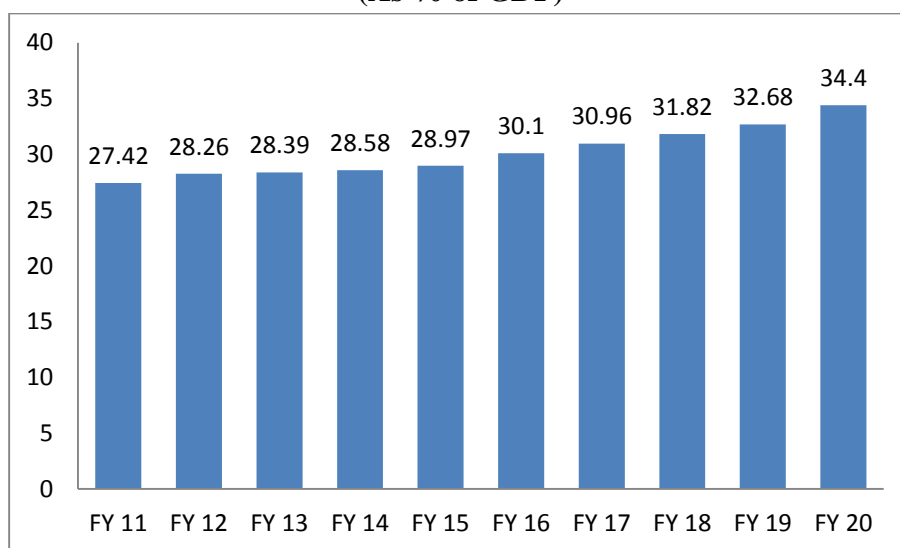
Building on a better understanding of growth drivers and what strategies and policies worked in the past, the 7th FYP formulates strategies for growth acceleration based on effective policies of the past while adopting pragmatic approaches to address emerging constraints and new challenges. Accordingly, the key growth drivers during the 7th FYP would include:

Higher rates of savings and investment: There is general consensus based on historical evidence that high growth requires a stable investment environment, and investment rates of 30% of GDP or above, with a public sector component of 7-8% of GDP, much of it going into infrastructure, education and health. This presents an immediate challenge for Bangladesh which has to be addressed.

Despite rising saving and investment rates in Bangladesh, they are much below those found in the faster growing economies of East Asia and in India. While there is tremendous scope for productivity improvements, Bangladesh needs much faster rate of investment to achieve the 7-8 percent GDP growth rate. A simple rule of thumb is to look at the overall incremental-capital output ratio (ICOR). Bangladesh's 6.3 percent growth is underpinned by an average investment rate of 28 percent, implying an ICOR of around 4.4. Consistent with the experience of dynamic East Asian economies, the ICOR in Bangladesh has been growing over time, as development proceeds. To secure the GDP growth rates projected for the Seventh Plan (Figure 2.10), the investment rate will need to expand from 28.9% in FY2015 to around 34.4% by FY 2020. Much of this investment will need to go to enhance infrastructure, improve labour skills and boost manufacturing production. The projected investment requirements for the Seventh Plan are

indicated in Figure 2.10. These indicative investment rates have been cross-checked and consistency ensured through the detailed sectoral General Equilibrium Model (GEM) used for simulating growth, investment and employment outlook of the Seventh Plan.

**Figure 2.10: Seventh Plan Investment Requirements
(As % of GDP)**



Source: Seventh Plan Projections

Taking advantage of a growing labour force. As a result of the demographic transition, the share of working population in total population has increased. This, combined with the increasing participation of female labour force is a positive factor for growth prospects. However, at 33.5 percent, the female participation rate is still very low by international standards and there is much scope for increasing the growth of the labour force.

Improving composition of investment in favour of infrastructure and manufacturing. Presently an increasingly larger share of saving and investment is going to speculative activities in land holdings, real estate and stocks with limited investments in power and transport. The growth rate can be raised by changing the composition of investment in favour of infrastructure and manufacturing. The massive demand for infrastructure investment will also have to be met from FDI, which calls for a radical improvement in the investment climate.

Increasing total factor productivity. The average labour productivity in Bangladesh is very low by international standards. With higher investment, especially in human development, the average labour productivity will rise but the challenge for raising total factor productivity will remain². Adoption of improved technology can be a major factor for improving total factor productivity and increasing the rate of growth.

² Total factor productivity measures the efficiency of all inputs going into a production process.

Expanding market opportunity through greater reliance on world trade. While trade openness stimulates competition it also creates access to global markets. Trade restrictions on the other hand cause growth and employment to be dependent relatively more on the demand created within the domestic economy. No matter how large the size of the domestic economy, it is no match to the global economy of about \$75 trillion. It is for this reason that even large economies like China and India are eager to access world markets to sell their products and services which is the best way to create jobs and sustain growth at home. Thus trade openness frees countries from the constraints of their local economies of limited size when compared to the size of the global economy, adding economies of scale to production, promoting greater efficiency through competition, bringing more consumer and producer choice, and faster technology transfer. The linking of domestic production to export markets also creates the scope for employing vast reserves of unemployed or under-employed labour force.

Enhancing the quality of the workforce. Bangladesh has made rapid progress with increasing the adult literacy rate and primary and secondary school enrolments. Yet, the average quality of the labour force is very low. A little over half of the work force has an educational level beyond primary education. Technical skilled labour is relatively scarce. Investment in education and skills development will raise the growth rate.

Finally, the 7th FYP will have to address emerging challenges and constraints to growth in the coming years. Some of these challenges include:

Maintaining Macroeconomic Stability. There is adequate empirical evidence that high performing economies over the longer term maintain overall prudent macroeconomic management through an appropriate mix of fiscal, monetary and exchange rate policies. The outcomes are reflected in low average rate of inflation, a competitive and stable exchange rate, prudent debt to GDP ratios and low fiscal and current account deficits. On balance, Bangladesh has hitherto maintained sound macroeconomic management. Much of the fiscal, monetary, and exchange rate policies are in place to sustain the record of prudent yet growth-friendly macroeconomic policies during the 7th FYP.

Strengthening the Export Base and its Growth. A strategy of growth acceleration for the Bangladesh economy must be predicated upon export orientation because export markets are unlimited and offer economies of scale. For all its population size, the domestic market is too limited owing to low per capita income to generate the jobs and income growth that is required. Bangladesh made significant progress in reforming the foreign trade regime and reducing protection since the early 1990s. This is reflected in the simplification of trade licensing, removal of quantitative restrictions, reduction and rationalization of tariffs, and the implementation of a flexible exchange rate policy. As a result the trade to GDP ratio has more than doubled since FY91, reaching about 45% percent of GDP in FY15. This progress with trade liberalization has served Bangladesh well in terms of growth and poverty reduction. However, the trade liberalization effort needs to be accentuated. The dominance of RMG exports has grown from 78% in 2010 to 80% in

2015. The average tariff protection in Bangladesh is still high and inhibits the broadening of the export base by creating an inherent anti-export bias for non-RMG exports. Further trade reforms are essential to eliminate the bias against an export-led growth strategy.

Improving the Efficiency of the Financial Sector. International evidence shows that over the longer term economic development and the maturity of the financial sector are strongly correlated. In today's world of global markets and competition, the cost and efficiency of financial services can often make the difference between a competitive and non-competitive firm. Bank loans remain the dominant mode of business finance and access of the poor to organized finance is highly constrained. The spread between average borrowing and lending rates is high, the public banks remain infected with a high share of non-performing assets, and corporate governance is a challenge. Micro-credit schemes have grown in size but are unable to meet the demand for graduation. The efficiency and financial health of the banking sector must be strengthened by easing controls over the interest rate, through better banking supervision and oversight by the Bangladesh Bank, and through corporatization of public banks. The stock market management is being improved by establishing a strong regulatory authority, and providing a better enabling environment for new entrants to the stock market.

Improving the Investment Climate. For a private sector led growth strategy to succeed the overall investment climate must be conducive to the expansion of domestic and foreign private investment. Private investment in Bangladesh has grown substantially owing to improvements in the economic and social environment, yet foreign direct investment (FDI) is very limited. FDI is not only an important source of financing but more importantly it is an excellent source of importing technology and modern management, critical instruments for improving total factor productivity. Indicators of investment climate for Bangladesh suggest that the cost of doing business is substantially higher than in competing countries. The flow of FDI is very competitive and highly sensitive to the investment climate as well as social stability of a country. As such the performance standards required to attract FDI are higher than for domestic private investment. The latter also has better connectivity with the political elements and is able to often bypass constraints that are not possible for FDI. The need for improving the investment climate is obvious and requires concerted actions involving further business deregulation, financial sector reforms, tax reforms, legal reforms and better governance.

Easing the Infrastructure Constraint. The infrastructure constraint remains a challenge for the 7th Plan. Addressing the energy constraint is of the highest priority to achieve higher growth. The strategy needs to provide a balanced approach that looks at both supply increases through new investments and demand management. Energy options from domestic sources needs to be complemented with possible options for energy trade. The strategy needs to explore options for enhancing the supply of gas and power, and look at options for diversification of fuels for generation. The strategy also needs to explore alternative solutions such as increased electricity imports from neighbouring countries and liquefied natural gas (LNG) trade. The supply side options will need to be balanced with policies for demand management that conserve energy and

discourage inefficient use. In transport, along with new investments in transport infrastructure based on a careful review of priorities, especially in the neglected area of rail transport, proper management of transport assets and sound urban traffic management will be necessary.

Infrastructure financing poses a major challenge, estimated at an additional 5-6 percent of GDP. Such financing cannot easily come from public sector and requires strong public-private partnerships. Improving the investment climate and developing appropriate policy and regulatory framework will be critical to attract private investment, both domestic and foreign, in infrastructure.

Addressing concerns on trade logistics. Research shows that trade logistic costs are a key determinant of export competitiveness. According to World Bank analysis, Bangladesh ranks 79 out of 155 countries in terms of the 2010 trade Logistic Performance Index (LPI). This index is a combination of performance on six areas: customs, transport infrastructure, international shipments, logistic competence, tracking and tracing, and timeliness. Bangladesh scores particularly low on customs procedures, on transport infrastructure and logistic competence. Other international research show that transport cost could well pose a greater barrier to trade than tariffs.

Massive investment in transport infrastructure will be needed over the next decade. Cost recovery schemes in transport infrastructure are highly inadequate. Instituting a proper cost recovery of transport infrastructure will need to be a major element of a sustainable strategy for financing transport infrastructure and proper maintenance.

Addressing climate change challenges and water constraint: The low lying delta of Bangladesh is highly vulnerable, both to the normal and tidally enhanced monsoon floods as well to regular impact from tropical cyclones. In addition, salt water intrusion affects drinking water quality and limits food production in the coastal zone while drainage congestion and water logging also have great impact, e.g. in urban areas. Floods intensify the contamination of drinking water, causing outbreaks of contagious diseases. These problems are likely to become worse due to climate change, land subsidence and population growth. Climate change is expected to result in sea level rise, salinity intrusion and more frequent droughts and floods. Climate change and water constraints are thus threatening the economic growth process by increased flood vulnerability especially in the coastal zone, loss of valuable assets, pressures on land use for agriculture and food security as well as for industrial and urban purposes. These problems stand in the way of economic development and improvement of livelihood of many people. A long term vision has been developed and comprehensive measures have to be taken with the development and implementation of a long term Bangladesh Delta Plan to adapt to climate change and manage the water challenges.

Managing the Land Constraint. Being one of the most densely populated countries in the world, it is hardly surprising that land has become the scarcest factor of production in Bangladesh. This is reflected in galloping land prices throughout the country but especially in the metropolitan areas.

Future growth strategy must take this binding constraint into account in order to ensure its sustainability. The price of land is discouraging the private sector to set up industrial zones. It is a major obstacle as it may induce foreign investors to invest in other countries with better managed land markets. Efforts to reduce the growth of population will help, but better management of land is of paramount importance for sustaining rapid growth in Bangladesh. Sound land management also has a direct effect on people's welfare and poverty reduction. Landless farmers are amongst the poorest of the poor. Land is also essential for housing.

The functioning of an effective land market is constrained by a large number of factors including antiquated land records, complex and less effective land registration policies, high land transaction costs and poor land/property taxation policy that has a built-in bias to stimulate speculative investments in land. Measures will have to be taken to correct these problems on a priority basis in order to accelerate the growth effort.

Addressing the Skills Challenge. In general, average labour productivity is low in Bangladesh and investment in skill formation will pay rich dividends in terms of growth acceleration by enhancing labour productivity. Similarly, increasing female participation in labour force will increase growth by expanding the supply of labour. Encouraging greater female labour force participation will benefit most from pushing girls' education and female literacy rates. In both these areas Bangladesh has made commendable progress and this effort will continue. For skills formation, a major challenge is to raise the quality of education at all levels as well as to increase enrolments at secondary and tertiary levels. Improvements in education quality will also help address the chronic problem of school dropout. Additionally, serious efforts are needed to upgrade the capacity to deliver technical and vocational education and skills training. This is a major deficiency that has not received much attention in the past and goes beyond public investment. A substantial amount of training must come from private sector sponsored training. A true public-private partnership will be built based on experiences in East Asian countries and India as part of a successful training strategy.

Leveraging South Asian Regional Economic Integration. Regional economic integration could fuel accelerated growth and poverty reduction in South Asian countries by harnessing the region's human and natural resources. Unshackling regional trade and investment opportunities could be one of the main sources of sustainable economic growth in the region. The region has all the ingredients needed to emerge as a successful example of regional integration: one of the world's largest consumer markets with 1.65 billion people, geographical proximity, 6% annual GDP growth for the last two decades, and significant economic complementarities among regional economies.

Yet, South Asia has been recognized as one of the least integrated regions of the world. Despite various efforts under the auspices of SAARC since 1985, intra-regional trade remains at 5% of total trade while investment is well below 1%. Fragmented road and rail infrastructure between India, Bangladesh, Nepal, and Bhutan, with cumbersome customs procedures have served as a

major barrier to trade and investment in the North-Eastern sub-region of the Indian sub-continent. Recognizing the immense potentialities in this sub-region, the four governments (Bangladesh, Bhutan, Nepal and India) have signed the Motor Vehicle Agreement (MVA), paving the way for closer economic integration of a region that has hitherto remained disintegrated with fragmented road and rail infrastructure defined by political boundaries rather than economic necessities. With this agreement, it is expected that there will be free movement of goods and passengers among these four countries that will not only facilitate trade but also foster better economic and political relations. With India's economy on the rise, Bangladesh, Bhutan and Nepal are all expected to be beneficiaries of the spill over effects provided trade and investment regimes are effectively integrated with seamless movement of goods and people.

While Governments will set the rules that determine the investment climate, it is expected that the private sector will be the key driver for successful economic integrations as in the case of EU, NAFTA and ASEAN. The government and private sector are key allies when it comes to any successful economic integration. Like the successful regions, South Asia needs to foster a conducive environment to build a private sector led growth model inclusive of SMEs.

Unlocking the Potential of Blue Economy: Blue economy concept has ushered in a new horizon for economic development of the coastal countries through utilising the sea and marine resources at national and international level. Blue Economy comprises of activities that directly or indirectly takes place in the seas, oceans and coasts using oceanic resources and eventually contributing to sustainable, inclusive economic growth, employment, well-being, while preserving the health of ocean. It includes activities such as exploration and development of marine resources, appropriate use of ocean and coastal space, use of ocean products, provision of goods and services to support ocean activities and protection of ocean environment. The Blue economy approach emphasised that ideas, principles, norms of Blue Economy lend significant contribution towards eradication of poverty, contributing to food and nutrition security, mitigation and adaptation of climate change and generation of sustainable and inclusive livelihoods. It is needless to say that for most developing States particularly for Bangladesh, making transition to Blue Economy would entail fundamental and systemic changes in their policy-regulatory–management–governance framework(s) and identification of various maritime economic functions.

Maritime functions in the context of Blue economy are not just economic sectors; they cover the relevant maritime value chains – including backward and forward linkages. This is important since large parts of the economic activities take place not in core sectors themselves, but in adjacent economic activities. Twenty seven blue economic functions can be identified from among the following six major broad area, such as, i) Maritime traded and shipping; ii) Food and Livelihood; iii) Energy; iv) Tourism; v) Coastal protection/Artificial islands/Greening coastal belts; vi) Human resource, maritime surveillance and spatial planning.

The recent verdict given by the International Tribunal for the Law of the Sea (ITLOS) and International Arbitration Tribunal over dispute of maritime boundary with Myanmar and India legitimately settles the EEZ of Bangladesh up to 200 nautical miles from the baseline comprising 118,813 sq. km of maritime waters. The newly opened development window of Blue Economy can significantly contribute in the socio-economic development of Bangladesh as a growth driver during 7th Plan. Research shows that economic development utilizing ocean resources appears promising for Bangladesh. Nonetheless, this is contingent on maintaining good health of the ocean, its ecosystem and biodiversity. Available evidence suggests that while there are some prospects for oil and gas resources, the potential is most promising for marine fishing, transportation and tourism.

The following would be the appropriate actions/programmes that Bangladesh can undertake to create and maintain prosperous and sustainable blue economy bases during the 7th Plan period.

- (i) protecting and managing the fisheries for the present and the future generations,
- (ii) developing a strong renewable energy sector using ocean and atmospheric forces,
- (iii) maintaining existing (*e.g.*, ship building) and developing new maritime industries;
- (iv) extending fishing areas using new technologies and methods even beyond EEZ in the international waters,
- (v) developing a strong human resource base for domestic utilization, and export to foreign job markets,
- (vi) substantially increasing fisheries production and export earnings through improved aquaculture and introduction of mariculture,
- (vii) creating a competitive tourism industry, including ecotourism and marine cruises,
- (viii) further increasing revenue from shipping and commerce by the expansion of domestic fleet and destinations, transshipment and transit provisions, linking neighbouring states to the sea-ports, etc.
- (ix) give special priority to anticipated Climate Change impacts on all relevant matters, and adjust policies and plans,
- (x) maintain the inland river systems and ecosystems for fishery, sediment transport, and inland shipping,
- (xi) building a solid science, research and education base and
- (xii) along with other coastal areas, establishment of marine academy in Khulna may be considered.

Above all, for maintaining seamless and coordinated planning and actions, an integrated Coastal and Ocean Management Policy would be put in place.

2.7 INCLUSIVE AND SUSTAINABLE GROWTH

2.7.1 Growth and inclusiveness

Great economic thinkers have stressed that the concerns of economics are closely related to the concerns of justice and fairness. Therefore, central objective of the underlying economic strategies

of the 7th FYP is to make the benefits of progress broadly shared by the citizenry. For this to happen, inclusiveness of the growth process is essential. Inclusiveness means equity, equality of opportunity, and protection in market and employment transitions in course of the growth process. If not addressed, systemic inequality of opportunity has the potential to derail the growth process.

While the 7th FYP stipulates average yearly rapid economic growth of 7.4%, complimentary strategies and policies are in place to make that growth inclusive and sustainable for a long period without damaging the environment. It therefore encapsulates a strategy for inclusive growth which empowers people by creating employment opportunities, fostering the scope for greater labour force participation, particularly of women, supporting skill development in response to market demand, enabling access to credit for small and medium enterprises, and many other ways for people to be more productive. Thus inclusiveness is meant to capture more than income, to include opportunity, productive employment, and access to services. Inclusiveness should not be seen as a restriction on growth to make it morally palatable. Actually, experience suggests that, in the long term, a strategy of inclusiveness *enhances* growth.

An addendum to the strategy of inclusiveness is the underlying principle of equitable growth which can be achieved by ensuring that the fruits of this growth process are enjoyed more equitably by a broad spectrum of the population. In this goal, we are not deterred by the possibility that in the early stages of growth acceleration there might be a tendency towards growing income inequality. To counteract such a tendency, a two-pronged approach will be employed. First, an effective social protection system will be put in place to help those who may be bypassed or even impoverished by the growth process. Second, conditions will be created so that people from the currently disadvantaged segments of society are able to seize the opportunities opened up by the growth process—just as much if not more than those coming from the privileged background. An essential precondition for creating such equality of opportunity is to ensure equality in the distribution of human capital. The first prong of this strategy would help mitigate the current inequities that are emerging as a consequence of the growth process, while the second prong would improve future equity by enabling the children of the disadvantaged segments of the population to participate more fully in the growth process. Thus the 7th FYP takes on board the research finding that inequality can constrain future poverty reduction in two distinct ways—by reducing the rate of growth and by lowering the growth elasticity of poverty reduction i.e., by reducing the pace of poverty reduction for any given level of growth. That is why reduction of inequality through broad-based participation in productive employment is one of the pillars on which the growth strategy of the 7th FYP rests.

2.7.2 Growth, employment and poverty reduction

Accelerated poverty reduction is a key objective of the 7th FYP. Growth is a necessary condition for poverty reduction in developing countries like Bangladesh. Employment generating growth happens to be both inclusive and poverty reducing. There is clear evidence that high growth countries all exhibit rapid poverty reduction. That is because sustained high growth requires rapid

incremental productive employment which tends to be inclusive and contributes to poverty reduction.

2.7.3 Growth must be environment friendly

Grow first and deal with the environment later is a bad strategy. Bangladesh, which is a signatory to the Agreement based on the outcome document of Rio+20³, titled *The Future We Want*, is committed to establish a ‘green economy’ of the future in the context of sustainable development goals as the economy strives towards growth acceleration and eradication of extreme poverty. One of the main outcomes of the Rio+20 Conference was the agreement by member States to launch a process to develop a set of Sustainable Development Goals (SDGs), which will build upon the Millennium Development Goals and converge with the post 2015 development agenda. The Government endorses the proposal of the Open Working Group on Sustainable Development Goals (OWG) forwarded to the UN General Assembly. The proposal contained 17 goals with 169 targets covering a broad range of sustainable development issues. These included ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change, and protecting oceans and forests.

In its pursuit of sustainable development in the context of growth acceleration and poverty reduction, the Government is mindful of the unique country context and the need for flexibility in policies so as not to be bound by any rigid set of rules. To address the challenge of mainstreaming sustainable development across sectors and integrate economic, social and environmental objectives across sectors the Government has adopted the National Sustainable Development Strategy (NSDS). The growth strategies of the 7th FYP therefore are broad-based enough to emphasize eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth’s ecosystems.

2.8 EMPOWERING CITIZENS TO PARTICIPATE AND SHARE IN PROGRESS

Economic empowerment is all about freedom, dignity, and opportunity. These are some of the basic conditions for inclusive development. In its pursuit of economic progress, the underlying mission of Vision 2021 displays heartfelt concern for the poor and marginalized with a strong commitment to ensure that justice and fairness remain the cardinal principles governing the distribution of the fruits of growth. Accordingly, the 7th FYP endorses the notion of citizens’ empowerment as the creation of economic opportunity, the ability to freely choose one’s own path in life in accordance with one’s distinctive talents and abilities. In its formulation, the Plan embraces the idea that development to be meaningful its benefits have to be widely shared by all citizens through their empowerment stemming from the strengthening of inclusive institutions –

³ United Nations Conference on Sustainable Development, Rio+20 held on 20 Jun 2012 - 22 Jun 2012 Rio de Janeiro, Brazil

pluralistic democracy being one, but many more institutions spread across various sectors such as gender equality in access to education and employment opportunity, social protection schemes for the elderly and disabled, protecting labour rights to organize and strive for decent wages and safe working conditions.

Furthermore, it is recognized that poor people's choices are extremely limited, both by their lack of assets and by their powerlessness to negotiate better terms for themselves with a range of institutions, both formal and informal. In this context, empowerment requires the expansion of assets and capabilities of poor people to participate in, influence, and hold accountable institutions that affect their lives. Accordingly, growth accompanied with poverty reduction, two priority goals of the 7th FYP which contributes to income growth of the poor, are recognized as the means to create assets and capabilities of poor people to facilitate their empowerment.

Among the other avenues of empowerment endorsed by the 7th FYP is the reduction of income inequality which facilitates growth acceleration on the one hand while raising the income of the poor and marginalized population. This approach takes on board the argument that excessive inequality can hinder individual empowerment because in more unequal societies, too many people lack the basic tools to get ahead—decent nutrition, healthcare, education, skills, and finance. This can create a vicious cycle of poverty, whereby economic insecurity causes people to invest too little in skills and education. The strategies for human capital development are outlined in detail in sectoral Chapters of 10, 11, 12 and 13 of Part 2 in this Plan document. In particular, education is recognized as a uniquely powerful agent of empowerment and therefore programmes formulated by the Ministry of Education and the Ministry of Primary and Mass Education articulate strategies to make education accessible to all.

This approach is not just a matter of justice and fairness but one of good economics because research has shown that rising income inequality hinders sustainable growth. Therefore taming persistent inequality and thwarting its menacing rise are essential components of the 7th FYP growth strategy – a win-win for the economy and its citizens as this will spur both empowerment and economic advancement. Supporting policies for this avenue of empowerment include policies to boost spending on health, education, gender equality, and worker safety and wellbeing.

One other obstacle to empowerment lies in the persistence of gender disparities – in higher education, access to work, and in wages. It is a fact that women in Bangladesh are under-utilized, underpaid, and under-appreciated. This needs to change and programmes underlying the strategy for removal of gender disparities are articulated in Chapter 11 of Part 2. Again, this is not just a matter of justice and fairness, but it makes good economic sense. One of the major sources of Bangladesh's growth is labour force growth bolstered by rising participation of women which, though rising in the past decade, still falls well short of the participation rate of men. Women's empowerment in this context again boils down to education, skill development, and increased access to employment. Empirical evidence from recent research on growth drivers shows that eliminating gender gaps could lead to a big jump in Bangladesh's income per capita.

Finally, institutions matter; and empowerment of institutions is critical. Since powerlessness of the poor is embedded in the nature of institutional relations, in the context of poverty reduction an institutional definition of empowerment is appropriate. Depending on how they are designed, they can help or hinder, sometimes even serve as hindrance to the flourishing of human abilities. Good institutions are founded on the principles of accountability, transparency, and impartiality. They facilitate empowerment by letting success depend on competence rather than connections, participation rather than patronage. Nobel Laureate Economist Amartya Sen said it famously: if we want better *capability*, then we need better *capacity*. And creating capacity for the poor and marginalized should be the utmost priority of public and private institutions which include schools, colleges and universities, the Public Service Commission, the Bangladesh Bank with the support of state-owned and private financial institutions, Palli Karma Sahayak Foundation (PKSF), and so on.

2.9 EMPLOYMENT AND POVERTY REDUCTION – STRATEGY AND TARGETS

Chapter 1 showed that employment and real wages are the best means for securing sustainable reduction in moderate and extreme poverty. Average labour productivity and real incomes tend to be higher in manufacturing and services sector relative to agriculture. Accordingly, the Sixth Plan employment strategy emphasized the structural change in production whereby the GDP and employment shares of manufacturing and services increase and the relative share of agriculture falls. The Seventh Plan will continue this emphasis on structural transformation of the production and employment structures as the fundamental basis for poverty reduction, while complementing this with focused programmes for the poor and extreme poor through facilitating the greater inflow of international remittances, through microcredits, through social security and through better access to health, nutrition, water supply and education services. Poverty issues are discussed in detail in Chapter 4 of Part 1.

2.9.1 Changing Structure of Production

Sectoral growth projections resulting from the GDP growth targets and the structure of GDP are provided in Tables 2.3-2.4. The principal driver of growth acceleration will be the manufacturing sector, with double digit growth, rising progressively to 12.6% in 2020. Agricultural growth is expected to rise only moderately to 3.5% in 2020 as its major component, cereal and commercial crops, appears to have reached a plateau of 1.4% growth for several years. Services, the largest component of GDP, will be growing slightly below overall GDP growth (5.8% to 6.7% in 2020).

Table 2.3: GDP Growth Targets in 7th Five Year Plan 2016-20

Sectors	Growth rates (%)					
	FY15	FY16	FY17	FY18	FY19	FY20
Agriculture	3.0	3.2	3.3	3.3	3.4	3.5
o/w Crops	1.3	1.4	1.4	1.4	1.4	1.4
Industry	9.6	10.2	10.5	10.8	11.2	11.9
o/w Mfg.	10.3	10.5	11.0	11.3	12.0	12.6
Services	5.8	6.3	6.4	6.5	6.6	6.7
GDP	6.5	7	7.2	7.4	7.6	8

Source: 7th Plan Projections

Table 2.4: Sectoral Shares in 7th Five Year Plan 2016-20

	Shares in GDP (%)					
	FY15	FY16	FY17	FY18	FY19	FY20
Agriculture	15.6	15.1	14.5	14.0	13.4	12.9
o/w Crops	7.5	7.6	7.3	6.9	6.5	6.1
Industry	28.0	28.9	29.8	30.8	31.8	33.0
o/w Mfg.	17.8	18.4	19.1	19.8	20.6	21.5
Services	56.4	56.0	55.7	55.2	54.8	54.1
Total	100	100	100	100	100	100

Source: 7th Plan Projections

The projected pattern of sectoral growth will continue the ongoing transformation of the production structure observed in the Sixth Plan. The share of manufacturing will increase from 17.8% in FY2015 to 21.5% by the end of the Seventh Plan, while the relative share of agriculture will further decline, falling to 12.9% by FY2020.

2.9.2 Employment Expansion

Although the population growth is falling (1.37% according to the 2011 Census), the labour force continues to grow at around 3.1 over the last ten years owing to the growing share of working age population and rising female labour force participation. An additional labour force of 9.9 million will be available during 2015-20 or about 2.0 million per year. Assuming that the trend in migrant worker departures remain unchanged, it would be reasonable to expect about 400,000 workers to find employment abroad, still leaving some 1.6 million to find jobs at home. That, in quantitative terms, is the employment challenge during the 7th FYP.

Using the same employment elasticity as in the Sixth Plan (0.45 on aggregate based on specific sectoral elasticities), and a projected average annual GDP growth rate of 7.4% during 2016-2020 (and underlying production structure), varying from 7% (FY16) through 8.0% (FY2020), the economy will be creating additional jobs ranging from 2.3 million in FY16 to 2.9 million in FY20 (Table 2.5). What this means is that if the projected GDP growth materializes, employment generated in the economy will exceed additions to the labour force each year, so that many of the workforce currently unemployed or under-employed will have the opportunity to move into productive jobs, primarily in the formal manufacturing sector of the economy.

Table 2.5: Employment Generation during 7th FYP

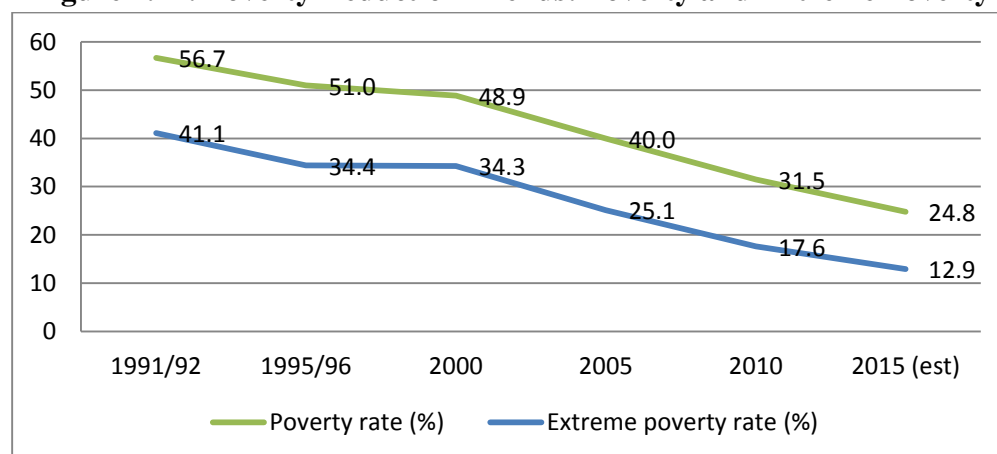
	FY2016	FY2017	FY2018	FY2019	FY2020
GDP growth (g) (% per Year)	7.0	7.2	7.4	7.6	8.0
Employment generation (million)	1.9	2.0	2.2	2.3	2.5
Migrant work (million)	0.4	0.4	0.4	0.4	0.4
Additional employment (million)	2.3	2.4	2.6	2.7	2.9
Additional Labour force (million)	1.9	1.9	2.0	2.0	2.1
Excess employment (million)	0.4	0.5	0.6	0.7	0.8

Source: Seventh Plan Projections

It is estimated that 12.9 million additional jobs will be available during the five years of the 7th FYP, including some 2 million jobs abroad for migrant workers, for the 9.9 million labour that will join the workforce during the same period. Thus job creation, both domestic and foreign, will exceed the additional labour force that will be looking for work so that the backlog of under-employment will also be dented significantly, if the targeted GDP growth materializes.

2.9.3 Poverty Reduction: Greater Focus on Extreme Poor

Bangladesh has a solid history of poverty reduction. As income has grown, poverty has fallen (Figure 2.11). However, with a quarter of the population of 160 million still living below the poverty line, a strategy of poverty reduction is central to any medium-term development plan in Bangladesh. Because growth alone cannot overcome poverty, though growth is a necessary condition for attacking poverty. While addressing the poverty problem, one of the goals of the 7th FYP is to substantially reduce extreme poverty, defined as people living below the lower poverty line, which, at the start of the Seventh Plan, afflicts 12.9% of the population, or about 20 million people.

Figure 2.11: Poverty Reduction Trends: Poverty and Extreme Poverty

Source: Various HES and HIES, BBS

Trends in Poverty and Extreme Poverty

First, poverty and extreme poverty have both declined substantially over the longer term. In particular, *extreme poverty decreased quite dramatically in both rural and urban areas since 1990*. The proportion of rural population living in extreme poverty has halved, having dropped from 44% in 1991/92 to 21% in 2010. The extreme poverty decreased at a faster rate in urban areas during this period, having dropped by two-third, from 24% to 7% (Table 2.6).

Second, the rate of extreme poverty reduction has been faster in the decade of 2000s compared to the 1990s in both rural and urban areas. In the 1990s the extreme poverty reduced by 6.8 percentage points, compared to 16.7 percentage points in the 2000s.

Third, not only is there a declining trend in extreme poverty but also the “structure of poverty” has undergone evolution from the perspective of chronic poverty. The proportionate share of extreme poor in total poor (ratio) at the national level has diminished with the passage of time, especially in the second half of the 2000s (Table 2.7).

Table 2.6: Poverty Head-Count Rates (%)

	Upper Poverty Line					Lower Poverty Line				
	1991/92	1995/96	2000	2005	2010	1991/92	1995/96	2000	2005	2010
National	56.7	51	48.9	40	31.5	41.1	34.4	34.3	25.1	17.6
Urban	42.8	29.4	35.2	28.4	21.3	24	13.7	19.9	14.6	7.7
Rural	58.8	55.2	52.3	43.8	35.2	43.8	38.5	37.9	28.6	21.1

Source: HIES various issues, Bangladesh Bureau of Statistics (BBS)

Table 2.7: Ratio of Poverties as per Lower and Upper Poverty Lines

	Lower PL/Upper PI				
	1991/92	1995	2000	2005	2010
National	0.725	0.675	0.701	0.628	0.559
Urban	0.561	0.466	0.565	0.514	0.362
Rural	0.745	0.697	0.725	0.653	0.599

Source: Calculated from HIES Reports (Various Years), BBS

Drivers of improvements in extreme poverty: Several factors have contributed to the reduction of poverty and extreme poverty.

(a) Role of Rising Rural Wages in Reducing Extreme Poverty

A significant share of the extreme poor households is dependent on the agricultural wage work for their livelihoods. Consequently, they benefit when real agricultural wage rate increases. Owing to rapid growth of manufacturing and services and supported by foreign migration of Bangladeshi workers, there has been a substantial exodus of labour from agriculture. As a result, the agricultural labour market has tightened significantly in the recent decade of 2000s. This has led to an increase in real agricultural wage rate. The rice wage per day remained stagnant for the most part in the

1980s and increased only modestly in the 1990s (from 3.5 kg in 1990/91 to 4.5 kg in 1999/2000). The real breakthrough came in the second half of the 2000s: rice wage per day was at 8-10 kg in the 2008-13 periods. This pattern is also reflected by the real wage trends using general consumer price index in both rural and urban areas.

(b) Role of Urban Jobs in Reducing Extreme Poverty

The tightening of the agricultural wage labour market witnessed in the 2000s has been contributed principally by three channels: (a) relocation of farm labour to rural non-farm sectors; (b) relocation of rural labour to urban activities through the “pull effects” of urbanization, creating employment opportunities for the extreme poor in labour-intensive construction and transport activities; and (c) by creating jobs for the poor and the extreme poor in the manufacturing sector.

First, the share of farm income in total rural income has dropped from 40% to 36% over 2000-2010 with concomitant rise in the share of non-farm income from 34% to 40%, and that of remittance (domestic and foreign) income from 8% to 11%. With the expansion of non-farm income, demand for a range of rural services has created substantial non-farm employment.

Second, between the two censuses of 2001 and 2011, the share of population residing in urban areas has increased from 20% to 28%. The 2013 Economic Census indicates much greater diversity and depth of economic activities in urban areas, with indication of significant growth of business and industrial establishments in peri-urban areas and secondary towns beyond just the Metropolitan areas. Economic growth unleashed demand for real estate sector/construction and transport activities, which, in turn, generated demand for domestic (migrant) labour, benefiting the extreme and chronic poor. In short, urbanization has already played an important role in overall fast decline in rural incidence of poverty, including rural extreme poverty.

Third, the rural-urban relocation of labour also benefitted from the growth of export-oriented manufacturing such as the ready-made garments which currently employ about 4 million workers (75% of which are first-generation women workers mostly from poor families). Studies have shown that RMG work has reduced poverty in the parental households almost by half in just 4 years. Thus, export-led industrialization has a very important role to play in rural poverty reduction, including extreme poverty reduction, an aspect that has remained inadequately studied in the literature.

(c) Migration and Extreme Poverty Reduction

Creation of additional non-farm employment opportunities, via non-farm diversification in rural areas and rapid urban growth sustained by robust flows of overseas remittance and manufacturing export growth, led to increased out-migration (seasonal and permanent) of labour. Migration contributed to the rise in agricultural/rural wages for workers who remained behind in agriculture/rural areas. The effects of migration on the extreme and chronic poor may have been different for domestic as opposed to international migration.

However, while casual agricultural labourers have limited resources for financing international migration, indirect effects of international migration through the labour market are of greater significance for this group. Therefore, high agricultural wage growth has been cited more frequently in the household responses in villages experiencing high remittance growth compared with villages experiencing low remittance growth (40% vs. 26%) and vice versa. For the casual agricultural labourers who have limited resources for financing international migration, it is the indirect effects of international migration through the channel of labour market that are of greater significance. The wage growth tends to be faster in villages experiencing high growth in overseas remittances.

(d) Institutionally Transformative Growth and Extreme Poverty Reduction

One of the key factors behind successes in extreme poverty reduction has been the overlooked fact that Bangladesh experienced not just any growth, but *institutionally transformative* growth which not only accelerate growth of income per capita but also *magnify the poverty reducing effects* of economic growth. The most significant growth-induced transformation that has taken place in the countryside relates to the “progressive” emergence of labour market institution for the rural poor and the poorest. The share of casual wage dependent agricultural labour has gone down in times of peak agricultural activities. The latter has increasingly given away to the contractual labour in farm activities. Contractual work results in higher wage income compared to daily wage and perhaps even contribute to higher productivity. Contractual work is likely to be more voice-enhancing for the workers. All these changes augur well with the maintained hypothesis of faster extreme poverty reduction under institutionally transformative growth.

(e) Expansion of microcredits

The microcredit revolution of Bangladesh is well known internationally. Evidence shows that the expansion of microcredits has played an important role in reducing poverty by enabling consumption smoothing, by helping mitigate the adverse effects of shocks and by helping accumulate assets. These programmes will be strengthened and expanded during the Seventh Plan with special focus to less served areas.

(f) Social security programmes

Bangladesh has instituted a large number of social safety programmes to help the poor with particular attention to the extreme poor. Evidence shows that these programmes have been helpful in reducing poverty. Yet, the effectiveness of the safety net schemes is considerably lower than possible. Accordingly, the Government has adopted a new and strengthened National Social Security Strategy (NSSS) with a view to lower poverty and vulnerability. The implementation of the NSSS will be a major initiative for reducing extreme poverty. In addition, it will lead to future restructuring of social security system in Bangladesh.

2.9.4 Poverty projections for the Seventh Plan

Based on a continuation and strengthening of the above strategy there will be considerable reduction in poverty and extreme poverty (Table 2.8). These poverty estimates are based on applying the aggregative poverty elasticities of poverty and extreme poverty to GDP growth for the 2 latest available HIES (2005 and 2010). The projected figures suggest Bangladesh would significantly reduce its extreme poverty to about 8.9 percent by 2020 given the GDP growth scenario of the 7th FYP.

Table 2.8: Poverty Reduction during the 7th FYP

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
GDP growth	6.5	7.0	7.2	7.4	7.6	8.0
Reduction of Moderate Poverty						
Poverty elasticity to GDP	-0.93	-0.93	-0.93	-0.93	-0.93	-0.93
Upper poverty line (% of population below)	24.8	23.5	22.3	21.0	19.8	18.6
Reduction of Extreme Poverty						
Poverty elasticity to GDP		-1.19	-1.19	-1.19	-1.19	-1.19
Lower poverty line (% of population below)	12.9	12.1	11.2	10.4	9.7	8.9

Source: GED estimation for 7th Plan

CHAPTER 3

MEDIUM TERM MACROECONOMIC FRAMEWORK

The macroeconomic framework underpinning the Seventh Five Year Plan (7th Plan) has been formulated taking into account the developments under the Sixth Five Year Plan and the lessons learned from the review of performance—in terms of policy implementation and outcomes-- under the Sixth Plan. In particular, while significant progress has been made in social indicators including reduction of poverty and towards food security through increased agricultural output, the objective of realizing higher private sector investment in relation to GDP remained largely unfulfilled with consequent impact on real economic growth. Creating the improved environment for higher private sector investment of both domestic and foreign origins still remains a major challenge.

Against this background, the 7th Plan aims at increasing the real GDP growth to 8% by FY20, containing inflation further to 5.5%, and reducing the level of poverty by 6.2 percentage points to 18.6%. These projections are based on multi-sector Computable General Equilibrium (CGE) model and a consistent macroeconomic framework covering broad sectoral composition of growth, strategy for increasing savings and investment, medium-term fiscal strategy and balance of payments projections consistent with debt sustainability and external sector viability.

3.1 PROJECTED GROWTH PATH UNDER THE 7TH PLAN

The strategy for achieving the 7th Plan targets--in terms of achieving planned growth and employment--have been discussed in Chapter 2 – along with the underlying policies and reforms and structural transformation of the economy. The planned approaches to addressing the identified growth and employment constraints have also been discussed in that chapter. The key challenge once again is to increase the rate of investment from 28.9 percent of GDP in FY15 to 34.4 % of GDP by the end of the Plan in FY20. Efficiency of domestic investment, particularly in the public sector, will be important for realizing the maximum benefits out of the public sector investment plan. As in the past, much of the public sector investment needs to be directed to major infrastructure projects including the 8 priority projects identified by the government and in the realizing the Power Sector Master Plan. The details of the power and energy sector strategy are provided in Chapter 5 of Part 2.

The 7th Plan aims to achieve an average growth rate of 7.4% of GDP from the average level of growth at 6.3% recorded under the 6th Plan. The experience of the 6th Plan clearly shows that the task is challenging and will certainly require adoption of bold strategies to break away from the 6% plus growth rates recorded almost every year by Bangladesh since FY02. If the planned growth targets are achieved, it would mean that per capita GDP would increase by an average of about 6.0% per annum during the 7th Plan period, reaching a peak of 6.7% by the end of the Plan. Even

after allowing for higher savings rates to support the envisaged investment Plan, the planned income growth would allow per capita real consumption to grow by more than 25% over the 5-year period. This increased consumption in real terms and the potential income flow from the envisaged increased national savings will sustain a further acceleration of the ongoing broad-based improvements in the living standards, asset/wealth accumulation, and poverty alleviation.

The experience of the Sixth Plan clearly highlights the importance of investment in realizing higher growth and employment. In developing countries like Bangladesh it is through capital deepening that most of real economic growth is realized. The experience of China, emerging economies in East Asia, and India all points to the deepening of capital through higher investment in relation to GDP. All these high performing economies have demonstrated two stylized facts: First, they all experienced higher incremental capital output ratios (ICOR); and second, higher growth rates have been associated with higher investment/GDP ratio. Thus, higher growth in the 7th Plan is also predicated upon a substantial increase in the investment rate in the economy from the current level of about 28.9% of GDP to more than 34.4% by the end of the Plan, averaging 32% of GDP per year during the Plan period.

As in the past, much of the investment in the economy could be financed through national savings, although foreign direct investment is expected to play a bigger role under this Plan. Out of the planned 5.5 percentage points in gross investment, about one-fourth would need to come in the form of FDI, since the growth in national savings alone will not be sufficient to meet the required investment level. Increased levels of FDI would also be desirable from the point of view of improved management, new technology, and greater market access for Bangladeshi exports. The ICOR is expected to remain unchanged at the average level of the Sixth Plan, which would only be possible if Plan period is relatively free from economic disruptions allowing the entrepreneurs/investors to utilize their capital stock.

Table 3.1: Macroeconomic Scenario of the Seventh Five Year Plan

Macro Indicator	FY14 (Actual)	FY15 (estimated)	FY16	FY17	FY18	FY19	FY20
Growth: Real GDP (%)	6.1	6.5	7.0	7.2	7.4	7.6	8.0
CPI Inflation (%)	7.4	6.5	6.2	6	5.8	5.7	5.5
Gross Domestic Investment (as % of GDP)	27.2	28.9	30.1	31.0	31.8	32.7	34.4
Private investment (as % of GDP)	22.0	22.1	23.7	23.9	24.4	25.1	26.6
Public Investment (as % of GDP)	6.5	6.9	6.4	7.1	7.4	7.6	7.8
National Savings (as % of GDP)	29.2	29.0	29.1	29.7	30.2	30.7	32.1
Consumption (as% of GDP)	77.9	77.7	77.5	76.7	75.9	75.1	73.5

Source: Bangladesh Bureau of Statistics and Seventh Plan projections

Table 3.2: Sectoral Growth Projection for Seventh Five Year Plan

<i>Sectors</i>	<i>2014(Actual)</i>	<i>2015(Estimated)</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
<i>Growth Rate</i>							
<i>Agriculture</i>	4.4	3.0	3.2	3.3	3.3	3.4	3.5
<i>Industry</i>	8.2	9.6	10.2	10.5	10.8	11.2	11.9
<i>o/w Mfg.</i>	8.7	10.3	10.5	11.0	11.3	12.0	12.6
<i>Services</i>	5.6	5.8	6.3	6.4	6.5	6.6	6.7
<i>GDP</i>	6.1	6.5	7.0	7.2	7.4	7.6	8.0
<i>Share as % of GDP (FY 2015Prices)</i>							
<i>Agriculture</i>	16.1	15.6	15.1	14.5	14.0	13.4	12.9
<i>Industry</i>	27.6	28.0	28.9	29.8	30.8	31.8	33.0
<i>o/w Mfg.</i>	17.4	17.8	18.4	19.1	19.8	20.6	21.5
<i>Services</i>	56.3	56.4	56.1	55.7	55.3	54.8	54.1

Source: BBS and 7th Plan Projections

3.2 INVESTMENT AND SAVINGS

One of the major macroeconomic problems for Bangladesh under the Sixth Plan was the continued stagnation of domestic private sector investment, failure on the part of the government to launch major projects under the Public Private Partnership (PPP), and inability to attract foreign direct investment into the country. The modest increase in gross investment was entirely attributable to growth in public investment which increased by almost 2.23 percentage points since FY10 to 6.9% of GDP in FY15. The entire increase in public sector investment was on account of the sustained expansion of the Annual Development Programme (ADP). Despite the recorded upturn, public investment could not crowd in private investment and FDI.

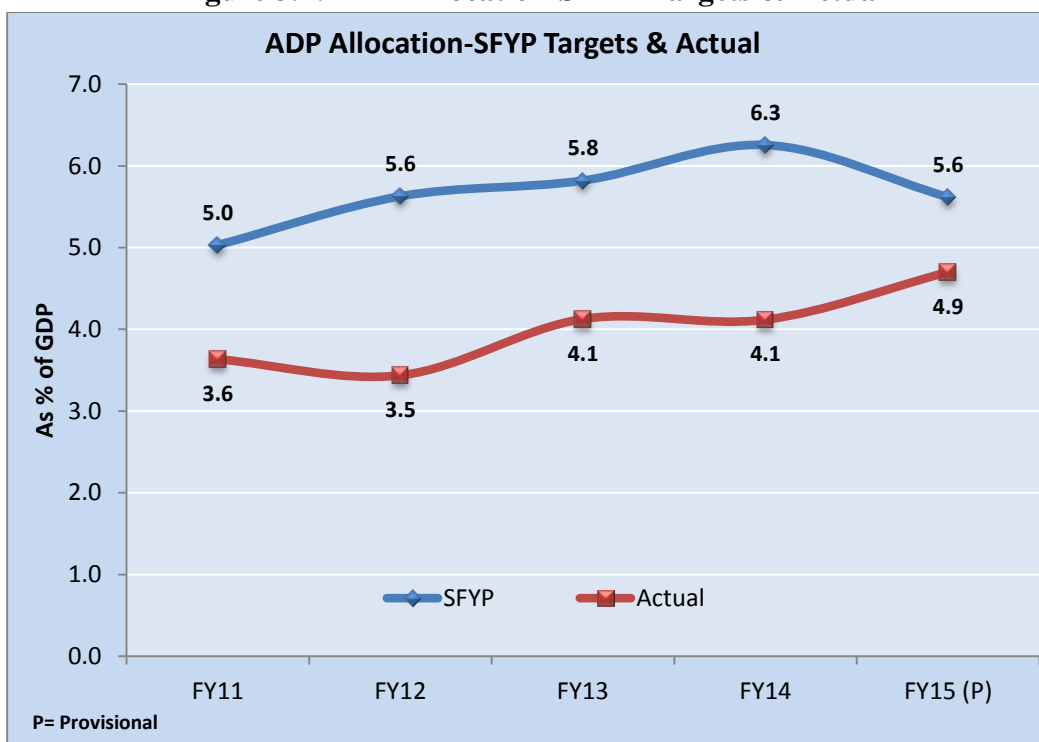
The lesson from the Sixth Plan is that, if the accelerated growth target of 8% by the end of the 7th Plan is to be realized, the level of domestic investment must go up by 5.5 percentage points to 34.4% of GDP by FY20. The investment target is somewhat higher than what was targeted under the Sixth Plan, but considered necessary because of the increased capital intensity of output in Bangladesh under the Sixth Plan due to adoption of new and better technologies across all sectors be it agriculture and industry. Furthermore, significant increase in real wages across Bangladesh in recent years lead to increased mechanization in agriculture and construction sectors.

Much of the growth of additional investment in relation to GDP is projected to come from the private sector. Certainly public sector investment would need to play a better catalytic role under the 7th Plan in raising the total investment with respect to GDP to the required levels during the Plan period. Public investment in nationally important mega projects and national policies to improve the overall environment for investment will be critical in boosting investors' confidence (both national and foreign). A review of past experience indicates that, the secular increase in the share of private investment in total investment was the result of reforms initiated in 1980s and

1990s by liberalizing trade and domestic investment, initiating privatization of public enterprises, financial sector reform and liberalization, and access to power and gas at cheaper prices. The slow growth of private investment in the economy in the post-2000 period can be attributed to infrastructure constraints including acute power shortage due to cuts in public investment spending and the inability of the government to implement large infrastructure projects. Although the power situation has significantly improved during the Sixth Plan, problems with transportation and availability of serviced land for industrial projects have worsened the investment climate over time. Improving these key binding constraints will be the major challenge under the 7th Plan.

During the Sixth Plan the government has been successful in reversing the declining trend in public sector investment, despite the fact that actual ADP allocations/utilization have been below the targets set under the Sixth Plan (Figure 3.1).

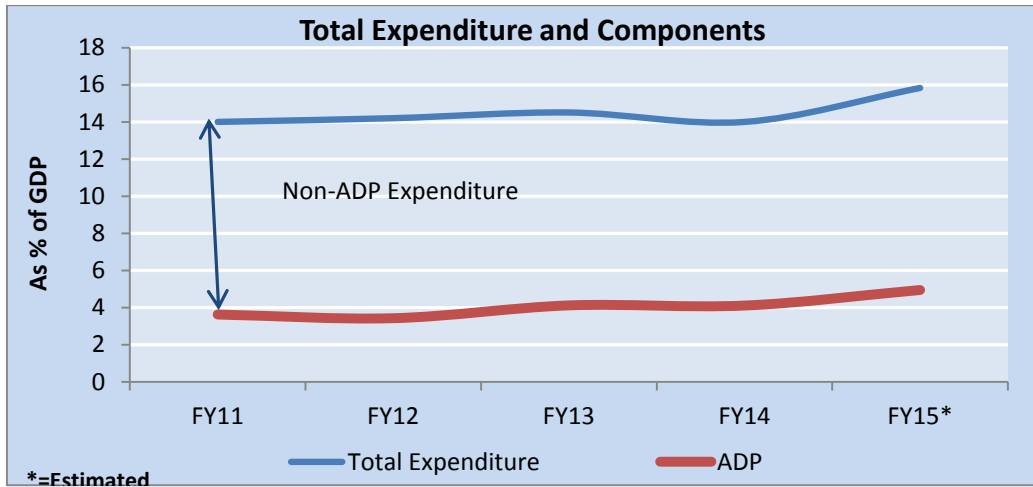
Figure 3.1: ADP Allocation-SFYP Targets & Actual



Source: Sixth Five Year Plan documents, GED and Ministry of Finance

However, the government has been successful in increasing the size of ADP by allocating most of the increased budgetary resources (in terms of GDP) to the expansion of project spending.

Figure 3.2: Total Expenditure and Components

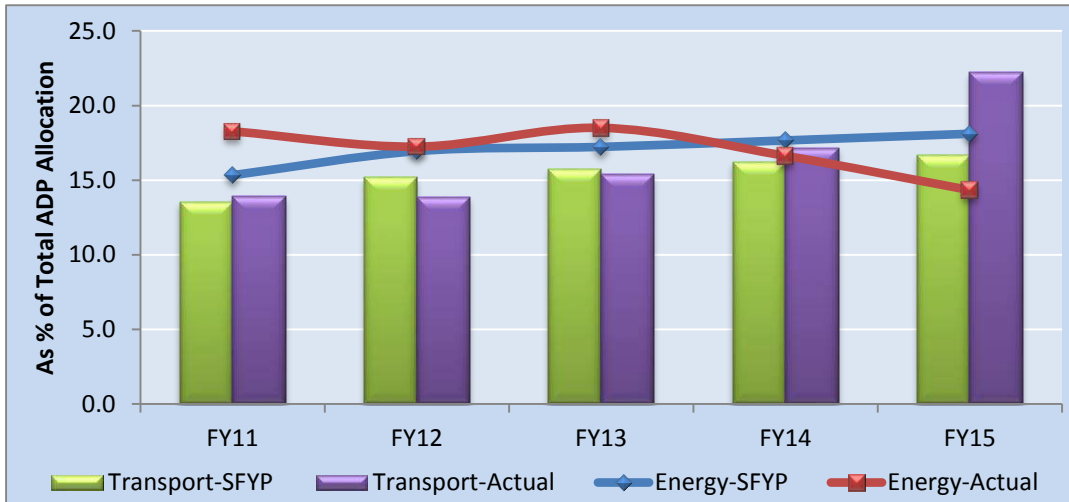


Source: Ministry of Finance, Budget Documents

ADP implementation rate also increased markedly over the Plan period. In particular, the size of the ADP has increased steadily from 3.2% of GDP in FY10 to 5.0% of GDP in FY15, the final year of Sixth Plan. Notwithstanding this higher spending on ADP and significant improvements in improving the power supplies, the infrastructure gaps in most areas would require massive amounts of investment. The Government has already identified and put on a Fast Track list a number of important projects for speedy implementation. The list will be expanded, as needed, to make sure that the infrastructure constraints, including in power, will be greatly alleviated under the 7th Plan. The Government expects that the Public Private Partnership (PPP) in infrastructure investment will gain momentum, particularly in power generation, as the PPP office under the Prime Minister's Office are putting effort to build up a larger pipeline for PPP projects. Joint venture initiatives in the power sector along with import of electricity from India will also help contain public sector domestic investment requirement. These efforts notwithstanding the size of the ADP would need to be increased by almost 2 percentage points to 6.9% of GDP by FY20 in order to address the growing infrastructure needs.

Consistent with the growing demand for infrastructure to support accelerated growth, most emphasis will be given to Transport and energy under the 7th Plan through ADPs. The share of ADP allocation for transport already exceeded 20% of total ADP in FY15 and allocations for energy also exceeded 15% of total ADP in recent years. The planned massive expansion in electricity generation under the Power Sector Master Plan to meet the rapidly growing power sector needs of a growing economy will require large investments in power generation alone.

Figure 3.3: ADP Transport and Energy Allocation-SFYP vs. Actual



Source: Sixth Five Year Plan documents, GED and Ministry of Finance

Although private sector will continue to invest in power generation through Power Purchase Agreements with the government or Power Development Board (PDB), direct government investment in the sector will be sizable over the Plan period. Electricity generation capacity has increased significantly under the Sixth Plan, largely through capacity expansion in the form of quick rental power plants. Under the 7th Plan larger projects, including several large coal-based power plants will come into effect with a view to expand generation capacity to 23,000 MW by FY20.

Major infrastructure projects like construction of Padma Bridge, completion of Dhaka- Chittagong 4-lane highway and broadening it further to at least six lanes, making all national highways to at least 4-lane highways, construction of elevated roads in major cities, linking Bangladesh Railway system with destinations in India and Myanmar and further to the Asian Railway system, directly linking Khulna and Mongla with Dhaka and Chittagong directly by rail using the Padma Bridge, construction of a deep sea port for handling of coal and other imports at Sonadia, Cox’s Bazar are some of the important transportation initiatives to be implemented under the 7th Plan.

Despite the lack of visible progress under the Sixth Plan in implementing projects under the PPP initiative, the 7th Plan envisages a greater role for PPP. The government is in a better position in terms of setting up the institutional structure, including the PPP office and the regulations and guidelines for such investment. The government has also established the Bangladesh Infrastructure Financing Facility (BIFF) to ensure co-financing of PPP projects. As designed, BIFF should help catalyse financing of infrastructure projects by using its own resources, issuing infrastructure bonds to increase access to financing, and allowing other institutional investors of domestic and foreign origins to invest in BIFF as minority shareholders. The government has already allocated sizable amount of resources from the unutilized budgetary allocations for PPP projects and will be ready to contribute more to increase its capital base through additional budgetary subventions in

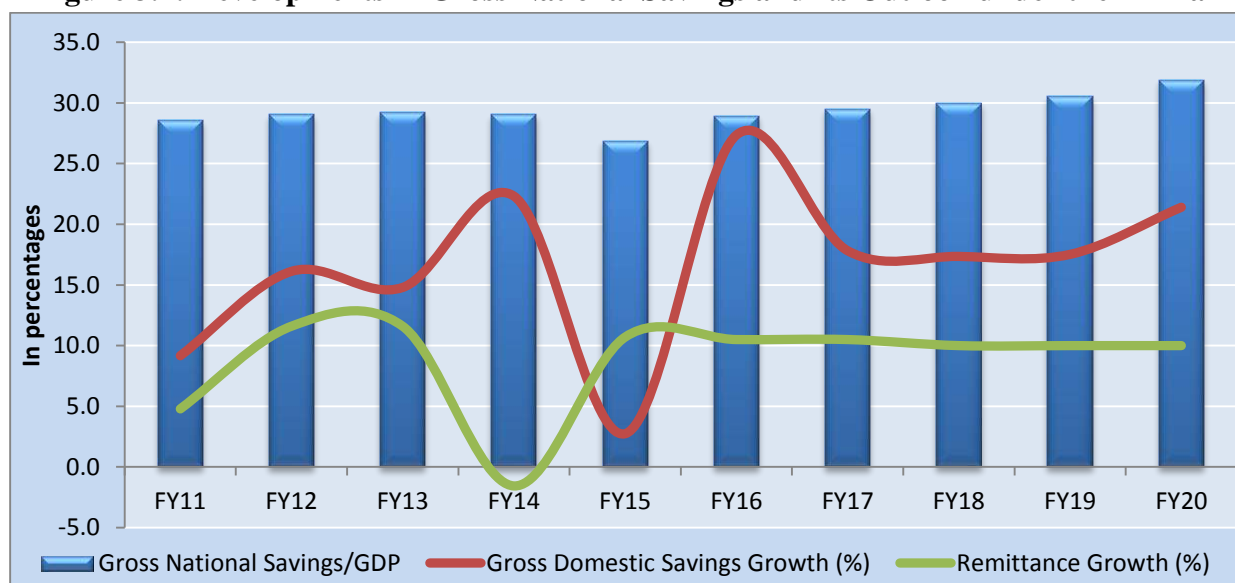
future. The ultimate objective of BIFF is to help finance PPP infrastructure projects by taking direct equity participation in financially viable and socially/economically desirable projects.

The Plan recognizes that public sector investment alone cannot bring about the increase in gross investment needed for achieving the 8% GDP growth target by FY20. About 77.3 percent of investment comes from the private sector and without a significant increase in private investment of domestic and foreign origins the planned increase in investment to more than 34% of GDP by the end of the Plan would not materialize if the overall political and economic environment is not conducive for the investors.

Aggregate Savings

Bangladesh enjoys a respectable level of national savings rate in relation to GDP. This higher national savings rate of 29% of GDP is primarily attributable to higher inflow of workers' remittances averaging more than 8% of GDP during the Sixth Plan period. Although the national savings rates sometimes fluctuate with the volatility in the inflow of workers' remittances, it is interesting to observe that in years when inflow of remittances is high, domestic savings rate goes down acting as a built in stabilizer and thereby moderating the volatility of remittances on the overall gross national savings rate. This phenomenon is however not surprising because increase inflow of remittances allows the recipient households to increase domestic consumption thereby reducing gross domestic savings rate. At times of lower remittance income, households reduce their domestic consumption, thereby increasing the gross domestic savings rate. It is also true that, overall higher remittances tend to contribute to higher national savings even after allowing for consumption induced lower domestic savings.

Figure 3.4: Developments in Gross National Savings and Its Outlook under the 7th Plan



Source: BBS and Seventh Plan Projections

It will be a challenging task for national savings to increase by 2.9 percentage points over the Plan period, given the lower than expected savings rate of about 29% of GDP in recent years. Both the key components of national savings—i.e., growth in remittances and growth in domestic savings—would need to grow at rates higher than the GDP growth rate over the 7th Plan period. Improved investment climate leading to higher rate of return on domestic investment, in part supported by increased demand for investment, would help increase domestic savings and encourage Bangladeshi expatriates to send more money for investment in Bangladesh.

A part of the increased national savings would also come from the public sector through increased revenue mobilization efforts. A review of developments in government budgetary/fiscal savings indicates that from an average government savings rate of about 1.4% of GDP, the 7th Plan calls for increasing the government savings rate to about 2.2% of GDP by FY20.

Taking into account Bangladesh's respectable national savings level, the outlook for continued respectable growth in inflow of remittances, the supporting domestic policies to offer real positive interest rates to the savers, and the planned increase in government sector savings, the target for increasing the national savings rate to 32.0% of GDP should be attainable. The improved national savings rate together with the planned increase in FDI into Bangladesh should enable Bangladesh to reach the investment target of 34.4% of GDP by FY20.

3.3 BALANCE OF PAYMENTS AND EXCHANGE RATE MANAGEMENT

Bangladesh's bedrock macroeconomic stability is underpinned by its strong external balance of payments position. It has recorded external current account surpluses during most of the Sixth Plan period and that was also reflected in a rapid build-up of foreign exchange reserves of Bangladesh Bank. The strength of the BOP was underpinned by buoyant export and remittance receipts over the Sixth Plan period, despite some exogenous factors and externally induced volatility. In particular, export growth to the European Union—accounting for more than half of Bangladesh's exports--suffered in FY12 and FY15, due to the European Debt Crisis and the ongoing weakness of the Euro against the US dollar and Bangladesh Taka. These fluctuations notwithstanding, foreign exchange reserves of Bangladesh Bank exceeded the Sixth Plan target of US\$16.1 billion by end-FY15 by almost 50%. Gross foreign exchange reserves have already exceeded US\$25 billion by June FY15, which is equivalent to more than 7 months of imports.

Table 3.3: Export Performance in the Sixth Plan (million US\$)

	Jute & Jute goods	Leather	Footwear	Frozen Food	ICT	Others	Non- RMG Total	RMG	Total Exports
FY 10	736.4	226.1	204.1	445.2	35.4	2294.0	3701.7	12496.8	16176.2
FY 11	1114.9	297.8	297.8	625.0	45.3	2669.5	5005.0	17914.3	22919.3
FY 12	939.3	329.8	350.6	637.6	70.8	2940.8	5198.0	19089.8	24287.7
FY 13	1030.6	399.7	419.3	543.8	101.6	3016.5	5502.4	21515.8	27027.4
FY14	824.5	505.5	550.1	638.2	124.7	3051.1	5694.1	24491.9	30186.0
FY15	868.5	397.5	673.3	568.0	132.5	3077.6	5717.5	25491.4	31208.9
Growth (in percent)									
FY 11	51.4	31.7	45.9	40.4	28.0	16.4	35.2	43.4	41.7
FY 12	-15.8	10.7	17.7	2.0	56.3	10.2	3.9	6.6	6.0
FY 13	9.7	21.2	19.6	-14.7	43.5	2.6	5.9	12.7	11.3
FY 14	-20.0	26.5	31.2	17.4	22.7	1.1	3.5	13.8	11.7
FY15	5.3	-21.4	22.4	-11.0	6.3	0.9	0.4	4.1	3.4

Source: Export Promotion Bureau

Building on this solid track record on the external front, the 7th Plan aims to reach the export target of US\$54.1 billion with export growth averaging about 12% per annum over the Plan period. This projection is also broadly consistent with the RMG export target of US\$50 billion by FY21, the 50th anniversary of the independence of Bangladesh, as announced by the Bangladesh Garments Manufacturers and Exporters Association (BGMEA) and also endorsed by the Government. The faster growth of the manufacturing sector would only be attainable under this export-led growth strategy, if exports grow at a much faster rate than the overall GDP growth.

As in the past, RMG sector will continue to lead the export growth strategy under the Plan. The envisaged US\$20 billion increase in the RMG sector exports over the Plan period will require massive amounts of investment in this sector along with investment in growth supporting infrastructure like power/electricity, land for setting up industries, transport, port etc. The other potential export sector is footwear and leather products, which is growing at a healthy pace and the growth rate is expected accelerate with new factories likely to coming into operation, and growing interest of foreign investors in the footwear sector. Given its low base, this sector has the potential to record higher than average export growth rate during the Plan period. Both leather and RMG (wet processing washing and dyeing) sectors—considered to be two most important industrial polluters-- would also need to ensure environmental sustainability for their continued growth over the medium and long term. These industries must meet global industrial standards in terms of chemical use and discharge and efficient water use for their growth to be sustainable both from Bangladesh and importing countries' perspectives.

Despite some disappointments some non-traditional exports like light engineering (bicycle and electronic products), Information Technology (IT), home textiles, agricultural and food processing, pharmaceuticals and shipbuilding have good potentials and expected to expand rapidly under the 7th Plan. The government is also providing financial incentives to these sectors and will

be ready to provide duty free access to industrial inputs and capital machineries along the lines offered to the RMG sector. FDI in these sectors will be critical for increased investment, greater and easier market access, and transfer of technology and management practices. FDI will also allow Bangladesh to enter into the intermediate goods export market and link Bangladesh with Asian value chain. In order to facilitate FDI in the traditional and new sectors, the government is accelerating the process of setting up Special Economic Zones under both public and private sector initiatives. It also plans to hand over SEZs to investors exclusively from Japan, China, India and other countries in order to accelerate investment from those countries.

Import payments are projected to rise in line with the growth in real GDP and the envisaged export growth. Overall import elasticity is expected to be about 1.1 with respect to GDP, broadly in line with past pattern, and taking into account the higher imports under back-to-back arrangements in line with continued buoyant RMG and other exports. The massive increase in investment envisaged under the Plan—supported by FDI and public sector infrastructure investment—would certainly tend to increase import payments. The sharp drop in petroleum prices in FY15, and the outlook for petroleum prices to remain below US\$60 per barrel, would lead to significant savings for Bangladesh economy over the Plan period. The softening of non-fuel commodity prices globally would also help contain import payments in the initial years of the Plan when investment related imports are expected to surge. The projected high real import growth will address critical capacity constraints in the power and transport sectors, along with capital machineries and industrial raw materials for industrial sector expansion.

Although exports and imports are projected to grow at similar rates on average, because of the higher base for imports (relative to exports) in dollar terms, the external trade balance will continue to widen in dollar terms over the Plan period. However, the trade balance will remain fairly stable in the range of 5-6% of GDP and sustainable given the level of remittance inflows at about 8% of GDP throughout the Plan period. In fact, a part of the increased import demand is attributable to the increased demand from household receiving such transfers. The current account balance however is likely to become negative (that is turn to deficit) due to projected increases in services account and income account deficits. The services and income account deficits will widen due to growing payments associated with shipping, air travels, health care and educational expenses incurred by Bangladeshis, and debt service and other transfers associated with foreign debt (public and private) and remitting of income from FDI and portfolio investment. Reflecting these developments the external current account will turn into deficit and reach a peak of 2.5% of GDP by FY20. Such a level of current account deficit is justifiable for a developing country like Bangladesh given its growing import intensive investment needs and general import demand associated with the higher real economic growth objectives.

The deficit in the current account balance notwithstanding the overall BOP balance should continue to record sizable surpluses throughout the Plan period. The growing overall surplus would materialize primarily because of projected larger surpluses in the Financial Accounts of the BOP. It must be noted that the growing current account deficits and the growing financial accounts

surplus will be primarily driven by the projected increase in FDI in major export oriented sectors and in infrastructure projects. The composition between the net long-term concessional foreign borrowing (foreign aid) and other long-term borrowing may change depending on government's ability to utilize the new aid commitments and the existing pipeline and its willingness to borrow from the international capital market by issuing sovereign bonds. Bangladesh's current sovereign credit ratings with stable outlook should help the government to access international capital market if it decides to do so. The level of gross official reserves of Bangladesh Bank is projected to increase to US\$49 billion by the end of the Plan, which would be equivalent to more than 7 months of projected import payments for goods and services.

Table 3.4: Summary of Balance of Payments

	SFYP Average	FY16	FY17	FY18	FY19	FY20	Average of Projected Years
	Actual			Projected			
Components:	(In million US dollars)						
Trade balance	-8073.6	-11615.1	-12983.6	-14693.1	-16489.8	-18670.5	-14890.4
Export f.o.b. (including EPZ)	26821.8	33785.1	37501.4	42001.6	47461.8	54106.4	42971.3
Import f.o.b (including EPZ)	-34895.4	-45400.2	-50485.0	-56694.7	-63951.6	-72776.9	-57861.7
Services	-3457.6	-5436.8	-6062.0	-6789.5	-7672.1	-8746.2	-6941.3
Income	-2180.4	-3421.0	-4313.1	-5294.4	-6373.9	-7561.2	-5392.7
Current transfers	14251.0	17945.6	19878.5	21936.4	24185.0	26693.5	22127.8
Of which : Workers' Remittances	13601.6	17265.6	19078.5	20986.4	23085.0	25393.5	21161.8
Current Account Balance	539.4	-2527.3	-3480.2	-4840.6	-6350.7	-8284.4	-5096.6
Financial and Capital Account	3155.2	6323.1	8092.6	9985.2	11810.0	14603.0	10162.8
Capital account	560.0	750.0	750.0	800.0	850.0	900.0	810.0
Financial Account	2135.6	5573.1	7342.6	9185.2	10960.0	13703.0	9352.8
Foreign Direct Investment (FDI)	1363.4	2589.6	4315.6	5871.2	7440.1	9993.4	6042.0
Net Aid Loans	1032.2	3053.5	2937.0	3069.0	3124.9	3164.6	3069.8
Commercial Banks (net)	108.6	80.0	90.0	95.0	95.0	95.0	91.0
Errors and Omissions	-324.4	0.0	0.0	0.0	0.0	0.0	0.0
Overall Balance	2910.6	3795.8	4612.4	5144.6	5459.3	6318.6	5066.2
	Growth Rates (%)						
Export growth	14.4	9.8	11.0	12.0	13.0	14.0	12.0
Import growth	14.5	11.6	11.2	12.3	12.8	13.8	12.3
Remittance growth	6.8	13.8	10.5	10.0	10.0	10.0	10.9
FDI growth	17.2	52.3	66.7	36.0	26.7	34.3	43.2

Source: Bangladesh Bank

3.4 EXCHANGE RATE POLICY

Prudent management of exchange rate and ensuring exchange rate stability are critical for BOP sustainability and macroeconomic stability. Accordingly, Bangladesh Bank in its recent Monetary Policy Statements aimed to use exchange rate and monetary policies for the purpose of preserving external sector stability, maintaining satisfactory building up reserves and avoiding excessive volatility of the exchange rate. Improved external balances are reflected in the accumulation of international reserves of about US\$6.2 billion in FY14 with gross reserves increasing to US\$25.0 billion at the end of June 2015, sufficient to cover more than seven months of projected imports of goods and services.

However, large surpluses in the external current accounts and the overall balance of the BOP in recent years have led to an oversupply of dollars in the foreign exchange market and the exchange rate would have appreciated significantly in nominal terms against the US dollar unless Bangladesh Bank continued to absorb the excess dollars from the market to maintain exchange rate stability in nominal terms.

In order to adhere to the inflation objective under the MPS and the underlying monetary targets, BB had to mop up the excess liquidity by issuing Bangladesh Bank bonds at appropriate market interest rates. This mopping up operation helped contain expansion of monetary targets and all key monetary indicators were within the targets set under the MPS of BB. The restrained monetary policy has helped BB to bring down inflation significantly in recent months, although it missed the inflation target by a relatively modest margin. At the same time the quasi-fiscal cost associated with the sterilization operation eroded BB's profitability since it earns much less on its foreign assets compared with what it pays on its domestic liabilities (such as interest payments on BB bonds).

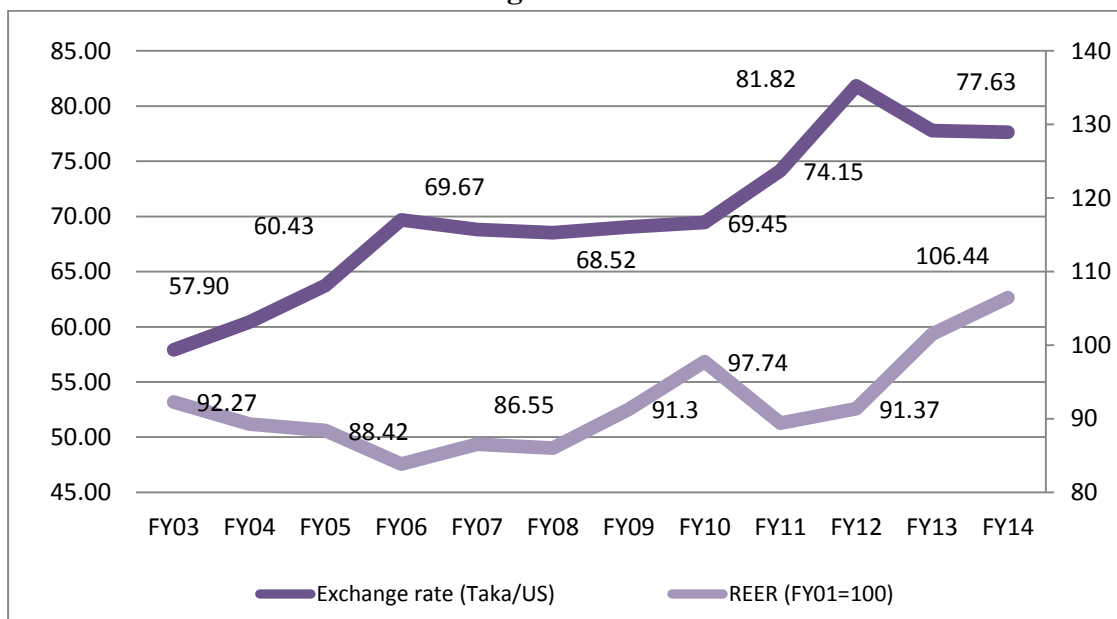
This tension between the exchange rate management and monetary management is a short-term phenomenon and should continue until domestic demand remains subdued causing slower growth in import payments. Once domestic economic activity and investment start to rebound, as envisaged under the 7th Plan, growth in import payments will accelerate and there will be no need for monetary intervention or sterilization.

Bangladesh Bank is also aware of another emerging issue potentially further complicating exchange rate management. While Bangladesh Bank has been successful in keeping the exchange rate of the Taka very stable against the dollar and did not allow the Taka to appreciate against the dollar in nominal terms, the Real Effective Exchange Rate (REER) of Taka still appreciated significantly, eroding the competitiveness of Bangladeshi exporters. A sharp appreciation of the US dollar against the Euro and other major currencies, and the relatively high domestic rate of inflation compared with the inflation rates of Bangladesh's trading partners, have contributed to the appreciation of the REER of Bangladesh Taka and erosion of export competitiveness. Bangladesh Bank's own calculation indicates that the REER index of Taka appreciated from below

89 in FY11 to more than 106 in FY 14, entailing more than 19% erosion of export competitiveness. The Taka have appreciated further in real effective terms since then as the appreciation of the dollar has gained further momentum with the US economy regaining growth momentum relative to other industrial countries. Certainly, this situation is not sustainable and something must change with: (i) domestic demand and import payments picking up through higher investment and consumption to depreciate the Taka in the interbank market; (ii) the rate of inflation coming down further to levels closer to Bangladesh’s trading partners; and (iii) Euro zone and Japanese growth picking up leading to a weakening of the US dollar vis-à-vis other major currencies. Certainly, the nominal exchange rate will also be managed flexibly taking into account export competitiveness and Bangladesh’s inflation rate differential with its trading partners.

Bangladesh Bank has already increased the level of retention of export proceeds by the exporters as part of its ongoing exchange market liberalization. Bangladesh Bank will consider further increases in the percentage of export proceeds that could be retained by the exporters in order to reduce cost of inputs and make manufacturing and exports more competitive. Such enhanced competitiveness may also be used to reduce the cost to the budget on account of cash incentive.

Figure 3.5: Nominal Exchange Rate and Real Effective Exchange Rate Trend of Bangladesh Taka



Source: Bangladesh Bank. Note: For REER, rise in index implies appreciation.

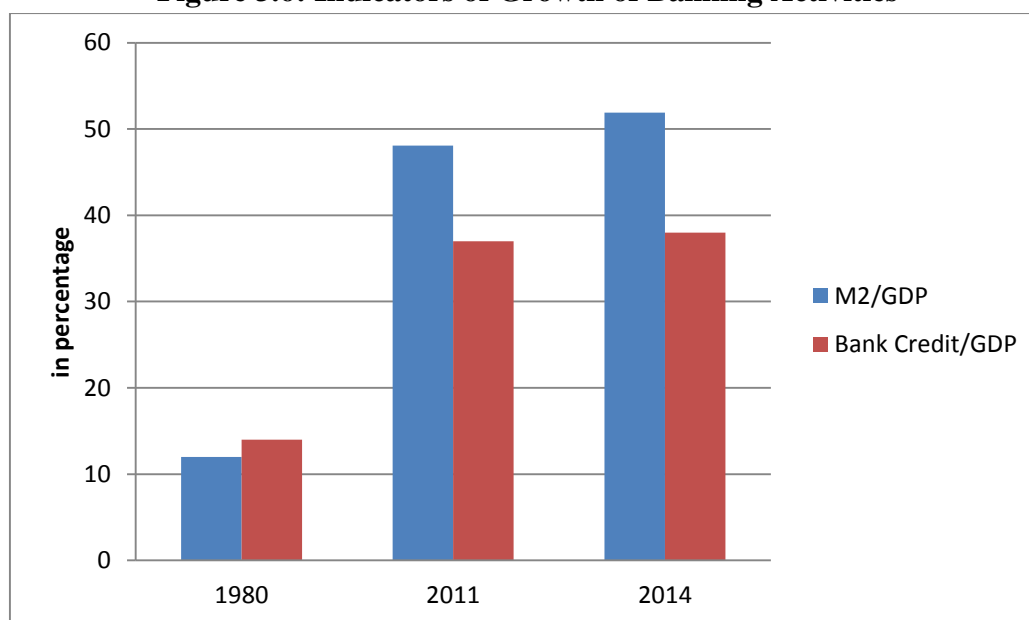
3.5 FINANCIAL SERVICE SECTOR PERFORMANCE AND MONETARY MANAGEMENT BY BANGLADESH BANK

3.5.1 Some Important Indicators of Financial Service Sector Performance

In terms of its banking sector performance Bangladesh has done well overall despite some setbacks in the area of public banking. Banking reforms which started in early 1980s, but gathered

momentum in the 1990s and 2000s, have brought about positive changes in most of the indicators of banking performance. Much of the serious reforms that impacted on the quality and health of the banking sector happened after 1999. Indicators like the broad money (M2) to GDP ratio, which is often used as an indicator of the depth of the financial sector, has risen from 12% in 1980 to 57% in June 2012, along with total bank credit as a share of GDP has grown from 14% to 55% over the same period. In the absence of a well-developed capital market, the growth in private credit has played a major role in supporting the expansion of the private sector in Bangladesh.

Figure 3.6: Indicators of Growth of Banking Activities



Source: Bangladesh Bank

The positive gains in financial deepening notwithstanding, a comparison with the regional comparator countries clearly indicates that Bangladesh is still behind most regional comparators, except Pakistan. Bangladesh lags behind India in terms of financial deepening and well behind countries like China and Vietnam.

Table 3.5: Indicators of Banking Activities for selected countries (2013)

	M2/GDP	Bank Credit/GDP
China	194.5	140.0
India	77.4	51.8
Pakistan	40.2	15.6
Vietnam	117.0	96.8
Bangladesh	70.8	48.0

Source: World Development Indicators, World Bank and Financial Soundness Indicators, IMF

One of the most important indicators of the health of the banking sector is the Non-Performing Loan (NPL). Table 3.6 shows that there was a sharp decline in the share of non-performing loans (NPLs) from a high of 41% in 1999 to the lowest point of 6.1% in June 2011 but it has increased

since then. Both SCBs and PCBs recorded impressive improvements in terms of addressing the NPL problem. In particular, the NPL ratio of private banks declined to less than 3 percent in 2011, compared with more than 27% in 1999 but increasing to 5.7% in 2014.

Improvements have also been made in meeting capital adequacy requirements with the industry-wide risk-weighted capital adequacy ratio exceeding 11% as of June 2011. The risk weighted capital adequacy ratio of SCBs also increased to 11.7% in 2011 from only 5.3% in 1999, in part supported by recapitalization of these banks by the government to meet the capital adequacy requirement stipulated under the Banking Act. The year 2011 was of significance given the favourable outcomes of the banking sector indicators in the post-reform scenario.

Table 3.6: Indicators of Health of the Banking Sector (Percent)

Indicators	1999 (Pre-Reform Baseline)	2011 (the comparator best year)	2014 (Latest Available ⁴)
Share of Non-Performing Loans: Overall	41.1	6.12	10.75
Share of Non-Performing Loans: Private Banks	27.1	2.95	5.7
Share of Non-Performing Loans: Foreign Banks	3.8	2.96	6.19
Share of Non-Performing Loans: State Commercial Banks	45.6	11.27	23.23
Share of Non-Performing Loans: Public DFIs	65.0	25.55	33.12
Risk-weighted Capital Ratio: Overall	7.4	11.35	10.68
Risk-weighted Capital Ratio: Private Banks	11.0	11.49	12.05
Risk-weighted Capital Ratio: Foreign Banks	15.8	20.97	20.61
Risk-weighted Capital Ratio: State Commercial Banks	5.3	11.68	8.65
Risk-weighted Capital Ratio: Public DFIs	5.8	-4.49	-13.68

Source: Bangladesh Bank

Table 3.7: Performance Indicators of the Banking Sector in Selected Countries (2013)

Country	Share of Non-Performing Loans	Risk-Weighted Capital Ratio	Return on Assets	Return on Equity	Liquid Assets to Total Assets
China	1.0	12.2	1.30	19.2	21.2
India	4.0	12.3	0.7	10.8	8.1
Pakistan	3.1	14.9	1.1	12.4	47.3
Vietnam	3.61	13.25	0.49	5.18	13.4
Bangladesh	2.01	11.52	0.9	10.7	25.6

Source: Reports of various Central Banks & Financial Soundness Indicators, IMF

The coverage of the banking sector also compares favourably with comparator countries given the size of Bangladesh economy (less than one-tenth of India and one-thirtieth of China).

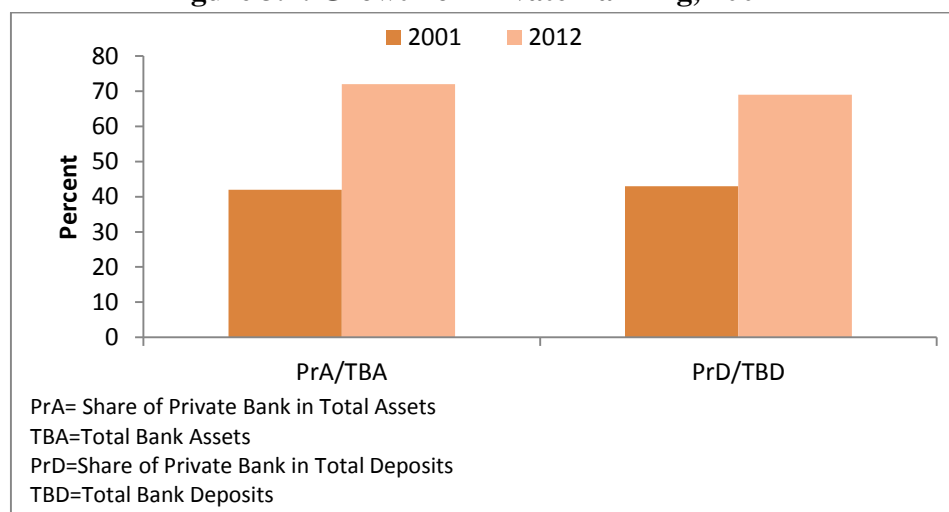
⁴ The figures given are till June 2014.

Table 3.8: Banking Sector Coverage Indicators for Selected Countries (2013)

Country	Number of Commercial Banks	Number of Commercial Bank Branches	Number of Automated Teller Machines (ATMs)
China	204	86708	519996
India	157	105933	115849
Pakistan	38	10943	7634
Vietnam	47	2497	15265
Bangladesh	56	8342	6797

Source: Financial Access Survey, IMF

The three main factors that contributed to the improvement in the coverage of the banking sector of Bangladesh are greater competition for market share, better regulations and improved supervision. The opening up of the banking sector to private enterprises was perhaps the most determining factor. As a result of this competition the share of private banks in total assets has grown from 42% in 2001 to 72% in June 2012; commensurately, its share of total deposit has expanded from 43% to 69% over the same period (Figure 3.7).

Figure 3.7: Growth of Private Banking, 2001-12

Source: Bangladesh Bank.

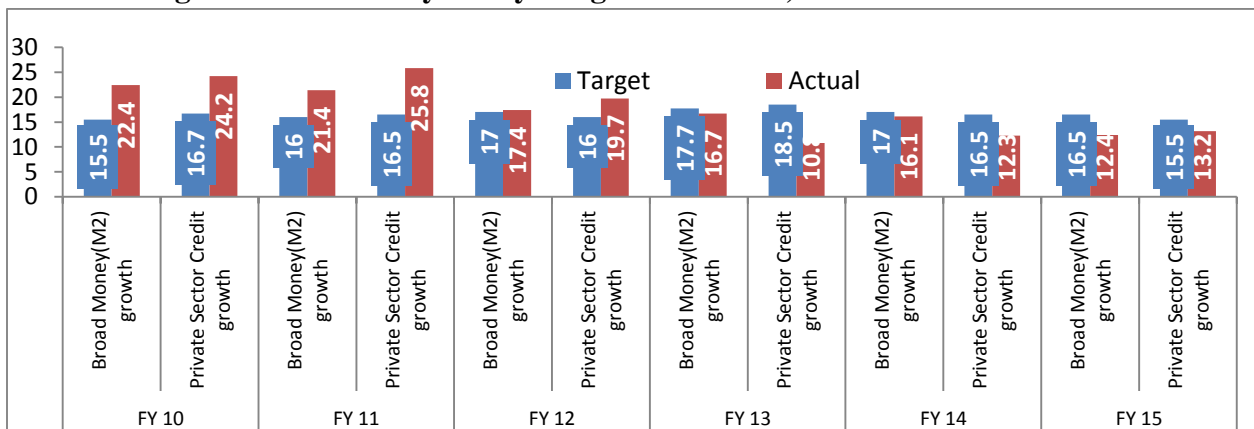
Banking regulations have been progressively tightened in the context of implementation of BASEL I and II guidelines. Efforts have also been made to improve the supervision capacity of the regulator, the Bangladesh Bank, through a range of technical assistance. Bangladesh has started preparation to implement the BASEL-III framework for bank companies from 2014 in line with the global standard. BASEL III, once implemented effectively, should have a tremendous impact on the financial system and economy of Bangladesh. On the one hand, stronger capital and liquidity requirements should make Bangladesh's banking sector much safer, while on the other hand, extra safety would also mean extra costs for the bank. Loans and other services provided by

banks will become somewhat more expensive and harder to obtain. Bangladesh Bank is aware that there will be challenges in implementing the BASEL III framework—especially in areas such as augmentation of capital resources, growth versus financial stability, challenges for enhanced profitability, deposit pricing, cost of credit, maintenance of liquidity standards and strengthening the risk architecture—but fully committed to implement this structural transformation during the 7th Plan period.

3.5.2 Bangladesh Bank and Monetary Policy Management

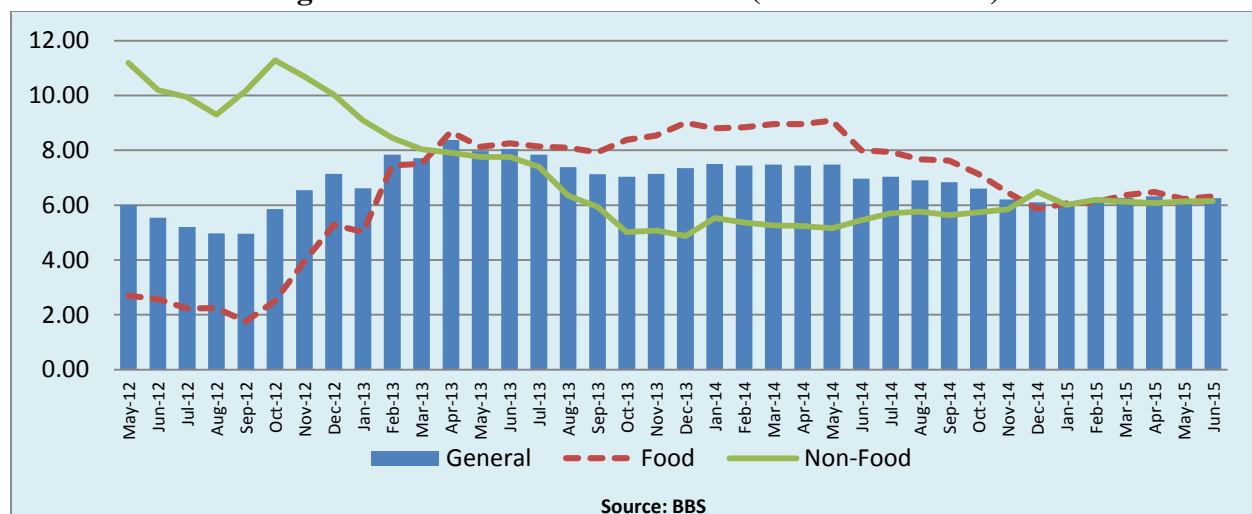
BB recognizes the imperative for prudent monetary policy and accordingly established quantitative targets for key monetary aggregates in each and every MPS in recent years. Accordingly, a cautious and restrained monetary stance was pursued in FY12 to curb inflationary and external sector pressures.

Figure 3.8: Monetary Policy Targets Vs Actual, in Recent Years



Source: Bangladesh Bank

Figure 3.9: Point to Point Inflation (FY 06 Base Year)



Source: BBS

Source: Bangladesh Bank

In particular, Bangladesh Bank took a series of monetary tightening measures and allowed the exchange rate to move freely. The objective of monetary tightening was to restore both internal and external imbalances by taming inflation and thereby also stabilizing the exchange rate. Inflation has been trending downward and steadily came down through FY14.

3.5.3 Challenges for Monetary Management under the Plan

Monetary development since January 2011 has been moving in the right direction to achieve quantitative limits established under the MPS. In its monetary policy operations Bangladesh Bank is committed to focus primarily on the quantitative targets and not on policy instruments like interest rates. Bangladesh Bank realizes that it is beyond the capacity of any central bank to influence or target both. Like most developing countries, transmission of monetary policy is considered inefficient in Bangladesh. Development of the treasury bills and bond market will be keys to enhancing the transmission mechanism and effectiveness of monetary policy.

There is widespread allegation from the business community that bank interest rates and charges in Bangladesh are too high. They also feel that high interest rates have adversely impacted investment and domestic economic activity. This an important national policy issue and will require addressing some structural issues facing the banking sector. The structural issues impacting the interest rate structure generally include: efficiency of the banking system (administrative cost, efficiency in managing loan/investment portfolio with proper balance between risk and return, return on capital etc.); openness of the financial market (capital account openness); state of development of the financial system including bond market; etc.

In a well-managed and relatively efficient banking system the level of spread could be as low as 2% to 3%, compared to more than 5% for Bangladesh. The higher spread in Bangladesh is thus a manifestation of structural weaknesses or inefficiencies of the banking system as a whole. The spread could be explained by developments in three major components:

- (i) Administrative costs of banks such as operating expenses, excluding interest cost. Although not very high, when compared with countries with more efficient financial system and lower spread, there is scope for some improvement in this area.
- (ii) Provisioning requirements associated with classified/bad loans always significantly affect the interest rate spread. Bangladesh's Gross and Net NPL ratios have always been quite high relative comparator countries.
- (iii) Corporate tax rate applied on pre-tax profits of commercial banks also impact interest rates. Bangladesh's corporate tax rate on banks at 42.5% is the highest in the region and adds to the wider spread.

For healthy growth in domestic savings and the deposit base, banks will continue to offer at least marginally positive real interest rates to the depositors. Bangladesh bank will continue its efforts to reduce inflation further to ensure a sustained lowering of the structure of deposit and lending

rates. At the same time Bangladesh's very high GNPL--at more than 12% compared with only 1%-3% for countries like China, Malaysia, Indonesia, Thailand and India-- points to the fact that inefficiencies in our financial intermediation must be firmly addressed to reduce the spread between the deposit and lending rates. Bangladesh Bank and the government will strengthen significantly banking sector governance and supervision in order to reduce the lending rate without creating market distortions.

3.5.4 Strategies to Improve Financial Service Sector

The financial sector- the life blood of the economy- has had an important role for the progress of Bangladesh. Despite the achievements and improvement in the recent past, much more needs to be done to ensure that financial resources reach all sectors of the economy. In order to establish stable financial markets and service systems, continuous reforms ranging across financial sector policies, financial infrastructure, regulatory and supervisory institutions will be undertaken. Some of the important strategies and future plans are mentioned below.

The government will strive for expanding access to financial services to the underserved including micro and household enterprises now operating in the informal market and deepen the financial markets with introducing relevant products. Core Banking Solution (CBS) will be introduced in all state owned commercial and specialized banks within 2006. Real Time Gross Settlement (RTGS) system will be established for the banking sector very soon. The government will formulate strategy and implement identified measures for better supervision of state owned banks. The Bangladesh Securities Exchange Commission will establish a separate clearing corporation for the speedy settlement after trade. The capacity of the Insurance Development and Regulatory Authority will be strengthened through providing manpower and promulgating relevant rules and regulations. A separate Credit Information Bureau (CIB) for microfinance will be established.

3.6 RISKS AND UNCERTAINTIES

The macroeconomic outlook presented in this Chapter has significant downside risks associated with developments and factors of domestic and external origins. On the domestic front, the key challenge is realization of the investment target and mobilizing public sector resources for implementing the important infrastructure projects and undertaking necessary social programmes. Bangladesh has huge potentials to attract FDI from a wide range of countries and particularly in the context of China plus one policy that most multinational investors are now contemplating. Bangladesh also must make itself attractive to benefit from the massive relocation away from China that is currently underway. If the government fails to provide necessary infrastructure support as envisaged under the 7th Plan--in the form of power, and serviced land by establishing SEZs rapidly, and improved transport facilities through better connectivity and ports--much of these new opportunities may be lost.

While the size of public investment is planned to expand rapidly, ensuring the efficiency gains through quality of investment will be a major challenge in the face of continuing governance

problems. Transparency in tendering process and ensuring quality at different phases of project implementation, and making contractors responsible even after the delivery of projects will be key to ensuring quality of project implementation. Resource mobilization by the public sector will continue to remain a major challenge and will require steadfast implementation of tax policy reforms (in both VAT and direct tax fronts), modernization of tax administration, and reform of the NBR tax administration. There are also other exogenous risks like cyclone and flood, which may set back the progress on the Plan by diverting resources and attention of the policymakers away from Plan implementation.

As in the past, external factors will also continue to influence the overall macroeconomic outlook in Bangladesh over the Plan period. Some relevant external risk factors include:

- The pace of recovery of the European Union economies, the primary destination of Bangladeshi exports, following the European Debt Crisis.
- Further deterioration in the currency realignment—entailing further appreciation of the US currency against other major currencies—in the global currency markets.
- Uncertainties about petroleum prices in the global economy. The recent decline may become short-lived if the conflicts in the oil producing Arab countries (Libya, Iraq, Yemen, Saudi Arabia and other Gulf oil exporting countries).
- Uncertainties about non-oil commodity prices which are currently at their relatively low levels.
- The pace of tapering off of the Quantitative Easing by US Federal Reserve, and its impact on the dollar interest rates in the international capital market making cost of fund expensive for future investment in Bangladesh.
- Recent currency depreciation of emerging economies including China is likely to weaken our export competitiveness.

The Government will remain vigilant about the emerging external and domestic risks, and will continue to pursue prudent macroeconomic management and accelerate the pace of economic reforms as envisaged under the Plan. The Government is also committed to undertake corrective actions and policy adjustments to mitigate the adverse effect of any unforeseen developments.

The macroeconomic framework outlined above is appropriately challenging but at the same time attainable. Actual outcomes will depend on various developments of economic and noneconomic nature, and not all future developments are within the control of the Government. Important lessons have been learned through the implementation of the Sixth Plan, including the fact that the inability to realize the 8% growth target under the Sixth Plan was primarily attributable to the shortfall in private investment of both domestic and foreign origins. Accordingly, special emphasis will be given to the alleviation of the infrastructural bottlenecks through establishment of SEZs in various parts of Bangladesh, implementation of the Power Sector Master Plan to ensure sustainable power supply at competitive prices, and speedy implementation of other priority projects which are in the list of Fast Track projects of the Government. As the size of the public investment grows

over the Plan period, the importance of quality of spending will become all the more important for economic efficiency. Mobilization of resources, particularly with greater focus on sustainable increase in NBR tax revenue, will be essential for financing the Plan as discussed in Chapter 5 of this part of plan document. Overall, the 8% growth target by the end of the 7th Plan, although challenging should be attainable, provided necessary supportive reforms and policies are put in place for the private sector to come forward and invest in the future of Bangladesh.

CHAPTER 3: ANNEX TABLES

Annex Table 3.1: Bangladesh: Key Economic Indicators, FY15 to FY20

Components:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Est.			Projection			
Real GDP Growth	6.5	7.0	7.2	7.4	7.6	8.0	7.4
Nominal GDP Growth	12.6	13.5	13.6	13.6	13.7	13.9	13.7
CPI Inflation (Average)	6.5	6.2	6.0	5.8	5.7	5.5	5.8
Gross Investment	28.9	30.1	31.0	31.8	32.7	34.4	32.0
Public	6.9	6.4	7.1	7.4	7.6	7.8	7.3
Private	22.0	23.7	23.9	24.4	25.1	26.6	24.7
National Savings	29.0	28.9	29.5	30.0	30.5	31.9	30.2
Total Revenue and Grants (% of GDP)							
Total Revenue	10.8	12.1	13.5	14.3	15.1	16.1	14.2
Tax Revenue	9.3	10.6	11.5	12.3	13.1	14.1	12.3
Non-Tax Revenue	1.5	1.5	2.0	2.0	2.0	2.0	1.9
Grants	0.4	0.3	0.4	0.4	0.4	0.4	0.4
Total Expenditures	15.8	17.2	18.5	19.3	20.1	21.1	19.2
Current Expenditures	10.5	11.2	12.0	12.5	13.1	13.9	12.5
ADP Expenditure	5.0	5.7	6.2	6.5	6.7	6.9	6.4
Other Expenditures	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Overall Balance (Incl. grants)	-4.7	-4.7	-4.6	-4.7	-4.7	-4.7	-4.7
Overall Balance (excl. grants)	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0
Primary Balance	-2.7	-2.7	-2.4	-2.4	-2.3	-2.2	-2.4
Financing (Net)	4.7	4.7	4.6	4.7	4.7	4.7	4.7
External	1.1	1.4	1.2	1.2	1.1	1.0	1.2
Domestic	3.6	3.3	3.4	3.5	3.6	3.7	3.5
Total Debt	34.2	34.9	35.3	35.7	36.1	36.3	35.7
External	12.9	12.8	12.5	12.1	11.7	11.2	12.1
Domestic	21.3	22.1	22.8	23.6	24.3	25.1	23.6
Money and Credit (End of Fiscal Year in Billion Taka), percentage change)							
Net Foreign Assets	1800	2102	2478	2905	3368	3913	2953
(% Change)	12.5	16.8	17.9	17.3	15.9	16.2	16.8
Credit to Private Sector	5660	6452	7388	8478	9749	11212	8656
(% Change)	11.5	14.0	14.5	14.8	15.0	15.0	14.7
Broad Money (M2)	8146	9407	10878	12578	14557	16877	12859
(% Change)	16.3	15.5	15.6	15.6	15.7	15.9	15.7

Annex Table 3.1: Bangladesh: Key Economic Indicators, FY15 to FY20

Components:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
Balance of Payments							
Exports (In Billions USD)	30.7	33.8	37.5	42.0	47.5	54.1	43.0
(annual percentage change)	3.0	10.2	11.0	12.0	13.0	14.0	12.0
Imports (In Billions USD)	40.7	45.4	50.5	56.7	64.0	72.8	57.9
(annual percentage change)	12.1	10.6	11.2	12.3	12.8	13.8	12.1
Current Account Balance (in Billions USD)	-1.64	-2.5	-3.5	-4.8	-6.4	-8.3	-5.1
(percent of GDP)	-0.82	-1.2	-1.5	-1.8	-2.1	-2.5	-1.8
Capital Account Balance (in Billions USD)	0.491	0.8	0.8	0.8	0.9	0.9	0.8
Overall balance	4.37	3.8	4.6	5.1	5.5	6.3	5.1
Gross Official Reserves in Billions USD	24.1	27.9	32.6	37.7	43.2	49.5	38.2
In months of imports	6.3	6.6	6.9	7.1	7.2	7.3	7.0
Memorandum:							
Nominal GDP (In Billions Taka)	15136	17176	19517	22177	25223	28739	22567
Gross Investments (In Billion Taka)	4384	5170	6043	7057	8243	9886	7280
Gross National Savings (In Billion Taka)	4390	4969	5759	6655	7705	9172	6852

Sources: BBS, Bangladesh Bank, Ministry of Finance and Seventh Plan Projections, GED

Annex Table 3.2: Bangladesh: Central Government Operations, FY15 to FY20

Components:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Est.	Projection					
		(In billions of Taka)					
Total Revenue and Grants	1690	2143	2708	3249	3897	4728	3344.9
Total Revenue	1633	2084	2635	3171	3809	4627	3265.2
Tax Revenue	1406	1822	2244	2728	3304	4052	2830.2
NBR Tax Revenue	1350	1764	2166	2639	3203	3937	2741.9
Non-Tax Revenue	227	262	390	444	504	575	435.0
Foreign Grants	57	58	73	78	88	101	79.6
Total Expenditure	2397	2951	3611	4280	5070	6064	4395.1
Current Expenditure	1592	1925	2342	2772	3304	3995	2867.7
Wages and allowances	302	544	664	732	858	1063	772.0
Goods and services	220	223	254	310	378	460	325.1
Interest payments	299	351	425	500	594	708	515.8
Subsidy and net transfers	585	739	990	1218	1462	1749	1231.5

Annex Table 3.2: Bangladesh: Central Government Operations, FY15 to FY20

Components:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Est.	Projection					
(In billions of Taka)							
Block allocations	5	9	10	11	13	14	11.3
ADP Expenditure	750	970	1210	1442	1690	1983	1459.0
Non-ADP Development Spending	55	55	59	67	76	86	68.4
Others (Including Net Lending)	182	60	0	0	0	0	12.0
Overall Balance (Incl. grants)	-582	-796	-908	-1038	-1186	-1359	-1057.6
Primary Balance	-408	-457	-477	-531	-579	-628	-534.5
Overall Balance (excl. grants)							
Net Financing	707	808	903	1031	1173	1336	1050.3
External	159	243	239	255	265	273	255.0
Domestic	548	565	664	776	908	1063	795.3
Bank	337	367	429	510	605	718	526.1
Non-Bank	211	198	234	266	303	345	269.2
(In Percent of GDP)							
Total Revenue and Grants	11.2	12.5	13.9	14.7	15.5	16.5	14.6
Total Revenue	10.8	12.1	13.5	14.3	15.1	16.1	14.2
Tax Revenue	9.3	10.6	11.5	12.3	13.1	14.1	12.3
NBR Tax Revenue	8.9	10.3	11.1	11.9	12.7	13.7	11.9
Non-Tax Revenue	1.5	1.5	2.0	2.0	2.0	2.0	1.9
Foreign Grants	0.4	0.3	0.4	0.4	0.4	0.4	0.4
Total Expenditure	15.8	17.2	18.5	19.3	20.1	21.1	19.2
Current Expenditure	10.5	12.1	13.2	13.7	14.3	15.1	13.7
Wages and allowances	2.0	3.2	3.4	3.3	3.4	3.7	3.4
Goods and services	1.5	1.3	1.3	1.4	1.5	1.6	1.4
Interest payments	2.0	2.0	2.2	2.3	2.4	2.5	2.3
Subsidy and net transfers	3.9	4.3	5.1	5.5	5.8	6.1	5.3
Block allocations	0.03	0.1	0.1	0.1	0.1	0.1	0.1
ADP Expenditure	5.0	4.8	5.0	5.3	5.5	5.7	5.3
Non-ADP Development Spending	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Others (Including Net Lending)	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Overall Balance (Incl. grants)	-4.7	-4.7	-4.6	-4.7	-4.7	-4.7	-4.7
Primary Balance	-2.7	-2.7	-2.4	-2.4	-2.3	-2.2	-2.4
Overall Balance (excl. grants)	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0
Net Financing	4.7	4.7	4.6	4.7	4.7	4.7	4.7

Annex Table 3.2: Bangladesh: Central Government Operations, FY15 to FY20

Components:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Est.	Projection					
(In billions of Taka)							
External	1.1	1.4	1.2	1.2	1.1	1.0	1.2
Domestic	3.6	3.3	3.4	3.5	3.6	3.7	3.5
Bank	2.2	2.1	2.2	2.3	2.4	2.5	2.3
Non-Bank	1.4	1.2	1.2	1.2	1.2	1.2	1.2
Memorandum:							
Nominal GDP (In Billions Taka)	15136	17167	19517	22177	25223	28739	22565

Sources: Ministry of Finance and Seventh Plan Projections

Annex Table 3.3: Bangladesh: Balance of Payments, FY15 to FY20

(In millions of US\$ or otherwise indicated)							
Items	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Actual	Projection					
Trade balance	-9917	-11615.1	-12983.6	-14693.1	-16489.8	-18670.5	-14890.4
Export f.o.b.(including EPZ)	30768	33785.1	37501.4	42001.6	47461.8	54106.4	42971.3
Import f.o.b (including EPZ)	-40685	-45400.2	-50485.0	-56694.7	-63951.6	-72776.9	-57861.7
Services	-4628	-5436.8	-6062.0	-6789.5	-7672.1	-8746.2	-6941.3
Receipts	3017	3209.8	3466.5	3743.9	4043.4	4366.8	3766.1
Payments	-7645	-8646.5	-9528.6	-10533.3	-11715.5	-13113.0	-10707.4
Income	-2995	-3421.0	-4313.1	-5294.4	-6373.9	-7561.2	-5392.7
Receipts	74	212.8	238.3	266.9	299.0	334.8	270.4
Payments	-3069	-3633.8	-4551.4	-5561.3	-6672.8	-7896.1	-5663.1
Current transfers	15895	17945.6	19878.5	21936.4	24185.0	26693.5	22127.8
Official transfers	75	130.0	150.0	200.0	250.0	350.0	216.0
Private transfers	15820	17815.6	19728.5	21736.4	23935.0	26343.5	21911.8
Of which : Workers' remittances	15170	17265.6	19078.5	20986.4	23085.0	25393.5	21161.8
Current Account Balance	-1645	-2527.3	-3480.2	-4840.6	-6350.7	-8284.4	-5096.6
Financial and Capital Account	5641	6323.1	8092.6	9985.2	11810.0	14603.0	10162.8
Capital account	491	750.0	750.0	800.0	850.0	900.0	810.0
Capital transfers	491	750.0	750.0	800.0	850.0	900.0	810.0
Financial account	5150	5573.1	7342.6	9185.2	10960.0	13703.0	9352.8
Foreign direct investment (net)	1700	2589.6	4315.6	5871.2	7440.1	9993.4	6042.0
Portfolio investment	618	750.0	800.0	850.0	900.0	950.0	850.0

(In millions of US\$ or otherwise indicated)							
Items	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Actual	Projection					
Net Aid Loans	1534	3053.5	2937.0	3069.0	3124.9	3164.6	3069.8
Loan Disbursement	2444	4048.4	4255.7	4670.2	5208.1	5496.4	4735.8
Debt Amortization	-910	-994.8	-1318.7	-1601.2	-2083.2	-2331.8	-1666.0
Other Long term loans	-33.0	150.0	200.0	250.0	300.0	400.0	260.0
Other Short term loans	-161.0	300.0	350.0	400.0	450.0	450.0	390.0
Trade Credit (net)	690.0	-1350.0	-1350.0	-1350.0	-1350.0	-1350.0	-1350.0
Commercial Banks (net)	802.0	80.0	90.0	95.0	95.0	95.0	91.0
Errors and Omissions	377.0	0.0	0.0	0.0	0.0	0.0	0.0
Overall Balance	4373.0	3795.8	4612.4	5144.6	5459.3	6318.6	5066.2
Reserve Assets	-4373.0	27945.0	32557.4	37702.0	43161.3	49480.0	38169.1
Bangladesh Bank	-4373.0	27945.0	32557.4	37702.0	43161.3	49480.0	38169.1
Exports as (%) of GDP	15.8	15.7	15.6	15.7	15.9	16.2	15.8
Imports as (%) of GDP	20.9	21.0	21.1	21.2	21.5	21.8	21.3
Remittance as (%) of GDP	7.8	8.0	8.0	7.9	7.8	7.6	7.8
Current Account Balance as (%) of GDP	0.8	-1.2	-1.5	-1.8	-2.1	-2.5	-1.8
FDI as (%) of GDP	0.9	1.2	1.8	2.2	2.5	3.0	2.1
MLT as (%) of GDP	1.3	1.9	1.8	1.8	1.8	1.7	1.8

Sources: Bangladesh Bank and Seventh Plan Projections

Annex Table 3.4: Monetary Survey FY14-FY20

Monetary Survey (Stock)(Taka in Billions)							
Components	FY14	FY15	FY16	FY17	FY18	FY19	FY20
	Actual	Est.	Projection				
Broad Money	7006	8146	9407	10878	12578	14557	16877
Net Foreign Assets	1601	1800	2102	2478	2905	3368	3913
Net Domestic Assets	5406	6346	7249	8364	9714	11343	13280
Domestic Credit (a+b+c)	6379	7372	8582	9997	11647	13574	15804
Claims on Public Sector (a+b)	1303	1712	2129	2609	3169	3824	4593
a. Claims on Govt. (net)	1175	1512	1879	2309	2819	3424	4143
b. Claims on Other Public	127	200	250	300	350	400	450
c. Claims on Private Sector	5076	5660	6452	7388	8478	9749	11212
Net Other Assets	-973	-1026	-1333	-1633	-1933	-2231	-2524
Monetary Survey (Flow) FY14 to FY20 (Taka in Billions)							
Broad Money	971	1140	1261	1471	1700	1979	2320
Net Foreign Assets	467	199	302	375	428	463	545

Annex Table 3.4: Monetary Survey FY14-FY20

Monetary Survey (Stock)(Taka in Billions)							
Components	FY14	FY15	FY16	FY17	FY18	FY19	FY20
	Actual	Est.			Projection		
Net Domestic Assets	504	941	902	1115	1350	1629	1938
Domestic Credit (a+b+c)	496	993	1209	1415	1650	1927	2231
Claims on Public Sector (a+b)	-51	410	417	479	560	655	768
a. Claims on Govt. (net)	72	337	367	429	510	605	718
b. Claims on Other Public	-123	73	50	50	50	50	50
c. Claims on Private Sector	547	584	792	936	1090	1272	1462
Net Other Assets	8	-53	-307	-300	-300	-298	-293
Monetary Survey (Growth based On initial Broad money) (% change)							
Broad Money	16.1	16.5	16.0	16.2	16.5	16.8	17.2
Net Foreign Assets	3.7	3.6	3.6	3.7	3.8	3.9	4.0
Net Domestic Assets	12.4	12.9	12.3	12.5	12.7	13.1	13.5
Domestic Credit (a+b+c)	14.7	14.9	14.6	14.9	15.3	15.7	16.1
Claims on Public Sector (a+b)	3.0	3.5	3.6	3.9	4.2	4.4	4.7
a. Claims on Govt. (net)	2.7	3.1	3.2	3.4	3.7	4.0	4.2
b. Claims on Other Public	0.3	0.4	0.4	0.4	0.5	0.5	0.5
c. Claims on Private Sector	11.7	11.5	11.0	11.0	11.1	11.3	11.4
Net Other Assets	-2.2	-2.1	-2.3	-2.4	-2.5	-2.6	-2.6
Monetary Survey (% change)							
Broad Money	16.1	16.3	15.5	15.6	15.6	15.7	15.9
Net Foreign Assets	41.2	12.5	16.8	17.9	17.3	15.9	16.2
Net Domestic Assets	10.3	17.4	14.2	15.4	16.1	16.8	17.1
Domestic Credit (a+b+c)	8.4	15.6	16.4	16.5	16.5	16.5	16.4
Claims on Public Sector (a+b)	-3.8	31.4	24.4	22.5	21.5	20.7	20.1
a. Claims on Govt. (net)	6.5	28.7	24.3	22.8	22.1	21.5	21.0
b. Claims on Other Public	-49.1	57.0	25.0	20.0	16.7	14.3	12.5
c. Claims on Private Sector	12.1	11.5	14.0	14.5	14.8	15.0	15.0
Net Other Assets	-0.8	5.4	29.9	22.5	18.4	15.4	13.1

Sources: Bangladesh Bank and Seventh Plan Projections

Annex Table 3.5: Bangladesh: Debt Sustainability, FY15 to FY20

Debt Indicators:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16-FY20)
	Est.					Projection	
GDP Growth (real)	6.5	7.0	7.2	7.4	7.6	8.0	7.4
GDP Growth (nominal)	12.6	13.5	13.6	13.6	13.7	13.9	13.7

Annex Table 3.5: Bangladesh: Debt Sustainability, FY15 to FY20

Debt Indicators:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16-FY20)
	Est.					Projection	
CPI Inflation (Average)	6.5	6.2	6.0	5.8	5.7	5.5	5.8
Fiscal Accounts	(In billion Taka)						
Govt. Budget Deficit including grant	707	808	903	1031	1173	1336	1050.3
Govt. Budget Deficit, as % of GDP (including grants)	4.7	4.7	4.6	4.7	4.7	4.7	4.7
	(In billion USD)						
Foreign Debt	25.1	27.6	29.9	32.4	34.9	37.4	32.4
Gross borrowing	3.1	4.0	4.3	4.7	5.2	5.5	4.7
Amortization/Repayment	-1.0	-1.0	-1.3	-1.6	-2.1	-2.3	-1.7
Net borrowing	4.1	5.0	5.6	6.3	7.3	7.8	6.4
Interest payment on foreign debt	0.2	0.2	0.3	0.4	0.4	0.5	0.4
Interest rate on foreign debt	0.9	0.8	1.0	1.1	1.2	1.4	1.1
	(In billion Taka)						
Foreign Debt	1954	2197	2437	2692	2956	3229	2702
Gross borrowing	239	322	346	388	441	474	394
Amortization/Repayment	-80	-79	-107	-133	-177	-201	-139
Net borrowing	159	243	239	255	265	273	255
Interest payment on foreign debt	16.8	17.1	24.4	29.6	35.5	45.2	30.0
interest rate on foreign debt	0.9	0.8	1.0	1.1	1.2	1.4	1.0
	(In billion Taka)						
Domestic Debt	3227	3792	4455	5232	6140	7203	5364.2
Gross financing	548	565	664	776	908	1063	795.3
Interest Payment on domestic debt	282	334	401	471	559	663	485.4
Average interest rate on domestic debt	8.7	8.8	9.0	9.0	9.1	9.2	9.0
Total Govt. Debt Outstanding	5181	5989	6892	7923	9096	10432	8066.5
Total Debt Services (in billion taka)	378	430	533	634	771	909	655.3
External	96	96	132	163	212	246	169.8
Domestic	282	334	401	471	559	663	485.4
	(% of GDP)						
Total Debt outstanding	34.2	34.9	35.3	35.7	36.1	36.3	35.7
External Debt	12.9	12.8	12.5	12.1	11.7	11.2	12.1
Domestic Debt	21.3	22.1	22.8	23.6	24.3	25.1	23.6
Total Debt Services	2.5	2.5	2.7	2.9	3.1	3.2	2.9
External	0.6	0.6	0.7	0.7	0.8	0.9	0.7
Domestic	1.9	1.9	2.1	2.1	2.2	2.3	2.1
External debt as% export& remittance	54.3	54.1	52.9	51.4	49.4	47.1	51.0
External debt services as% export& remittance	2.7	2.4	2.9	3.1	3.5	3.6	3.1
Memorandum:							
Nominal GDP (In Billions Taka)	15136	17176	19517	22177	25223	28739	22567

Annex Table 3.5: Bangladesh: Debt Sustainability, FY15 to FY20

Debt Indicators:	FY15	FY16	FY17	FY18	FY19	FY20	Average (FY16- FY20)
	Est.					Projection	
Exports and Remittances (In Billion Taka)	3600	4063	4606	5234	5979	6859	5348
Inflation Rate (Trading Partners) %	3.6	3.6	3.6	3.6	3.6	3.6	4
Exchange rate (TK/US\$)	77.8	79.6	81.4	83.1	84.8	86.3	83

Sources: Bangladesh Bank and Seventh Plan Projections

CHAPTER 4

POVERTY AND INEQUALITY REDUCTION STRATEGY

4.1 INTRODUCTION

Bangladesh is justifiably proud of its progress in reducing poverty. This progress has accelerated since 2000. In the 1970s the poverty incidence was hovering in the 80 percent range. By 2010, the poverty incidence had fallen to 31.5 percent. Further progress during the Sixth Plan is expected to have lowered this to 24.8 percent. Along with poverty reduction the Government is also mindful of the need to pay attention to income inequality. To protect the incomes of the poor and vulnerable, the Government is placing greater attention to inclusive development and social protection. In addition to personal income inequality, the Government is also concerned about spatial income disparity. Some districts of Bangladesh are lagging behind other relatively better-off districts in terms of per capita income. Districts with lower than average per capita income tend to contribute to personal income inequality by having less opportunities for higher income and employment options.

This Chapter reviews the progress with poverty reduction, income inequality and lagging regions during the Sixth Plan and develops the respective targets and strategies for the Seventh Plan. Issues relating to social protection and social inclusion that are also key elements of poverty reduction and income inequality strategy are discussed in the chapter under the Social Protection sector.

4.2 PROGRESS WITH POVERTY REDUCTION

4.2.1 Past Progress with Poverty and Inequality

Bangladesh experienced a uniform and steady decline in poverty rates from 2000 to 2010. Poverty rates demonstrated an impressive improvement with an average decline of 1.74 percentage points per year. In 2000, 48.9 percent of the population was poor; by 2010, this dropped to 31.5 percent notwithstanding the series of internal and external shocks that affected Bangladesh in 2007-2008. Remarkably, the incidence of extreme poverty fell faster (Table 4.1)

While the rate of poverty reduction was comparable across urban and rural areas, significant gap between urban and rural poverty prevails. In 2010, 35.2 percent of the rural population was poor, compared to 21.3 percent urban poverty rate. Importantly, extreme poverty continues to be a rural phenomenon. In 2010, 21.1 percent of the rural population was extremely poor, compared to only 7.7 percent in urban areas.

Table 4.1: Past Progress with Poverty Reduction 2000-2010

	Poverty (upper poverty line)			Extreme Poverty (lower poverty line)		
	2000	2005	2010	2000	2005	2010
National	48.9	40.0	31.5	34.3	25.1	17.6
Urban	35.2	28.4	21.3	19.9	14.6	7.7
Rural	52.3	43.8	35.2	37.9	28.6	21.1

Source: BBS, HIES (2000, 2005, 2010)

Over the decade, there was a persistent decline in the number of poor people, from nearly 62 million in 2000, to about 56 million in 2005 and 47 million in 2010. Not only that the number of people below the poverty line fell, the severity of poverty among the poor narrowed significantly primarily due to a decreasing number of individuals that are extremely poor.

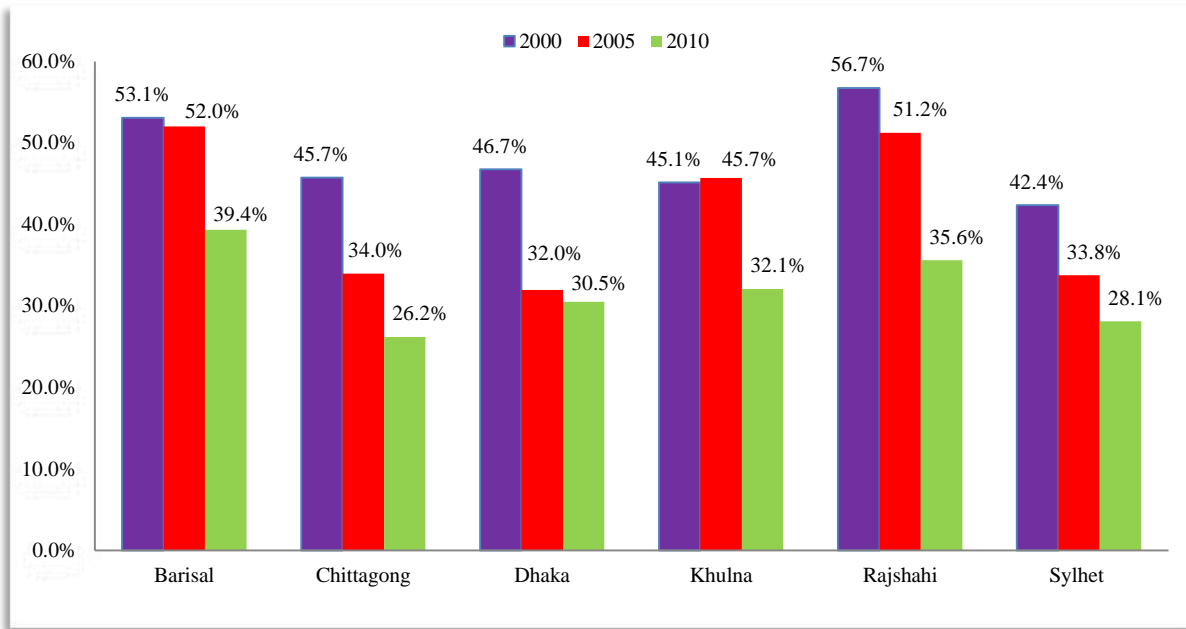
Regarding consumption inequality, as measured by the Gini index of per-capita real consumption, Bangladesh experienced a modest decline in inequality at the national level. According to the Gini index, inequality in rural areas, where more than 70 percent of the population resides, increased in the first part of the decade and then decreased in the latter part of the decade. The net inequality change in rural areas during the 2000-2010 period was slightly positive, indicating an increase in inequality.

In urban areas, inequality remained higher throughout the decade relative to rural areas. However, it also trended downwards, even as the proportion of the population residing in urban areas increased. Over the 2000-2010 decade, the net change in inequality in urban areas indicates decrease in inequality. This reduction in urban consumption inequality influenced the result at the national level showing a modest reduction in national consumption inequality.

4.2.2 Regional Distribution of Poverty

An important objective of the Government is to ensure that poverty progress happens throughout the country so that no region/district is left behind. This also has important implications for income inequality. Data from HIES show that progress with poverty reduction by regions has been uneven (Figure 4.1). The Eastern regions of Bangladesh (Dhaka, Chittagong, and Sylhet Divisions) tend to have lower incidence of poverty than the Western regions (Khulna, Barisal and Rajshahi). A comparison between 2000 and 2005 would reveal that poverty in Eastern divisions declined at a faster rate than the Western divisions. A combination of factors contributed to this divergence. Among these, the important factors were the relative lack of remittance income, inadequate public infrastructure like electricity and access roads to markets, and deficiencies in assets and endowments among households in the West relative to their counterparts in the East.

Figure 4.1: Poverty Headcount across Regions



Source: HIES 2000, 2005 and 2010

The latest round of HIES (2010) describes a changed Bangladesh. Comparing the new poverty headcount figures from 2010 to those from 2005 reveals a reversal of the poverty patterns. Moreover, not only did the Western divisions experience larger reductions in poverty but they also managed to reach levels of poverty that are closer to those of their Eastern counterparts. Dhaka, the division with the lowest poverty rate in 2005, did not see much change in its poverty headcount. An important exception to this pattern is the Northern part of the country, specifically Rangpur, which has over 42 percent of its population living below the upper poverty line. Even so, the estimates show that while the first half of the decade was characterized by uneven poverty reduction and growth, the second half provided the lagging regions with an opportunity to catch up.

4.2.3 Progress during the Sixth Plan

Poverty Reduction Targets: The Sixth Plan sought to reduce head-count poverty from 31.5 percent in 2010 to 22.5 percent by 2015. The last Household Income and Expenditure Survey (HIES) was done in 2010. Since there is no further survey based evidence on what has happened to poverty, projections are made based on relationship between GDP growth and poverty reduction during the two most recent years for which HIES data are available: 2005-2010. This aggregative elasticity of poverty reduction with respect to GDP assumes unchanged consumption-GDP relationship and unchanged income distribution. The projected decline in poverty is shown in Table 4.2. The incidence of poverty and extreme poverty both exhibit considerable reduction. The incidence of poverty falls to below 25 percent while that of extreme poverty declines to below 13 percent.

Table 4.2: Projected Reduction in Poverty during the Sixth Plan Period (%)

Year	Poor (Head Count Poverty with Upper Poverty Line (%))	Extreme Poor (Head Count with Lower Poverty Line (%))
2011	29.9	16.5
2012	28.4	15.4
2013	27.2	14.6
2014	26.0	13.7
2015	24.8	12.9

Source: GED estimates based on 2005-2010 HIES using growth elasticity of poverty

Importantly, these projections suggest that Bangladesh is on track for reaching the poverty and extreme poverty MDG targets for 2015. The 2015 estimated poverty headcount is below the MDG target of 28.5 percent for 2015. At the national level, poverty depth was nearly halved over the 2000-2010 period, allowing Bangladesh to attain the MDG target of halving the depth of poverty by 2015 from 16 to 8 percent at least five years earlier than expected.

Sixth Plan strategy: The main elements of the strategy adopted by the Sixth Plan for poverty reduction were discussed in Chapter 1. The analysis showed that the rapid rate of expansion of GDP based on strong performance of labour-intensive manufacturing and exports growth helped create substantial income and employment opportunities outside agriculture. Outward migration performed even better than projected, which in turn absorbed a significant part of the new entrants to labour force. Within agriculture, although the GDP growth was lower than planned, agricultural labour productivity increased as non-farm employment in rural and urban areas as well as abroad allowed agriculture to shed its under-employed workers. The tightening of the agricultural labour market pushed up labour productivity and real wages. This is a remarkable result that has helped lower extreme poverty in particular as wage-earning farm labour tends to be among the poorest of the poor. The tightening of the agricultural market has been an economy-wide phenomenon and real wages increased for female workers faster than for male workers, thereby reducing the gender wage gap in agriculture. Additionally, agricultural wages grew rapidly in Rangpur region where seasonal variation in prices was much pronounced previously. Rising wage incomes even during the lean periods have virtually eliminated this chronic problem. This is yet another factor for the rapid reduction in extreme poverty during the Sixth Plan. The evidence also supports the hypothesis that the regional pattern of poverty reduction observed during 2010 is likely to have continued with important gains for the newly created Division of Rangpur that exhibits the largest incidence of poverty. Other factors are the diversification non-farm rural employment supported by the inflow of foreign remittances, the expansion of micro-credits and the ICT revolution. In addition, non-farm income now is the dominant source of income for the rural poor which led to the faster reduction in rural poverty. Transfers from government spending on social security have made some contribution as well.

4.2.4 Seventh Plan Strategy for Reduction of Poverty and Income Inequality

The solid progress in poverty reduction achieved during the Sixth Plan suggests that the underlying poverty reduction strategy is robust. The Seventh Plan poverty reduction strategy will accordingly build on this strategy while further sharpening the emphasis on extreme poverty. As Bangladesh attains middle income status it must free itself from the incidence of extreme poverty. While it may not be possible to completely eliminate the incidence of extreme poverty during the next five years, it is certainly possible to accelerate the pace of reduction by complementing the broad-based poverty reduction strategy of the Sixth Plan with many more targeted programmes for the extreme poor. Of particular importance is the need to reform and strengthen the social protection programmes in favour of the extreme poor. A strong inclusion strategy will also help reduce extreme poverty at a faster pace than before.

Regarding inequality, in the absence of quantitative evidence, it is difficult to say with certainty how much progress was possible with the reduction of inequality during the Sixth Plan. Available HIES data show that although Bangladesh has made progress in stabilizing consumption inequality, income inequality has increased in Bangladesh slightly. The Sixth Plan was cognizant of this problem and suggested a number of policies to address this including emphasis on employment and labour productivity, investments in education and training, development of lagging regions and increase in spending on social protection. Implementation, however, has been mixed. As noted earlier, although the success on the employment and wage front has been considerable, progress on social protection and human development has not been as planned. Spending on social protection and human development is low by international standards and there are considerable inequities and inefficiencies in spending in both areas. It is therefore reasonable to assume that while inequality may not have been reduced but it is likely that it did not worsen.

4.2.5 Targets for Poverty and Inequality

The poverty reduction and inequality targets for the Seventh Plan are shown in Table 4.3. The poverty reduction targets depend upon both the growth rate of GDP and the pattern of consumption/income distribution. The average growth rate projected for the Seventh Plan is 7.4 percent per year. The projected poverty rates assume that consumption/income distribution will not worsen and remain unchanged. In the event that income distribution actually improves during the Seventh Plan, a faster progress with poverty reduction than the rate projected in Table 4.3 will be possible. The underlying strategies and policies are discussed below.

Table 4.3: Poverty and Inequality Targets for the Seventh Plan

Indicators	FY2010	FY2015	FY2020
Incidence of Poverty	31.5	24.8	18.6
Incidence of Extreme Poverty	17.6	12.9	8.9
Consumption inequality (Gini coefficient)	0.32	-	0.31
Income inequality (Gini coefficient)	0.458	-	0.450

Source: Seventh Plan Projections

4.2.6 Poverty Reduction Strategy

The main elements of the Seventh Plan poverty reduction strategy will be as follows:

Job creation through growth and structural change. The progress achieved with GDP growth, economic transformation and employment growth suggests that the emphasis on these factors will remain critical for poverty reduction during the Seventh Plan. As noted earlier, emphasis will be placed to break out of the 6 percent growth GDP growth path of the Sixth Plan and move on to the 7 percent plus growth path with a view to achieving the 8 percent growth by the end of the Seventh Plan. The focus on food productivity and food security will remain unchanged. Additionally, emphasis will be placed on agricultural diversification, an area where the performance of the Sixth Plan was lagging. These will help achieve further improvement in average labour productivity in farming. In manufacturing the effort will concentrate on labour intensive manufacturing with focus on export diversification. It will be the lead source of higher GDP growth, expanding at double digits on average during the Seventh Plan. Exports to GDP ratio will also grow with non-RMG exports growing faster than RMG. The services sector is projected to grow faster than GDP based on emphasis to formal services including exports of non-factor services (tourism, shipping and ICT). These will create the basis for higher income job creation in manufacturing and formal services as in the Sixth Plan but with more intensity.

Continued emphasis on worker service exports in order to increase the inflow of remittances with efforts to expand the opportunities to less served areas. Remittance has played a major role in reducing poverty directly through increased consumption and indirectly through the financing of a range of services and business enterprises in rural areas that have created non-farm jobs. This strategy will be continued in the Seventh Plan period.

The further expansion of micro-credit will be yet another priority. The importance of microcredit for expansion of consumption and asset base of the extreme poor is well established through empirical research. Bangladesh also has a rich experience in administering micro credit programmes. The Government has supported extensively these programmes in the past through enabling regulations and financial assistance. The efforts will be intensified further during the Seventh Plan.

ICT penetration in rural Bangladesh is helping transform the rural economy by reducing transaction costs of trading with the urban economy, bringing farm production closer to consumption centres, and helping bring financial services to the doorsteps of the vast majority of unbanked rural population. This ICT revolution will be strengthened further during the Seventh Plan with positive benefits for the rural poor.

The combination of continued emphasis on food productivity, agricultural diversification, remittances, microcredits and ICT services will create the basis for growth of non-farm rural jobs in trading, construction, transport and other services as in the Sixth Plan. This will further increase

labour productivity and real wages in agriculture with strong beneficial effects on the extreme poor.

A major long-term determinant of poverty is access to education. Historically, Bangladesh has made considerable progress with human development and eliminated the gender gap in primary and secondary education. Progress has also been made in reducing the gender gap in health services. HIES data also suggest that the gap between the rich and poor in accessing education and health services has progressively declined between 2000 and 2010. Addressing the remaining gap is a fundamental development challenge and holds an important key to reducing inequality over the longer term. Accordingly, the Seventh Plan will pay special attention to further closing the gap between the rich and the poor in accessing these basic services with special focus on the bottom 20 percent where the gap is the highest.

The extreme poor are particularly prone to shocks, particularly health shocks. Time has come for Bangladesh to start on a pilot basis some type of a health insurance scheme. The Government has already developed a long-term strategy for health financing that includes health insurance. The implementation of this health financing strategy will be a major priority during the Seventh Plan.

A well thought out social protection strategy is extremely important for supporting poverty reduction based on the above strategies and policies. While Bangladesh has a strong commitment and rich experience with implementing a wide range of social safety nets involving some 2.0 percent of GDP, there are many concerns with the effectiveness and poverty focus of the safety net system. Accordingly, the Government has developed a new broad-based strategy for social protection known as the National Social Security Strategy (NSSS). The elimination of extreme poverty, reduction of vulnerability and inequality will all benefit from the implementation of the NSSS. Accordingly, this will be a top priority for poverty and inequality reduction in the Seventh Plan.

4.2.7 Strategies to Address Extreme Poverty – Additional Measures

Replication of the Micro Successes in Eradicating Extreme Poverty: Micro successes have been many and they are marked by diversity in approaches. There have been quite a few targeted livelihood programmes (e.g., EEP, CLP, TUP, etc.) that have been quite effective in combating more difficult case of extreme poverty. A defining marker of many of these programmes is that they aimed to provide consequential transfer of resources (assets or financial) to the extreme poor clients. These interventions help develop/support asset management, savings habit, organizational, financial and marketing skills, which are “non-tradable” and cannot be overnight developed by transfer of money alone. The aim should now be to replicate on a wider scale - and suitably modified where applicable - these programmes to cover most extreme poor groups in the country so as to reduce extreme poverty significantly by the 7th Five Year Plan Period.

Undertaking Measures for Preventing and Mitigating Shocks: Shocks play a decisive role in shaping the pace of extreme poverty reduction. So, equal emphasis should be given to asset generation as well as preventing asset erosion. Shocks make poor people poorer, and turn the extreme poor into destitute. If there were no slippages into poverty due to preventable shocks, Bangladesh would have experienced much faster decline in poverty and extreme poverty. Shock prevention and risk reduction for the poor and the poorest in particular will, therefore, be given top policy priority in the Seventh Plan.

It is important to mention here that accelerated economic growth over the past years has been a powerful tool for extreme poverty reduction. Extreme poverty reducing effects can be magnified if the growth itself becomes more transformative in both rural and urban areas. However, only growth will not automatically trigger processes that will eradicate extreme poverty. Some consequential support package, as mentioned above, is needed. They include the following: (a) Replication of successful targeted livelihoods programmes; (b) Support for human capital development for the extreme poor; and (c) Expanded and inclusive social protection programmes for the extreme poor. In addition, promoting market development and facilitating extreme poor's access to the markets for employment and income generation, and empowering the extreme poor will also be given due priority.

4.2.8 Strategy for Reduction of Inequality

Implementation of the above poverty reduction strategy will be the most important element for containing and eventually reducing income inequality. Bangladesh has already stabilized consumption inequality. The reduction of income inequality is a tough challenge and a long term endeavour. Growing economies like China and India are all experiencing rising income inequality. Since assets and human capabilities are unequally distributed historically, the benefits of growth in the context of a market economy tend to favour those who have a better endowment of assets and human capabilities to start with. The long-term income inequality reduction strategy must therefore focus on reducing this initial gap. Human development strategy with emphasis on alleviating the access gap for the poor is one powerful instrument. Facilitating asset accumulation through better access to credit for the poor can be helpful for reducing income inequality. Better strategy for social inclusion by eliminating physical and social barriers is another important instrument. The experience of Western Europe suggests that fiscal policy can be a very powerful instrument for reduction of income inequality. This calls for both increased public spending on social sectors (health, education, sanitation, water supply and social protection) and very importantly a well-designed personal income taxation system that taxes all sources of income at a progressive rate.

4.2.9 Strategy for Better Income Distribution

(a) *Land redistribution*

There are some proponents who believe that the income inequality problem can only be addressed through policies that seek to change the initial unequal distribution of wealth and assets. At one

extreme, the economic philosophies of communism and socialism are based on the premise of redistributing income directly through public rather than individual ownership of wealth and assets. In market economies of the type prevailing in Bangladesh, a radical Programme of redistribution of existing wealth and assets to address the problem of income inequality is not a realistic option.

Even the more limited effort of trying to redistribute land is not a pragmatic policy option. International experience of land redistribution in market economies is fraught with disappointing performance. The success of the oft-quoted experiences of Japan and Korea are really special cases. Furthermore, in Bangladesh, the average size of land-holdings is very small. Individual ownership of large land holdings is very limited. The government is the biggest land-holder and some redistribution has been attempted from time to time with limited success owing to governance problems due to land grabbers.

More importantly, there is an important need to strengthen the land administration regime and related land market through a range of institutional, regulatory and fiscal policy reforms. These reforms include computerization of land records; simplification of land transactions and land registration. Market price of land/real estate should be the basis of determining registration fees. This will raise the total non-NBR revenue of the government substantially. Such reforms will protect the poor farmers from the clutches of the predatory land grabbers and will be an important deterrent to accumulation of windfall gains from land transactions. A proper capital gain tax on land transactions will be another important way to reduce windfall capital gains; it will also help to stabilize land prices by discouraging land speculation and provide important revenue earnings to the government for spending on social services.

(b) *Fiscal Policies*

The dynamic redistribution of wealth, assets and income through policies, regulations and institutions that seek to increase human capital and earnings capabilities of the poor citizens hold much better promise and prospects. Access to better education and healthcare is a fundamental right of the Bangladeshi citizen and requires utmost attention of the government. A strong social protection system is another instrument for improving income distribution. These policies have worked in some advance countries in the world to contain and lower income inequality.

Clearly, a major way that the government can help improve income distribution is by making faster progress in building up the human capital of the poor. This will equip the poor to get better and higher paying employment. An educated and healthy labour force can also help increase the rate of growth of GDP while improving income distribution. The policy implication of this strategy is illustrated in Table 4.4.

Table 4.4: Seventh Plan Fiscal Reforms for Lowering Income Inequality (% of GDP)

Reform measures	Base year Values	Increase over 5 year	End year values FY2020
Increase spending on education	2.2	0.8	3.0
Increase spending on health	0.8	0.4	1.2
Increase spending on social protection	2.0	0.3	2.3
Increase spending on rural infrastructure	2.0	1.0	3.0
Total increase in social spending		2.5	
Financed by: Cutback on energy subsidy	2.0	(-) 1.0	1.0
: increase in personal income tax	1.0	2.5	3.5
: increase in value added tax	4.2	1.8	6.0
: increase in local government revenues	0.2	0.5	0.7
Total financing		5.8	

Source: Seventh Plan Strategy

The top most policy priority is to raise the share of public spending on education and health to at least 3.0 and 1.2 percent of GDP respectively. This will also require major improvements in the delivery of public education and health services through education policies, governance and institutional reforms.

Another area where public spending has to increase concerns rural infrastructure--rural roads, rural electricity, irrigation and flood control. As analysed in Part 2, Chapter 4 and 7, past government spending in this area has helped increase farm productivity and food production. The near food self-sufficiency of Bangladesh despite rapid population growth is a testimony to the success of this policy. Yet, much of the labour force remains engaged in low productivity and low earnings agriculture. There is a need both to diversify agriculture into higher value-added activities and to help transfer surplus labour from agriculture to non-farm activities in rural and urban areas. This transformation will support both growth and income distribution by helping increase average labour productivity in the economy. An additional spending of 1 percent of GDP on rural infrastructure will be helpful.

In addition to public spending on rural infrastructure, availability of rural credit is an important determinant of this transformation. The micro-credit revolution has helped the poor to build up assets and also protect their consumption, thereby contributing to lower poverty. Nevertheless, the scaling up of formal credit to the rural economy remains a huge challenge.

A third area where public spending has to grow concerns social protection. Presently the government spends 2.0 % of GDP on social protection. Preferably this should grow to 2.3 percent of GDP over the next 5 years.

Higher public spending on education, health, rural infrastructure and social protection by an estimated additional 2.5 percent of GDP is a seemingly tall order in the present environment of

public resource constraint. A closer look will suggest that a strategy to mobilize this additional funding is certainly within the reach of public policy.

In the first place, the government spends some 3 percent of GDP on subsidies, of which 2 percent of GDP is on energy. The energy subsidy can be cut by a half through price increases and better targeting of energy subsidies to the poor. The saved resources can be diverted to the social service spending in the above-mentioned priority areas. Additionally, in the current environment of a severe energy constraint price increases to better reflect the scarcity value will help conserve energy.

Secondly, a major reason for the resource constraint is low tax collection, especially from personal income taxes⁵. As noted earlier, the effective income tax rate of 3 percent is very low. Increasing the effective income tax rate to even 10 percent in the next 3-5 years to the top 10 percentile who own 35 percent of the national income will yield 3.5 percent of GDP instead of 1 percent of GDP now.

This will require closing of loopholes that lets capital gains escape the tax net, treating all sources of personal income equally for taxation purpose, and improving tax administration and compliance. The modernization of VAT and improving its productivity can yield an additional 1.8% of GDP. Additionally, the introduction of a modern property taxes and assigning this to the local governments can be a substantial boost for their fiscal autonomy while providing fiscal resources. This combination of expenditure reallocation (1% of GDP) and additional tax effort focused on personal income, VAT and local government revenues (4.8% of GDP) can finance the additional 4% of GDP required to fund critical social programmes, while also leaving a surplus of 1.8% of GDP for additional investment in infrastructure. This fiscal policy package can be a powerful instrument for improving income distribution as the incidence of this tax and expenditure package is likely to be highly progressive. In addition to a more effective fiscal policy, the government can also help improve income distribution through better governance.

4.3 ADDRESSING THE CHALLENGE OF LAGGING REGIONS

Over the past four decades since independence in 1971, Bangladesh has increased its real per capita income by more than twelve times, reduced head count poverty by more than half, and is well set to attain most of the millennium development goals. However, the underlying growth and development model could not ensure balanced progress across regions; and communities. As a result and in the absence of special programmes, two distinct regions emerged in Bangladesh – lagging region and relatively well-off region. Whatever may be methodology, 15 to 20 districts in Bangladesh can easily be classified as lagging districts. According to HIES 2010, almost 23% of total households and 22% of total population live in these lagging regions in Bangladesh. Head count poverty rate of deprived region was 47.3% in 2010 which is 18 percentage-point higher than

⁵ Details of possible tax reforms in Bangladesh are discussed in Chapter 5.

head count poverty rate reported for the relatively well-off districts in Bangladesh. Incidence of extreme poverty is almost 16 percentage-points higher in the deprived districts compared to their well off counterpart.

Progress with respect to key Socio-Economic Indicators

In the Sixth Five Year Plan, targets have been set against some key indicators namely poverty, health and education based on the observed trends for 2005 and 2000. Since when the Sixth Plan document was prepared, data for 2010 were not available and projections were made for 2010 on the basis of the observed trends and projections, and targets were set for 2015. However, since data for 2015 for most of these key indicators are still not available we have used the latest available information to assess the progress.

Table 4.5 below captures trends in poverty rates by upper poverty line as well as lower poverty lines. The actual data for 2010 suggests that the rates of poverty reduction were higher in lagging divisions (i.e. Barisal, Khulna and Rajshahi) compared to the relatively well-off divisions (i.e. Dhaka, Chittagong and Sylhet).

Table 4.5: Distribution of Poverty by Divisions

Division	2000	2005	2010 (projected)	2010 (actual)
Upper poverty line				
National	48.9	40	32.7	31.5
Barisal	53.1	52	42.5	39.5
Chittagong	45.7	34	27.8	26.2
Dhaka	46.7	32	26.2	30.5
Khulna	45.1	45.7	37.4	32.1
Rajshahi	56.7	51.2	41.9	35.7
Sylhet	42.4	33.8	27.6	28.1
Lower poverty line				
National	34.3	25.1	18.4	17.6
Barisal	34.7	35.6	26.1	26.7
Chittagong	27.5	16.1	11.8	13.1
Dhaka	34.5	19.9	14.6	15.6
Khulna	32.3	31.60	23.1	15.4
Rajshahi	42.7	34.50	25.2	21.6
Sylhet	.7	20.80	15.2	20.7

Source: BBS

Table 4.6 captures trends in key health indicators by divisions. The actual data for 2010 suggests that the rates of progress were higher in Barisal and Rajshahi divisions (i.e. two of the three lagging divisions-Barisal, Khulna and Rajshahi) compared to their relatively well-off counterparts. However, rate of progress was not satisfactory for Khulna Division.

Table 4.6: Human Development Indicators by Divisions

Division	2007	2010 (projected)	2010 (actual)
Maternal Mortality Rate (Per 1000 Live Birth)			
Barisal	5.4	5.2	2.5
Chittagong	3.0	2.9	2.5
Dhaka	2.7	2.6	2.1
Khulna	4.9	4.7	2.2
Rajshahi	3.5	3.4	1.8
Sylhet	5.6	5.3	2.9
National	3.5	3.4	2.2
Infant Mortality Rate (Per 1000 Live Birth)			
Barisal	37	37.9	34
Chittagong	42	34.2	38
Dhaka	46	40.3	36
Khulna	27	30.8	33
Rajshahi	48	41.1	37
Sylhet	46	40.8	38
National	43	38.0	36
Under Five Mortality Rate (Per 1000 Live Birth)			
Barisal	63.3	53.6	46
Chittagong	66.5	56.3	52
Dhaka	59.4	50.3	45
Khulna	40.1	34.0	41
Rajshahi	65.0	55.1	49
Sylhet	57.6	48.8	50
National	60.1	50.9	47

4.4 REVIEW OF DISPARITY BY DISTRICT LEVEL

The review of district level disparity is based entirely on secondary data sources reported by various agencies in Bangladesh including Bangladesh Bureau of Statistics; Ministry of Planning and Ministry of Finance; and Bangladesh Bank. The methodology⁶ has three aspects:

Firstly, in order to assess the degree of deprivation by the selected development indicators, the comparisons have been conducted at the district level rather than at divisional levels or broader regional level as was found in the previous studies.

Secondly, in additions to poverty rate (the most common measures of deprivation), a large numbers of other economic and non-economic indicators have been used to identify the relatively lagged districts in Bangladesh (Table 4.7).

⁶ The detail of the analysis is in the relevant background study of Seventh Five Year Plan.

Thirdly, econometric analyses have also been carried out to examine whether districts are converging or diverging in terms of per capita consumption.

Table 4.7: Regional Disparity Indicators

Economic Indicators	Source of data	Non-Economic Indicators	Source of data
1. Per capita monthly income	• HIES, BBS	12. Poverty rate	• BBS
2. Per capita monthly consumption expenditure	• HIES, BBS	13. Density per square KM 2011 population	• Population Census
3. Advances	• Bangladesh Bank	14. Infant Mortality Rate (IMR)	• Bangladesh Sample Vital Registration System. BBS.
4. Deposit	• Bangladesh Bank	15. Under Five Mortality Rate (U5MR)	• Bangladesh Sample Vital Registration System. BBS.
5. Loan disbursement	• Bangladesh Bank	16. Literacy rate	• Ministry of Primary and Mass Education
6. Net cultivated area in Hectare	• Yearbook of Agricultural Statistics of Bangladesh.	17. Number of primary school	• Bangladesh Bureau of Educational Information and Statistics
7. Intensity of cropping (%)	• Yearbook of Agricultural Statistics of Bangladesh.	18. Number of secondary school	• Bangladesh Bureau of Educational Information and Statistics
8. Yield per Acre (Maunds)	• Yearbook of Agricultural Statistics of Bangladesh.	19. Percentage of Paved road to total road	• Statistical Year Book of Bangladesh, BBS
9. Rice Production (M. ton)	• Yearbook of Agricultural Statistics of Bangladesh.	20. Percentage distribution of Household Electricity	• Statistical Year Book of Bangladesh, BBS
10. Percentage of Population engaged in agriculture work in total population	• Labour Force Survey, BBS	21. Tube well/ deep tube well (000)	• Statistical Year Book of Bangladesh, BBS
11. Overseas employment	• Labour Force Survey, BBS		

Spatial Poverty Status

In a recent report prepared by Bangladesh Bureau of Statistics (BBS) and other development partners, the district level poverty mapping has been updated for 2010. The following table identifies the fifteen districts with highest rates of head count poverty measured in terms of the upper poverty line. This has been done by using small area estimation technique. The poverty

mapping has been calculated using the income-consumption data of Household Income Expenditure Survey (HIES) 2010 and Population Census 2011. According to the estimate, half of the districts have poverty rates greater than the national average of 31.5% suggesting a high degree of disparity among districts in terms of poverty measures (i.e. as many as 32 districts out of 64 districts have higher poverty rate than that of the national poverty rate). Although higher poverty incidence has been found in the districts of Rajshahi and Rangpur divisions, there are also districts from the east region which have poverty rates higher than the national level.

Table 4.8: Bottom Fifteen Districts with Highest Poverty Rates

Districts	Poverty-rate-upper (%)
Kurigram	63.7
Barisal	54.8
Shariatpur	52.6
Jamalpur	51.1
Chandpur	51
Mymensingh	50.5
Sherpur	48.4
Gaibandha	48
Satkhira	46.3
Rangpur	46.2
Magura	45.4
Pirojpur	44.1
Bagerhat	42.8
Gopalganj	42.7
Rajbari	41.9

Source: HIES, 2010, BBS

Per Capita Income and Per Capita Expenditure

The average monthly per capita income and monthly per capita expenditure of the 64 districts have been calculated. The average per capita monthly income of bottom 15 districts is Taka 2,326 compared to the average per capita income of top 15 districts i.e. Taka 3,736. This implies that average monthly per capita income of top 15 districts is more than 60 percent higher than the average monthly income of bottom 15 districts. Monthly average per capita income of all districts is Taka 3,134.

The average monthly per capita consumption expenditure of bottom 15 districts is Taka 1,891 compared to the average monthly per capita consumption expenditure of top 15 districts i.e. Taka 3,089. This implies that average per capita consumption expenditure of top 15 districts is more than 63 percent higher than the average per capita consumption expenditure of bottom 15 districts. Average monthly per capita consumption expenditure of all districts is Taka 2,383.

It reveals that although there is high correlation between poverty incidence and the average income or expenditure-the relationship is certainly not one to one. Couple of important factors needed to be mentioned here. *First*, the estimation is based on 2010 household and income expenditure survey (HIES), and that survey is essentially representative of divisional characteristics, implying

that it is not a true representative of district level indicators. So the results need to be viewed considering this aspect in mind. *Secondly*, income is certainly not captured with much precision in HIES due to misreporting and understatement. As a result consumption estimates of HIES – which has been considered relatively more robust (than income) – are used while representing the districts.

Demography and Health

Two important health indicators such as infant mortality rate (IMR) and under five mortality rate (U5MR) have been estimated for 64 districts based on latest available data. Moderate to high disparities have been observed between the top 15 districts and the bottom 15 districts. More specifically, the IMR for top 15 districts was 29 (per 1000 live births) compared to 47 (per 1000 live births) for bottom 15 districts. IMR for Bangladesh was 36 (per 1000 live births). Even higher disparity has been observed for U5MR between the bottom 15 districts and the top 15 districts. More specifically, the U5MR for top 15 districts was 49 (per 1000 live births) compared to 83 (per 1000 live births) for bottom 15 districts. IMR for Bangladesh was 64 (per 1000 live births).

Human Capital

In the past few years, Bangladesh has achieved substantial progress in the education sector. The literacy rate has increased by 6 percentage points to 57.9 % in 2010 from 2005. The enrolment rate in primary education is 98.5% and the ratio is higher in favour of girls in both urban and rural areas.

However, there is serious persistence of spatial differences in the achievement of education when it comes to literacy rate. The range in literacy rate among the 64 districts is 35.5 and the standard deviation is almost 8, suggesting high level of disparity among the districts. In addition to literacy rate, number of primary and secondary schools have been assessed to study disparity in the education sector.

The literacy rate of bottom 15 districts is 40.6 percent compared to the literacy rate of top 15 districts (i.e. 60.8). This implies more than 20 percentage-points difference in the literacy rate between the bottom and top 15 districts.

The average number of primary schools for the bottom 15 districts are 461 compared to that of the top 15 districts which having 2,189 schools implying five times more schools in the top 15 districts in Bangladesh. Number of primary school in each district on average is 1,180. Similarly, the average number of secondary schools for the bottom 15 districts are 135 compared to an average of 532 schools for the top 15 districts implying more than three times more secondary schools in the top 15 districts in Bangladesh. Number of secondary school in each district on average is 298.

For the primary education, a comprehensive index has been developed for all the upazilas (sub-districts) of Bangladesh. The education development index (EDI) takes into account a number of

influential factors which are important for primary education at the upazila level. Using the information of Upazila EDIs, EDIs for the 64 districts have been generated. The following table shows the rank according to the EDI for primary education for the districts. It is important to note that district level EDIs vindicates the observations of literacy rate reported above.

Table 4.9: Bottom Fifteen Districts with Least EDI Scores

District Name	Overall EDI Score	Overall EDI Rank
Rangamati	0.14230	1
Bandarban	0.23086	2
Sunamgonj	0.24540	3
Khagrachhari	0.27613	4
Netrokona	0.35470	5
Bhola	0.35800	6
Kishorgonj	0.36300	7
Cox's bazaar	0.37133	8
Hobigonj	0.37800	9
Kurigram	0.39700	10
Patuakhali	0.41100	11
Brahmonbaria	0.41938	12
Luxmipur	0.42625	13
Satkhira	0.44371	14
Pabna	0.44378	15

Infrastructure and Water Supply

Infrastructure is crucial to promote socio-economic progress of a district. Two important infrastructure indicators namely: (i) percentage of paved road to total road; and (ii) percent of households with electricity connection have been used to assess the status of infrastructure across the district of Bangladesh.

The average paved road in the bottom 15 districts is 161 km compared to the average 417 km paved road in the top 15 districts implying more than three times more paved road in the top 15 districts in Bangladesh. The average paved road in Bangladesh is 182 km. On other hand, percent of distribution of households with electricity connection have been found to be half in bottom 15 districts compared to the top15 districts. More specifically, percent of distribution of households with electricity on average is 34 in bottom 15 districts. While the percent of distribution of households with electricity on average is 72 in top 15 districts.

A very important pre-requisite for a decent living is supply of clean water. Disparity with respect to supply of clean water is large in Bangladesh. In order to assess disparity in clean water supply, tube well or deep tube well has been used as indicators.

The average number of installed tube well or deep tube well in the bottom 15 districts is 196,000 compared to the average number of installed tube well or deep tube well of 810,000 in the top 15 districts implying more than 300 percent higher clean water supply connection in the top 15 districts in Bangladesh. The average number of installed tube well or deep tube well in Bangladesh is 464,000.

Agriculture and Rice Production

The average rice production in the bottom 15 districts is only 216,718 tonnes compared the average rice production of 1,046,072 tonnes in the top 15 districts implying almost 5 times higher production of rice in the top 15 well off districts.

Overseas Employment

Overseas employment and foreign remittance has been an important source of decent employment as well as earning in Bangladesh. Large disparity has been observed between lagging and well off regions in Bangladesh with regard to overseas employment. More specifically, the average number of person went for overseas employment in the bottom 15 districts was only 1,372 in 2010 compared to the average number of person went for overseas employment from the top 15 districts i.e. 33,896. This implies that almost 25 times higher overseas workers are from the top 15 comparatively well off districts.

Financial Inclusion

Access to finance is of utmost important pre-condition to promote economic activities, creating employment opportunities and thereby helps alleviate poverty. Two widely used indicators of the formal financial sector – advance and deposit have been applied here to determine the extent of financial inclusion among the districts in Bangladesh. Large disparities have been observed between the lagging districts and relatively well-off districts with respect of deposits and advances.

ADP Allocation

There is a systematic pattern that generally the “lagging” districts are low ADP expenditure recipients and the “advanced” districts are high ADP expenditure recipients. Therefore public investment component in the annual budget to some extent is tilted towards the more advanced regions, and this might aggravate the growth of the lagging district as well as regional disparity in the country.

(a) Convergence of Regional Disparity over time

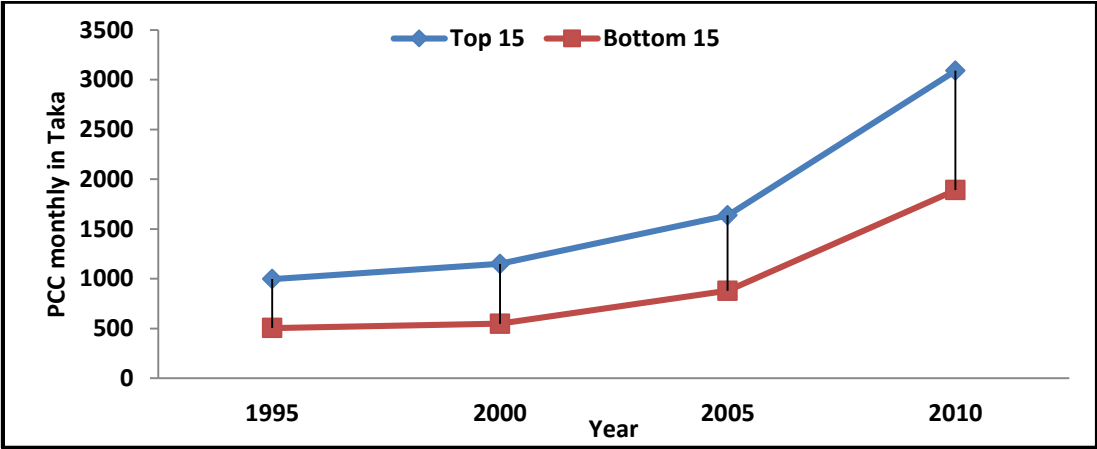
Bangladesh economy has been growing at an average rate of 6% for the last decade. During 1990s the economy experienced an average growth rate of 5%. The important question is whether all the districts have equally benefitted from these sustained growth rates of 5% or 6%. The analysis of divergence versus convergence give a clear indication on the extent of district level inequality and

whether the extent of inequality would be increasing in the future in the absence of intervention. These are crucial factors to understand before pursuing macro policies for the development of the lagging districts. The analysis suggests that regional disparity has increased over time and they are diverging instead of converging.

(b) Long-run analysis of convergence

The following graph depicts the extent of inequality among districts. The blue line and the red line show the monthly per capita consumption expenditure for the top 15 and bottom 15 districts respectively. Both groups are showing an increasing trend from 1995 in their respective monthly per capita consumption expenditure. However, it is noted that the gap between this two groups are widening overtime and became wider in the latest years e.g. in 2010. Following figure shows the divergence dynamics with regard to the per capita monthly consumption expenditure between the top 15 and bottom 15 districts. The extent of divergence has found to be widened between 2005 and 2010 compared to previous two five years’ time periods. This observation suggests that without effective interventions, regional (represented by districts) may increase in Bangladesh.

Figure 4.4: Per Capita Consumption Comparison between Top 15 and Bottom 15 Districts



(c) Further Evidence of Divergence

Using the information of HIES 2005 and 2010, an exercise has been carried out to assess situation of the deprived and non-deprived regions. The extent of change over the five year period has also been calculated. For this purpose and as information of HIES allow, nine indicators have been used. The results suggest significantly better situation for the non-deprived region as compared to the deprived region. Differences are more prominent for the poverty, sanitation and the education indicators.

Table 4.10: Comparison between Deprived and Non-Deprived Region by Indicators

Indicators	Deprived region (districts)			Non-deprived region (Districts)		
	2005	2010	Change*	2005	2010	Change*
Per capita consumption (BDT)	1,110	2,015	81.5	1,268	2,557	101.7
Percent of total Households	22.81	23.04	0.23	77.19	76.96	-0.23
Percent of total Population	22.29	22.39	0.10	77.71	77.61	-0.10
Poverty Head Count data (%)	47.32	47.27	-0.05	37.76	26.82	-10.94
Extreme Poverty (%)	30.14	29.5	-0.64	20.42	13.63	-6.79
Literacy rate (%)	9.97	11.05	1.08	35.06	39.56	4.50
Child Immunization Rate (%)	2.7	2.4	-0.30	9.35	8.92	-0.43
Access to clean water (%)	96.39	96.06	-0.33	96.86	96.56	-0.30
Sanitation (%)	55.94	50.96	-4.98	52.98	53.27	0.29

Source: GED estimates based on HIES 2005 and HIES 2010.

Note: *Change in per capita consumption refers to percent change. All other changes denote percentage-point change.

4.5 REVIEW OF PROGRESS IN LAGGING REGIONS UNDER THE SIXTH PLAN

The Sixth Plan took several measures to address the lagging regions problem based on the analysis of past developments. Firstly, it laid emphasis on the development of infrastructure in the lagging regions. This included development of roads, bridges, irrigation and electricity facilities. Secondly, it emphasized the availability of credit to the lagging regions. Third, emphasis was placed on addressing disaster and climate change related vulnerabilities that adversely affected the livelihood of the poor. Fourth, agriculture extension services were strengthened for the lagging regions. Finally, the better availability of health and education services for the population residing in the lagging regions was emphasized. Although district level data after 2010 are not available, real wages data show that the economic prosperity in the lagging regions is improving. Thus, the real agricultural wages in the lagging districts of Rangpur Division show considerable increase in response to growing demand for labour based on higher economic activities. Higher real wages in turn suggest that the implications for poverty reduction in these districts is positive.

A particularly notable example of the government's concern to address the lagging regions problem during the 6th Plan is reflected in the top priority placed by the government in implementing the Padma Bridge. Inadequate infrastructure has been identified as one of the major reason for regional disparity or inequality. Construction of the Padma Multi-purpose Bridge is expected to benefit large number of people living in some of the lagging districts in Bangladesh. The 6.15 km bridge will connect 21 Southern (mostly lagging) districts with the capital city Dhaka. The mega project is expected to be completed by the end of 2017 or early 2018. Construction of Padma Bridge is expected to generate welfare to the people of Bangladesh in general and the people of Southern part in particular. The benefits are expected to arise from the greater integration of regional markets within the Bangladeshi national economy. Moreover, given the interdependence of economic activities/sectors, the direct impacts of the Padma Bridge on

individual sector and factor markets are likely to induce a chain of changes in the rest of the sectors of the economy. More specifically, completion of Padma Bridge will invoke salutary effects on income generation, trade facilitation and poverty reduction. The Padma Bridge would boost the regional GDP by around 1 percent expected to revive the fortune of Mongla Port and cut poverty in the southern region of the country.

4.6 STRATEGY FOR LAGGING REGIONS IN THE SEVENTH PLAN

(a) Creation of a Lagging Region Fund:

A separate fund would have to be kept in the Annual Development Programme (ADP) for infrastructure development, emphasizing technical education and giving greater accessibility to the lagging regions in wider economy which will address regional disparity issues. The additional fund is expected to be some reasonable percentage of overall ADP expenditure but this would be in addition to the other regular ADP components. Lagging regions can be supported with skill development, such as, establishing technical and vocational institutes. Regions like Rangpur, Rajshahi, Khulna, and Barisal may be preferred destination for such investments by the proposed fund.

(b) Narrowing Infrastructure Gap:

Improvement of infrastructural facilities is one of the key interventions that can open the door of economic opportunities in the lagging districts. Following measures are to be taken:

- Transport system between the better off districts (i.e. with Dhaka and Chittagong) and lagging districts would be improved in order to increase economic activities in the lagging districts. One of the major transport projects, construction of Padma Bridge is expected to be completed by early 2018 and this will open a new door of opportunities for south-west region of the country.
- Both inter district and intra district road transport system would be developed to increase economic mobility within the lagging districts.
- Appropriate measures would be adopted for intensive utilization of Mongla port. Creating export oriented industrial zone near to Mongla port will be considered along with its international usage opportunities.
- Supply of electricity would be increased in the lagging districts in priority basis since development of manufacturing sector demands access to electricity supply.
- Storage facilities for agricultural and fisheries would be increased according to the demand of such facilities in lagging districts where economic activities are mostly agricultural in nature. Such facilities would be enhanced in the remote areas so that farmer gets most benefit from such facilities.

(c) Manufacturing Opportunities in Lagging Districts

Manufacturing activity needs to be promoted in the lagging districts. Since private investment has less of an incentive to locate itself in the lagging districts, this process has to be implemented with the help of government support at least in the initial stage.

- Industrial policy would incorporate enough flexibility for incentivizing investment in lagging districts with the help of tax breaks, lower interest rate and similar other policy interventions.
- Lagging region would get priority while setting up special economic zones. Such zones should be established in lagging districts with all adequate infrastructural facilities so that entrepreneurs can get benefit from economies of scale.
- Promulgation of special incentive for prospective investors would proceed simultaneously to encourage faster investment in this industrial park.
- Small and medium enterprises would be encouraged with low cost financing facilities.

(d) Expanding Agriculture and Rural Economic Activities

Even though the share of agriculture in GDP is declining over time, still this is the focal point of the rural economy. Special emphasis has to be given to development of agro-processing, non-farm economic activities in the lagging districts. Following steps would be taken during plan period:

- Rural areas of lagging districts would get special priority in agricultural credit disbursement and agricultural subsidy Programme.
- Microfinance institutions would be encouraged to operate in poverty prone areas by providing special incentives, e.g. providing fund to MFIs at low rate of interest if they disburse this fund in poor districts.
- Policy measures be taken to attract microfinance in environmentally vulnerable areas such as cyclone prone coastal areas, land locked and other flood prone areas and disaster prone areas.
- Non-farm economic activities would be promoted in the lagging districts through providing training and financing facilities. Partnership building between the government and MFIs/NGOs can play an important role in this regard.
- Local government institutions such as Union Parishads and Upazila Parishads should be strengthened to conduct development activities of the government through these institutions.

(e) Creating Opportunities for International Migration

The flow of remittance earnings is emerging as a crucial source of resources to improve local economy. It has been noted that flow of remittance earnings is low towards the lagging districts, which is causing further backwardness of these districts. Following measures need to be taken:

- Number of migrants working abroad should be increased from the lagging districts which receive meagre share of foreign remittances.
- Technical and vocational training institutions would be established in the lagging districts to create opportunities for the people to be semi-skilled and get employment by internal migration to industrial districts of Bangladesh.
- Special financing scheme should be directed towards prospective migrants from lagging districts.

(f) Building up resilience of adverse environmental and climate change shocks

It is a known fact that Bangladesh is one of the most exposed and vulnerable countries in the World in terms of climate change impact. The country is also exposed to natural disasters in terms of Floods, Cyclones, and Droughts etc. regularly. According to a research on the effects of climate change, Bangladesh might be losing 0.11% of its GDP, equivalent to Taka 29.9 billion, by 2030 given the impact of the climate change. Of course, the impact of such environmental calamities will not be uniform throughout all the districts. Both the ecological and environmental impact will vary according to the geographical locations of the districts. The following steps may be undertaken to lessen the impact of such natural disasters and build up resilience to minimize the damages that might be brought by those disasters.

- There are twelve southern districts: Satkhira, Khulna, Bagerhat, Pirojpur, Barguna, Patuakhali, Bhola, Lakhipur, Noakhali, Feni, Chittagong and Cox's Bazar, which are situated on the coast of the Bay of Bengal. Due to climate change there may be a sea level rise in the future. It is predicted that due to climate change there would be an increase in peak monsoon river flows and coastal flooding due to storm surges, according to the Bangladesh Integrated Water Resources Assessment. As a result all these districts would be among the most vulnerable ones. The agricultural production will hit hard due to the saline intrusion and water level rise. To minimize the impact, investment has to be made on the development of new agricultural seeds that would be stress tolerant and be able to grow in such inclement conditions.
- This region is exposed to high level arsenic contamination. More arsenic free tube-wells have to be made available in these areas for ensuring safe health of the people of those districts.
- Besides the impact on agricultural production due to floods, short-term measures are needed to help the victims of those disasters immediately. It is necessary to invest and build more centres where the victims can take shelters. This will in turn help any relief activity that would be taken after the disaster.
- North Western districts of Bangladesh are exposed to drought. Especially, districts like Rajshahi, Chapai Nawabganj, Rangpur, Natore, Meherpur, Jessore and Satkhira. So these districts should be prioritized to get help in terms of inputs (e.g. irrigation, etc.) for agriculture that would help them to tackle droughts.

4.6.1 Mainstreaming the Development of Newly Integrated Enclaves

Bangladesh has recently, as an outcome of land boundary agreement signed with India in 1974, taken over the possession of a total of 111 *Chitmahals* (enclaves). After a long time the chitmahal people have got their long cherished right on their lands. It is recognized by the government that the inhabitants of the integrated enclaves were not enjoying any citizen rights and privileges. These people need to be mainstreamed with the national wider economy by developing physical infrastructures including educational and health facilities. In the 7th Plan, special social protection programmes would be taken to alleviate sufferings these people and thereby improve their living status. The relevant implementing ministries/division will take special measures specifically directed for improving the welfare of the people of these erstwhile enclaves during 7th plan period.

4.6.1 Indicators for Measuring Progress in Lagging Regions

Regular monitoring of progress is important to assess the degree of convergence between lagging districts and relatively well-off districts in Bangladesh. In addition to reviewing progress by the indicators listed below, trends in government allocation need to be assessed as well. However, timely availability of data by 21 indicators for 64 districts will be a major challenge and special efforts are required to overcome the data availability issue.

Table 4.11: List of Monitoring Indicators for Lagging Regions

A. Economic Indicators	
•	Per capita monthly income
•	Per capita monthly consumption expenditure
•	Bank Advances
•	Bank Deposit
•	Loan disbursement
•	Net cultivated area in Hectare
•	Total irrigated area
•	Yield per Acre (Maunds)
•	Rice Production (M. ton)
•	Employment Rate
•	Composition of Employment
•	Overseas employment
•	Budget allocation
•	ADP allocation
•	Local Government (Upazilas) budget allocation
•	Implementation and utilization of the funds
B. Non-Economic Indicators	
•	Poverty rate
•	Density per square KM 2011 population
•	Infant Mortality Rate (IMR)
•	Under Five Mortality Rate (U5MR)
•	Maternal Mortality Rate (MMR)
•	Number of Clinics/Hospitals
•	Literacy rate
•	Number of primary school
•	Number of secondary school
•	Rate of internal migration
•	Percentage of Paved road to total road
•	Percentage distribution of Household Electricity
•	Sources of Electricity (i.e. Power grid, Solar)
•	Tube well/ deep tube well (000)
•	Salinity
•	Number of deaths in a natural disaster

CHAPTER 5

PUBLIC INVESTMENT PROGRAMME AND ITS FINANCING

The indicative Financing Plan within the overall planning exercise is estimated on the assumption that private sector dominates Bangladesh economy and would need to drive the process. Realization of the Plan objectives would require engagement with both the private and public sector. Accelerated private sector investment—both domestic and foreign—will be the key to the success of the Plan and the government’s role will be to create the investment friendly environment and ease infrastructure constraints for the private sector to come forward with the desired levels of investment. Through public sector investment in infrastructure and social development and through regulatory reforms conducive for private savings and investment, the Government will try to achieve the economic and social development objectives established under the Plan. As in the past and consistent with the social objectives, public sector will continue to play the crucial role of making the growth more inclusive through fiscal and other interventions by making the tax system more equitable and undertaking expenditure programmes aimed at strengthening social protection by improving quality of living for the underprivileged segments of the society.

Thrust on development expenditure will be to alleviate infrastructure constraints by fast tracking nationally important projects. In addition major initiatives will be taken to broaden and accelerate the implementation of other major highways and bridges, power sector projects, and providing access to serviced land to foreign and domestic investors in the context of the Special Economic Zones (SEZ) initiative. Budgetary allocations to the priority social sector programmes in the health and education sectors will be increased to create better human capital through universal general education, skill development programmes, and greater access to improved public healthcare systems. Phased implementation of the recently adopted National Social Security Strategy of the Government of Bangladesh will provide comprehensive social protection to all poor and vulnerable citizens based on a modern Life Cycle based approach.

Taking these considerations into account, Annual Budgets will be formulated in a manner consistent with the realization of the Seventh Plan objectives. Annual Budget and ADP ought to be synchronized to use them as tools for achieving the objective of the plan. Financing of this National Plan will require increased private and public sector savings, rapid income growth for the private sector and increased revenue mobilization through reform and modernization of tax policy and tax administration. Prudent spending of public sector resources for better public service delivery and incentive, subsidy and transfer programmes, and improved efficiency of public sector enterprises will be important for public sector resource efficiency and productivity.

5.1 OVERALL RESOURCE ENVELOPE FOR THE INVESTMENT PROGRAMME

Total investment under the Plan will amount to Tk.31.9 trillion in constant FY16 prices (the first year of the Plan). As before, private sector investment will continue to play its dominant role under the Plan, accounting for 77.3% of the total investment in the economy under the Plan. Although domestic private investment would still play a major role, the role of FDI/PPP in the domestic economy would need to increase significantly as part of the Plan financing strategy. As underscored in Chapter 3 on Medium Term Macroeconomic Framework, increasing the inflow of FDI in Bangladesh to 3% of GDP from current levels of about 1% would be critical for achieving the financing of the investment target under the Seventh Plan. Thus external financing for private investment, comprising primarily private FDI in Bangladesh and external borrowing in foreign currency by the private sector will increase markedly to 8.9%, compared with 4% level targeted under the Sixth Plan.

Table 5.1: Financing of Seventh Five Year Plan Investment (FY 2016 prices)

Item: BDT in Billions	Total	Share (%)	Public	Share (%)	Private	(Share %)
Total Investment	31,902.8	100.0	7,252.3	100.0	24,650.5	100.0
Domestic Resources	28,851.0	90.4	6,384.6	88.0	22,466.4	91.1
External Resources	3,051.8	9.6	867.6	12.0	2,184.1	8.9

As in the past, domestic resources in the form of domestic savings will continue to play a dominant role in financing of the Seventh Plan. Bangladesh's respectable national savings rates of about 28% to 29% of GDP provide a solid starting point in this respect.

The Annual Development Programme (ADP) constituting much of the public sector investment in Bangladesh has increased by 1.7 percentage points in relation to GDP to 4.9% during the Sixth Five Year Plan. The increase in ADP reversed the declining trend observed in the past decade and was attributable to government's efforts to reduce the wide infrastructure gap in Bangladesh through accelerated ADP implementation. This increase in ADP spending happened despite slower than expected progress in implementing some major public sector and PPP-based projects during the Sixth Plan.

The Seventh Plan will build on the gains made so far with a view to allocating Tk.7.25 trillion in constant FY16 prices, accounting for 22.7% public investment of total investment in the economy. Of the total public sector investment, Tk. 6.38 trillion will be funded by domestic resources (88%). A major part of the ADP will be financed from domestic sources comprising fiscal savings and borrowing from the domestic banking and nonbank sources. External financing, primarily in the form of concessional loans from official multilateral and bilateral sources will continue to supplement the public sector development spending. Access to international capital market to

finance large infrastructure projects by issuing sovereign bonds may also be considered as a source of external financing for domestic public investment.

5.2 FINANCING OF TOTAL PUBLIC SECTOR OUTLAYS DURING THE SEVENTH PLAN

As outlined in the fiscal accounts of the macroeconomic framework, total public sector spending under the Seventh Plan, including spending on account of provision of public services and transfer payments and subsidies, is projected to be Tk. 21.98 trillion in total, which will be 19.5% of yearly GDP on an average during plan period. In line with the Government's commitment to broaden and improve quality of public services and to alleviate the infrastructure constraint, the Plan envisages a significant increase in the size of the government spending in relation to GDP. The size of the public sector in Bangladesh is relatively small, despite some 3 percentage point increase under the Sixth Plan, with the Government budget accounting for only about 16% of GDP. With this small resource base it is extremely difficult to meet the growing demand for public services, including in the areas of health and education and provide adequate infrastructure support for acceleration of economic growth.

5.2.1 Social Sector Spending

Bangladesh has to acknowledge the reality that despite significant gains on the poverty reduction front, a vast number of its citizens are below the poverty level and the country must prepare itself for the renewed fight against poverty with a broader and stronger social protection/security programme. The government has approved a National Social Security Strategy (NSSS), which outlines the new direction that the government needs to move in the coming years based on a Life Cycle Approach to Social Protection/Security. The hallmarks of the NSSS will be the introduction of a rights based publicly funded Old Age Pension Plan for the Poor; all poor pregnant mothers receiving Pre- and Post-Natal Child Care for up to 4 years in order to ensure healthy future generation (free from stunting and mal-nutrition); all poor school going children receiving education stipend for attending primary and high school; training facility for the poor and abandoned women and widows; and financial support for the poor elderly citizens. A phased implementation of this strategy or something similar will require massive transformation of Bangladesh's social protection programmes and increased budgetary resource allocation.

Expenditure on other major social programmes like education and health would require significantly higher allocations in the longer run if Bangladesh wants to achieve 100% literacy rate with proper education up to the high school level (12 grades) for most of its children who will be joining the work force by 2021 and beyond. The 2.2% of GDP that Bangladesh currently spends on education is not enough for the kind of quality shifts that the Government aims to achieve. It also needs to inject increased amounts of resources for public health care and skill development of the growing labour force.

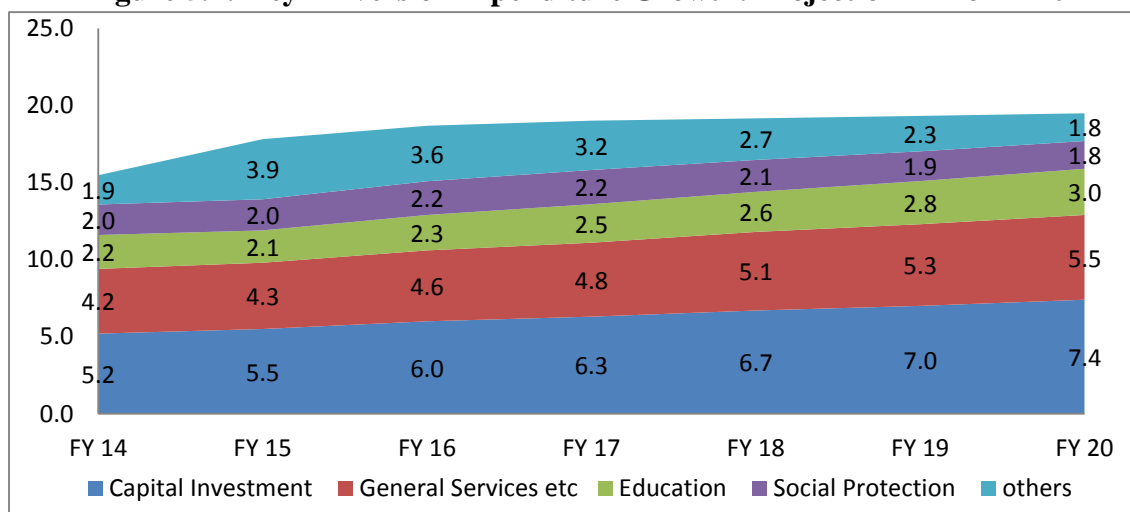
All these spending plans will essentially entail that the budget size would probably need to increase to about 21.1% of GDP, a 5 percentage point increase in relation to GDP at the terminal year of the Seventh Five Year Plan. The increase in spending in terms of GDP would need to be about one percentage point per annum. Such an increase in the size of the budget would allow for increasing the education budget by 0.8 percentage points to 3.0% of GDP, increase the public spending on health care by at least 0.4 percentage points to 1.2% of GDP, and spending on social welfare by 0.3 percentage points to 2.3% of GDP. The social welfare spending target is broadly in line with the targets set during the same period in the National Social Security Strategy. Altogether the additional demand from social spending side on the national budget would be about 1.5% of GDP and that would be a major challenge since there will be pressures from other sources like public investment, public administration, and interest payments.

5.2.2 Investment Programme

A study shows that Bangladesh needs about \$9 billion (more than 5% of current GDP) in additional investment in major infrastructure projects per year to sustain growth at a higher level. Although government currently spends about 5% of GDP on ADP, one third of which is allocated for communications and power. This means current major infrastructure investment amounts to about \$3-3.5 billion. Certainly, it would not be possible for the government to undertake such a major investment plan in infrastructure based entirely on budgetary resources. However, government resources need not cover the whole possible investment plan for today’s fiscal strategy. The government would need to start its PPP initiative in full force to leverage public resources with private investment. With proper blending, public sector resource use could be limited to about 6% to 7% of GDP and still contribute to significantly improving the quality of infrastructure of Bangladesh.

With the type of structural transformations outlined above, expenditure side of the government budget would look more like the Figure 5.1 below.

Figure 5.1: Key Drivers of Expenditure Growth: Projection FY16-FY20



Source: Ministry of Finance and Seventh Plan Projections

The Seventh Plan aims to increase the size of the Government spending by about 5 percentage points to 21% of GDP by FY20. More than 20% of the increase will be on account of the larger ADP. However, much of the expanded spending will be directed to expanded coverage and better quality of public service delivery. Efforts will also be intensified to increase public sector savings to finance the expanding public investment plan. Accordingly, even after allowing for about 4 percentage points increase in non-ADP spending, government sector savings is projected to increase by 0.6 percentage point to 2.2% of GDP by FY20. As planned, government savings is projected to finance about 33% of the projected government investment by the end of the Plan period compared with 29% of development spending funded by public sector saving in FY15. This positive turnaround both in terms of non-ADP spending and financing of a larger proportion of ADP by own savings will only be possible if the strategy for revenue mobilization is realized as Planned.

Table 5.2: Fiscal Savings Trends

	Sixth Plan Period					Seventh Plan Period					
	1	2	3	4	5	1	2	3	4	5	
	FY15										
BDT in Billions	FY10	FY11	FY12	FY13	FY14	Est.	FY16	FY17	FY18	FY19	FY20
Total Revenue	759	930	1138	1281	1403	1633	2084	2635	3171	3809	4627
Total Revenue Expenditure	734	926	1105	1208	1290	1592	1925	2342	2772	3304	3995
Fiscal Savings	24.9	4.4	32.9	72.8	113.1	41.1	158.9	292.8	399.2	504.5	632.3
Nominal GDP	7975	9158	10552	11989	13437	15136	17176	19517	22177	25223	28739
	As % of GDP										
Total Revenue	9.5	10.2	10.8	10.7	10.4	10.8	12.1	13.5	14.3	15.1	16.1
Total Revenue Expenditure	9.2	10.1	10.5	10.1	9.6	10.5	11.2	12.0	12.5	13.1	13.9
Fiscal Savings	0.3	0.0	0.3	0.6	0.8	0.3	0.9	1.5	1.8	2.0	2.2

Source: Ministry of Finance and Seventh Plan Projections

5.3 REVENUE MOBILIZATION UNDER THE PLAN

The revenue targets set under the Sixth Five Year Plan were not achieved despite strong performance in the first two years of the Sixth Plan. A comparison of the actual performance with targets set in the Sixth Plan is shown in the Table 5.3 below.

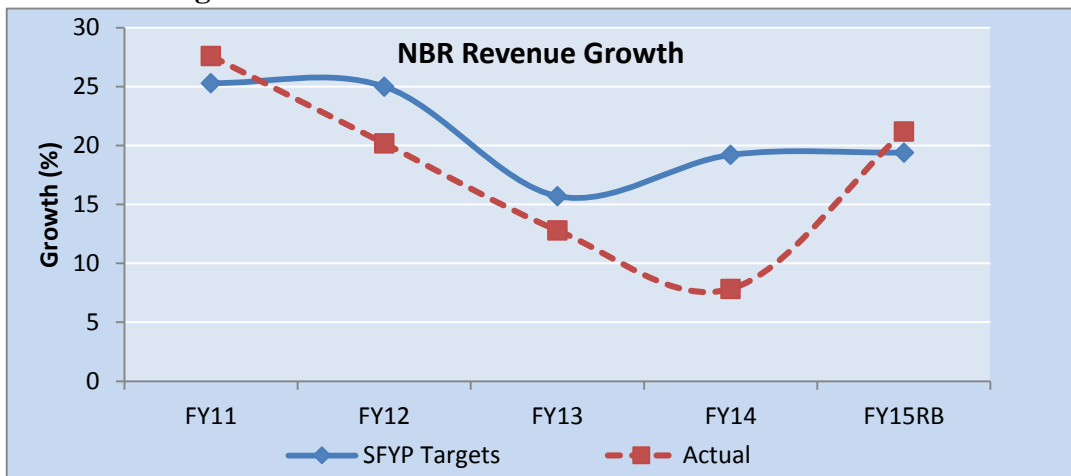
Table 5.3: Revenue-SFYP Targets and Actual

	FY11		FY12		FY13		FY14		FY15		Average(FY11-15)	
	SFYP	Actual	SFYP	Actual	SFYP	Actual	SFYP	Actual	SFYP	Budget	SFYP	Actual
As % of GDP												
Total revenue	12.1	10.2	13.2	10.8	13.4	10.7	14	10.4	14.6	10.8	13.5	10.6
Tax revenue	10	8.7	10.6	9	11.2	9	11.8	8.6	12.4	9.3	11.2	8.9
NBR taxes	9.6	8.3	10	8.7	11	8.6	11	8.3	12	8.9	11	8.6
Non-tax revenue	2	1.5	2.5	1.8	2.2	1.7	2.2	1.8	2.2	1.5	2.2	1.7

Source: SFYP Documents and NBR

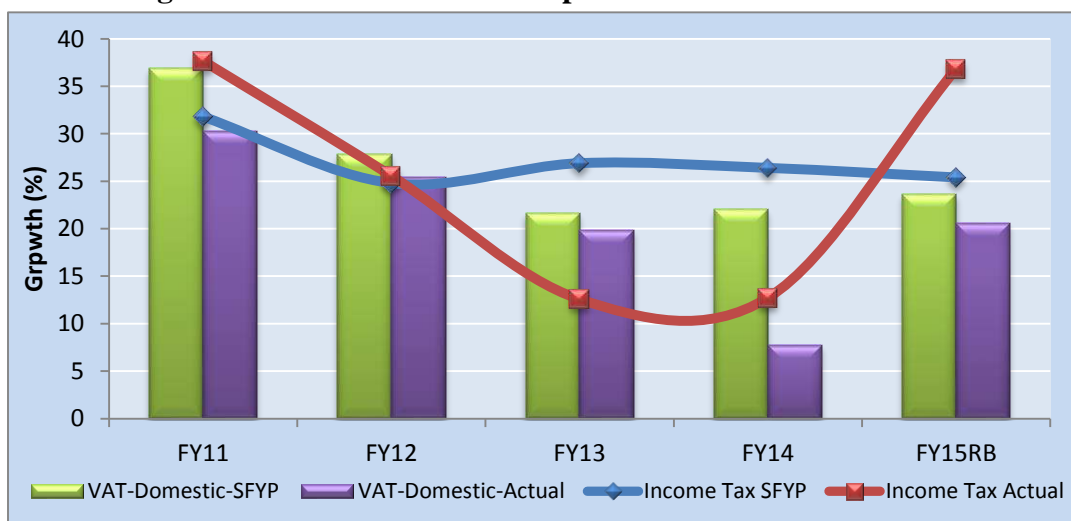
The total revenue targets in terms of percentage of GDP were not achieved during the last three years, although the revenue targets under the budget in Taka terms were surpassed during the first two years of the Plan period. The major shortfall in terms of GDP ratio was to a large extent attributable to a significant upward revision of the GDP series with the rebasing of GDP to FY05 from FY95 base. The upward revision of the GDP series in general contributed to a reduction of the revenue to GDP ratio by about 1.2 percentage points. Thus while the average annual revenue shortfall appears to be 3.3% of GDP, the actual shortfall was about 2.1% of GDP after taking into account the upward revision of the GDP series due to rebasing to FY05 the whole national accounts series. The shortfall was mainly from the tax components, mainly NBR taxes, rather than the non-tax sources which were mostly in line with their targets, except for the GDP revision induced effect. A closer look at the NBR revenue growth during the plan period shows that revenue collection was achieved or slightly exceeded the targets in initial years of the plan period; however the growth momentum was lost in the subsequent years (Figure 5.2).

Figure 5.2: NBR Revenue Growth under the Sixth Plan



Source: SFYP Documents and NBR

Figure 5.3: Growth in Tax Components under the Sixth Plan



Source: SFYP Documents and NBR

NBR revenue, income tax and VAT-domestic growth performance in comparison to SFYP targets has been erratic with actual growth exceeding and meeting target in alternate years, and falling short of targets in others (Figure 5.3). Growth of domestic VAT has been on a persistent decline since exceeding growth targets in FY11, which was partly due to non-implementation of necessary reforms. In the past, high growth years (in terms of revenue collection) such as FY08 and FY11-FY12, have coincided with years in which some tax reforms and tax measures were implemented. However, since the reform process was not sustained, the positive impacts have started to diminish in the years that followed. In FY11, some VAT and income tax reforms were implemented which led to the increase in tax collections surpassing the set targets. While the positive effects of these reforms continued until FY12 and some up to FY13, because the new package of reforms was delayed the tax buoyancy started to diminish eventually leading to the slump in revenue collection experienced in FY14. The tax revenue growth rates from FY06-FY15 are shown in Table 5.4 below.

Table 5.4: Growth in Tax Revenue in Recent Years

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Tax Revenue Growth (%)	13.4	10.0	26.6	11.5	17.4	27.5	19.4	14.8	10.7	12.8
Average	15.8					17.1				

Source: National Board of Revenue

Box 5.1: Tax Reform Programmes Completed During the Sixth FYP

Tax Policy Reforms

- Enactment of VAT and Supplementary Duty Act 2012
- Incorporating transfer pricing in the Income Tax Ordinance, 1984
- Incorporating Alternative Dispute Resolution (ADR) in Income Tax, VAT and Custom Acts
- Drafting of a new Direct Tax Code
- Drafting of a new Customs Act

Tax Administration Reforms: Income Tax

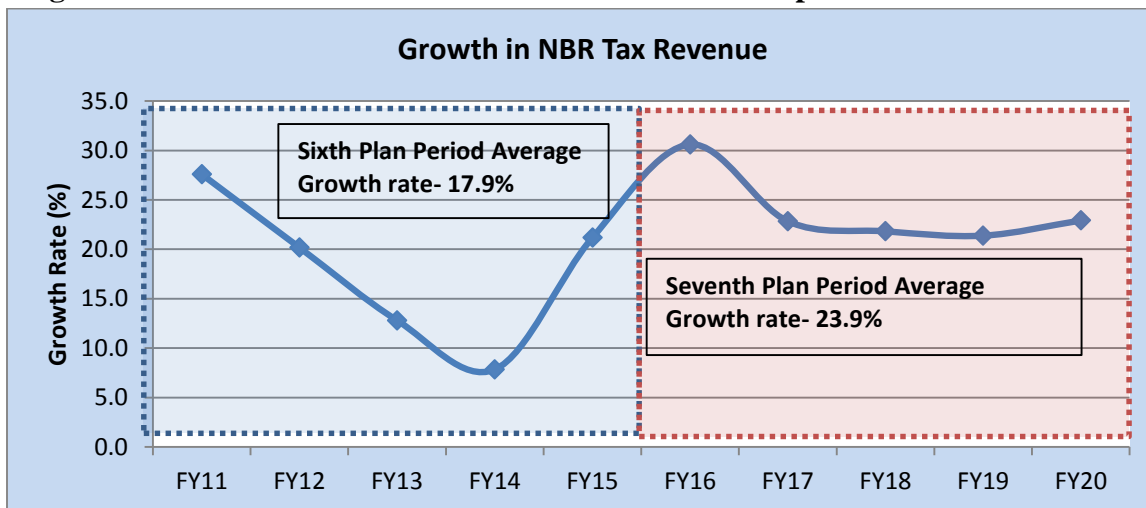
- Establishing 13 new Income Tax Zones, 2 Tax Appeal Zones and 85 Circle Offices
- Automation of TIN registration and linking TIN with National ID
- Tax calculator installed on the NBR website (www.nbr-bd.org)
- Payment of taxes using the Q-Cash network under the platform of e-payment of NBR
- Establishing taxpayer information and service centres at all divisions.
- Providing enhanced taxpayer services through spot assessment, income tax fair etc.
- E-filing of income tax returns on a pilot basis (LTU)
- Introducing incentive based taxation system through tax cards, certificates etc. for tax compliance
- Strengthening the Central Intelligence Cell (CIC) for combating tax evasion

Tax Administration Reforms: VAT and Custom

- Establishing 4 new VAT Commissionerates and 3 VAT Appeal Commissionerates,
- Setting up of 1 new Custom House (ICD), merger of Import and Export Wings of Chittagong Custom House, setting up of a full-blown Bond Commissionerate at Chittagong
- Installing ASYCUDA World System in all Custom Houses and 4 Land Custom Stations
- Online connectivity between the customs database and Bangladesh Bank database for combating money laundering
- Developing customs database
- E-filing of VAT returns on a pilot basis at Large Taxpayers Units (LTUs)

In light of these considerations, achieving the tax revenue target under the Plan will be a major challenge. The required growth rate would need to be about 24% per annum over whole Plan period. Such a high growth rate could not be achieved in the past, mainly because the NBR reform efforts could not be sustained over the whole Plan period. Past experience indicates that NBR can achieve high revenue growth if it continues with its reform agenda, as recently demonstrated during the beginning years of the Sixth Plan.

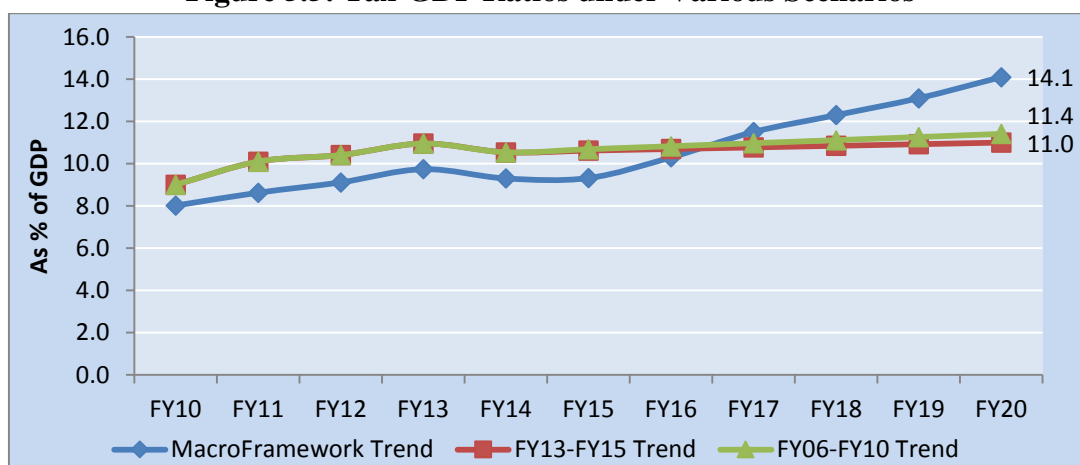
Figure 5.4: Growth in Tax Revenues under 7th Plan Compared with the Sixth Plan



Source: Seventh Plan Projections

In line with the growth scenario under the Plan, the tax-GDP scenario is presented in Figure 5.5 below. These scenarios build a strong case for the need for tax reforms, particularly in the collection of domestic taxes which would constitute bulk of the revenue collection effort. If there are no major reforms during the five year plan period, it would be quite possible that tax revenue performance will fall back to the pre-SFYP (FY06-FY10) levels and thereby would result in a tax/GDP ratio of 11.4% by FY20.

Figure 5.5: Tax-GDP Ratios under Various Scenarios



Source: Seventh Plan Projections

Based on the analysis presented above, the revenue targets can be set under the Seventh Five Year Plan as presented in Tables 5.5 and 5.6 below. In the last five years, NBR revenue constituted 96.5% of the total tax revenue which is expected to continue into the Seventh Plan period since, Non-NBR taxes has been stable accounting for about 3.5% of total tax revenue. Different fees under Non-NBR taxes, i.e. land registration fees should reflect the market price and Government will ensure policy reform for increasing the revenue earnings from land transactions. The NBR revenue target should be set at 13.7% of GDP against a total tax revenue target of 14.1% of GDP at the end of the seventh five year plan period. The resultant total revenue target will be 16.1% of GDP, which is four percentage points higher than the 12% rate that has been achieved in FY14.

Table 5.5: Revenue Structure in the 7th FYP Period (FY16-FY20)

As % of GDP	FY14	FY15	FY16	FY17	FY18	FY19	FY20
	Actual	Revised Budget	7 th FYP Period				
Total Revenue	10.4	10.8	12.1	13.5	14.3	15.1	16.1
Total Tax Revenue	8.6	9.3	10.6	11.5	12.3	13.1	14.1
NBR Tax Revenue	8.3	8.9	10.3	11.1	11.9	12.7	13.7

Table 5.6: Major Components of Revenue in the 7th FYP Period (FY16-FY20)

As % of GDP	FY14	FY15	FY16	FY17	FY18	FY19	FY20
	Actual	Revised Budget	7 th FYP Period				
Customs Duty	1.0	1.0	1.1	1.2	1.2	1.2	1.3
VAT+SD	4.5	4.6	5.4	5.7	6.4	6.6	7.0
Income Tax	2.6	3.2	3.7	4.1	4.3	4.9	5.4
Others	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Non-NBR Tax	0.3	0.4	0.3	0.4	0.4	0.4	0.4
Non-Tax Revenue	1.8	1.5	1.5	2.0	2.0	2.0	2.0

Source: National Board of Revenue and Seventh Plan Projections

The Seventh Five Year Plan revenue projection presents an opportunity for Bangladesh to break out of the 10-12% of GDP level that it has been stuck in recent years. The 4 percentage point

increase in revenue in relation to GDP over a 5 year period is quite possible if the revenue performance of other developing countries are reviewed. Many developing and most middle income countries have already done it and certainly Bangladesh can do it, despite its unimpressive track record on this front.

Complicating the task will be the other structural shift, which is already underway, entailing steady reduction in the share of customs duty with diminishing importance of trade-based taxes in line with global trend. The share of customs duty in total NBR taxes has already come down to about 12% of total NBR revenue, and this will probably decline further to about 9% of total NBR revenue by FY20. Accordingly, reliance of Direct Taxes and VAT would need to increase much more in relative terms. Every year the combined revenue collection from these two sources would need to increase by 0.8 percentage point of GDP, shared roughly equally between the two major sources. The specific reform strategies are discussed in Box 5.2

The need for strengthening of the tax administration, its computerization and improvement in efficiency is integral to achieving these targets. This is mainly because the crux of the growth would be derived from domestic sources, mainly income tax and VAT. Expansion of the income tax base and bringing more individuals and companies under the tax net and under the withholding mechanism would be necessary to drive the revenue growth and to achieve levels enjoyed by our neighbouring countries. Since a major section of the Bangladesh economy still falls under the informal sector it is one of the main reasons behind the slow increase in the number of income taxpayers as well as limiting the potential VAT collection. Initiatives and incentives by the government to formalize these activities would greatly enhance the tax potential on the domestic side while making it possible to achieve the targets set under the Seventh Five Year Plan.

There is also rampant tax evasion which is manifested through the very low number of registered direct tax payers, transfer pricing and money laundering. This needs to be addressed by strengthening tax evasion detecting unit like the Central Intelligence Cell (CIC) and other intelligence units of the NBR. The NBR should work together with the Bangladesh Bank and the Anti-Corruption Commission for combating tax evasion. There is also a huge backlog of revenue cases pending with courts. More than 20,000 cases are lying with different courts involving about 20 billion taka. Following the South African model, the NBR has introduced the Alternative Dispute Resolution (ADR) mechanism to settle disputes out of the court system. The ADR mechanism will be further popularized and strengthened to collect arrear revenue.

NBR has prepared a NBR Modernization Plan and presented that to Parliament at the time of FY12 budget presentation. The Modernization Plan has all the key ingredients of making the organization modern, efficient and capable of delivering the challenging the revenue targets that it needs to achieve.

The NBR tax reform programmes required to achieve the targets set out in the Seventh Plan are summarized in Box 5.2:

Box 5.2: NBR Tax Reform Required for Attaining Tax Targets in Seventh Plan

Tax Policy Reforms

- Effective Implementation of VAT and Supplementary Duty Act 2012
- Incorporating transfer pricing in the Income Tax Ordinance, 1984
- Incorporating Alternative Dispute Resolution (ADR) in Income Tax, VAT and Custom Acts
- Drafting of a new Direct Tax Code
- Drafting of a new Customs Act

Tax Administration Reforms: Income Tax

- **Broadening of the taxpayers' base-** This will require monitoring of the ownership of all sizable physical and financial assets of taxpayers and determining the income generation out of those assets.
- **Broadening of the tax revenue sources-** Traditionally there has been an excess dependency on taxing financial institutions and a few large non-financial corporations. The tax department should explore other smaller organizations in the formal sector as well various corporations.
- **Focusing on income from service providers and self-employed (who are difficult to tax)**
- **Treating all sources of income equally for the tax purpose without discrimination for the households.** This would imply taxation of capital gains from land, real estate/housing, and stock market. Wealth accumulation in Bangladesh is primarily happening through accumulation of urban land and real estate, untaxed/low tax income of the rapidly growing RMG sector, and relatively low tax incidence on income through financial instruments. This must change.
- **Automation of TIN registration and linking TIN with National I.D.**
- **Integrated Revenue Management Programme: Business Process** An integrated revenue management programme seeks to connect the three departments at transactional level by linking the taxpayer identification numbers i.e. TIN and BIN in the database. The methodology for setting up such an integrated system is to first centralize the database and transaction processing of the three departments at one location and then to build an information system that can mine data in the three databases and thereafter process the same for exception reports. The integrated revenue management programme will enable the desired flow of information and consequent synergy among the three tax wings of the NBR.
- **Integrated Revenue Management Programme: Digitalization Programme** This programme will seek to set up a country-wide integrated ICT platform to capture all tax payment information from tax returns, banks, TDS deductors, third party collection agencies etc. The integrated revenue management system will also receive third party returns i.e. TDS returns, Annual Information Returns (AIR) etc. and generate MIS reports, exception reports etc. Under this programme, a Central Processing Centre is to be set up for processing all Income-tax and VAT returns, whether e-filed or paper filed at one integrated processing centre.
- **E-Filing of income tax returns.**
- **Aggressive imposition and expansion of withholding taxes,** particularly on individual taxes which could potentially improve tax compliance, expand the income tax base and address administrative issues pertaining to tax collection efforts through increased transparency and efficiency.
- **Strategic Communication and Taxpayer Outreach, Education and Assistance** Bangladesh has a very narrow tax base and a very small percentage of the population bears the burden of taxation. Most of the direct tax revenues come from tax deduction at source (TDS) whereas a large percentage should be coming from corporate tax as well as from businesses and professions through advance tax (PAYE). The logical inference is gross under reporting or non-reporting from various eligible categories. The taxpayer education programme will make available a menu of offerings through remote outlets like websites, internet etc. as well as through customers facing one to one or group interface with the NBR Customer Service Wing.

Tax Administration Reforms: VAT and Custom

- Implementation of the new VAT Act.
- Expanding VAT base especially on businesses and organization.
- Incentivizing VAT payment with benefits for small businesses to bring them into the VAT coverage as well as promoting increased formalization of businesses currently operating in the informal sector.
- Reform of the VAT administration along functional lines
- Automation of the whole tax administration through Central Data base including Central VAT Registration; electronic submission and return processing
- Comprehensive taxpayers' education and information campaign about the new VAT law and Rules.

As indicated in Box 5.2, significant progress is being made on the VAT front in terms of the new VAT Law, which is already enacted in December 2012, and administrative restructuring and modernization of VAT administration. Much of these initiatives should be in place before the introduction of the new VAT Law effective from July 2016.

With more manufacturing facilities in EPZs and particularly with growing number of SEZs coming into operation, Bond Administration under the NBR will need to be refocused keeping in mind the different goals behavioural orientations of Tax Officials and Bond Administration. In this regard the government will consider bond administration can be separated from full customs administration and also lined its performance with investment, industrialization and trade.

In order to increase revenue collection, efforts will be made to strengthen the link between better statistical and research analysis and policy formulation and tax administration. NBR has already completed the diagnostics for strengthening the Statistics and Research Department and efforts will be made to implement the recommendations of the diagnostic report. Efforts will also be made to enhance tax compliance through social recognition programme. Researchers suggest that exposing information about all firms' tax payment behaviour to their peers can increase tax compliance and payment. It may also induce additional incentives for firms to become tax compliant since publicly available information about tax compliance may affect consumer behaviour, perhaps steering customers towards tax compliant businesses.

5.3.1 Fiscal Deficit and Financing

(a) Deficit Financing and Its Composition

The government's fiscal deficit level should still remain at about 5% of GDP so that with 7%-8% GDP growth over the medium run there would be no question about debt sustainability. However, the government would need to diversify its sources of financing with proper mix of domestic and external financing, and on both fronts identify market based additional sources of financing. On the domestic borrowing front, dependence on National Savings Schemes and short-term treasury bills should give way to long-term treasury bills and bonds, infrastructure bonds, etc. with proper secondary market and a well-developed yield curve.

On the external front, the access to traditional concessional borrowing from official bilateral and multilateral sources should be increased and at the same time complemented with additional borrowings in the form of sovereign bonds of various maturities and other sources of financing. Even with increased access to concessional finance, its relative importance will decline over time as Bangladesh becomes a lower middle income country. In addition to the traditional access to multilateral institutions like the World Bank and ADB, the new Asian Infrastructure Bank is also expected to help mobilize concessional external financing for infrastructure investment in Bangladesh. The government should try to establish its relations with the international capital market by launching its first sovereign bond soon because external and domestic conditions are favourable for such a launch. These strategic transformations should be done on the basis of a comprehensive Government Financing and Debt Management Strategy to be prepared by the Debt Management Wing of the Ministry of Finance. This scenario is outlined briefly in table 5.7 below.

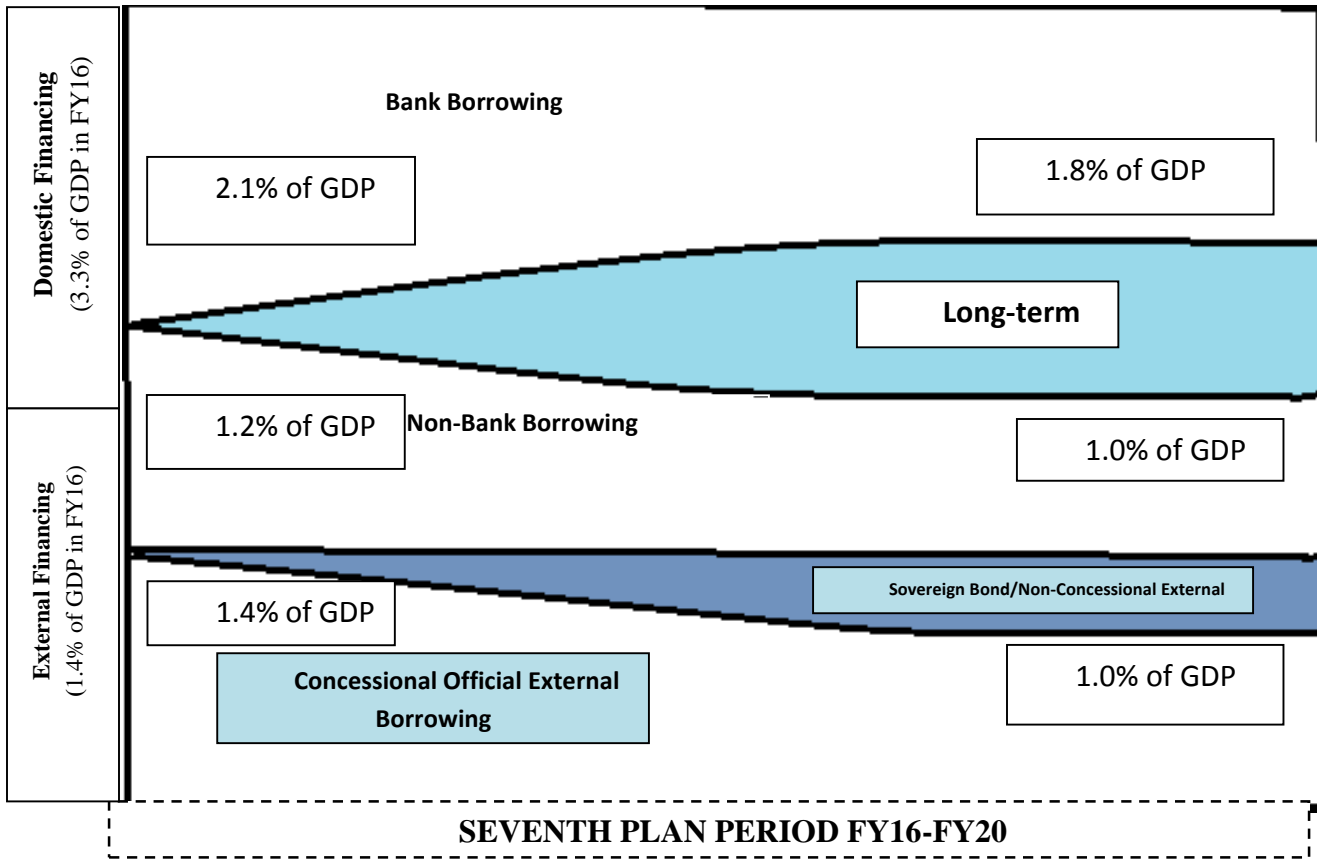
Table 5.7: Fiscal Deficit and Financing under Seventh Five Year Plan

As % of GDP	FY14	FY15	FY16	FY17	FY18	FY19	FY20
	Actual	Revised Budget	7 th FYP Period				
Fiscal Deficit (including Grants)	-3.1	-4.7	-4.7	-4.6	-4.7	-4.7	-4.7
Financing	3.1	4.7	4.7	4.6	4.7	4.7	4.7
Domestic Borrowing	2.8	3.6	3.3	3.4	3.5	3.6	3.7
-Bank	1.4	2.2	2.1	2.2	2.3	2.4	2.5
-Non-Bank	1.5	1.4	1.2	1.2	1.2	1.2	1.2
External Borrowing (net)	1.15	1.1	1.4	1.2	1.2	1.1	1.0

Source: Seventh Plan Projections based on Budget FY 16 data

While aggregate financing of the budget and its composition does not appear to change much in terms of broad outlooks, there may be substantial shifts within both domestic and external financing components of the budget. While the external financing outlook does not appear to change much, after taking into account the international developments in access to concessional financing and Bangladesh's economic progress, the composition of external financing in the budget for Bangladesh is likely to change to some extent over the period. In particular, access to concessional official multilateral and bilateral financing on a gross basis is likely to go down from existing proportion of GDP. To meet up the short-fall, the non-concessional windows of both multilateral agencies and international capital market through issuance of sovereign bonds may play significant role. Similarly, the Government would make efforts to develop the long-term domestic bond market by issuing longer maturity Government bonds and bills, and thereby reduce its dependence on borrowing through the National Savings Schemes.

Figure 5.6: Refocusing on Financing of the Deficit



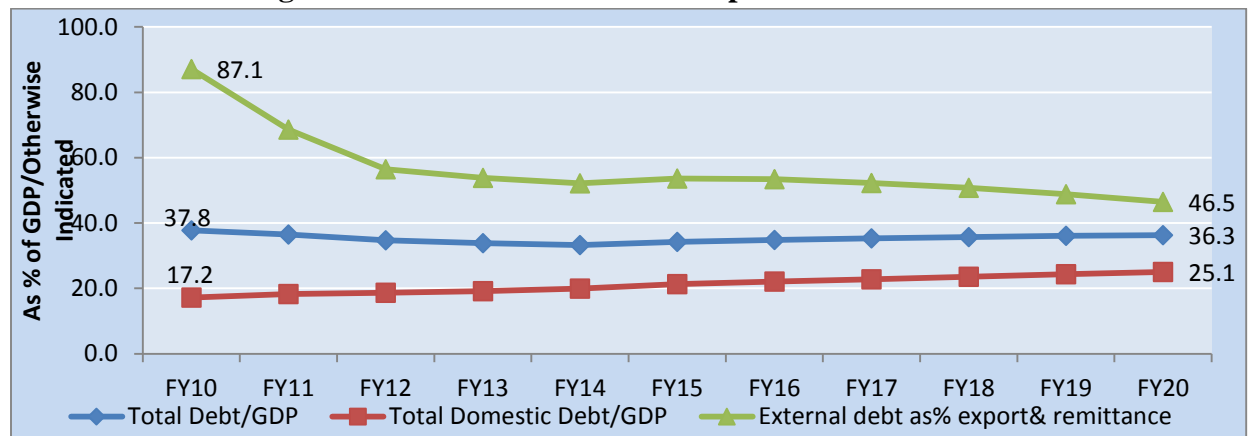
There is an issue of presenting the fiscal deficit on a “cash basis” as it is done currently, or on an “accrual basis” which better indicates the government fiscal balance and more consistent with international. For example cash collected on preliminary assessment and pending final disposal by the assessment authority or court should be shown separately from tax receipts, and only that amount which is collected on final assessment or court disposal may be taken into Consolidated Fund on a cash basis.

5.4 DEBT MANAGEMENT STRATEGY UNDER THE SEVENTH PLAN

The Government of Bangladesh has the solid track record of managing prudently its public debt and debt service payments. At about 35% of GDP, the level of government debt is not high by any international standards and it has been declining in relation to GDP in recent years. During the Sixth Plan period the debt/GDP ratio declined by 5 percentage points to about 35% of GDP in FY15. The decline has been entirely on account of external debt, which declined by 5.5 percentage point to 13% of GDP in FY15. Dependence on domestic debt however has increased by more than one percentage point to 21.3% of GDP in FY15, as expected, during the Sixth Plan. In relation to total government fiscal revenue, the decline in the debt burden was even more impressive, declining from more than 397.2% in FY10 to 317.3% of total government revenue in FY15.

External public debt as percent of receipts from exports and remittances also declined markedly during the Sixth Plan—from more than 68.6% to about 53.6% of exports and remittances in FY15.

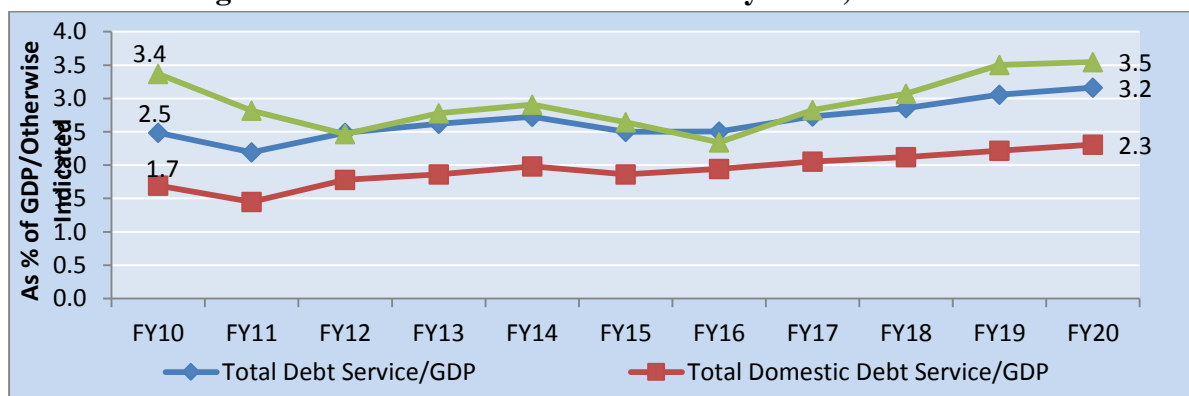
Figure 5.7: Total Debt and Its Components as % of GDP



Source: Bangladesh Bank and Seventh Plan Projections

The positive developments in debt level was also largely reflected in the corresponding reduction in total and external debt service indicators, pointing to Bangladesh’s strengthened capacity to service its debt service obligations. Total debt service as percent of total government revenue declined by almost 1 percentage point during the Sixth Plan period to 20.6% in FY15. External debt service as percent of exports and remittances remained fairly stable at a very low level of 2.7% throughout the Sixth Plan period. Total debt service as percentage of GDP however increased marginally (0.3 percentage point) to 2.5% of GDP in FY15, but still considered to be low by international standards

Figure 5.8: Indicators of Debt Service Payments, FY10-FY20



Source: Bangladesh Bank and Seventh Plan Projections

Debt Management under the Seventh Plan

Government’s public debt management strategy under the Seventh Plan will continue to be guided by prudent fiscal management, with the overall fiscal deficit limited to no more than 5% of GDP, with average targeted GDP growth of 7.4% for the plan period and fiscal deficit averaging 5% of

GDP over the same period would essentially contain the debt/GDP ratio broadly unchanged over the Plan period. As in the past, because of the deliberate government policy to continue increasing its dependence on domestic borrowing to finance the fiscal deficit level of domestic debt in relation to GDP will increase by more than 4 percentage points to 25.1% of GDP by FY20. At the same time, due to declining dependence on external financing, the burden of external debt will further decline by about 3 percentage points to 11.2% of GDP.

External Debt Management

The external financing strategy under the Plan will essentially maintain the current strategy of prudent external borrowing on best possible terms with maximum utilization of concessional official bilateral and multilateral borrowing. Many of the infrastructure projects in the transport and energy sector (like Matarbari Power Hub; Dhaka Metro Rail; Karnaphuli River Tunnel etc.) can be financed from concessional borrowing. Bangladesh can also implement projects to mitigate the adverse effects of climate change which can be funded under relevant multilateral initiatives. There is also scope for accelerating the pace of donor funded project implementation and reduce the very large aid pipeline which currently stands at more than \$19 billion (about 6 years of aid utilization).

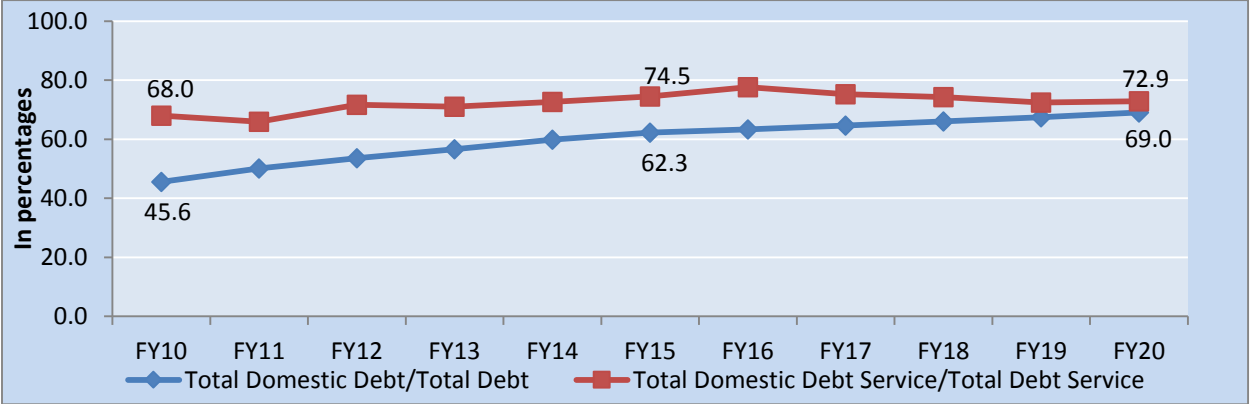
The external financing strategy under the Plan would also entail broadening of the sources of external financing, creating greater scope for private investors to secure external financing on better terms through reduced country/sovereign risk, and continued reliance on official bilateral and multilateral sources for financing large public sector projects or achieving social sector objectives under the Plan. As shown in Charts 4.10 and 4.11 above, continued reliance on this strategy would lead to a lower external debt and debt service burden over the Plan period. Sustaining this strategy will also help reduce Bangladesh's vulnerability to external shocks and help broaden access to international capital market by domestic borrowers and also reduce financing cost for domestic borrowers.

Domestic Debt Management

With the planned reduction in the reliance on external financing of the budget, reliance on domestic financing will increase and the level of outstanding domestic public debt would continue to increase. Since domestic borrowing may sometimes lead to crowding out of private sector investment, the amount of domestic borrowing will continue to be synchronized with the stance of monetary policy and the expected rapidly growing private sector credit demand so that there will be no conflict with the private sector leading to crowding out of the private sector. If properly planned, there will be enough flexibility on the part of the Government to increase its access to foreign financing—including issuance of sovereign bonds—to avoid emergence of any situation leading to crowding out of private sector credit from the banking sector. Efforts will also be made to reduce the high cost of domestic public borrowing in Bangladesh. The excessive dependence on non-bank borrowing in the form of issuing non-tradable old fashioned national Savings

Certificates at very high cost should give way to market-based instruments and interest rate savings. Interest payments on domestic debt are already the largest single budgetary expenditure item and it is also the fastest growing budgetary component. While domestic debt is at 60% of total public debt in FY15, the interest payments on domestic debt already account for more than 73% of estimated total interest payments in FY15. This trend is not healthy and should not continue for long; efforts will be made under the Seventh Plan to slow down the growth of domestic interest payments by reducing dependence on high cost borrowing.

Figure 5.9: Domestic Debt Indicators



Source: Bangladesh Bank and Seventh Plan Projections

Although the high cost of domestic debt servicing does not pose any major debt sustainability issue over the medium term, still it limits budgetary discretionary spending or primary (non-interest) budgetary spending and thereby constrains the fiscal space for undertaking priority programmes in the public sector. Accordingly, debt management reforms will be undertaken to make public borrowing cheaper and also help develop domestic bond market. The Government will also continue to keep rationalizing the interest rate structure of national savings instruments in line with interest rate developments in the money/bond market.

5.5 PUBLIC INVESTMENT PRIORITIES

The Government of Bangladesh has a strong track record of expenditure control and prioritization, given the limited public sector resource mobilization and the need to maintain macroeconomic stability. Using the available resources effectively to ensure realization of the Seventh Plan social and economic objectives will be most important. Ensuring quality of public spending will be the key to ensure appropriate economic and social return on investment and also to invigorate private sector investment in the economy. Accordingly, the Government will be paying enhanced attention to implementation capacity, governance and result-based monitoring and evaluation (M&E) under the Plan. Issues related to the plan implementation are discussed in Chapter 6.

Public investment priorities will be determined on the basis of realization of key Seventh Plan targets with respect to real GDP growth, poverty reduction and social protection for the poor and vulnerable, human resource development, enhancing social equity through inclusive growth and

ensuring the sustainability of growth through continued macroeconomic stability. In addition, annually around 2% of GDP will be allocated to the investment programmes which will be related to ‘Bangladesh Delta Plan 2100’. Government will form a Delta Fund for mobilising necessary resources to implement Delta Plan. The detail of total public investment and the amount of ADP in current prices and constant prices are summarized in table 5.8. A sector wise summary of the proposed sectoral allocations of planned public investment in constant (FY16) and in current prices are shown in Tables 5.9 and 5.10, respectively. The ministry wide mapping of these allocations in current and constant prices is shown in Annex Tables 5.1 and 5.2. These are indicative allocations and will be reviewed in the context of annual budget cycles after taking into account actual availability of resources, programme implementation by the line ministries, and changing national priorities. Detailed sectoral objectives, Plan targets, strategies and policies to achieve the targets are discussed in sectoral chapters in Part 2 of the Seventh Plan document.

Table 5.8: Public Investment Breakdown

Public Investment (Taka billions)	FY16	FY17	FY18	FY19	FY20
Current Prices					
Total Public Investment	1101	1388	1643	1920	2245
ADP	970	1210	1442	1690	1983
FY2016 Prices					
Total Public Investment	1101	1,309	1480	1,641	1,840
ADP	970	1141	1288	1431	1601
Nominal GDP	17167	19517	22177	25223	28739
Total Public Investment/GDP (%)	6.4	7.1	7.4	7.6	7.8

Source: FY 16 data and Seventh Plan Projections

Table 5.9: Seventh Plan Sectoral ADP Allocations (Taka billion)

ADP by Broad Categories in Current Prices						
Sl. No.	Sector	7th Five Year Plan Projections				
		FY16	FY17	FY18	FY19	FY20
1	General Public Services	41.8	32.8	39.0	45.8	53.7
2	Defence	4.2	3.2	3.8	4.4	5.2
3	Public Order and Safety	15.3	19.1	22.7	26.6	31.2
4	Industrial and Economic Services	21.0	31.7	39.5	48.5	59.0
5	Agriculture	59.0	79.7	94.9	111.3	130.8
6	Power and Energy	184.8	203.0	212.6	249.2	292.5
7	Transport and Communication	234.3	294.9	347.6	405.4	477.5
8	Local Government and Rural Development	181.8	225.3	268.2	314.4	368.9
9	Environment and Climate Change	4.8	7.3	8.6	10.1	11.9
10	Housing and Community Amenities	18.9	17.6	20.9	24.5	28.8
11	Health	53.3	67.9	80.9	96.3	115.0
12	Recreation, Culture and Religion	8.3	10.7	12.4	14.5	17.1
13	Education and Technology	121.1	184.1	231.7	272.4	320.0
14	Social Protection	37.5	50.0	59.7	70.1	82.5
TOTAL		970.4	1210.1	1441.5	1689.9	1983.0

Source: FY16 Budget and MTBF Data and Seventh Plan Projections

Table 5.10: Seventh Plan Sectoral Public Investment Allocation (Taka billion)

ADP by Broad Categories in Constant FY16 Prices						
Sl. No.	Sector	7th Five Year Plan Projections				
		FY16	FY17	FY18	FY19	FY20
1	General Public Services	41.8	30.9	34.9	38.8	43.4
2	Defence	4.2	3.0	3.4	3.8	4.2
3	Public Order and Safety	15.3	18.0	20.3	22.5	25.2
4	Industrial and Economic Services	21.0	29.9	35.2	41.0	47.7
5	Agriculture	59.0	75.2	84.8	94.2	105.6
6	Power and Energy	184.8	191.5	189.9	211.1	236.1
7	Transport and Communication	234.3	278.2	310.5	343.3	385.5
8	Local Government and Rural Development	181.8	212.6	239.6	266.2	297.8
9	Environment and Climate Change	4.8	6.8	7.7	8.6	9.6
10	Housing and Community Amenities	18.9	16.6	18.7	20.8	23.2
11	Health	53.3	64.0	72.2	81.6	92.8
12	Recreation, Culture and Religion	8.3	10.1	11.1	12.3	13.8
13	Education and Technology	121.1	173.7	207.0	230.6	258.3
14	Social Protection	37.5	47.1	53.3	59.4	66.6
TOTAL		970.4	1141.6	1287.8	1431.0	1600.7

Source: Seventh Plan Projections

5.6 TOWARDS A SYNERGISTIC DEVELOPMENT PARTNERSHIP

Bangladesh's target of becoming a middle-income country calls for huge investments from both internal and external sources. Assistance from different development partners in the form of loan and grant is one of the major sources of the country's resource base. Though foreign assistance as percentage of GDP is declining, the volume is on steady rise in absolute terms. ODA is accounted for 33% of Annual Development Programme (ADP) expenditure in 2013-14. Thus, one of the key strategies of the Seventh Five Year Plan will be to ensure effective partnership with development partners to ensure better use and results of foreign assistance.

Understanding the problems of aid utilization for sustained development and ways of effective utilization of aid the world community endorsed the Paris Declaration on Aid Effectiveness (2005), the Accra Agenda for Action (2008) and the Busan Partnership (2011) which underscore that development assistance need to be fully aligned with national priorities and spell out a number of measures for its effective utilization. These international agreements provide a practical and an action oriented roadmap to achieve sustainable development through effective utilization of development assistance. The Global Partnership for Effective Development Cooperation (GPEDC) created after the Busan high level meeting in 2011 is the dedicated multi-stakeholder platform to promote the global development effectiveness agenda and oversee its implementation. Bangladesh is a member of the steering committee of the GPEDC. Effective use of development cooperation has been important for some other important reasons. Both aid providing and receiving governments at times face criticisms from the public of the countries for failure of foreign aid. On

the other hand, economic meltdown in many donor countries of the West may result in less chance of getting aid continued and guaranteed basis.

Different internal and international assessments and studies have argued that despite global commitments and local measures, challenges to development effectiveness continue in Bangladesh. The major challenges include: (1) continued proliferation of stand-alone projects and heavy aid fragmentation, (2) less vibrant coordination in sector level working groups resulting in less alignment with sectoral plan (3) low harmonization and low use of country systems, (4) despite some improvements, low aid predictability still continues, (5) weak coordination between government agencies resulting in less coherent understanding regarding key issues of development cooperation and poor leadership in policy dialogues.

In order to ensure that foreign aid delivers result, Bangladesh has established a formal mechanism of partnership with development partners working in Bangladesh through the signing of a Joint Cooperation Strategy (JCS) in 2010. Premised on the Paris Principles of aid effectiveness, the JCS primarily aims to translate the international commitments on aid effectiveness at the country level. Anchored in the JCS, Local Consultative Group (LCG) is the main platform for coordination between the government and DPs in Bangladesh.

Bangladesh holds its dialogue with its DPs through the Bangladesh Development Forum (BDF) and the Local Consultative Group (LCG) Mechanism. The BDF is a high level political forum which takes place every few years and includes not only government and DPs, but also parliament, civil society, academia and private sector. The LCGs under different thematic areas are Co-chaired by the Secretary/Member of the Ministries/Division/Planning Commission and one DP. Government and DP high level leadership in strengthening the coordination mechanism has allowed to firmly institutionalize the coordination system over the past years. The LCG now includes 18 working groups, each comprised of a GoB chair and a DP co-chair and focused on a specific national development priority. Each group is a forum to facilitate discussion and collaboration, to take decisions and move results in the priority sectors. The regular LCG meetings have led to a more regular constructive development dialogue and have significantly improved the relations between DPs and GoB. An LCG review in 2014 found that after the signing of the Joint Cooperation Strategy, GoB participation in LCG WGs has noticeably increased. During the 7th Five Year Plan period, government will continue its efforts to strengthen the JCS and the LCG, keeping up with the evolving partnership needs.

To maximize the impact of development activities, the effective management of development assistance is essential. Governments with a robust capacity to manage development finance are better able to allocate resources where they are needed most and according to their national strategies and public investment programmes. To achieve the global goals and ensure effective utilization of aid, GoB should have highly trained, efficient and dynamic in house coordination officers, who will be capable to set forth the implementation of the ERD capacity development strategy which was recently initiated, run the Aid Information Management System and house the LCG secretariat.

The 7th FYP aims at more vibrant and synergistic partnership by addressing the current challenges that inhibit the effectiveness of development cooperation. However, a synergistic partnership requires a number of things to be implemented by the government. A national Policy on Development Cooperation is being prepared to guide development cooperation in Bangladesh from a wider, strategic perspective. The 7th FYP envisages that all DPs align their country assistance strategies with the goals and sectoral targets of the Government. Leadership of government line Ministries in the LCG sectoral working group is key to ensure development partners' policy alignment and system harmonization. Economic Relations Division (ERD) as the principal gateway to development assistance issues should map comprehensive work plan to reach out to all government line Ministries to ensure that they all are on the same wavelength when dealing with foreign assistance.

The government is proactively creating enabling environment for disclosure of public documents with the enactment of Right to Information Act and establishment of the independent Information Commission; it is important that public has the access to aid data and project documents to ensure aid transparency and accountability. This 7th FYP stipulates that all aid data be made public and the Aid Information Management System (AIMS) should be the principal means of data sharing by DPs in Bangladesh.

5.7 RISK AND CHALLENGES

Public sector resource mobilization has always been the most important constraint in expanding the investment programme to meet the growing infrastructure demand, and meet the needs of expanding social spending in education, health and social protection. The revenue targets established for the national Board of Revenue is ambitious, but supported by proper policy and administrative reforms and automation of tax administration the targets are certainly attainable. The major challenge will be in changing the culture outdated practices associated with NBR revenue administration and steadily moving toward a modern IT and accounts based administration of the VAT and direct tax systems. Effective implementation of the NBR modernization Plan including automation of the VAT and direct tax administration will be preconditions for the success of the domestic revenue mobilization strategy.

Projections for external financing are reasonable and broadly in line with the borrowing pattern observed in recent years. While the size of external borrowing will continue to rise in dollar terms, in relative terms there will be a significant further reduction in the reliance on external financing of the budget during the Plan period, broadly in line with the pattern observed in recent years under the Sixth Plan. The sustained reduction of external debt and debt service payments in relation to GDP and exports of goods and remittances, respectively, would certainly reduce Bangladesh's vulnerability to external shocks. Such an improvement in the external debt and debt service outlook would also enhance Bangladesh's capacity to service its external obligations and would allow it to access international capital market if the Government desires to do so.

There should not be any major problem with the financing of the Plan from the domestic bank and nonbank sources. The projected domestic borrowing under the Plan is consistent with credit needs of the private sector and inflation targets. Nevertheless, because the planned domestic borrowing from these two sources will be sizable, it will require better coordination between monetary and fiscal policy in order to avoid any potential scope for crowding out of private sector credit. The sources of domestic financing and the interest rates paid on non-bank borrowing would need to be rationalized with the developments in the market-based interest rate structure and the sources of domestic borrowing should also be widened with a view to reducing the rapidly growing domestic debt servicing burden. Development of domestic bond market with proper development of the regulatory regime and the demand and supply side of the domestic bond market will be important for diversifying the domestic financing sources.

CHAPTER 5: ANNEX TABLES

Annex Table 5.1: Ministry- Wise Annual Development Programme Allocation in the Seventh Plan: ADP by Ministry (FY16-FY20)

No.	Sector	Ministry/Division	ADP in Current Prices				
			FY16	FY17	FY18	FY19	FY20
1	General Public Services	1. Parliament	0.1	0.4	0.4	0.5	0.6
		2. Prime Minister's Office	5.0	6.6	7.8	9.2	10.8
		3. Cabinet Division	0.1	0.1	0.1	0.2	0.2
		4. Election Commission	9.7	4.0	4.8	5.6	6.5
		5. Ministry of Public Administration	1.6	1.9	2.3	2.7	3.2
		6. Public Service Commission		0.4	0.4	0.5	0.6
		7. Finance Division	4.3	4.0	4.8	5.6	6.6
		8. Internal Resources Division (IRD)	4.6	6.8	8.1	9.5	11.1
		9. Bank and Financial Institution Division	1.1	0.5	0.6	0.7	0.8
		10. Economic Relations Division	0.6	0.6	0.7	0.8	1.0
		11. Planning Division	10.3	1.2	1.5	1.7	2.0
		12. Implementation, Monitoring and Evaluation Division	1.2	1.7	2.0	2.3	2.7
		13. Statistics and Informatics Division	2.2	3.1	3.7	4.4	5.2
		14. Ministry of Foreign Affairs	1.2	1.5	1.7	2.0	2.4
TOTAL			41.8	32.8	39.0	45.8	53.7
2	Local Government and Rural Development	1. Local Government Division	166.5	203.4	242.1	283.8	333.0
		2. Rural Development and Co-operatives Division	10.2	14.5	17.3	20.3	23.8
		3. Ministry of Chittagong Hill Tracts Affairs	5.1	7.4	8.8	10.3	12.1
TOTAL			181.8	225.3	268.2	314.4	368.9
3	Defence	Ministry of Defence	4.2	3.2	3.8	4.4	5.2
TOTAL			4.2	3.2	3.8	4.4	5.2
4	Public Order and Safety	1. Law and Justice Division	3.3	4.6	5.5	6.5	7.6
		2. Supreme Court	0.0	0.2	0.3	0.3	0.4
		3. Ministry of Home Affairs	11.9	14.0	16.7	19.6	23.0
		4. Anti-Corruption Commission	0.1	0.0	0.0	0.0	0.0
		5. Legislative and Parliamentary Affairs Division	0.1	0.1	0.2	0.2	0.2
TOTAL			15.3	19.1	22.7	26.6	31.2
5	Education and Technology	1. Ministry of Primary and Mass Education	55.4	87.0	104.1	122.4	144.0

		2. Ministry of Education	42.0	59.6	71.0	83.7	98.2
		3. Ministry of Science and Technology	13.0	23.9	40.3	47.3	55.5
		4. Information and Communication Technology Division	10.7	13.7	16.3	19.1	22.4
TOTAL			121.1	184.1	231.7	272.4	320.0
6	Health (TOTAL)	Ministry of Health and Family Welfare	53.3	67.9	80.9	96.3	115.0
7	Social Protection	1. Ministry of Social Welfare	2.0	6.9	8.4	10.0	11.9
		2. Ministry of Women and Children Affairs	1.5	4.0	4.7	5.5	6.5
		3. Ministry of Liberation War Affairs	4.4	4.6	5.5	6.4	7.5
		4. Ministry of Food	6.3	9.1	10.8	12.7	14.9
		5. Ministry of Disaster Management and Relief	23.3	25.4	30.3	35.5	41.6
TOTAL			37.5	50.0	59.7	70.1	82.5
8	Housing & Community Amenities (TOTAL)	Ministry of Housing and Public Works	18.9	17.6	20.9	24.5	28.8
9	Recreation, Culture and Religion	1. Ministry of Information	1.3	1.8	2.1	2.5	2.9
		2. Ministry of Cultural Affairs	1.3	1.4	1.6	1.9	2.2
		3. Ministry of Religious Affairs	2.5	2.7	3.2	3.8	4.4
		4. Ministry of Youth and Sports	3.3	4.8	5.5	6.4	7.5
TOTAL			8.3	10.7	12.4	14.5	17.1
10	Power and Energy	1. Energy and Mineral Resources Division	19.9	34.5	41.1	48.2	56.6
		2. Power Division	164.9	168.5	171.5	201.0	235.9
TOTAL			184.8	203.0	212.6	249.2	292.5
11	Agriculture	1. Ministry of Agriculture	18.4	27.5	32.8	38.4	45.1
		2. Ministry of Fisheries and Livestock	8.0	8.7	10.4	12.2	14.3
		4. Ministry of Land	2.0	2.4	2.9	3.4	4.2
		5. Ministry of Water Resources	30.6	41.0	48.9	57.3	67.3
TOTAL			59.0	79.7	94.9	111.3	130.8
12	Industrial and Economic Services	1. Ministry of Industries	12.3	18.4	21.9	25.7	30.2
		2. Ministry of Textiles and Jute	1.8	2.3	2.8	3.2	3.8
		3. Ministry of Commerce	2.2	1.9	2.2	2.6	3.1

		4. Ministry of Labour and Employment	2.1	3.6	5.8	8.4	11.9
		5. Ministry of Expatriates' Welfare and Overseas Employment	2.5	5.4	6.8	8.4	10.1
TOTAL			21.0	31.7	39.5	48.5	59.0
13	Transport and Communication	1. Road Transport and Highways Division (RTHD)	56.8	69.2	82.3	96.5	113.2
		2. Ministry of Railways	56.5	63.8	76.0	89.1	104.5
		3. Ministry of Shipping	10.8	11.3	13.5	15.8	18.5
		4. Ministry of Civil Aviation and Tourism	3.3	4.2	5.3	6.4	7.7
		5. Posts and Telecommunications Division	17.7	18.7	19.1	20.2	25.3
		6. Bridges Division	89.2	127.7	151.4	177.5	208.3
TOTAL			234.3	294.9	347.6	405.4	477.5
14	Environment and Climate Change (TOTAL)	3. Ministry of Environment and Forests	4.8	7.3	8.6	10.1	11.9
TOTAL DEVELOPMENT EXPENDITURE			970.4	1210.1	1441.5	1689.9	1983.0

Annex Table 5.2: Ministry- Wise Annual Development Programme Allocation in the Seventh Plan

ADP by Ministry (FY16-FY20)

No.	Sector	Ministry/Division	ADP in Constant FY16 Prices				
			FY16	FY17	FY18	FY19	FY20
1	General Public Services	1. Parliament	0.1	0.3	0.4	0.4	0.5
		2. Prime Minister's Office	5.0	6.2	7.0	7.8	8.7
		3. Cabinet Division	0.1	0.1	0.1	0.1	0.2
		4. Election Commission	9.7	3.8	4.2	4.7	5.3
		5. Ministry of Public Administration	1.6	1.8	2.1	2.3	2.6
		6. Public Service Commission	0.0	0.3	0.4	0.4	0.5
		7. Finance Division	4.3	3.8	4.3	4.8	5.3
		8. Internal Resources Division (IRD)	4.6	6.4	7.2	8.0	9.0
		9. Bank and Financial Institution Division	1.1	0.5	0.5	0.6	0.6
		10. Economic Relations Division	0.6	0.6	0.6	0.7	0.8
		11. Planning Division	10.3	1.2	1.3	1.4	1.6
		12. Implementation, Monitoring and Evaluation Division	1.2	1.6	1.8	2.0	2.2

		13. Statistics and Informatics Division	2.2	3.0	3.3	3.7	4.2
		14. Ministry of Foreign Affairs	1.2	1.4	1.5	1.7	1.9
TOTAL			41.8	30.9	34.9	38.8	43.4
2	Local Government and Rural Development	1. Local Government Division	166.5	191.9	216.2	240.3	268.8
		2. Rural Development and Co-operatives Division	10.2	13.7	15.5	17.2	19.2
		3. Ministry of Chittagong Hill Tracts Affairs	5.1	7.0	7.9	8.7	9.8
TOTAL			181.8	212.6	239.6	266.2	297.8
3	Defence (TOTAL)	Ministry of Defence	4.2	3.0	3.4	3.8	4.2
4	Public Order and Safety	1. Law and Justice Division	3.3	4.4	4.9	5.5	6.1
		2. Supreme Court	0.0	0.2	0.3	0.3	0.3
		3. Ministry of Home Affairs	11.9	13.3	14.9	16.6	18.6
		4. Anti-Corruption Commission	0.1	0.0	0.0	0.0	0.0
		5. Legislative and Parliamentary Affairs Division	0.1	0.1	0.1	0.2	0.2
TOTAL			15.3	18.0	20.3	22.5	25.2
5	Education and Technology	1. Ministry of Primary and Mass Education Ministry	55.4	82.0	93.0	103.6	116.2
		2. Ministry of Education	42.0	56.2	63.4	70.8	79.2
		3. Ministry of Science and Technology	13.0	22.5	36.0	40.0	44.8
		4. Information and Communication Technology Division	10.7	12.9	14.5	16.1	18.1
TOTAL			121.1	173.7	207.0	230.6	258.3
6	Health (TOTAL)	Ministry of Health and Family Welfare	53.3	64.0	72.2	81.6	92.8
7	Social Protection	1. Ministry of Social Welfare	2.0	6.5	7.5	8.4	9.6
		2. Ministry of Women and Children Affairs	1.5	3.7	4.2	4.7	5.2
		3. Ministry of Liberation War Affairs	4.4	4.3	4.9	5.4	6.1
		4. Ministry of Food	6.3	8.6	9.7	10.7	12.0
		5. Ministry of Disaster Management and Relief	23.3	24.0	27.0	30.1	33.6
TOTAL			37.5	47.1	53.3	59.4	66.6
8	Housing & Community Amenities (TOTAL)	Ministry of Housing and Public Works	18.9	16.6	18.7	20.8	23.2
9		1. Ministry of Information	1.3	1.7	1.9	2.1	2.4
		2. Ministry of Cultural Affairs	1.3	1.3	1.4	1.6	1.8

	Recreation, Culture and Religion	3. Ministry of Religious Affairs	2.5	2.5	2.9	3.2	3.6
		4. Ministry of Youth and Sports	3.3	4.6	4.9	5.4	6.1
TOTAL			8.3	10.1	11.1	12.3	13.8
10	Power and Energy	1. Energy and Mineral Resources Division	19.9	32.6	36.7	40.8	45.7
		2. Power Division	164.9	159.0	153.2	170.2	190.4
TOTAL			184.8	191.5	189.9	211.1	236.1
11	Agriculture	1. Ministry of Agriculture	18.4	26.0	29.3	32.5	36.4
		2. Ministry of Fisheries and Livestock	8.0	8.2	9.3	10.3	11.5
		4. Ministry of Land	2.0	2.3	2.6	2.9	3.4
		5. Ministry of Water Resources	30.6	38.7	43.7	48.5	54.3
TOTAL			59.0	75.2	84.8	94.2	105.6
12	Industrial and Economic Services	1. Ministry of Industries	12.3	17.4	19.6	21.8	24.4
		2. Ministry of Textiles and Jute	1.8	2.2	2.5	2.7	3.1
		3. Ministry of Commerce	2.2	1.8	2.0	2.2	2.5
		4. Ministry of Labour and Employment	2.1	3.4	5.2	7.2	9.6
		5. Ministry of Expatriates' Welfare and Overseas Employment	2.5	5.1	6.1	7.2	8.2
TOTAL			21.0	29.9	35.2	41.0	47.7
13	Transport and Communication	1. Road Transport and Highways Division (RTHD)	56.8	65.3	73.5	81.7	91.4
		2. Ministry of Railways	56.5	60.2	67.9	75.4	84.4
		3. Ministry of Shipping	10.8	10.7	12.0	13.4	15.0
		4. Ministry of Civil Aviation and Tourism	3.3	4.0	4.8	5.4	6.2
		5. Posts and Telecommunications Division	17.7	17.6	17.1	17.1	20.4
		6. Bridges Division	89.2	120.4	135.3	150.3	168.1
TOTAL			234.3	278.2	310.5	343.3	385.5
14	Environment and Climate Change	1. Ministry of Environment and Forests	4.8	6.8	7.7	8.6	9.6
TOTAL DEVELOPMENT EXPENDITURE			970.4	1141.6	1287.8	1431.0	1600.7

CHAPTER 6

MONITORING AND EVALUATION

The Sixth Five Year Plan marked a decisive shift from the earlier approach of undertaking monitoring and evaluation (M&E) of the plan and associated programmes by tracking spending to a more results based M&E system which jointly assesses public spending and achievement of objectives. In particular, a results-based M&E exercise at the macro-level is important for understanding the socio-economic direction of the country. The central motivation underlying this move is to promote greater transparency and accountability in public spending as the GoB recognizes that an effective M&E system necessitates the use of a results oriented mind-set that facilitates greater use of information for evidence based decision making. Without a solid M&E capability, there is a risk that resources might get locked in over the medium-term into programs that are not working or relevant in the changing economic environment. A strong M&E capacity is therefore an urgent national priority. Moreover, while previous M&E system only focused on financial and physical implementation of projects and polices, the results based M&E system introduced a Development Results Framework (DRF) to monitor the core set of development outcomes under the Sixth Plan so that policymakers can evaluate if targets and outcomes are being achieved or not. In other words, it helps policymakers examine if ground-zero realities are changing due to their efforts.

Nonetheless, while the GoB acknowledges that the introduction of the results-based M&E is a notable step forward in assessing the overall performance of the country, the First Implementation Review identified some important gaps in the previous results framework. First, the review noted that the results framework was put together without an adequate back ground work as some of the selected indicators were not reflective of the Sixth Plan objectives and targets. The problem was particularly noticeable in the case of governance indicators which were not based on adequate analysis of the major governance deficits in Bangladesh and how progress might be monitored in the context of the Sixth Plan. Second, data constraints emerged while implementing the results-based M&E. Even when the data is available, its frequency is not helpful for effective policymaking as some of the sectoral data is only available every three to five years. In some cases, the quality of the data is also questionable as surveys producing the required data either indulged in frequent definitional changes, or due limitations within survey coverage and occurrence of reporting errors.

In this backdrop, the Seventh Five Year Plan translates this priority in concrete terms by outlining institutional reforms and activities that will be implemented by policymakers between 2015 and 2020 to move towards an effective results-based M&E. In doing so, the GoB acknowledges that a comprehensive Development Results Framework is required for monitoring results of the Seventh

Five Year Plan. Since most the elements of the Seventh Plan fall under the purview of the macro level, the focus of the exercise is on the various aspects of macro level M&E system.

6.1 TOWARDS A RESULTS-BASED M&E SYSTEM: STRATEGY UNDER THE SEVENTH PLAN

While the Seventh Plan takes specific steps to move towards a results-based M&E and strengthen the process initiated during 6th FYP. This system is likely to bring about major political and cultural changes in the way governments and organizations operate- leading to improved performance, increased accountability and transparency, learning and knowledge. In the specific context of Vision 2021 and the Seventh Plan, a results-based M&E is recognized as critical to helping the Government track and monitor progress with implementation of the respective targets and take corrective actions when major gaps or divergences emerge.

However, the lack of capacity and broad-based awareness of the importance of a results-based M&E is a major challenge. Data generation for the set of indicators and their useful analysis remains a formidable task. Most importantly, there is a clear lack of institutions and institutional coordination in terms of who will manage the overall M&E process which involves: (i) ensuring that the necessary data is generated in a timely and reliable fashion; (ii) the data is examined adequately to shed insights on the progress; (iii) the findings are disseminated to all relevant state and non-state actors so that better public policies are formulated and implemented to support the progress. Thus, to mitigate such institutional, structural and policy deficits, which undermines the overall state of results-based M&E system within the public sector, the principle strategy of the GoB will be to undertake major institutional reforms and implement a comprehensive set of activities that will create a conducive environment for an effective M&E culture.

6.2 INSTITUTIONAL FRAMEWORK FOR M&E

The M&E framework should be best seen as a dynamic process. Considering data and capacity limitations, the M&E process will evolve and mature over time. Lessons from international experience on good practices are certainly helpful in starting the process in the right direction, but these experiences will be tailored to the Bangladesh context and the underlying constraints. In other words, there is an element of ‘best-fit’ approach as oppose to a ‘best-practice’ method while conceptualizing policies and institutional designs that transfers over from other developing or developed nations to Bangladesh.

As a result, an effective M&E strategy calls for a combination of institutions, quantitative targets and benchmark, data and political commitment. In Bangladesh, the Government has already provided political support and interest in developing an effective results-based M&E as articulated in the Sixth Plan. This level of political commitment is not easy to get in many developing countries. Even where political will prevails, technical capacity and data limitations will likely

constrain the scope and approach to M&E. Accordingly, more pragmatic solutions need to be adopted, which are discussed in the following sections

The assignment of the Planning Commission as the focal point for M&E strategy is a welcome development. Simultaneously with the adoption of the medium-term budgetary framework (MTBF) as the main instrument for coordination with national planning and fiscal management, the role of M&E at the line ministry level also gains significance. While the Planning Commission rightly focuses on developing a nation-wide M&E framework in coordination with the Ministry of Finance and the line ministries, its own M&E focus is on high level outcomes related to the implementation of the national plans and major policies. Hence, to further strengthen the capacity of the Planning Commission in guiding the overall M&E process, more institutional reforms and capacity building measures are required under the Seventh Plan timeframe, which will be detailed out in the subsequent sections.

6.2.1 Implementation Monitoring and Evaluation Division (IMED)

To enable IMED do proper results-based M&E, GoB will undertake a thorough review of the present functions, accountabilities and capacities of IMED. Based on a proper diagnostics, the IMED role will be redefined. Along with this redefined role, the capacity of IMED will be developed with proper staffing, technology and other resources. This is clearly a long-term effort. Yet, the IMED reform programme will identify intermediate incremental steps to move forward with its proper implementation.

The GoB will also use IMED to undertake impact assessment of project with the help of both experimental and non-experimental data so that M&E at the micro-level moves beyond simply tracking the financial and physical completion of the projects. IMED will be encouraged to develop collaboration with non-state actors, such as experts and think-tanks.

6.2.2 Line Ministries

The line Ministries constitutes the main agencies who implement government policies and programmes. They play the key role in developing and implementing projects. As such, they are a critical player in revamping the M&E framework. In addition to reforming the coordinating units in the Planning Commission, the M&E capabilities of the line ministries themselves will be strengthened. This responsibility will be assigned to the Planning Wings of the line ministries. Moreover, these wings will be strengthened with trained officials and technology to prepare project performance reports and results data. They in turn will coordinate with the responsible unit of the Planning Commission (i.e. Sector Division, GED). GED will provide beforehand the agreed M&E results framework to each line ministry so that each ministry knows its commitments and the benchmark against which performance will be evaluated. An iterative process will be necessary to get the required information for doing proper M&E.

Thus, to ensure that line Ministries become an important agent for the M&E exercise, the following steps will be undertaken under the Seventh Plan's timeframe. First, a comprehensive training

modules and manuals will be developed that are demanded by the civil servants for effective understanding and operationalization of the result-based M&E system. Second, a capacity building plan will be developed which will pinpoint how line ministries will design an M&E strategy, so that sufficient incentives are available for staffs to effectively undertake M&E for all its projects. Third, revision of existing good practice for a results-based M&E from relevant international experience so that some lessons can be drawn to improve the existing results based M&E system of line Ministries.

6.2.3 Bangladesh Bureau of Statistics (BBS)

At the national level, the Bangladesh Bureau of Statistics (BBS) is the primary data institution in Bangladesh. The BBS role has slowly evolved and over time has developed substantial experience and competence in providing a range of data at a national, district, and sectoral basis. Strengthening of the BBS is probably the topmost priority for instituting a result based M&E. Under the Seventh Plan time interval, the Government will offer greater effort to generate high quality data in a timely fashion by strengthening the capacity and scope of BBS. Thus, to overcome such constraints, the GoB will undertake the following initiatives:

First, BBS produced and published an actionable National Strategy for the Development of the Statistics (NSDS) report with strategic directions, policies and institutional reforms for strengthening the BBS. Hence, under the Seventh Plan time interval, continuous effort will be given to implement policies identified within the NSDS report. More specifically, greater efforts will be given to strengthen data collection in a few major areas that are particularly important to support an M&E effort: special surveys to supplement HIES at a more frequent interval (ideally on a yearly basis), national accounts and budget data at a district level, data on private investment, data on capital stock, data on selected indicators of governance.

Second, BBS will undertake small scale surveys for enabling regular and frequent monitoring and evaluation exercise. Given financial as well as capacity constraint, it is difficult to conduct annual surveys in a large scale. The alternative therefore is to conduct interim surveys at much smaller scale both in terms of coverage of the sample as well as numbers of areas covered and questions asked. These surveys will typically serve the purpose of adding interim data points to the existing large scale surveys and thereby enabling regular monitoring of selected indicators. Given the required cost of annual surveys, biannual surveys will be conducted which will enable much better tracking of performance given the cost constrain. The areas that are chosen for such biannual surveys are: (i) Household Survey for monitoring of poverty head count rate⁷; (ii) Labour Force Survey for monitoring of (a) percentage of women employed in the formal sector, (b) percentage of urban population with regular employment, (iii) Household Survey for monitoring indicators of

⁷Poverty data at the Upazila level will be generated every two years so that authorities can monitor regional disparity on a timely basis and also effectively evaluate how poverty alleviating policies are functioning. The existing poverty maps which are produced every five years makes it extremely difficult to undertake rigorous programme evaluation since effective M&E is not possible with obsolete data or data with long time lags between them.

health, e.g. (a) prevalence of underweight in children under 5 years; (b) percentage of births attended by skilled health personnel; (c) percentage of people using contraceptive etc.

Finally the GoB will dedicate resources to ensure that BBS produce GDP data on a quarterly basis at both the district and national level. This will allow policymakers to evaluate the effects of changes in fiscal and monetary policies in quasi-real time.

6.3 GED'S RESPONSIBILITY FOR MACRO-LEVEL M&E

As part of a nation-wide M&E framework, the SFYP assigned GED with the responsibility for the macro-level M&E related to the implementation of national plans and major policies. It is now necessary to strengthen its capacity. The effort again will be long-term, but it is possible to start in a phased manner. GED has already developed some capacity in the context of designing a Development Results Framework (DRF) for the Seventh Five Year Plan. As a result, this will be used as a starting point to scale up the effort. As a first step, GED will be assigned responsibility for doing 1st annual implementation review of the Seventh Plan in 2016. A dedicated Results-Based Monitoring and Evaluation (RBM) Unit will be institutionalized within GED to carry out these responsibilities. It is important to mention that RBM Unit will be the most crucial institution in operationalizing the entire macro-level results-based M&E system and a large range of activities will be under taken within the Seventh Plan time interval to achieve this outcome.

In this context, the Government recognizes that to strengthen GED capacity undertaking the aforementioned responsibilities, specific institutional rearrangements will be needed. First, the culture of frequent turnover of staff will be minimized for the officials of GED. Second, the work programme of the current Poverty Analysis and Monitoring Wing of GED will be redefined to make Seventh Plan related M&Es as a key part of its accountability. To deliver this accountability, GED will require technical assistance that could be funded through donor support. On the whole, over the Seventh Plan time interval, the capacity of GED will be built up with range of activities aimed at improving staffing, skills and technology.

6.3.1 Institutional Arrangement for RBM&E Unit

The proposed Unit should keep in front the following key objectives in order to establish an effective Results-Based Monitoring and Evaluation Unit:

- To cooperate with other stakeholders in the Planning Commission and across government in developing and finalizing a Results Framework against which can track achievement of the Government of Bangladesh in terms of economic and social policies and strategic priorities (as expressed in the Seventh Five Year Plan) can be reported;
- To work with the Bangladesh Bureau of Statistics and other data providers to develop and ensure adequate and timely flows of data from the National Statistical System that will allow meaningful monitoring of the indicators included in the Results Framework;

- To coordinate with line Ministries and other service providers to ensure the availability of supplementary quantitative and qualitative information to facilitate the monitoring of sectoral performance relevant to the indicators in the Results Framework;
- To develop in discussion with stakeholders and implement a 5-year M&E Plan in alignment with national development plan timeframe, including both major thematic evaluations and smaller-scale programme or large project evaluations, that will further illuminate the progress being made towards the achievement of the outcomes and impacts envisaged in the Results Framework;
- To institute a series of regular reports to the Prime Minister, the Cabinet, the National Economic Council and the ECNEC on an annual basis, supplemented by *ad hoc* policy briefs on matters requiring the attention of and action by the Government, and to ensure that its regular reports are both published and drawn to the attention of the media and the relevant committees of Parliament;
- To promote a results-based approach to monitoring and evaluation across government system.

6.4 MONITORING MECHANISMS & PROCESSES

Results Framework for Monitoring 7th Five Year Plan

The first of its kind in the history of national planning in Bangladesh, the GED has taken a lead to design a Results Framework for the Seventh Five Year Plan in collaboration with BBS, IMED and line ministries. In this connection, a two-day long consultation workshop designed a Results Framework in line with 7th Five Year Plan in an interactive and participatory manner especially engagement of government ministries/institutions. The workshop created opportunity for thematic discussion on selected sectoral areas for the Seventh Plan to identify sectoral outcomes and its measurable performance indicators. Initially a total of 86 outcome level indicators were identified for the monitoring of the Plan in consultation with relevant government ministries/institutions. Subsequently, the draft Results Framework with identified indicators were disseminated to all relevant (32) ministries for reviewing their respective parts and set up baseline and targets. A national level consultation workshop was also organized by the GED on the draft Results Framework involving all stakeholders including GO, NGOs, CSO, research institutions, academics, and development partners in order to finalize the framework. Ultimately, under the Seventh Plan's results framework – a total of 90 indicators were chosen to implement the results-based M&E system. The choice of these indicators is shaped by the intensive consultations with relevant government ministries, departments, agencies as well as national and international development partners in Bangladesh.

Improving M&E Database: (Data Repository System): A reliable and timely database of relevant issues is fundamental for developing an effective results-based M&E system. Thus, to aid the creation of such database, the following activities will be undertaken.

- To facilitate the monitoring processes described earlier, the DRF M&E database will be developed and maintained throughout the Seventh Five Year Plan cycle. It will include all relevant outcome and output indicators of the national development framework (e.g., Seventh Five-Year Development Plan and the International Development Framework like MDG/SDG). The DRF M&E database will also capture other essential statistics that will provide the development context. In other words, the database will help assess situation and facilitate performance monitoring as well as contextual analysis of achieving the national development plan targets.⁸
- It will be for consideration whether the UN Development Group's DevInfo⁹ database system would provide a suitable medium for disseminating the monitoring data. The adaptation of DevInfo like BInfo developed by UNICEF can provide online libraries of Bangladesh statistical information based on this system. DevInfo is a powerful system for sharing information globally about human development, and supports user-defined indicators as well as the MDG human development indicators, but it would require an expert assessment to determine whether it would be the most appropriate medium through which to present publicly, via the website, the monitoring of the Results Framework indicators. Hence, within the first year of the Seventh Plan time frame, an expert assessment on the aforementioned issue will be undertaken and the recommendations will be implemented within the second year of the Seventh Plan.

Partnership and Institutional Linkages

A solid M&E effort involves building partnerships with stakeholders including NGOs, CSOs and independent academic/research institutions. This is of special importance in an environment of limited capacity to do M&E at the government level. NGOs involved in sectoral programs can provide very helpful information and feedback on results on the ground that can substantially improve the quality of concerned sectoral M&Es. Partnership with research organizations

⁸ The M&E Unit under GED will firstly develop the data repository based on DRF of 7th Five Year Plan and the Government's commitment to the International Development Framework like MDG/SDG and extend into a web-based system. This will enable the users to select and manage data series using on-line connections with a defined scope of access. This system will thus offer a portal to organize, disseminate and display data in a results-based environment. These unique features enable users to link the indicators to strategic monitoring frameworks such as the 5-year development plans and other sector plans. Moreover, this tool can be used as teaching material for enhancing basic statistics competency. The system needs to be institutionalized within the government structures and process, ensuring national ownership, sustainability and use by decision-makers.

⁹ The DevInfo will be used to bring together all the information tailored to the DRF outcomes, outputs, and focus areas that will support monitoring of the Seventh Five Year Plan. Management and updating of the databases to be included in DevInfo for DRF monitoring will be done by a database coordinator under the oversight of the GED. The DevInfo database coordinator will work in close collaboration and coordination with the M&E Group, comprising of relevant officials from line ministries, BBS and IMED, led by GED. M&E Group members will contribute to designing the database. Administrator access to the database will be open to M&E Group members contributing to the Seventh Five Year Plan monitoring so that some adaptations can be made by ministries/agencies to suit their own monitoring and reporting needs. Viewing access to the DRF DevInfo will be open, to ensure transparency of information.

including research conducted at universities can substantially expand the national capacity to do good M&E. These institutions have professional and analytical strengths that can be tapped by the GED and IMED to outsource a significant amount of the M&E effort, particularly at the early years when in-house capacity is constrained. Additionally, this partnership can result in hands-on training for GED, BBS and IMED staff through their active involvement with the M&E exercise.

The GED has already started collaboration with a range of research institutions in the context of the Sixth Plan. The first and mid-term implementation review of SFYP is a good example of how collaborative effort between GED and research institutions can help with the delivery of an important M&E exercise while also supporting capacity building. The GED's resources need to be beefed up to enable a strengthening of this collaboration effort on a continuous basis.

Coordination with Development Partners

The overall goal of Joint Cooperation Strategy (JCS) is to make aid in Bangladesh more effective by creating common platforms for national and sectoral dialogues as well as a country owned change process for improving delivery of aid. At the macroeconomic level, the Sixth Plan and its implementation provided the platform for coordinating the national level M&E effort. In fact, the quantitative RF provided in the Sixth Plan and used in the first and mid-term implementation review is an indication of this coordination. The process, however, needs to be improved with stronger dialogue and input from the Development Partners on the RF with a view to making that sharper and more focused on areas of mutual interest. The Development Partners should also stand ready to support GED to improve the M&E effort with technical inputs in the areas of their competence as well as through financial support.

Implementation Reviews of Seventh Plan

- The annual review process will introduce with the preparation of the Seventh Plan Annual Progress Report. The report will be compiled by the GED and shared with government ministries/institutions in order to enhance implementation progress of Seventh Plan. It will focus on reporting the selected sectoral contribution to results at the macro level, and cover the issues outlined in the results framework of the Seventh Plan.
- The third annual review will be replaced by the Seventh Plan Mid Term Review. The Mid Term Review will allow the government to take stock of achievement at midpoint, review the risks and assumptions, and to make any necessary adjustment to the remaining years' strategies. While the overall process of the Seventh Plan Mid Term Review will be facilitated by the GED in consultation with government ministries/institutions, with support from the M&E Working Group, will play an important role in providing performance and situation information at outcome and output levels.
- The final review or evaluation will be conducted by an independent and external evaluator to assess the relevance, efficiency, effectiveness, impact and sustainability of the Seventh Plan's contribution. The evaluation will be conducted in the final year of the Seventh Plan to allow

incorporation of the results and lessons learned into the subsequent national development planning. The evaluation will be preceded by the necessary surveys or assessments comparable to the baseline and previous studies. The final review results will be validated with stakeholders including GO, NGO, CSOs, academics and research institutions.

Disseminating the findings of M&E

The findings of M&E will be reviewed through workshops with stakeholders. The dissemination effort will include sending the reports to all the stakeholders including the Parliamentary committees, the various ministries and also published as reports and posted on the website of the Planning Commission for public information.

Sustainability of Results-based M&E System

The sustainability of the results-based M&E system depends on a number of factors. First, the public policy arena must harness a genuine demand and appreciation for an effective results-based M&E system. Second, the government will ensure that the information used for M&E is trustworthy and credible. Official channels for collecting information should be maintained and their dissemination must occur in a user friendly manner. Moreover, the data should be valid, credible and time bound. Lack of credibility in information flow will not only invalidate the M&E findings but also reduce credibility of the entire system. Third, there is inherent need to ensure accountability of the government to own the M&E effort. By ensuring accountability of all the ministries/division, autonomous bodies, central and local government bodies, government can ensure both the demand and the incentives for a results-based M&E. Fourth and finally, continuous capacity building efforts are necessary.

6.5 DEVELOPMENT RESULTS FRAMEWORK (DRF) FOR MONITORING THE SEVENTH FIVE YEAR PLAN (2016-2020)

Performance Indicators	Data Source (Name of Institutions & Reports)	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
National Priority: Macroeconomic Stability and Economic Growth										
Outcome Statement : Conducive macroeconomic environment to promote growth, supported by trade and private sector development										
Real Sector										
Real GDP growth (%)	BBS_NAS	FD, MoP	6.5 (FY, 2015)	7.0	7.2	7.4	7.6	8.0		
Annual sectoral GDP growth rate (%)	BBS_NAS	FD, MoP	a) 3.04 b) 9.60 c) 5.83 (FY,2015)	a) 3.21 b) 10.2 d) 6.31	3.28 10.53 6.42	3.34 10.82 6.52	3.39 11.25 6.55	3.49 11.85 6.68		
Investment (gross) as % of GDP	BBS_NAS	MoI, BOI, FD, BB	28.97 (FY2015)	30.1	31.0	31.8	32.7	34.4		
a) Private Investment			(a)22.07(FY2015)	(a)23.7	23.9	24.4	25.1	26.6		
b) Public Investment			(b) 6.9 (FY2015)	(b)6.4	7.1	7.4	7.6	7.8		
National savings (as % of GDP)	BBS_NAS	IRD; BB	29.01 (FY2015)	29.1	29.7	30.2	30.7	32.1		
FDI as % of GDP	BB_APR	BoI, FD, BB	0.8 (FY2015)	1.2	1.8	2.2	2.5	3.0		
Total Debt as percentage of GDP	BB_APR	BB; ERD	34.2 (FY 2015)	34.9	35.3	35.7	36.1	36.3		
(a) External Debt as % of GDP			(a) 12.9 (FY 2015)	12.8	12.5	12.1	11.7	11.2		
External Sector										
(a) Exports and (b) Imports as % of GDP (goods and services)	BBS_NAS	EPB; MoC	(a)15.8 (FY 2015) (b)21.1 (FY2015)	(a)15.7 (b)21.0	15.6 21.1	15.7 21.2	15.9 21.5	16.2 21.8		
Remittance as % of GDP	BB_APR	BB, MoEWOE	8.0 (FY2015)	8.0	8.0	7.9	7.8	7.6		
Fiscal Sector										
Total Revenue (as % of GDP)	NBR; BB	NBR; IRD	10.8 (FY2015)	12.1	13.5	14.3	15.1	16.1		
(a)Tax Revenue (as % of GDP)			(a)9.3 (FY2015)	(a)10.6	11.5	12.3	13.1	14.1		
Government expenditure (as % of GDP)	BB;FD	BB; FD	15.8 (FY 2015)	17.2	18.5	19.3	20.1	21.1		
Government budget deficit as % of GDP	BB; FD	FD	4.7 (FY2015)	4.8	4.6	4.7	4.7	4.7		
Money & Banking										
Broad Money (M2) growth (% change)	BB; BBS_NAS	BB, FD	16.3 (FY 2015)	15.5	15.6	15.6	15.7	15.9		

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Private sector credit growth (% change)	BB; BBS_NAS	BB, FD	11.5 (FY2015)	14.0	14.5	14.8	15.0	15.0		
Price										
Average Annual CPI Inflation Rate	BB; BBS_NAS	BB, SID	6.5 (FY 2015)	6.2	6.0	5.8	5.7	5.5		
a) Food inflation			a)8.6							
b) Non-food inflation			b)5.45 (BB FY2014)							
National Priority: Poverty Reduction										
Outcome statement: Reduction in poverty and inequality across all groups and regions										
Incidence and Severity of Poverty and Inequality										
Proportion of population living below national poverty line, differentiated by urban and rural	BBS_HIES	FD;BB; MoP;	National:31.5 Rural: 35.2 Urban: 21.3 (HIES 2010)	22.1	20.7	19.3	18.0	16.6		
Proportion of population under national extreme poverty line (a) Rural and (b) Urban	BBS_HIES	GED; SID	Total:17.6 Rural: 21.1 Urban: 7.7 (HIES 2010)	11.3	10.4	9.6	8.8	8.0		
Degree of inequality (Gini coefficient), (a) consumption inequality (b) income inequality	BBS_HIES	GED; SID	(a) 0.32 (b) 0.45 (2010)	0.31 0.45	0.31 0.45	0.31 0.45	0.30 0.45	0.30 0.45		
Poverty Reduction Strategy										
Government spending on social protection (% of GDP)	FD	FD	2.02 (FY2015)	1.96	2.22	2.07	1.93	1.80		
National Priority: Employment Growth										
Outcome Statement: Increased productive and decent employment opportunities for sustainable and inclusive growth										
Overall Employment										
Percentage of (a) formal and (b) informal employment as a share of total employment by sex	BBS_LFS	MoLE, SID	(a) 12.5 (M:14.5;F:7.7) (b) 87.5 (M:85.5; F:92.3) (2010)	13 87.0	13.5 86.5	14.0 86.0	14.5 85.5	(a) 5 (b) 5		

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Employed persons aged over 15 years by broad economic sectors (%) a) Agriculture b) Industry c) Service	BBS_LFS_	MoLE, SID	a) 47.56 b) 15.52 c) 35.35 (2010)	45.3 15.9 38.9	44.2 16.7 39.2	43.4 17.2 39.4	42.1 18.4 39.5	40.8 19.6 39.6		
Oversees Employment										
Percentage of overseas migration by type, a) Skilled migrant b) Semi-skilled migrant c) Female migrant	BMET_MoEWOE	MoEWOE	a) 36.69 b) 17.10 c) 17.86 (2014)	37.0 18.0 19.0	37.2 19.0 23.0	37.5 20.0 26.0	38.0 21.0 28.0	38.0 22.0 30.0		
National Priority: Agriculture										
Outcome Statement: Promoting sustainable agriculture to ensure self-sufficiency and reduced disparities in food safety and security										
Agricultural sector GDP growth rate (%) a) Crop and horticulture b) Animal Farming c) Forest and related services	BBS, DAE, DLS, DoF, BFD	MoA	a) 1.91 b) 2.83 c) 5.05 (FY 2014)	a) 1.47 b) 5.47 c) 4.73	1.42 5.45 4.87	1.42 5.48 5.02	1.41 5.68 5.17	1.40 5.91 5.33		
% of agriculture budget allocated in the agricultural research	BARC, BARI, BRRI, BJRI, BINA, BSRI, BIRTAN, CDB, SRDI	MoA	4.2 (2014-15)	4.83	5.55	6.38	7.33	8.43		
National Priority: Education										
Outcome Statement: Quality education for all to reduce poverty and increase economic growth										

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Net enrolment rate (%) by gender in (a) Primary (b) Secondary (c) Tertiary education	DPE_ APSC REPORT; BANBEIS_Databa se	MoPME, MoE	(a)Total: 97.7 (Girls: 98.8 Boys:96.6, (2014) (b) Total: 62.25 (Girls: 67.74 Boys: 57.04) (2014) (c) Total: 13.00 (Girls:10.58 Boys:15.32) (2014))	(a)Total: 98.2 (Girls: 98.8 Boys:97) (b)Total: 68.23, (a) Total: 71.05 (Girls: 73.54 Boys: 62.90) (c) Total: 14.52 (Girls:10 .68 Boys:17. 10)	Total: 98.7 (Girls: 99.1 Boys: 98) (b) Total: 71.05 (Girls: 76.38 Boys: 65.65) (c) Total: 16.04 (Girls:12 .26 Boys:17. 30)	Total: 99.0 (Girls: 99.5 Boys: 99) (b) Total: 73.87 (Girls: 79.22 Boys: 68.41) (c) Total: 17.56 (Girls:13 .84 Boys: 17.50	Total: 99.5 (Girls: 99.5 Boys: 99.5) (b) Total: 76.69 (Girls: 82.06 Boys: 71.17) (c) Total: 19.08 (Girls:1 4.42 Boys:1 7.70)	Total: 100 (Girls: 100 Boys: 100) (b) Total: 79.51 (Girls: 84.90 Boys: 73.92) (c) Total: 20.60 (Girls:1 5.30 Boys:1 7.90)		
Completion rate (%) by gender in (a) Primary (b) Secondary (c) Tertiary	BANBEIS; DPE_APSC REPORT	MoPME, MoE,	(a)Total: 79 (Boys:75,Girls: 82) (2014) (b) Total: 58.41 (Girls:52.33Boys: 65.48) (2014) (c)	(a)Total: 82 (Boys:82 ,Girls: 82) (b) Total 66.16 (Girls: 59.95, Boys 74.91)	Total: 83 (Boys:83 ,Girls: 83) (b) Total 69.53 (Girls: 63.07, Boys 78.65)	Total: 83 (Boys:83 ,Girls: 83) (b) Total 72.90 (Girls: 66.19, Boys 82.38)	Total: 84 (Boys:8 4,Girls: 84) (b) Total 76.26 (Girls: 69.31, Boys 86.12)	Total: 85 (Boys:8 5,Girls: 85) (b) Total 79.63 (Girls: 72.43, Boys 89.85)		

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Number of enrolled children with disabilities (by gender)	DPE_APSC Report	MoPME	Total: 76,522 (Boys: 42,523, Girls: 33,999)	Total: 77,287 (Boys: 42,948 Girls: 34,339)	Total: 77,670 (Boys: 43,161 Girls: 34,509)	Total: 78,052 (Boys: 43,373 Girls: 34,679)	Total: 78,435 (Boys: 43,586, Girls: 34,849)	Total: 80,000 (Boys: 45,000 Girls: 35,000)		
Percentage of schools that meet the Student Teacher Ratio (STR) standard of 46:1 (%)	DPE_APSC Report	MoPME	62 (2014)	70	75	76	78	78		
Number of students in TVET system by gender	BANBEIS_Database	MoE	Total: 689663 (2014) (Girls: 27.43% Boys:72.57%)	Total: 770172 (Girls: 27.87% Boys:72. 73%)	Total: 810915 (Girls: 27.93% Boys:72. 07%)	Total: 851659 (Girls: 27.99% Boys:72. 01%)	Total: 892402 (Girls: 28.04% Boys:7 1.96%)	Total: 933146 (Girls: 28.08% Boys:7 1.92%)		
Adult literacy rate (%) of 15+yrs old population	BBS_SVRS Report	BNFE, MoPME	Total: 58.6 (2013) (Female: 55.4 Male: 62.9)	66.9	75.2	83.4	91.7	100		
Literacy rate of 15-24 year-olds, women and men (%)	NIPORT_BDHS	MoE	Total: 86 (2014) (Women:81.9 Men: 67.8)	88.8	91.6	94.4	97.2	100		
Public education expenditure as % of GDP	MoE & FD	MoE & FD	2.18 (2014)	2.2	2.3	2.4	2.4	2.5		
National Priority: Health										
Outcome Statement : Sustainable improvements in health including reproductive health, family planning, particularly of vulnerable group										
Proportion of births attended medically trained provider (%)	NIPORT_BDHS	MoHFW	42.1 (2014)	50	54	58	62	65		
Proportion of births in health facilities by wealth quintiles (ratio of lowest and highest quintiles)	NIPORT_BDHS, DHS	MoHFW	15:69.5 (2014)	1:4.2	1:4	1:3.8	1:3.6	1:3.5		
Under-five Mortality Rate (per 1,000 live births)	NIPORT_BDHS	MoHFW	46 (2014)	43	41.5	40	38.5	37		
Infant Mortality Rate (per 1,000 live births)	NIPORT_BDHS	MoHFW	38 (2014)	32	29	26	23	20		
Maternal Mortality Ratio (per 100,000 live births)	NIPORT_& MMEIG	MoHFW	170 (2013)	143	134	125	116	105		

Performance Indicators	Data Source (Name of Institutions & Reports)	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total Fertility Rate (children per woman)	NIPORT_BDHS	MoHFW	2.3 (2014)	2.2	2.15	2.1	2.05	2.0		
Life expectancy at birth, total (years)	NIPORT_BDHS	MoHFW	70.1 (SVRS 2013)	70.2	70.6	71	71.4	72		
Proportion of stunting among under-five children (%)	NIPORT_BDHS	MoHFW	36.1 (2014)	32.1	30.1	28.1	26.1	25		
Proportion of children under 6 months who are exclusively breastfed (%)	NIPORT_BDHS	MoHFW	55.3 (2014)	58	59.5	61	62.5	65		
Percentage of unmet need for family planning	NIPORT_BDHS	MoHFW	12% (2014)	11.6	11.2	10.8	10.4	10%		
Contraceptive Prevalence Rate (%)	NIPORT_BDHS	MoHFW	62.4 (2014)	66	68	70	72	75		
HIV prevalence among population/ Maintain low prevalence of HIV	Sero-Servilance (SS), NAHP, DGHS	MoHFW	<1% (SS 2011)	<1%	<1%	<1%	<1%	<1%		
Proportion of children fully vaccinated by 12 months (%)	CES; BDHS; UESD	MoHFW	78 (BDHS 2014)	84	87	90	93	95		
National Priority: Water & Sanitation										
Outcome Statement: Ensure availability of safe drinking water and sanitation for all										
Percentage of urban and rural population with access to safe drinking water (a. Urban, b. Rural)	BBS, SVRS, MICS_DPHE	MoLGRD&C	Total: 98.5 a)99.4 b)98.2 (SVRS 2013)	98.8	99.1	99.4	99.7	a) 100 b) 100		
Percentage of urban and rural population with access to sanitary latrines (a. Urban, b. Rural)	BBS, SVRS, MICS_DPHE	MoLGRD&C	Total: 64.2 a)59.7 b)66.2 (SVRS 2013)	71.4	78.5	85.7	92.8	a) 100 b) 95		
National Priority: Transport and Communication										
Outcome Statement 6: Improved infrastructure for higher economic growth										
Length of targeted four-lane road (km)	RHD	MoRTB	98 (2014)	377	389	459	519	556		
Share of RHD highway road network in good and fair condition (% of network)	RHD	MoRTB	76 % (2014)	78%	79%	81%	83%	85%		
Length of Metro Rail Transit (MRT) network (km)	DTCA	MoRTB	0 (2015)	0	0	0	10	20		
Upazila and Union Road network in good and fair condition	LGED	LGD, MoLGRDC	33% (2014)	43%	52%	62%	72%	80%		
Length of targeted new railway network (km)	BR	MoR	2877 (2014)	2925.5	3076.5	3273.5	3543.3	3733.3		

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Length of targeted new double railway network (km)	BR	MoR	0	7	182	540	901	1110.5		
Length of navigable waterways (km)	BIWTA	BIWTA	4,000	4,200	4,500	4,850	5,250	5,750		
National Priority: Power, Energy and Mineral Resources										
Outcome Statement: Ensure sustainability in production, consumption and use of energy and mineral resources										
Electricity Installed Generation Capacity (MW)	PD	PD, MoPEMR	13540 (FY 2015)	14943	16399	19249	20649	23000		
Access to electricity (% of households)	PD, BBS	PD, MoPEMR	72% (FY 2015)	80%	85%	90%	94%	96%		
Per capita generation of electricity (kWh)	PD	PD, MoPEMR	371 (FY 2015)	398	425	454	483	514		
Share of renewable energy to the total electricity generation (%) (including hydro)	PD	PD, MoPEMR	3.6 (FY 2015)	5	6	7	8	10		
National Priority: Gender and inequality										
Outcome Statement: Achieve gender equality and empower all women and girls										
Percentage of seats held by women at National Parliament	PS	BP	20 (2014)					33		
Percentage of women aged 20-24 who were married before age 18	BBS_BDHS	MoWCA	65 (2011)	50	45	40	35	30		
Ratio of girls to boys in tertiary education	BANBEIS	MoE	0.7	0.76	0.82	0.88	0.94	1.0		
Gender budget as percentage of total budget	FD, MoWCA	FD, MoWCA	27.7 (FY 2014)	28.2	28.6	29.0	29.5	30		
Percentage of female teachers at (a) primary,(b) secondary (c) tertiary education	BANBEIS	MoE	a)57 b)24 c)20	59.6 26.2 21.0	62.2 28.2 22.0	64.8 30.6 23.0	67.4 32.8 24.0	a)70 b)35 c)25		
Percentage of female officers (class-1) employed in public sector	MoPA	MoPA	21 (2014)	21.8	22.6	23.4	24.2	25		
National Priority: Environment, Climate Change and Disaster Management										
Outcome Statement: The environment is preserved and prevented from degradation, and a disaster management strategy exists as well as ensuring climate change adaptation and mitigation										
Consumption of ozone depleting H-CFCs (Ozone Depleting Potential (ODP))	DoE	MoEF	64.89 (2013)	65.39	65.39	48.12	48.12	47.20		
Percentage of land covered by forestry with 70% tree density	BFD	MoEF	13.20 (2013-14)	13.40	13.60	14.00	14.50	15.00		
CO2 emissions (tonnes per capita)	DoE	MoEF	0.34	0.348	0.356	0.364	0.372	0.38		

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Percentage of (a) coastal and (b) marine areas that are protected	DoF	MoEF	(a) 1.22 (2013-14) (b) 0.00 (2013-14)	1.22 1.34	2.00 1.34	3.00 1.34	4.00 1.34	5.00 1.34		
Percentage of wetland and natural sanctuaries maintained	MoFL	MoFL	1.7 (2014-15)	1.85	1.95	2.10	2.20	2.35		
Percentage of forests that are protected	BFD	MoEF	1.81 (2013-14)	1.90	2.00	3.00	4.00	5.00		
Mean urban air pollution of particulate matter (a) PM10 in µg/m ³ (b) PM2.5 in µg/m ³	DoE	MoEF	a) 130.90 (2013) b) 78.00 (2013)	125.0 77.0	120.0 76.0	115.0 75.0	110.0 74.0	105.0 73.0		
No. of usable cyclone shelters	DDM	MoDMR	3847 (2014)	4,047	4,247	4,447	4,647	4,847		
Number of rural communities with disaster resilient habitats and communities assets	DDM	MoDMR	18000 (2013)	19400	20800	22200	23600	25000		
National Priority: Information and Communication Technology (ICT)										
Outcome Statement: Increased access to digital communication through telephone and broadband services										
Expansion of submarine cable network (bandwidth Gbps)	BSCCL	BTRC, MoPT& ICT	30.57 (2014-15)	50.0	70.0	100.0	120.0	150.0		
Percentage of people with phone (Land phone)	BTCL	BTCL	0.60 (2010)	0.91	0.97	1.02	1.06	1.11		
Percentage of people with broadband connection	BTCL	BTRC	0.01 (2010)	0.03	0.05	0.06	0.08	0.1		
Internet users per 100 people population	BTRC	BTRC	28.24 (Mar 2015)	30.6	32.9	35.3	37.6	40		
National Priority: Urban Development										
Outcome Statement: Reduced urban poverty and improved living conditions through better city governance and service improvements										
Percentage of urban population living in slums	BBS	MoLGRD&C	33%	31.4	29.8	28.2	26.6	25%		
Percentage of urban population having access to (a) public health service (b) safe drinking water (c) sanitation facilities	BBS; DGHS	MoHFW	a) 87 b) 78 c) 80	89.6 82.4 84	92.2 86.8 88	94.8 91.2 92	97.4 95.6 96	a) 100 b) 100 c) 100		
Percentage of urban solid waste regularly collected	LGD, MoLGRD&C	MoLGRD&C	63.2%	65.5	68	70.2	72.6	75		
National Priority: Governance										
Outcome Statement: Promoting inclusive, transparent, accountable and effective democratic governance system & ensuring justice for all										

Performance Indicators	Data Source (Name of Institutions & Reports	Lead Ministry/ Division	Baseline (Year)	Target (2016)	Target (2017)	Target (2018)	Target (2019)	Target (2020)	Links to SDGs	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Percentage of ministry oversight hearings held by the Parliamentary Standing Committees regularly	Annual Parliament Secretariat report	Parliament Secretariat	13 (2014)	25	25	25	25	25		
Weighted average national case disposal rate	MoLJPA, Supreme Court Registry	MoLJPA, Supreme Court Registry	32.24 (2012)	35.8	39.3	42.8	46.5	50		
Number of access and usage of legal aid services by the poor and disadvantaged group compared to total litigants	Law and Justice Division, MoLJPA	Law and Justice Division, MoLJPA	22000	25000	27000	30000	33000	37000		
Percentage of public institutions using e-procurement	CPTU, Annual Report	IMED	0 % (2014)	16	41	65	89	100		
Number of queries attended to by the government institutions under right to information act	Information commission, Annual Report	Information Commission	8442 (2014)	7000	6000	5000	4500	4000		
Number of cases settled per year under Alternative Dispute Resolution (ADR) compared to total cases	Law and Justice Division, MoLJPA	Law and Justice Division, MoLJPA	14,000 (2014)	17,000	19,000	21,000	23,000	25,000		
National Priority: International Cooperation and Partnership										
Outcome Statement: Strengthen international cooperation and partnership for sustainable development										
Foreign assistance as percentage of ADP and budget support	ERD, MoF	ERD, MoF	39.86 %	These indicators will be monitored based on ERD published annual Flow of External Resources Report. The annual comparison will provide a scenario of international cooperation and assistance in the Bangladesh Economy.						
Percentage of (a) concessional loan and (b) grants to total foreign assistance	ERD, MoF	ERD, MoF	(a) 77.93 % (b) 22.07 %							
Net foreign assistance received by Bangladesh, as percentage of OECD/DAC donor's GNI	ERD	ERD	0.0022 (2014)							

Part 2

SECTOR DEVELOPMENT STRATEGIES

INTRODUCTION FOR SECTORAL STRATEGY PART

INTERFACE BETWEEN MACROECONOMIC FRAMEWORK AND SECTORAL STRATEGIES

1.1. Macro and Sectoral Interface

The macroeconomic framework and associated strategies and policies discussed in Part 1 provide the overall road map for growth, employment and poverty targets for the Seventh Plan. It also provides the picture of total resource envelope for the plan period and how it will be financed. The detailed picture for growth, employment and poverty strategies and the sustainability of these strategies over the longer term is provided by the related sectoral strategies. For example, the growth strategy involves the contributions of agriculture, manufacturing and services sectors. The macroeconomic framework sets specific growth targets for the performance of these sectors. The sectoral composition of growth in turn has implications for employment and poverty reduction. Thus, manufacturing and services have higher labour productivity and also tend to have higher employment elasticities than agriculture. Sectoral growth in turn depend upon public and private investment in production, availability of infrastructure, availability of skilled labour force and technology. Similarly, the sustainability of growth depends upon managing the urban transition to avoid the growth constraints emerging from urban land scarcity, urban infrastructure shortages and urban congestion. It also depends upon, managing well the pressure on natural resources from growing population, the vulnerabilities created by exposure to natural disasters and adapting well to the adverse effects of climate change.

These example show clearly that the achievements of the Seventh Plan's core objectives of growth acceleration, empowerment for all and sustainable development hinge upon the proper interplay of macroeconomic strategies and policies related sectoral strategies. A key issue is the consistency of sectoral investment needs with the total resource envelope, which requires that the sectoral strategies, policies and programmes must not only be consistent with national targets for growth, employment and poverty reduction but also that sectoral investment requirements add up to the available resources. For private investment this consistency requires adoption of right policies, regulations and institutions that guide private investment in the required sectors. For public investment this entails that investment allocations through the budget give priority to sectors that contribute most to the Plan objectives and targets. In this regard, developing the proper sectoral strategies that are best aligned to the themes and objectives of the Seventh Plan is of critical importance.

1.2. Alignment of Finance and Planning Sectoral Classifications for Budget and Investment Programming

The economy of Bangladesh has been classified into 14 and 17 sectors by the Ministry of Finance and Ministry of Planning respectively for allocation of resources under Public Investment

Programme (PIP). This mismatch between the two approaches for Public Investment Management (PIM) needs to be synchronized for ensuring efficient use of public resources. This is also essential for setting the strategies and targets of the economic sectors in the 7th FYP to match with the classifications used by the implementing ministries.

In line with the 7th Five Year Plan, the Government intends to prepare Sector Strategy/Plan for each of these fourteen sectors. The sector plans will provide a comprehensive outlook of sectoral goals, performances, opportunities and challenges, and above all identify policies and strategies that support the Five Year Plans. These plans will provide the framework for the identification of public policy initiatives and projects in the public sector, including the role of government agencies in developing the sectors in partnership with other government institutions, private sector, development partners and non-government organizations.

The agreed 14 sectors incorporated in the plan document are:

1. General Public Services
2. Defence
3. Public Order and Safety
4. Industrial and Economic Services
5. Agriculture
6. Power and Energy
7. Transport and Communication
8. Local Government and Rural Development
9. Environment and Climate Change
10. Housing and Community Amenities
11. Health
12. Recreation, Culture and Religion
13. Education and Technology
14. Social Protection

1.3. Mapping of Planning Sectors to the Core Themes of the Seventh Plan

These 14 sectors affect the core themes of the Seventh Plan in different ways. In order to ensure that the sectoral strategies are properly aligned to the Seventh Plan, an analytical framework is needed to link the primary contribution of each sector to the core themes. The three core themes are: accelerating inclusive growth; empowering all citizens; and ensuring that the growth and empowerment strategies of the Seventh Plan are sustainable in the sense that they do not encroach on the welfare of the future generation. Finally, although not a core theme, the ability to implement the Plan hinges critically on the capacity of the public administration to deliver the Plan policies and programmes at both the national and local levels.

The sectors dealing with Agriculture, Industrial and Economic Services, Local Government and Rural Development, Power and Energy, Transport and Communication and Housing and Community Amenities primarily deal with sectoral growth strategies and contribute most to the core theme of accelerating inclusive growth. The activities grouped under Local Government and Rural Development are multi-sectoral in nature. They also overlap with the themes of the Plan. The activities related to Rural Development contribute most to agriculture sector growth through the strategy for rural development. The activities involving urban infrastructure contribute to the sustainability of the manufacturing and services sector growths through the urbanization strategy. The activities concerning local level institutions, both rural and urban, affect sectoral growths as well as basic service delivery through the strategy for public institutions and public sector management. Power, energy and transport are the main elements of the Government's infrastructure strategy. It is well known that infrastructure is a major constraint to growth and strategies for development of power, primary energy and transport will be a key determinant of the ability to secure the sectoral and total growth targets of the Seventh Plan. Finally, Housing and Community Amenities also contribute to growth sustainability as a part of the urbanization agenda. The sectors dealing with health, education, technology, recreation, culture and religion and social protection and social inclusion are primarily focused on empowering people by helping develop human capital and by protecting the under-privileged. The inter-linkages between inclusive growth and empowerment is of course also very relevant. Human capital is essential for growth acceleration and inclusive growth. Similarly, higher growth contributes to empowerment and poverty reduction. These inter-linkages play a major role in shaping the underlying sectoral strategies.

Higher growth and better empowerment of citizens must be done in a way that they are sustainable over the longer term and they do not undermine the opportunities and prospects for future generation. This theme is primarily addressed by the sector dealing with environment and climate change. Other sectors like agriculture, forestry, water management, disaster management, rural development and urban development also contribute to this theme.

The issue of plan implementation is addressed by public services, law and order, defence and local government institutions (LGIs). Public administration capacity is critical to the formulation of appropriate policies to support the implementation of the Plan agenda related to the private sector. It is also key to the sound implementation of public investment programmes. Law and order are essential inputs to preserve property rights and ensure the safety and well-being of the citizens. Although defence is not addressed explicitly in the Plan document, its role in preserving national security from both external and internal aggression makes it an important element of the plan implementation theme. Finally, LGIs in both rural and urban areas, are increasingly becoming major players in delivering basic services to the citizens. Accordingly, they are an essential input to the successful implementation of the sectoral strategies of the Seventh Plan.

SECTOR 1: GENERAL PUBLIC SERVICES

&

SECTOR 2: PUBLIC ORDER AND SAFETY

CHAPTER 1

STRENGTHENING PUBLIC ADMINISTRATION, PUBLIC INSTITUTIONS AND GOVERNANCE

1.1 INTRODUCTION

Effective implementation of programmes and policies in the 7th Plan demands focused attention to good governance, by raising public administration capacity and productivity, while ensuring effectual monitoring and evaluation of public sector programmes. In essence, the Government's scope to meet the desired milestones of Vision 2021 – articulated under the “Perspective Plan of Bangladesh 2010-2021”- critically depends on addressing key governance challenges, namely, deficiencies in public administration capacity, shortcomings in economic management, and gnawing malfeasance affecting performance across all segments of public administration. The Sixth Plan recognized most of these issues and articulated specific interventions to address those problems. In particular, it tried to address deficiencies in governance through facilitating capacity development and investing in sound institutions. This strategy for improved governance rested on four key pillars: strengthening the civil service; promoting devolution to local governments; strengthening public-private partnerships; and reforming planning and budgetary processes. While notable progress was made across specific fronts, the Government acknowledges that the task remained unfinished. Furthermore, between 2009 and 2014, new governance challenges have emerged which deserve special attention and requiring some modification of existing strategies to prevent any slippage in progress.

Therefore, in the Seventh Five Year Plan, the Government adopts strategies and policies that are better tuned to meet contemporary challenges, so that it can effectively maintain the progress envisioned in Vision 2021 document. The 7th Plan takes a relatively more focused approach to develop strong institutions in order to substantially improve performance in strategic areas that are central for achievement of overall development goals. These critical areas for intervention include: (a) public administration capacity; (b) judiciary; (c) financial sector; and (d) local government. Lastly, to complete the unfinished agenda in governance, the 7th Plan also prioritizes the implementation of strategies and policies that were charted out in the 6th Plan and are still relevant.

1.2 GOVERNANCE PERFORMANCE & CHALLENGES DURING THE SIXTH PLAN

1.2.1 Measuring Performance by Governance Indicators

At the global level, international comparison of progress with governance is often measured by six summary indicators. These are: 'Control of Corruption', 'Government Effectiveness', 'Rule of Law', 'Voice and Accountability', 'Regulatory Quality' and 'Political Stability & Absence of Violence'. Evaluated through these indicators, Bangladesh's governance performance has improved but further efforts are needed. When Bangladesh's performance is compared to Low Income Countries, the country ranks above average for four indicators but trails behind others in two. That is, for 'Control of Corruption', 'Government Effectiveness', 'Rule of Law' and 'Voice and Accountability', Bangladesh ranks above the average of Low Income Countries. But, for indicators on 'Regulatory Quality' and 'Political Stability & Absence of Violence', the ranking suggests that Bangladesh is lagging behind. For all the six Governance indicators, Bangladesh falls below (or does not exceed) the average score of Lower Middle Income Countries. On the whole, the cross country comparison underscores the need to address both the short and long-term governance challenges across a large spectrum of issues, as the country has joined the ranks of middle income countries.

In the specific context of Bangladesh, the Midterm Review of the Sixth Plan conceptualized nine governance indicators – classified under three dimensions: institutions, political, and economic -- which helped the Government assess how governance performance has evolved across some strategic areas. While it was not always practical to set specific targets for those indicators – i.e. what milestones must be attained by 2015 – it allowed policymakers to focus attention on areas which required priority action.

Table 1.1 summarizes progress judged by the various indicators of governance. In the area of economic governance, substantial progress was achieved. Fiscal discipline was maintained, public investment was focused on core development priorities, implementation of the medium-term budgetary framework was initiated, public financial management was strengthened and tax reforms were introduced. The results were broadly positive. Tax to GDP ratio increased, fiscal deficit was contained at below 5% of GDP, and public debt was contained. An effort was also made to increase the coverage of income tax net, which is a core governance challenge in Bangladesh. The number of tax payers has increased and income tax collection as share of GDP increased from 2.9% of GDP in FY2010 to 3.6% of GDP in FY2015.

Table 1.1: Governance Indicators

	Variables	Previous Year	Base-Line Year 2010*	Mid-Term Review	Actual FY2015*	Source
Democratic Governance	Proportion of the Elected Representatives Female	2% 8 th National Parliament (2001-2006)	6% 9 th National Parliament (2009-2013)		6% 10 th National Parliament (2014-)	Legal Office Parliament
	Numbers from Bills Passed per year	37 8 th National Parliament (2001-2006)	65 9 th National Parliament (Up to 2010)			Legal Office Parliament
	Average Parliamentary Attendance	57% 8 th National Parliament (2001-2006)	69% 9 th National Parliament (First Five Sessions)			Legal Office Parliament
Economic Governance	Gross Foreign Exchange Reserves		\$10.7 billion (FY2010)	\$15.3 billion (FY2013)	\$25.0 billion (FY2015)	Bangladesh Bank
	% of Gross NPL in Public Banks		14.08 (2010)	28.8 (2013)		Bangladesh Bank
	Income Tax as a % GDP		2.9 (2010)	3.4 (2013)		NBR
Justice and Human Rights	Weighted Average National Disposal Rate		33.34 (2011)	32.24 (2012)	N/A	Supreme Court Registry
	Case Disposal Rate (Criminal)		42.98 (2011)	42.33 (2012)	N/A	Supreme Court Registry
	Case Disposal Rate (Civil)		7.91 (2011)	8.23 (2012)	N/A	Supreme Court Registry
	Case backlogs in the formal justice system (lower and upper judiciary)		1.8 million (2010)	2.7 million (2013)	3 million (2014)	Supreme Court MoLJPA

*Or any other date mentioned.

Source: Sixth Plan Revised Results Framework

The Midterm Review of the Sixth Plan also drew attention to some weaknesses in the financial sector. To be precise, unhealthy trends in Non-Performing Loans in public banks between 2010 and 2015 compelled the Government to provide cumulatively more than 75 billion Taka in re-capitalization in 2013 and 2014. Needless to mention, a sound banking sector is imperative for a

stable economy and the current condition makes it critical for the Government to address the core governance deficiencies within the banking sector with upmost urgency. The capital market, potentially the major source of finance for private sector investment in the long run, is still evolving, and suffered temporary setbacks due to speculative bubbles, regulatory shortcomings, and slack monitoring. Fundamental institutional reforms are under way to restore transparency and efficiency in the equity market, the most significant of which was the demutualization of the two stock exchanges: The Dhaka Stock Exchange and Chittagong Stock Exchange. In sum, to improve the overall state of economic governance, the Government acknowledges that the broad financial sector requires strong institutional reforms and, accordingly, the Sixth and Seventh Plan contain a slew of reform measures directed at the overall financial sector.

Bangladesh is making important progress in strengthening parliamentary democracy. National and local government elections are being held on a timely basis. Various Parliamentary Committees are debating a range of policy issues and challenges. Over time, there has been a large improvement in the role of women in the parliament. From a mere 2% in the 8th parliament, direct women representation in both the 9th and 10th Parliament stands at 6% - indicating how the state of voice of women in policymaking has received a noticeable shift over the last decade. Yet, the main shortcoming of Parliament as a participatory institution lies in the fact that opposition parties have embraced a tradition of boycotting Parliament on the shortest possible pretext. The Seventh Plan therefore needs to address these contemporary challenges while putting forward a sustainable strategy to seriously address governance challenges across all spheres of the state. The main emphasis of this strategy is to develop effective, accountable and transparent institutions, so that the overall governance in the public sector improves and citizens are satisfied with the performance of the overall public sector.

1.2.2 Sixth Plan's Achievements on Governance

(a) Progress with Policies

A number of important steps have been taken place in recent years to improve governance in the following areas:

Public Administration Capacity Development:

A draft of the Public Service Act (which is now called Government Employee Act) has been formulated and awaits enactment into law by Parliament. The principle objective is to create an effective public sector that is capable of meeting the development challenges of the country.

The revision of the conduct rules is under progress. The aim of the initiative is to formalize behavioural norms that are pertinent for the creation of a modern bureaucracy. The Pay and Services Commission recommended rationalizing of the pay and salary of public sector employees. The proposed revision in pay scales is being implemented in phases, starting with the Budget of FY2016.

The Citizen's Charter (CC) initiative undertaken by the Government in 2007 has already been piloted in 56 public service providers under 13 ministries across 16 districts.

The Govt. recognizes that effective and accountable public service delivery is only possible when public organizations can put in place a comprehensive system for managing public grievances. While traditionally different ministries and agencies built up separate systems of their own for addressing public grievances, such sporadic measures are not sufficient for handling huge number of public grievances that are reported annually. Consequently, to improve the process further and strengthen the Grievance Redress System (GRS) as an effective instrument, a separate branch has been introduced recently in the Cabinet Division. A web-based software has been installed by the Cabinet Division so that people can file their complaints online.

Reforming Public Services and Eliminating Corruption

The Government has taken measures to create public awareness and education in preventive measures, creating the right conditions for the public sector to enhance public service delivery. ACC is also creating committees to work with young people, but still requires much broader effort. A National Integrity Strategy (NIS) has been formulated which identifies the contexts and challenges faced by different state and non-state institutions and it sets goals for a large array of intuitions to ensure integrity in their respective operations. In addition, given corruption is largely held responsible for underperformance of the state, NIS document pinpoints a coordination strategy on prevention of corruption and promotion of integrity based on the constitutional spirit, electoral commitments of the government, UN Convention against Corruption and the experiences of the different countries.

Improving project implementation capacity and sectoral governance

The Planning Commission has taken measures to move away from the existing project-by-project approach to a more programme and results based approach that is better linked with the Plan and the Medium-Term Budgetary Framework (MTBF). Measures have been implemented to bring improvement in project quality through more realistic project design, better assessment of implementation capacity, and more realistic costing.

The Government has taken actions to increase financial authority of project director for accelerating the ADP implementation. Greater efforts are geared to ensure procurement of goods and services on a timely basis with due regard to qualitative and governance aspects of procurement. Greater attention has been given to make project implementation results-based and not just a matter of speedier use of public funds.

The Government has decided to formulate 'Sector Strategy Papers (SSP)' for each of the major sector within its scope. The SSPs are likely to inform ECNEC and other relevant decision-making bodies on the linkages between proposed project portfolios and sector policies, programmes and priorities as elaborated in the FYP and relevant strategies at the sector and ministry-levels. By

providing a stronger basis for prioritization, the risk of selecting projects based on other, non-technical factors, will also be reduced.

The Government has also facilitated improvements in the ‘planning and budgeting framework’ and adopting a better ‘results based monitoring and evaluation framework’. The following development has happened within these core areas under the Sixth Plan:

Planning and Budgeting: Progress has been made in strengthening the link between planning and budgeting through the Sixth Plan as well as through the Annual Development Programmes that are now much better linked to both the Sixth Plan strategies and targets as well as to the MTBF of line Ministries. The MTBF implementation is well underway and steady progress has been achieved.

Results-based Monitoring and Evaluation: Commendable progress has been made in the area of introducing results-based M&E at the macroeconomic level as advocated by the Sixth Plan. Efforts are also underway to institutionalize arrangements at GED to undertake periodic results based M&E exercise at the macroeconomic and sectoral levels. The area where progress has been lagging concerns results-based monitoring at the project-specific level. IMED continues to focus on physical and financial aspects of project implementation.

Devolution to local Governments

Efforts to improve planning and budgeting capacity at the local level have been initiated. Some measures have been taken to increase the transparency and accountability of local Governments. For instance, union information centres have improved transparency at the local level and few investigations into irregularities have occurred. Training and technical assistance programmes have been undertaken which has helped improve the capacity of local Governments. The a2i initiative has brought progress in the state of e-governance at the local level through the implementation of a well-designed programme of ICT, hardware and software, technical assistance and training programmes.

Promoting E-Governance

The Government has also taken numerous initiatives to implement the Digital Bangladesh vision. In particular, a set of wide-ranging initiatives to greatly expand the use of ICT to improve efficiency and effectiveness is taken under the a2i programme. Table 1.2 below details out some of these policies.

Table 1.2: A Snapshot of Access to Information (a2i) Programme

a2i's Interventions	Description
Policy Intervention	<ul style="list-style-type: none"> ✓ ICT Policy Act 2009; ICT Act 2010; Sixth Five Year Plan (SFYP); Cyber Security Policy 2010; Public Private Partnership Policy and Guidelines 2010; Broadband Policy; National Strategy Paper on m-Governance; Guidelines for Utility Bill Payment; e-Krishi Policy; Health Policy; Education Policy; National Telecom Policy 2010; Right to Information Act 2009; Mobile Banking Policy Guidance.
National Portal Framework (NPF)	<ul style="list-style-type: none"> ✓ The two, interrelated objectives, are to (i) impart ICT skills to the Government officials, in order to (ii) bring all public websites and their information under a single architecture, adhering to a common design in terms of content and structure. ✓ The NPF offers public information in the vernacular language Bangla, which can be easily understood and used for collecting information relating to citizens livelihood – agriculture, health, education, law and human rights, tourism and history, human resources, development & engineering, environment & disaster management. ✓ At the dawn of 2013, all Deputy Commissioners and Upazila Nirbahi Officers (UNO) have acquired the technical skills required in keeping the web contents of the portals updated, thus, eliminating the dependence on external vendors. ✓ The NPF has become the trendsetter in terms of demonstrating how Government contents are to be published, maintained and updated online by the Government officers themselves.
District e-Service Centres (DeSCs)	<ul style="list-style-type: none"> ✓ DeSCs, located at the Deputy Commissioner's (DC) office, were inaugurated across 64 districts on 14 November 2011. ✓ As of May 2012, DC officers disposed 809,219 applications. ✓ 389,423 land records delivered against 758,153 received applications. ✓ Average time to take decision reduced from 7 days to 1-2 days.
ICT in Education	<ul style="list-style-type: none"> ✓ Multimedia classrooms have been established in 500 schools with an aim to engage 15,200 secondary schools and 5,300 Madrasas within 2013. ✓ 4500 teachers and more than 400 teacher trainers have already been provided with coaching, with more 20,500 to be trained by 2013. ✓ More than 300 books of primary and secondary schools are available in electronic format including technical, vocational and Madrassah schooling. ✓ Additionally, 33 videos of model classrooms have been developed and disseminated together with the development of thousands of blogs and other digital contents.
Union Digital Centre (UDC)	<ul style="list-style-type: none"> ✓ Top services of the UDC include Government forms, examination results, livelihood information, birth and death registration, mobile banking, provision of internet, computer training, etc. ✓ 1 per cent of Annual Development Programme (ADP) is invested by the Government together with funding from the DC offices for entrepreneur training, workshop and mobilization. ✓ 4,501 UDCs are already in operation with 9,002 entrepreneurs, 50 per cent women, being self-employed.
Jatiyo e-Tathyakosh	<ul style="list-style-type: none"> ✓ Jatiyo e-tathyakosh, meaning national information, represents the largest collection of Bangla language content. ✓ It is a national information portal involving 320 organizations from the Government, local and international NGOs and private organizations, which can be accessed through UDCs in both online and offline versions.

a2i's Interventions	Description
	<ul style="list-style-type: none"> ✓ By facilitating spread of development knowledge to millions, the e-Tathyakosh has significantly enhanced the impact of valuable information and materials collected and developed by public and private sector actors. ✓ The e-Tathyakosh is expected to contribute toward improving the standard and quality of life for all citizens, empowering the society with the force of knowledge, which is an essential aspect of 'Digital Bangladesh' Vision.
e-Purjee	<ul style="list-style-type: none"> ✓ E-Purjee can be collected from any UDCs located at the vicinity of the sugarcane producers. ✓ An approximate 200,000 sugarcane producers are benefitting from the e-Purjee service. ✓ 18,000 e-Purjees are sent on average through SMS and published at the websites from 15 state-owned sugar mills to the cane farmers. ✓ With an online portal showing the update on the issuance of the digital Purjee, real time statistics on cane producing and crushing and also SMSs carrying the feedback of the farmers, none of the state-owned sugar mills experienced 'no cane hour' (meaning that there is idle capacity with insufficient supply of sugarcane) since 2010.

Judicial Reforms

Basic initiatives have been taken to improve the judiciary such as the computerized court case recording and tracking system. Information is also accessible to people through the website. Collectively, this has improved the work environment in the courts. A pilot has been undertaken in lower courts regarding case management committees and criminal justice coordination committees. In future, this will help streamline administrative procedures of the court so that they are easily understood, and arbitrary decision making by court staff is minimized. The Government has enabled NGOs to facilitate access to the judicial system by the poor, women and vulnerable people and in building awareness among them. The Government has taken measures to strengthen alternative dispute mechanisms by regulating them with formal and traditional laws. Village courts amendment has been approved by parliament, and National Legal Aid Services Organization has been established in all districts and national Legal Aid offices have been given the power to facilitate Alternative Dispute Resolution (ADR).

Making parliamentary process effective

An effective parliament remains the bedrock of modern democracies. The 6th FYP undertook several activities to make the parliamentary process more effective, though many remained unaddressed or incomplete. These activities include:

- (a) Increasing the number of hearings open to the public, particularly of important budgetary committees such as the Public Accounts Committee; (b) promoting standards for policy debate, in terms of allowing time and space for parliament (and if possible experts and other stakeholders such as prominent think tanks) to give opinions on policies, with the public generally informed

regarding these processes; (c) developing mechanisms to ensure timely responses to recommendations from the Public Accounts Committee, and providing easily accessible and comprehensible data for the public, including a progress report from the PAC; and (d) building on the existing capacity of the Parliamentary Secretariat, and ensure effective implementation of the Parliament Secretariat Act 1994 & Rules.

Strengthening the Election Commission

The Government has established a mechanism for selection of members of the Commission through a clear criterion for non-partisanship, competence, and independence in order to sustain the independence of the institution.

(b) Progress with Institutions

Civil service reforms: Progress is ongoing in reforming civil service in a number of areas. Besides processing of enactment of government servant act, in order to motivate civil servants a public administration award policy has been formulated and brought under implementation. Competitive recruitment process is helping attract better quality talents in the civil service. On-the-job and specialized training is helping improve performance. Special focus is now on developing capacities of the civil officers through strengthening of the public administration training centres. To improve service delivery E-filing has been introduced. It has already been piloted in the career planning wing of the Ministry of Public Administration. Incentives have also been improved by raising the retirement age of civil servants by two years. These are all steps in the right direction but further steps are needed to institute performance-based promotion and to upgrade skills through more systematic and periodic training. Special efforts are needed to attract and retain civil servants in a number of specialized areas such as economic management, tax planning, financial management, project management and results-based monitoring and evaluation.

Partnership with NGOs: Bangladesh is justly proud of its long tradition of partnership with NGOs and takes pride in nurturing world-class NGOs. The outreach of NGOs in the delivery of a wide range of services including education, health, training, women's empowerment, micro-credits, climate change and social protection has continued to blossom. The Government has also established good partnership with a number of private research institutions to strengthen macroeconomic management and policy making. This has provided a stronger basis for strategy and policy formulation in a number of areas including banking, tax policy, planning, trade policy, poverty analysis, social protection and regional cooperation.

Annual Performance Agreement (APA): The Government acknowledges that in order to attain time-bound targets set forth in the 6th and 7th Five Year Plans and conceptualized under the Vision 2021 document, a strong Government Performance Management System (GPMS) must be developed to help ensure a systematic review of all Ministries/Divisions in order to generate more accountability and effectiveness within public organizations. To this end, the Government has already formulated a framework of performance management called Annual Performance

Agreement (APA). Under the system an Annual Performance Agreement is signed between the Secretary of the concerned Ministry/Division and the Cabinet Secretary. Furthermore, the Government has established a separate Unit in the Cabinet Division headed by a Secretary and this Unit has been entrusted with the responsibilities *inter alia* of implementing the Government Performance Management System (GPMS). A National Committee on Government Performance (NCGP) has been constituted headed by the Cabinet Secretary to provide the overall guidance for the implementation of GPMS. Under 7th Plan, APA will have to be adequately operationalized to meet its desired objectives.

1.3 EMERGING CHALLENGES IN GOVERNANCE

A detailed examination of the Mid-Term Review of Sixth Plan and other recent events has convinced policymakers that four areas have shown noticeable weaknesses that demands urgent attention in the Seventh Plan. The choice of these areas as ‘key challenges’ is primarily determined by their importance for the overall economy and the weaknesses they have exhibited over the recent years. These areas are:

Judicial Effectiveness: Access to judiciary is critical for administering the rule of law and protecting the rights of citizens. In 2010, total back log of cases in both upper and lower judiciary was approximately 1.8 million. However, recent estimates – as of Dec 2014 – is suggestive that total back log of cases have crossed approximately 3 million. This is a matter of concern and it has affected the speed with which both civil and criminal litigations are managed. Other than this, existing discourse on judicial effectiveness has highlighted a large array of factors responsible for its under-performance – i.e. from rules guiding recruitment to prevailing incentives – and - from poor work environment to low access to justice for the poor.

Public Administration Capacity: A strong public administration capacity is a prerequisite for ensuring the delivery of adequate public services. This is important to ensure the delivery of timely and quality basic public services to the citizens (e.g. law and order; safety and security; schooling, preventive healthcare, water and sanitation; implementation of regulatory policies, etc.). Increasingly, Bangladesh public sector is also taking on responsibility for delivering mega projects for which substantial improvements in public administration will be required.

Economic Governance: Effective economic governance is concerned with providing an optimal level of physical infrastructure and organizational strength, so that private economic agents do not suffer from the under provision of public goods or inadequate regulatory oversight. Within the economic periphery of Bangladesh, improving economic governance through articulating specific interventions in the financial market has emerged as a priority area under the Seventh Plan given its importance for ensuring the economic progress envisioned within the Perspective Plan 2020.

Collectively, the discussed weaknesses and trends within the financial sector has convinced policymakers to ensure that the Seventh Plan offers a decisive focus on such priority areas for

intervention. Tentatively, a focused approach is likely to facilitate efficient usage of resources for addressing governance deficits and will offer better scope to monitor and evaluate progress. This will also allow policy makers to hold institutions and actors accountable who are responsible for overlooking specific policy intervention within a particular area.

1.4 SEVENTH PLAN STRATEGY

The Government acknowledges that governance deficits are observed across all walks of public life. It also understands that addressing governance challenges in the long-run necessitates a strong focus on institutions. In that spirit, the Seventh Plan harnesses a more focused approach to ensure effective measures are taken to facilitate governance improvements through institutional improvements in some key areas where governance weaknesses were observed. The choice of these areas are also shaped by their importance for having a catalysing impact on the overall state of socio-economic transformation, and any positive development in these areas are likely to produce substantial scope for the citizens to exercise and avail their democratic rights.

In that spirit, the Seventh Plan takes a more focused approach to ensure effective measures are taken to facilitate governance improvements through institutional improvements in some key areas where strong governance weaknesses were observed between 2009 and 2014. The choice of these areas are also shaped by their importance for having a catalysing impact on the overall state of socio-economic transformation, and any positive development in these areas are likely to produce substantial scope for citizens to exercise and avail themselves of their democratic rights.

1.3.1 Proposed Activities for the 7th Five-Year Plan within Key Areas:

(a) Key Area 1: Justice and Rule of Law

The fundamental importance of an independent judiciary for the maintenance of the rule of law is beyond question. The primary objectives and functions of the Judiciary include the following:

- a. To ensure all persons are able to live securely under the rule of law;
- b. To promote, within the proper limits of the judicial function, the observance and the attainment of human rights; and
- c. To administer the law impartially among persons and between persons and the state.

The Government accepts that without improving judicial effectiveness and reach of rule of law, no notion of governance can be sustained within Bangladesh's political periphery. Hence, to improve the quality of institutional performance within the judiciary system, a pragmatic set of activities are articulated under the Seventh Plan so that the overall performance of the judiciary is improved. These are:

Formal Justice Institutions

Several activities from previous five year plan will be completed during the period of the 7th FYP. These are:

1. An Ombudsman will be appointed with sufficient resources as guaranteed by the Article 77 of the Constitution of the People’s Republic of Bangladesh.
2. A clear, transparent recruitment process and specific criteria for the Supreme Court judges will be established.
3. Measures will be taken to streamlining administrative procedure of the court.
4. Computerized court case recording and tracking system will be introduced which will allow all information to be accessible to citizens through websites.

Other activities for the 7th FYP include the following:

1. A “Case Management & Coordination Committee” will be established for civil and criminal matters at the district level. Such a mechanism will evaluate and improve the working of the ‘system’ rather than just being concerned with the performance of ‘individual’ agencies or judicial officials.
2. Measures will be taken to slow down the rate at which backlog of cases are growing. This involves offering incentives to undertake special sessions at the lower and higher court to ensure that the overall case back log does not cross 3.3 million thresholds by 2019.
3. Bar Council will be required to take effective steps to ensure the accountability of the lawyers and also to maintain integrity.
4. Violence against women will become a key focus of local justice institutions, requiring greater investment in capacity building at the district and upazila level, as well as the effectiveness of one-stop crisis centres where VAW victims are taken, and awareness of the Domestic Violence Act (2010) among both local officials and the public.
5. Ministry of Land and Ministry of Law, Justice and Parliamentary Affairs will conceptualize and undertake new initiatives to mitigate land disputes, which has an undue effect on judicial effectiveness. This will involve a comprehensive stocktaking of the severity of the problem, its underlying institutional causes and remedies to address the problem and its implication for judicial performance.
6. Evaluate and implement the recommendation of the Law Commission of recruiting adequate number of judicial officials every year for the next five years to address the 3 million case-backlog in the judiciary.

Semi-Formal and Informal Justice Institutions

1. Scaling-up and strengthening of the village courts – formulation and implementation of a national strategy together with an investment plan to ensure greater access to the disadvantaged sections of the population.
2. The local Government will encourage citizens, particularly in rural areas to avail the village court mechanism to resolve disputes without resorting to formal justice institutions.

Access to Justice

1. The Government will enhance the capacity of National Legal Aid Services Organization (NLASO) through management systems and procedures, as well as human resources, particularly in supporting the poor and women.
2. NLASO will develop a strategy for engaging with NGOs and other Government agencies to promote access to justice; through this partnership, they will set targets for jointly providing quality legal aid, especially for the poor, women and marginalized, with each agency transparently reporting on their own activities.
3. The NLASO will appoint District Legal Aid Officers in 64 districts.
4. Legal aid will be given to at least 37000 victims annually by 2020.
5. A legal basis for ADR will be created, building on the current legislation, to establish an extra tier of mediation under ADR.
6. The Government will undertake initiatives for improving the capacity of ADR at the local level regarding mediation, as well as public awareness.
7. The Government will ensure that the number of cases annually settled under ADR is at least 25000 by 2020

To ensure the effective completion of the activities mentioned above for judicial reform, it is needless to say that the administration of justice will require adequate investment. Without support in the justice sector the ultimate target of democratic governance cannot be ensured. To support the judicial reform and overall judiciary the 7th Plan propose following strategies to be taken:

1. There is an imminent need for digitization of Judiciary. This digitization will cover all the necessary equipment for the Judges and Court staff, hardware and connectivity support and relevant software support. So three folds mixing and collaboration is needed among Supreme Court as of domain institution, ICT Ministry for supporting the hardware and connectivity and Access to Information (a2i) of PMO for software support.
2. For establishing e-judiciary in Bangladesh there must be linking of PMO and Supreme Court for establishing e-judiciary team within a2i programme comprised of judges of subordinate judiciary to come up with a work plan in terms of long term development of e-judiciary system in every jurisdiction of Bangladesh.
3. To improve public safety, hold offenders accountable, decrease crime, and strengthen neighbourhoods a process should be introduced where in all data relating to crime, criminals, prison etc. be prepared and kept in the database for future use.
4. In every district there must a Programmer and some Assistant Programmers to look after the digital activities of the Judiciary.

5. There must be infrastructural development of both the Supreme Court and subordinate Judiciary to cover the accommodation for eflash and offices of all section a Court.
6. In accordance with the recommendation of the Law Commission and the Parliamentary Standing Committee 5000 more Judges should be recruited to cope with the ever increasing cases, besides, sanctioned posts in all upper tier must increase.
7. Independence of Judiciary is a key in any democratic governance. The complete independence cannot be ensured without better incentives in terms of pay. So effective pay structures is indispensable to attract more efficient personnel to come to the service and for smooth functioning in dispensing justice. Towards this end, pay of the Judge of the both tiers must be increased.

There is no accommodation for the judges in any level, which impaired the effective delivery of administration of justice and safety of accommodation. Therefore, there should be infrastructural development in terms of judicial complex in every district. Besides, there must vehicle facilities for all judges in every tire to ensure their safety of transportation and movement.

(b) Key Area 2: Public Sector Capacity: Administrative Capacity and Financial Management

Existing literature on governance is explicit in stating that without creating a ‘modern state’ – no society can aspire to meet the basic expectation of its citizens. The pre-condition for establishing and sustaining a modern state is to create a bureaucracy which has the power deploying capacity to deliver the public services recommended by the public representatives. Hence, improving Government’s administrative capacity is fundamental for enhancing Government’s effectiveness, and under the Seventh Plan the following activities will be implemented.

Public Administration Capacity

1. The Government Servants Act: The Government Servants Act is a critical first step for achieving Vision 2021 as outlined in the Perspective Plan, providing the foundation for removing excessive partisan influence in the appointment of civil servants. The Act will include the following issues:

- a. Ensure better service delivery to the people has been considered as a key priority.
- b. The personal management system has been brought under legal framework for the first time in the ministry.
- c. Develop greater opportunities for on-the-job training and classroom-based training with linkage between training and criteria for career advancement.
- d. Developing a clear terms of reference for civil servants, thus promoting accountability.
- e. Reforming civil servants’ performance evaluation through emphasis on establishing clearer

annual work objectives and performance on these objectives and greater differentiation of annual evaluations and having promotion depend more directly on performance evaluations.

- f. Establishing Permanent Salary Commission to recommend annual increment in the salary of the government servant consistent with the increased prices of commodities, specifically inflation rate and conforming the affairs related to the administrative reforms.
 - g. Institutionalizing the citizen's charter to provide regular feedback on public services.
 - h. The Government will increase the share of female officers (Grade-9 and above) in the public sector to 25 percent by 2020.
 - i. Promotion and posting of the government servant will be decided by the clear policy to be mad under the act.
 - j. Legal protection of the government employees has been ensured.
 - k. Performance based recruitment and promotion system should be introduced.
2. Reform the Public Service Commission: Government will establish transparent recruitment process for appointees, have financial autonomy in terms of its budget, and make it more transparent to the public in its activities.
3. Citizen feedback/ public grievance redress: The Government will establish mechanisms for citizen feedback regarding Government performance. These measures will provide citizens with the opportunity to provide information to senior management on front line service providers. If implemented in a relevant, efficient and responsive manner, it can represent a powerful tool for improving Government performance at the local level.
4. Annual Performance Agreement (APA): Under the 7th Plan's time interval, the Govt. will undertake all necessary actions to make APA an effective institutional arrangement for enhancing the state of accountability across public sector organizations and government employees. The objective of the APA is to introduce a systematic process for managing and monitoring the action, behaviour, and work environment of public sector organizations. However, the availability of relevant data and the capacity to evaluate a large range of information and indicators is considered as a major challenge in facilitating APA to meets its objective. Thus, under the Seventh Plan, the Govt. will ensure such constraints are adequately addressed and an effective APA is operationalized. The Govt. will also ensure that all Ministries/Divisions will review and prepare a 'Performance Evaluation Reports' highlighting all the achievements against the agreed results in the prescribed format. Furthermore, the Technical Committee formed within the Cabinet Division will review the 'Performance Evaluation Reports' and submit it to the National Committee on Government Performance so that the highest levels of the Government is informed about the relative progress of all Ministries/Divisions in meeting the broader objectives of the national plan.

5. The Government of Bangladesh has already established a separate branch within the Cabinet Division to facilitate a central Grievance Redress System (GRS). Hence, under the 7th Plan, the Govt. will ensure that all the necessary logistical and human capital deficiencies will be met so that the focal point officer can deal with the public grievances that are reported by the citizens.

Public Financial Management

1. Public Investment Management:

Increasing the scale, quality and efficiency of public investment will be important for Bangladesh in order to achieve sustained economic growth required for consolidating its position as a lower middle-income country by 2021. This necessitates an increase in growth which will in turn require a significant increase in investments. However, increasing the volume of public investment will only have the desired effect if efficiency in the PIM systems is enhanced concurrently. Despite the well-documented significance of investment levels to sustain economic growth, Bangladesh devotes a smaller percentage of GDP to investments than other countries in South Asia. While broad inter-sectoral allocations of resources reflect strategic priorities, the country has not made significant level of investments in infrastructure to support higher economic growth. Infrastructure deficits constrain expansion of and returns to private investment. Scaling up investments, in particular in infrastructure, could therefore be an important means of achieving sustained economic growth. In this context, the Government acknowledges that limitations in its PIM systems and practices may prevent Bangladesh from reaching its growth targets. The Government's capacity to undertake proper project design and selection, implementation and evaluation is limited. This results in a range of issues, including: (i) limited links between strategic development objectives and the Annual Development Programme (ADP), which comprises technical assistance and investment projects financed through the development budget and foreign assistance; (ii) the development of a project pipeline based on an approval process outside of the budget cycle that does not reflect the budget constraint; (iii) delays in project execution, resulting in time and cost overruns; (iv) persistent under execution of the ADP, particularly of foreign assistance; and (v) overlook the cost of operations and maintenance of assets in preparation and approval stage.

Thus, to mitigate such concerns, under the Seventh Plan, the Government intends to implement reform options discussed under the “A Public Investment Management Review and Reform Road Map for Bangladesh”. This involves:

- i. The introduction of a multi-year Public Investment Programme (PIP) to ensure a close match between approved projects and the availability of financial resources. This constitutes three key elements, which are: (i) top-down ceilings/resource envelope agreed with Finance Division and communicated to Ministry level; (ii) bottom-up project proposals from MDAs following clear criteria; and (iii) a prioritization process, which results in the approval and selection of the highest value projects within the funding

constraints. The rationalization process will seek to clean out dormant or irrelevant projects and help line ministries close projects that are facing implementation problems through restructuring or through other relevant interventions.

- ii. Strengthening project design, appraisal and approval capacities and systems to increase the quality of the investment portfolio. In other words, the Government will ensure that all projects that go to the Planning Commission must provide a proper appraisal report along with sound analysis that shows the consistency and relevance of the project to sectoral/economy-wide objectives, strategies and policies. The appraisal report will do proper economic and financial analysis of the proposed project, do gender and environmental analysis as relevant, and show an implementation plan while providing clear evidence of implementation capacity. In this regard, Planning Commission as the apex body for development planning need to be further strengthen through capacity development of the staffs and structural reform of the Planning Commission as well as the planning wings of the ministries/divisions. On the whole, restricting the financing of new projects through a stringent approval process could prevent the investment programme from being overloaded and thereby ensure a better utilization of the available fiscal space.
 - iii. Institutionalization of the PIM reform agenda by establishing effective consultation and coordination mechanisms will be considered as a prerequisite for successful reform. Any reform effort requires a clear strategy, a political champion supported by a capable reform team and well-established consultation and coordination mechanisms to ensure a high level of coordination among all relevant stakeholders. To achieve this objective, the Government will establish a dedicated PIM Reform Unit within the Programming Division and a joint technical committee between the Planning Commission and the Ministry of Finance.
2. *Financial Management*
- a. The Government will undertake comprehensive reform programs for the revenue administration, especially the National Board of Revenue (NBR) to improve existing low tax-GDP ratio. Relevant acts, rules and regulations will be amended and updated coupled with expansion and reform of the revenue administration with an increased focus on providing IT based solutions.
 - b. The Government will introduce a modern Integrated Financial Management Information System (IFMIS) capable of producing timely, comprehensive and reliable financial statements in line with international accounting and reporting standards (IPSAS, GFSM 2014).
 - c. Initiatives will be taken to deepen the treasury securities market for reducing the cost of borrowing of the government. In addition, Medium Term Debt Management Strategy (MTDS) will be updated regularly and public debt will be kept within sustainable limit under Debt Sustainability Analysis (DSA) framework. Debt statistics will also be published regularly for greater transparency of government's fiscal position.

- d. To achieve greater efficiency of Government's cash management, the existing Treasury Single Account (TSA) will be further strengthened with gradual phase out of special accounts and preparing cash forecasting model.
 - e. A new Budget and Accounting Classification System (BACS) will be adopted with a view to improve efficiency in budgeting and accounting. The new BACS which will be compliant with GFSM 2014 and IPSAS and will be rolled out across government during the plan period.
 - f. A comprehensive review of PFM legal and regulatory framework will be undertaken.
 - g. Initiatives will be taken to reform the existing non-funded pension system of the Government.
 - h. Steps will be given to improve the financial management of the State Owned Enterprises (SOEs) with special focus on their reporting and oversight.
 - i. Steps will be taken to improve the financial management of the local government bodies with special focus on their reporting, financial oversight and audit.
 - j. Special attention will be given to introduce more IT based solutions in PFM area for improving transparency and efficient delivery of public services.
3. *Medium Term Budgetary Framework (MTBF)*
- a. Institutionalization of a more strategic and policy based approach to budgeting, including through further rollout of Medium Term Strategy and Business Plans (MTSBP).
 - b. Further development of line ministry Forward Baseline Estimates (FBEs) to prioritize spending based on available fiscal space.
 - c. A credible and reliable linkage will be established between allocation of resources of a ministry and its performance.
4. *Budget Execution Transparency:*
- a. The Government will undertake initiatives to improve transparency and accountability associated with procurements.
 - b. Publication of a citizens' budget immediately after the budget speech.
 - c. Greater transparency of public finance data in user-friendly and editable formats, such as through an Open Data Portal.
 - d. The Government will further improve the quality of the analytical reports published during national budget like child budgeting, gender budgeting, district budgeting, etc.
5. *Audit systems:*
- a. The Government will undertake necessary measures to improve auditing standards.

- b. The Government will make all recent audit reports public on its website in a user friendly and accessible format, as well as clearly indicate how these audits have been followed up, particularly in holding the officials involved accountable.
- c. The Government will provide necessary support to improve the effectiveness of the Office of the Comptroller and Auditor-General to enable it to discharge its constitutional obligation more efficiently as an independent body with appropriate budget discretion and authority over human resources.

(c) Key Area-3: Improving Economic Governance

Between 2009 and 2014, the economic sphere of Bangladesh experienced a major stock market crisis followed by several banking and financial scams. This has motivated the Government to undertake serious measures that fundamentally improves the state of governance in the banking sector and the capital market. The Government also acknowledges that while tax revenue has witnessed substantial rise, the scopes of tax evasion has also increased. Thus, the Govt. intends to improve the state of economic governance by undertaking the following activities:

I. *Measures to Improve Governance within the Banking Sector:*

Autonomy for Bangladesh Bank: Under the 7th FYP time interval, the Government will review the issue of the independence of the Bangladesh Bank and the amount of autonomy it wants to convey to the regulator. A fully autonomous regulator capable of hiring quality staff it needs, procuring the technology it requires strengthening its effectiveness, and implement prudential norms is essential to prevent financial irregularities observed during 2009 and 2014. An effective and autonomous Central Bank is also essential to formulate and implement sound monetary policies.

Supervision of Public Banks: The Government will also formulate a strategy and implement identified measures for better supervision of public banks. The poorly performing public banks with a large amount of non-performing portfolios are a serious threat to the soundness of the banking sector. Furthermore, these banks will be brought fully under the regulatory supervision of Bangladesh Bank and will be required to comply with all prudential norms, including certification of the bank boards and senior management as per the approved fit and proper criteria.

Reducing Gross Non-Performing Loans: Under the 7thFYP time interval, the government will ensure that the Gross-NPL of both state owned and private banks do not cross 10%.

Measures to Improve Governance within NBFIs

- Currently, there is no deposit insurance coverage for the depositors of NBFIs and thus the Govt. will undertake measures to bring the depositors of NBFIs under the umbrella of

insurance coverage. The deposit insurance system will aim at minimizing the risk of loss of depositors' funds with NBFIs.

- A more comprehensive investment friendly policy of Bangladesh Bank for NBFIs, more coordination with Banks, easy and simplified procedures of reporting to Bangladesh Bank etc. will be formulated to support the growth of NBFIs.
- The NBFIs will put in place a better monitoring mechanism to streamline their loan disbursement methods with focus on low risk industrial segments in order to minimize the risks associated with their assets.
- As the tax treatment is totally different in leasing business, mixing up of lending and leasing in the same business portfolio might create the possibility of tax evasion. The government will take measures to ensure that these two different operations are not mixed, or else, it might distort the basic financial norms.
- The government will support clientele protection by ensuring the availability of relevant information for each NBFI, so that greater transparency prevails in the sector.

II. *Measures to Improve Governance within the Capital Market*

After the stock market crisis in FY2011, there is a general agreement among practitioners and analyst about the central problems facing the capital market, which are:

- Limited SEC capability in areas of regulation, surveillance, and enforcement.
- Limited financial stability oversight and policy coordination between SEC, Bangladesh Bank and the Ministry of Finance.
- Weak regulation, governance and operation of stock exchanges.
- Small institutional investor and mutual fund industry: underdeveloped insurance industry serving only 1%-2% of population; nascent mutual fund segment of the financial sector.
- Limited supply of bonds and equities.

Furthermore, the government has already undertaken numerous activities to achieve the following broad array objectives:

- Demutualization of stock exchanges.
- Enhanced coordination between regulators to enhance financial stability.
- Enhancing institutional investor demand and promote the mutual fund industry.
- Enhancing supply and demand of equities and bond.

While these activities have facilitated significant governance improvements within the capital market, the GoB acknowledges that more measures need to be taken to further improve the

performance of the overall capital market with a strong emphasis on reducing mal practices and governance deficits in the sector.

The following activities will be undertaken to improve the state of governance with the stock market during 7th FYP:

- Upgrading of accounting and auditing standards to enhance market confidence.
- Establish an independent Financial Reporting Council to adopt and monitor International Accounting Standards (IAS) and International Standards of Auditing as well as license accountants and auditors.
- Establish an Audit Committee to supervise companies' internal controls, accounting policies, and compliance with IAS.

In addition, to improve Governance and Operations of Primary and Secondary Markets, the following activities will be under taken:

- The government will establish a strong Self-Regulatory Organization (SRO) to monitor and discipline their members to minimize the involvement of the Securities and Exchange Commission (SEC).
- The industry will be instructed to define the role of SROs in oversight and adopt international best commercial practices.
- The SEC will be consulted to officially recognize many of the SRO's and begin the process of integrating Bangladesh's markets with international best practices.
- A demutualized DSE will be instructed to review its capital improvement programme to determine what new investments are necessary and the DSE will delist the defunct shares and debentures.

Finally, the government will undertake the following activities to improve quality of the regulatory framework:

Principles relating to the Regulators: The responsibilities of the regulators will be clear and objectively stated. The SEC and BB will develop an MOU or protocol on the collection and sharing of supervisory information, risk assessments and coordinating supervisory activities, and in enforcing conduct requirements. Moreover, there is an agreement across industry specialists that securities laws, rules and orders need to be better updated and compiled for clearer understanding and accessibility, including official English translations. In that context, GoB will support the regulators so that they are operationally independent and accountable in the exercise of its functions and powers. The regulators will be given adequate powers, proper resources and the capacity to perform its functions and exercise its powers. The GoB acknowledges that the SEC is currently prevented from fully utilizing its funds due to the Government's policies which has resulted in it becoming underfunded, understaffed and can minimally perform its regulatory duties. Thus, the SEC will be afforded broader access to its fund without tight Government expenditure approval and paid competitive. It will adopt clear and consistent regulatory processes and should

eliminate anomalies in the case of SEC prosecution of criminal cases. The GoB will put in place mechanisms so that staff of the regulator maintains the highest professional standards including standards of confidentiality by adhering to a comprehensive Code of Conduct.

Principles relating to Self-Regulation: The regulatory will make appropriate use of self-regulatory organizations (SROs) that exercise some direct oversight responsibility for their respective areas of competence and to the extent appropriate to the size and complexity of the markets. The GoB will cooperate with the SEC to put in place an on-going programme to oversee them because of staffing and capacity limitations. SROs will be subject to the oversight of the regulator and will observe standards of fairness and confidentiality when exercising powers and delegated responsibilities.

Principles relating to Enforcement: The GoB will take necessary measures to ensure the regulator has broad powers for inspection, investigation and surveillance and to review bank account information and implementation of an effective compliance programme. It will also support the regulator to develop a comprehensive enforcement power which however depends on the quick, fair and effective disposal of criminal cases by the Court. To this end, the Government will form a working group of relevant personalities from the Ministry of Law and SEC to take measures to establish a Special Capital Market Tribunal.

Principles relating to Cooperation: The Regulator will be given the authority to share both public and non-public information and should establish information sharing mechanisms that set out when and how they will share such information with domestic and foreign counterparts. The regulatory system will allow for assistance to be provided to foreign regulators who need to make inquiries in the discharge of their functions and exercise of their powers. The SEC will begin the process of cross-border cooperation and information sharing with regulatory regimes around the world during the Seventh Plan time interval.

Principles relating to Issuers: The Government will ensure that there is full, timely and accurate disclosure of financial results and other information that is crucial to investors' decisions. Holders of securities in a company will be treated in a fair and equitable manner by allowing effective SEC oversight of takeovers and amendment of rules. Accounting and auditing standards will be made internationally acceptable and of a high quality. IAS (IFRS) and ISA need to be implemented.

Principles relating to Collective Investment Schemes: The regulatory system will set eligibility criteria and regulation standards governing the legal form and structure of collective investment schemes and the segregation and protection of client assets for those who wish to operate a collective investment scheme. Regulation will be required disclosure, as set forth under the principles for issuers, which is necessary to evaluate the suitability of a collective investment scheme for a particular investor and the value of the investor's interest in the scheme.

Principles relating to Market Intermediaries: Regulation will provide for minimum entry standards for market intermediaries and require demonstrating proficiency. There will be initial

and ongoing capital and other prudential requirements for market intermediaries that reflect the risks that the intermediaries undertake. Market intermediaries will also be required to comply with standards for internal organization and operational conduct that aim to protect the interests of clients, ensure proper management of risk, and under which management of the intermediary accepts primary responsibility for these matters. Furthermore, the Government will also put in place a procedure for dealing with the failure of a market intermediary in order to minimize damage and loss to investors and to contain systemic risk.

Principles relating to Secondary Markets: The establishment of trading systems including securities exchanges will be subject to regulatory authorization and oversight. In recent years, this oversight has weakened, limited by lack of SEC resources and capacity. There will be ongoing regulatory supervision of exchanges and trading systems, which will aim to ensure that the integrity of trading is maintained through fair and equitable rules that strike an appropriate balance between the demands of different market participants. Regulation will also promote transparency of trading and be designed to detect and discourage manipulation and other unfair trading practices.

III. *Measures to Improve Governance for Reducing Tax Evasion*

The existing performance of revenue mobilization from direct tax has been less than impressive. For a while, NBR has maintained a very narrow taxpayer base with only 1.3 million registered TIN holders and not all of them file tax returns. Furthermore, there is a general consensus among policymakers that the taxpayer base needs to expand rapidly with major registration drives. Moreover, the Direct Tax Law/Codes are also considered to be outdated and it requires fundamental changes based on the principle of universal taxation. The direct tax administration is also outdated, paper-based, and based on territorial/geographical administrative units. While withholding at sources is being applied recently, in the absence of a central data base, there is no way for the tax administration to follow up on additional tax payments and also administer the withholding agencies. The collective effect of all these deficiencies is the very low direct tax/GDP ratio in Bangladesh, which hints the possibility of a high degree of both tax avoidance and evasion.

Consequently, the following activities will be undertaken under the 7thFYP to improve the state of direct tax collection:

Broadening of the taxpayers' base: The Govt. will undertake measures to improve the monitoring of the ownership of all sizable physical and financial assets of taxpayers and determining the income generation out of those assets.

Broadening of the tax revenue sources: Tax administration has the tendency to increase tax incidence on existing and complying taxpayers and exerts less effort to identify new taxpayers by gathering information from multiple sources. The so called “Black Money” is circulating in the domestic economy, it is the responsibility of the tax department to find their owners. Thus, the Govt. will support the tax administration to broaden its sources for revenue mobilization by

identifying, adopting and implementing practices that are useful for such objectives (For example, the Govt. can support the tax administration to focus more on income from service providers and self-employed who are traditionally more difficult to tax).

Treating all sources of income equally for the tax purpose without discrimination for the households: This would imply taxation of capital gains from land, real estate/housing, and stock market. Wealth accumulation in Bangladesh is primarily happening through accumulation of urban land and real estate, untaxed/low tax income of the rapidly growing RMG sector, and relatively low tax incidence on income through financial instruments.

Improving the direct tax to GDP ratio: Under the 7th FYP time interval, the government aims to improve direct tax to GDP ratio to 5% by improving tax coverage by bringing a larger share of eligible population under its tax net.

IV. *Other Important Interventions*

In the Sixth Plan, the Government pinpointed 11 areas for intervention so that better governance outcomes are derived. Furthermore, due to various constraints, some of the interventions were not adequately addressed. Consequently, it is only natural that those interventions that are important but unaddressed will receive priority under the Seventh Plan. Hence, the following measures will be taken to ensure that unaddressed objectives are completed under the Seventh Plan:

Making parliamentary process effective

The following activities will be under taken during 7th FYP to make the parliamentary process more effective:

1. Increasing the number of hearings open to the public, particularly of important budgetary committees such as the Public Accounts Committee.
2. Promoting standards for policy debate, in terms of allowing time and space for parliament (and if possible experts and other stakeholders such as prominent think tanks) to give opinions on policies, with the public generally informed regarding these processes
3. The Government will develop mechanisms to ensure timely responses to recommendations from the Public Accounts Committee, and provide easily accessible and comprehensible data for the public, including a progress report from the PAC
4. Build on the existing capacity of the Parliamentary Secretariat, and ensure effective implementation of the Parliament Secretariat Act 1994 & Rules.
5. The Govt. will try to ensure that percentage of seats held by women in the national parliament is at least 33% by 2020.

Right to Information (RTI)/Access to Information

The state of good governance in any polity fundamentally depends on the degree of transparency and accountability within the public sector. The present Government understands the importance of a transparent and public sector and is committed to improving the state of openness in its operation. Consequently, to address this agenda, the Government enacted the Right to Information Act (2009). Moreover, under the 7th FYP, the Government will undertake the following activities to improve its effectiveness:

1. The Information Commission will:
 - a. Increase its ability to track data at different levels (national, district & upazila) on RTI applications, responses, appeals and decisions.
 - b. Enhance proactive disclosure through the adoption of proactive disclosure policies by different ministries, particularly those that enjoy a high level of Government-citizen interface.
 - c. Undertake an audience (e.g., farmers, women, students, and people with disabilities) survey & analysis to identify a target-group specific communication strategy.
 - d. Establish partnerships with civil society organizations and media to promote public awareness of RTI Act
2. Cabinet Division's Coordination and Reform Unit will:
 - a. Facilitate RTI strategic partnerships among different stakeholders (e.g., IC, Ministry of Information, different line Ministries, District administration, civil society organizations & private sector entities).
 - b. Promote capacity building of civil servants, particularly the Designated Officers, through traditional and on-line means.
 - c. Initiate legislative & policy changes in order to establish record management systems among Government agencies in relation to the RTI Act.
 - d. Increase RTI requests with a response from Government to at least 14000 by 2020 annually.

Enhancing Integrity & Controlling Corruption

Corruption in public arena has been a subject of deep intellectual interest. A common definition of (public) corruption is the misuse of public office for private gain and there exists a general consensus that corruption is harmful for economic development. As a result, GoB has already identified a range of activities that will be implemented under the 7th FYP plan to mitigate the problem of corruption.

First, previous activities charted out in the 6th FYP will be renewed in the 7th FYP. This will include:

- Anti-Corruption Commission will be put on a more sustainable footing by providing it with clear independence to carry out investigations and prosecute.

- Implement institutional capacity building for the ACC and develop the professional skills of the ACC officials in combating and preventing corruption.
- The Government will initiate a sustained campaign to create public awareness and education in preventive measures, creating the right conditions for the public sector to enhance public service delivery

Second, the following additional activities will be implemented under the current plan:

- Develop anti-corruption strategies for critical sectors, including an implementation plan that may include the creation of anti-corruption cells in every Government department.
- ACC will undertake a comprehensive strategy to track income and assets of public representatives to identify misuse of power for private gains.
- Implement the whistle-blowers' law.
- Review and strengthen the criteria and process of appointments of Chairmen and members of various constitutional and statutory commissions, such as PSC, ACC, HRC & ECB.
- Increase the percentage of public institutions using e-procurement to 100% by 2020.
- National Integrity Strategy identified more than 115 action plans for different state and non-state organizations to improve the overall state of governance within public organs. This action plan will be implemented under the 7th Plan time interval.
- All necessary assistance will be offered to ACC to develop short-run and long-run anti-corruption strategies, which involves facilitating greater knowledge generation on the institutional and structural causes of corruption and identification of remedies that can mitigate its presence in public administration.

Strengthening the Election Commission (EC)

The Government acknowledges that without an independent and effective Election Commission (EC), ordinary citizens cannot adequately exercise their franchise. Thus, under the 7th FYP, the following activities will be pursued to enhance the performance of the EC:

- The Government will offer all necessary support to EC to carry out its operation impartially and effectively.
- Greater efforts will be given to improve its capacity and promote better use of technology to undertake its operation.
- Measures will be taken to improve EC's capacity to monitor and control campaign contribution and spending of parties and candidates during local and national elections.
- EC will further strengthen its database of all candidates in both local and national elections so that citizens can review the personal affidavits of all candidates and formulate an informed decision. This will help improve the state of transparency and accountability during election campaign.

Promoting E-governance

The primary objective of e-governance initiatives is to aid the transformation of Government to provide efficient, convenient and transparent services to citizens and businesses through ICT. In effect, the notion of e-governance symbolizes vertical and horizontal connectivity by offering a virtual platform for facilitating Government-to-Government (G2G), Government to citizen and vice versa (G2C/C2G) and business-to-Government and vice versa (B2G/G2B) interactions. Furthermore, given the primary objective of the current Government is to materialize the Digital Bangladesh Vision by 2021, aiding activities that will improve the state of e-governance in Bangladesh remains a key priority. Needless to mention, under the Sixth Plan time interval, the Government has already introduced a large array of laws, programmes and projects that will aid this vision which are adequately discussed in Chapter 12 of Part 2 of the Seventh Plan. Thus, in this section, we summarize the core areas that will receive intervention under the Seventh Plan, which are:

Service Process Simplification (SPS), e-Services and RTI: Under the Seventh Plan, the Government will ensure that the RTI-based portals in all 25,000 offices of the Government offices are updated regularly and information is accessible through mobile phones and service access points. In particular, a whole-of-Government approach will be adopted to set up electronic dashboards with administrative alerts across all ministries, directorates, districts, upazilas and union parishads, in order to monitor the speed and quality of service delivery. The Govt. will undertake a comprehensive strategy so that maximum amount of information as well as forms, applications, and other documentation are available to citizens.

Service Access Points: The Government has already established Union Digital Centres, which have allowed the Government to take centralized services to rural localities and reduce citizens cost of accessing services. Thus, under the Seventh Plan, the Government will increase the number of service access points by incorporating other Government agencies such as the post offices and community clinics, and non-Government agency offices. Moreover, within the duration of the Seventh Plan, it is expected that more than half of the critical Government services will be made available over mobile phones. Collectively, these measures will improve the access of the poor and other disadvantaged groups to e-services. This will also mitigate the problem of what is known as the ‘digital divide’.

E-Administration and flattening of hierarchy: The e-Filing system in operation in the DC offices since 2010 has proven to be successful. Consequently, under the Seventh Plan, this system will be expanded to all offices of the Government. Additionally, management systems for human resources, payroll, leave, study tour, and training management will be integrated with e-Filing to broaden and deepen administrative efficiency in Government organizations.

E-participation and social media: The Government will use the ever deepening presence of social media to increase G2C and C2G interactions, which will allow the Government to closely connect

with the citizens. The UDC Blog has showcased the potential of redressing grievances at the grassroots level and lessons from such a virtual platform will be further formalized within the Government structure to mitigate social injustices.

Strengthening Judiciary's Effectiveness through ICT: The Govt. has already taken an initiative for digitization of Bangladesh Supreme courts. Besides, cause list of the cases are made available online. Electronic income tax return system has been developed. However, other records such as property registers are not available as of yet. Thus, more effort will be given to ensure digitization of key records and instituting effective digital processing of ongoing cases/processes and providing for easier access to the public of these records as appropriate, notably property registers, court management and tax administration.

Establishment of Digital Land Management System: The Government will strive for creating an easy service delivery system for the citizens in case of land transactions through e-solutions. The existing initiative for digital land management system will be replicated all over the country to remove all the constraints/barriers regarding transaction of land for economic development.

ICT Capacity Building within Public Offices: The Government will continue to expand the existing capacity building measures of officials at all levels.

Build partnership: The Government will build partnership with NGOs, Multinational Companies, and donors so that greater technology transfer is facilitated.

1.5 PUBLIC ORDER AND SAFETY IN 7th FYP

The Government will continue its endeavour to maintain public order and ensure the security of assets and lives of the citizens while they will be empowered during the seventh five year plan period. 'Ensuring security of life and belongings of every citizen of Bangladesh by improving law and order situation'- is the mission statement of Ministry of Home Affairs (MoHA). Ensuring domestic security, ensuring border security and maintaining the economic & commercial interest, combating narcotics, ensuring security and rehabilitation of prisoners are the major goals of the agencies of MoHA. The different agencies under the Ministry of Home Affairs will play the major role to ensure the safety and security of the economic activities envisaged in the Plan. Ministry of Home Affairs initiates different policies, programmes and projects aligning with the five year plans and perspective plan of the government. All the directorates under MoHA perform tasks to achieve the goals of ministry.

Bangladesh Police

Bangladesh Police is committed to enforce law, maintain social order, reduce fear of crime, enhance public safety and ensure internal security with active support of the community. Bangladesh Police is holding regular public awareness-building activities in order to curb terrorism and militancy by means of community policing. Moreover, the investigation procedures gained a

new dimension due to establishment of the Forensic DNA laboratory. The Industrial Police is playing active and fruitful roles in maintaining a stable and industry-friendly atmosphere in the industrial areas. To ensure the security of inland waterways, the River Police is working relentlessly while the Special Security and Protection Battalions are ensuring the security of VIPs and important installations. On the other hand, the Tourist Police is engaged in maintaining safety and security of tourists and tourist spots through mass awareness program with a view to making Bangladesh a tourist-friendly country. In the 7th plan period Bangladesh Police will play pivotal role for ensuring the secured investment climate by providing quality service to the citizens and the investors.

Responsive Law Enforcement Agencies: The Government acknowledges that Bangladesh Police as a law enforcing agency has to work on availing appropriate technological networks to promptly response any urgent needs of the citizens. As a result, to aid the effectiveness and responsiveness of law enforcement agencies, the Government will undertake specific activities on various dimensions, which are: (i) *Connectivity:* measures will be taken to allow police to exchange and share data both vertically and horizontally in a secured and dependable manner; (ii) *ICT skill building:* IT literacy will be provided to constables and all officers who are ASI or of superior rank. Special emphasis will be given on ICT literacy of officers who have direct interface with citizens for various services such as GD preparation that will be automated through ICTs; (iii) *ICT skill building: Information management:* A uniform system will be developed where all details of the complaint will be recorded; (iv) *Crime fighting:* The Government will improve management information system (MIS) and crime data management system (CDMS) across all district and divisional headquarters so that police forces can coordinate activities concerning crime prevention and prosecution; (v) *Citizens' services:* Citizens' access to police services starting with access to police stations to lodge complaints regarding violation of rights will be strengthened using ICT; (VI) *Cybercrime prevention and prosecution:* The law enforcing agencies would adopt programmes to enhance their capacity in preventing and prosecuting cybercrimes and protecting citizens from breach of privacy, security and fraudulent activities.

Border Guard Bangladesh (BGB)

Bangladesh Border Guard (BGB) is responsible for border security, apprehend smuggling and protection of economic and commercial interest of Bangladesh. Smuggling of foreign goods/commodities into the country evading duties is creating uneven competition between the foreign goods and the goods manufactured by medium and small manufacturers of the country. If smuggling is halted then small and medium level manufacturing sector will grow and generate more employment and contribute to poverty reduction. Furthermore, through continuous patrol of the country's waterfront and campaign against piracy, employment opportunities for people depending on the sea will increase. This will have a positive impact on the reduction of poverty.

Targets for 7th Plan

- Protection of international boundary between Bangladesh, India and Myanmar through increasing number border out posts (BOP) and construction of border ring road and barbed wire fencing;
- Carry out anti-smuggling operation;
- Stopping of human trafficking mainly women and children in neighbouring countries; and
- To assist regular agencies to maintain internal security.

Bangladesh Coast Guard

Bangladesh Coast Guard is dedicated to maintain order at coastal and sea area of Bangladesh including other areas of its jurisdiction and to contribute directly and indirectly for the economic development of the country. In the seventh plan Blue economy has been prioritized to exploit the opportunities of using the resources from ocean for economic development of coastal belt, which will be secured by an efficient coast guard.

Targets for 7th Plan

- To ensure safety and security of the ports, harbours, seafarers including water craft and offshore installations within areas of jurisdiction.
- Protection against illegal fishing, human trafficking, gun running, smuggling, narcotics trafficking and piracy.
- Pollution control and preservation of environment.
- To ensure capability to assist the government in times of various needs like disaster management and relief operation.

Bangladesh Ansar & VDP

In order to ensure safety and security of rural Bangladesh, Ansar and VDP plays a vital role by mobilizing the force for socio- economic development. They are also dedicated for securing the country during the war and any national emergency, i.e. disasters.

Targets for 7th Plan

- To assist Police in maintaining Law and Order in rural level ensuring the secured rural development.
- To take part in different nation building affairs and post disaster management.

Fire Service & Civil Defence

In the seventh plan period Fire Service and Civil Defence department will ensure the public safety by firefighting and carrying out rescue operation during any man-made or natural disaster with its trained human resources and modern equipment & communication system.

Targets in 7th Plan

- Timely response in any fire call, reaching scene of incident and starting firefighting within 10 minutes of fire break-out in industrial areas, especially garments localized areas to ensure safety of the workers and properties of garments and other industries.
- To establish Modern Training Academy for Fire and Urban Search & Rescue Volunteers to reduce the loss of lives and properties.
- To ensure the standard of different types of Fire Safety Appliances.

Department of Passport and Immigration (DIP)

In order to provide Machine Readable Passport (MRP) to all Bangladeshi citizens according to the International Civil Aviation Organization (ICAO) guideline and to issue & extend the validity of Machine Readable Visa (MRV) is the main function of DIP. The increased acceptability of Bangladesh passports and visas around the world will have a positive impact on the export of manpower. On the other hand, simplification of the process of obtaining Bangladesh visas will facilitate foreign professionals' employment within the country and promote transfers of knowledge and technologies. Simplification of the issuing of passports to Bangladesh nationals will also help to accelerate export of labour to the overseas markets. This will have a positive impact on poverty reduction.

Target in 7th five year plan

- To ensure security & authenticity of travel documents- passport and visa;
- To introduce Electronic Passport (e-passport) by 2020;
- To establish a modern training Center for improvement of skill & professional knowledge; and
- Provide passport and visa related information on the website.

Department of Prisons

Affirmation of safe imprisonment of the prisoners, maintenance of strict safety & discipline of jails, humanitarian behavior with prisoners, giving opportunity to them for proper residence, food, medical treatment, provide meeting opportunity with their relatives and lawyers and giving motivation are the main responsibilities of Department of Prisons. If the correctional programs are in place through proper educational campaign and skills trainings to change the attitude of convicts and prisoners under trial, there will be a significant reduction of crime line and they will refrain from stealing, robbery and they would return to normal life and engage themselves in development activities. This will significantly contribute to the process of poverty reduction. Under the reformed Prison Code, modernization of prisons and construction of separate prisons for women are undertaken. Female inmates of these prisons are being engaged in activities to become self-reliant. They are becoming aware of the values of life and rights through education and economic activities.

Target in 7th five year plan

- Ensure enhanced facilities for prisoners;
- Impart basic/professional training to prisoners; and
- Develop infrastructure of prisons.

Narcotics Control Department (DNC)

Department of Narcotics Control (DNC) is conducting anti-drug awareness campaign, and treatment & rehabilitation activities for the drug addicts to make Bangladesh free from the curses of drugs. The government observes 26th June as “International day against drug abuse and illicit trafficking”.

Target in 7th five year plan

- Conduct public awareness campaign
- Conduct counter narcotics operation
- Ensure treatment and rehabilitation of drug addicts

National Tele-communication Monitoring Centre (NTMC)

National Tele-communication Monitoring Centre (NTMC) is a newly established Govt. Organization under Ministry of home Affairs. It has started its journey from February 2014. It has been raised for greater security and stability of the nation by effective monitoring over all branches and medium of latest telecommunication arena. This organization provides a platform for all law enforcing agencies to monitor the activities of suspected threats. The threat in cyber space is radically different from others. The objective of NTMC for 7th Plan are follows:

- Provide effective and latest monitoring facility to all law enforcing agencies in order to ensure national stability and security:
- Provide necessary infrastructural facilities to accommodate all major components of NTMC like data centre, monitoring station and physical security measures; and
- Breeding and grooming necessary IT experts to deal with emerging threats from telecommunication sectors.

1.6 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Improvements in public administration, public institutions and governance require a coordinated approach and involve strong political leadership, quality public administration staff, appropriate legal framework and a range of regulatory policies. Furthermore, in order to maintain the law and order situation for public safety and ensuring secured investment for economic development,

public investment will be required during the plan period for the sector of Public Order and Safety. Yet capacity building of the public administration including law and order agencies also require financial resources. Most of these resources are provided from the current budget, but some development spending is also necessary. Consequently, development budget allocation within the Sixth Plan time interval for ministries and sectors relevant for improving public administration capacity, quality of public institutions and improving the overall state of governance witnessed a noticeable growth between FY11 and FY15. In recognition of the long-term nature of strengthening public administration, additional development programmes will be adopted to move forward with the public capacity building effort. As such, the proposed ADP allocations under the Seventh Plan provides for a further increase (Table 1.3). The overall ADP allocation is modest but essential to build the capacity of public administration in Bangladesh.

Table 1.3: ADP Allocations for Public Administration

	ADP in Current Prices					ADP in Constant FY16 Prices				
	FY16	FY17	FY18	FY19	FY20	FY16	FY17	FY18	FY19	FY20
Parliament	0.1	0.4	0.4	0.5	0.6	0.1	0.3	0.4	0.4	0.5
Prime Minister's Office	5.0	6.6	7.8	9.2	10.8	5.0	6.2	7.0	7.8	8.7
Cabinet Division	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2
Election Commission	9.7	4.0	4.8	5.6	6.5	9.7	3.8	4.2	4.7	5.3
Ministry of Public Administration	1.6	1.9	2.3	2.7	3.2	1.6	1.8	2.1	2.3	2.6
Public Service Commission		0.4	0.4	0.5	0.6	0.0	0.3	0.4	0.4	0.5
Finance Division	4.3	4.0	4.8	5.6	6.6	4.3	3.8	4.3	4.8	5.3
Internal Resources Division	4.6	6.8	8.1	9.5	11.1	4.6	6.4	7.2	8.0	9.0
Bank and Financial Institution Division	1.1	0.5	0.6	0.7	0.8	1.1	0.5	0.5	0.6	0.6
Economic Relations Division	0.6	0.6	0.7	0.8	1.0	0.6	0.6	0.6	0.7	0.8
Planning Division	10.3	1.2	1.5	1.7	2.0	10.3	1.2	1.3	1.4	1.6
Implementation, Monitoring and Evaluation Division	1.2	1.7	2.0	2.3	2.7	1.2	1.6	1.8	2.0	2.2
Statistics and Informatics	2.2	3.1	3.7	4.4	5.2	2.2	3.0	3.3	3.7	4.2
Ministry of Foreign Affairs	1.2	1.5	1.7	2.0	2.4	1.2	1.4	1.5	1.7	1.9
Total I	41.8	32.8	39.0	45.8	53.7	41.8	30.9	34.9	38.8	43.4

Public Order & Safety	Law and Justice Division	3.3	4.6	5.5	6.5	7.6	3.3	4.4	4.9	5.5	6.1
	Supreme Court	0.0	0.2	0.3	0.3	0.4	0.0	0.2	0.3	0.3	0.3
	Ministry of Home Affairs	11.9	14.0	16.7	19.6	23.0	11.9	13.3	14.9	16.6	18.6
	Anti-Corruption Commission	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	Legislative and Parliamentary Affairs Division	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2
Total II	15.3	19.1	22.7	26.6	31.2	15.3	18.0	20.3	22.5	25.2	
Total I + Total II	57.1	51.8	61.7	72.4	84.9	57.1	48.9	55.2	61.3	68.6	

Source: Seventh Plan Projections

SECTOR 3: INDUSTRIAL AND ECONOMIC SERVICES

CHAPTER 2

STRATEGY FOR MANUFACTURING SECTOR DEVELOPMENT WITH EXPORT-LED GROWTH

2.1 MANUFACTURING IN A CHANGING GLOBAL LANDSCAPE

Bangladesh economy is in that stage of development where the rapid expansion of the manufacturing sector is characterized by the emergence of some leading industries that cater for exports as well as domestic consumption. It is an economy at “take off” stage in the growth process. Historically, at such a stage of industrial development, textiles and apparel are typically the first “take off” industry. Both historical and cross-country evidence show that the prospects of rapid GDP growth with extensive job creation require a high-performing and diversified manufacturing sector at the early stages of the take-off period. Bangladesh faces an ever changing global landscape in which manufacturing sector development takes place. Four distinct phenomenon characterizes the global setting: (a) globalization and greater trade openness, which has resulted in the greater integration of the Bangladesh economy with the global economy, an integration that has yielded many benefits but also poses many challenges; (b) to be globally competitive, a high performing manufacturing sector must have reached a high level of industrial sophistication meeting internationally recognized standards of product quality within a compliant production environment; (c) technology has emerged as the key resource and input for industrial growth and development; and (d) fragmentation of production and vertical integration across countries through trade in intermediate goods is fast becoming the dominant trading pattern.

Globalization. The first strategic setting for the manufacturing sector is the phenomenon of globalization and greater trade openness. In this setting, the manufacturing sector is required to be globally competitive supported by a policy environment that provides an enabling environment for labour-intensive production (where our comparative advantage lies) coupled with highly productive technology and capital. Furthermore, export-oriented manufacturing development will require enterprises to be fully compliant with WTO multilateral trading regime and, sometimes, standards emphasized in importing countries.

Industrial sophistication. A high level of industrial sophistication meeting internationally recognized standards of product quality, within a compliant production environment, must be attained by the manufacturing sector to be globally competitive. It must also be supported by a trading regime that is open and seamless in the movement of import-export cargo in order that a country like Bangladesh, with its abundant supply of cheap semi-skilled labour can take advantage of its competitiveness in the assembly of a wide range of manufactured products.

Technology. In general, technology has emerged as the key resource and input for industrial growth and development. Technology can augment the basic resources, such as labour and capital, by raising their productivity, and conserving their uses. Technology is, thus, emerging as the most important factor which can even change a nation's comparative advantage. The last two decades have witnessed massive effort in development of technology by industry in the developed world. And there are also some late entrants among developing countries, who have made rapid strides in the last three decades. They have managed to compress their learning process, strengthen the technological base and emerge as high growth countries with a significant international presence. Bangladesh could emulate some of their strategies.

Production integration. A strategic shift has already taken place in the global economy whereby inter-dependence of business, industry and institutions across countries has been accentuated. Fragmentation of production and vertical integration across countries through trade in intermediate goods is fast becoming the dominant trading pattern. This is evident in the pattern of global restructuring that is taking place in steel, textiles, automobiles, electronics, computers, etc. There is a proliferation of manufacturing industries that prospered by producing parts and components rather than whole products. This is where the potential of high growth and job creation might eventually lie for developing countries like Bangladesh. The challenge before our manufacturing industry is to shape a course based on this global development and national realities.

It is in this backdrop that Bangladesh would need to transform its manufacturing sector into a more vibrant, dynamic, and competitive industry ready to seize opportunities in the global marketplace and cope with emerging challenges. For this purpose, addressing institutional and policy challenges has become a national imperative if the long-term goal of attaining middle income status is to be reached.

The manufacturing sector strategy under the 6th FYP took these global phenomenon and challenges into account in setting the course for rapid expansion of a globally competitive export-oriented sector. Relative to targets, manufacturing sector performance in the first four years of the Plan was the best among sub-sectors, despite heavy odds stemming from sluggish global economic recovery and headwinds posed by disruptive politics domestically.

2.2 PROGRESS SINCE 1990 AND DURING THE SIXTH PLAN PERIOD

In the 1970s and the 80s, manufacturing sector performance was not up to the mark due to poor performing nationalized enterprises, inward looking trade policies and inadequate private investment due to poor incentives and state controls. However, the manufacturing sector growth picked up pace in the 1990s and beyond, from average growth of 4.5% per annum, to 7-8% since the early 1990s (Table 2.1). This acceleration in growth performance can be attributed to the shift in policy stance, from a predominantly import-substituting inward-looking industrial policy to a largely outward-looking export-oriented policy. It was also supported by economic reforms that included market orientation, privatization, and de-regulation of investment, greater trade openness

and flexibility in exchange rate management, and a general move towards a private sector driven economy replacing the historical public sector predominance in manufacturing. The emergence of the private sector driven, export-oriented readymade garments (RMG) sector as a dominant economic activity considerably altered the structure of the manufacturing sector. Along with a growing share of GDP, the manufacturing sector quickly dominated the export market and contributed to an expanding share of exports. Together with remittance, the RMG sector has emerged as an economic power house in Bangladesh.

2.2.1 Sectoral Growth and Trends

Although the vestiges of state-owned enterprises in manufacturing still remained at the turn of the century, primarily in jute and cotton textiles, the leading role of the private sector as the driver of economic activities came to be firmly recognized in the formulation of economic policies and medium- or long-term plans.

Table 2.1: Avg. Decadal Sectoral Growth Rates (2005-2006 base year)

	1981-1989	1990-1999	2010-2015
<i>Agriculture</i>	1.8	3.4	3.7
<i>Industry</i>	5.6	7.0	8.8
<i>of which</i>	4.7	7.2	9.3
<i>Manufacturing</i>			
<i>Large scale</i>	4.6	7.3	9.7
<i>Small scale</i>	5.4	6.8	7.6
<i>Services</i>	3.8	4.3	5.9
<i>GDP</i>	3.5	4.8	6.3

Source: Estimated from National Accounts, BBS

Growth acceleration that occurred since the 1990s revealed that given policies and institutions are set right the economy has inherent strength to grow faster. It also revealed that the manufacturing sector was the driver of higher growth, as the agriculture sector was still unable to come out of the “low productivity” syndrome with growth typically averaging below GDP growth. Furthermore, keeping in step with the stylized facts of structural transformation in the course of development, industry – in which manufacturing is predominant – traditionally grew faster than GDP and is expected to continue to lead growth acceleration for many years to come, or until such time as the two most dynamic components of the service sector – ICT and telecom – are large enough to determine growth outcome. The stylized facts of development predict structural transformation in which the share of industry in GDP rises to compensate for the decline in the size of agriculture. Bangladesh has experienced essentially this pattern of structural change.

2.2.2 Structural Transformation

Manufacturing, which accounts for 70% of industry, has been driving structural transformation. It is notable that Bangladesh has some way to go in its industrial expansion stage while many developed or newly industrialized countries have reached the phase of what economists describe

as “deindustrialization” that is characterized by the share of manufacturing in GDP declining or remaining stagnant.

Manufacturing has all along been the dominant component of the industrial sector with its share in GDP increasing from about 10 percent in 1988-89 to nearly 19.45 percent in 2013-14. However, its share in industrial output registered some decline as mining, construction and utilities experienced significant gains following deregulation of investment and inflow of foreign investment in some of these subsectors. A similar picture is seen with regard to the employment share, with manufacturing having a more dominant position because of higher labour intensity in manufacturing compared to the other components of the industrial sector.

The 6th FYP had targeted an increase in the industrial sector’s GDP share from 28.5% in FY10, to 32 % in FY15, with the share of manufacturing in GDP, rising from 17.9% in FY10, to 21.1% by FY15. The share of manufacturing employment was to expand from 12% to 16% over the same periods. At the aggregate level the industrial and manufacturing sectors have both performed well during the 6th FYP (Table 2.2). During the period FY11 to FY15, the industrial sector expanded by an average of 9.1% per year while the manufacturing sector grew by an average of 9.8% per year. Within the industrial sector, manufacturing performed best. The construction sector grew at slightly higher pace than GDP, but fell short of the Sixth Plan target. Overall, the picture that emerges is a solidly performing industrial and manufacturing sector, but somewhat below the planned rates of growth.

Table 2.2: Industrial Sector Performance, FY10-15

	FY2011		FY2012		FY2013		FY2014		FY2015	
	Share	Growth	Share	Growth	Share	Growth	Share	Growth	Share	Growth
MANUFACTURING	17.8	10.0	18.3	10.0	19.0	10.3	19.5	8.7	20.17	10.32
CONSTRUCTION	6.7	7.0	6.8	8.4	6.9	8.0	7.1	8.6	7.17	8.63
ELECTRICITY, GAS AND WATER SUPPLY	1.4	13.4	1.4	10.6	1.5	9.0	1.5	7.4	1.43	7.01
MINING AND QUARRYING	1.6	3.6	1.6	6.9	1.7	9.4	1.7	5.2	1.65	7.48
INDUSTRY	27.4	9.0	28.1	9.4	29.0	9.6	29.6	8.4	30.42	9.6

Source: BBS

A detailed review of manufacturing sector performance shows that large and medium scale manufacturing along with RMG exports have dominated the performance of this sector. The growth performance of small scale manufacturing enterprises remains lacklustre. As well, RMG exports continue to dominate manufactured exports. The RMG sector has also been supported by the contribution of the Primary Textile Sector (PTS), which provides strong backward linkage for the RMG sector. While the expansion of large scale manufacturing and RMG exports are welcome development, there are some challenges faced in terms of the performance of small scale manufacturing enterprises and the lack of export diversification. International evidence shows that

small manufacturing enterprises can be a major source of employment outside agriculture and can provide the bridge between agriculture and modern manufacturing.

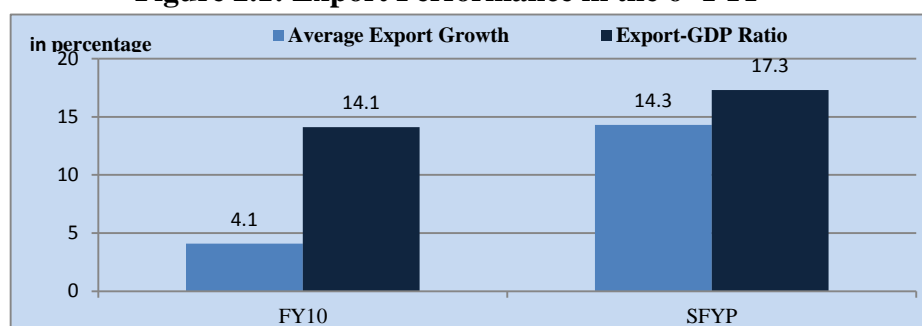
The emergence of a dynamic export-oriented readymade garments (RMG) sector was the major leap for Bangladesh. The emergence and expansion of the RMG sector is the direct outcome of the global Multi-Fibre Arrangement (MFA) regime, as well as conducive policies pursued by the government to ensure global competitiveness of the industry. It was extremely good policy foresight that allowed the RMG industry not to be subjected to high tariffs, in terms of intermediate inputs and raw materials that have to be imported on upfront payment of duties. The RMG sector operates within a “free trade” enclave in that all imported inputs come in under a bonded system duty free. Had this not been the case, RMG exports would not have reached the heights they have reached, since the economy’s import regime is riddled with complex tariffs and other import restrictions. A few other selected exports, such as leather and non-leather footwear, and, recently, shipbuilding, have also been given the facility of bonded imports. For the rest of exports and potential exports, getting world-priced imported inputs is a challenge. This is one reason why export diversification has not made much headway.

Other manufacturing industries such as jute goods, footwear and leather products, electrical and electronic goods, engineering products and pharmaceuticals, have strong export potentials for driving the economy towards higher growth and given the adoption of appropriate policies, these industries can be expected to contribute to a higher growth of the economy. In order to support the SME activities, Bangladesh Bank has established a refinancing window which includes Tk. 600 crores coming from BB, \$125 million equivalent from the ADB, and Yen 5000 million by the Government of Japan. So far, out of this fund Tk. 3,456 crore has been disbursed as long term loans, and a total of 41,951 entrepreneurs (including 9,612 women entrepreneurs) have received funding from this refinancing facility. Apart from that, different financial institutions are also specifically focusing on cluster based SME programmes. These are solid performance compared to the past and are broadly in line with the Sixth Plan strategy.

2.2.3 Export Performance

Along with investment, exports growth is a major GDP growth driver in Bangladesh, The Sixth Plan put strong emphasis on export growth, especially the expansion of a diversified manufacturing export base. Exports were projected to grow by 15% per year in current US dollar terms over the Sixth Plan period. The share of exports in GDP was to grow from 14% in FY10 to 23.9 % by the end of the Sixth Plan (Figure 2.1). Actual performance shows that exports have done well on average during the period FY11-FY14, growing faster than the projected rate. This is a solid performance.

Figure 2.1: Export Performance in the 6thFYP



Source: EPB; BBS

The 6th FYP sought to strengthen the export structure by focusing on the establishment of a diversified manufacturing export base. While exports performed reasonably well under heavy odds, its diversification still remains a challenge. The results are shown in Table 2.3. Export performance was outstanding in FY11 (42% growth). Overall exports rose to US\$32 billion by FY15, compared to US\$23 billion in FY11, an increase of 31% over five years. Average growth, at 16%, matched export growth rates of the past decade, though largely due to the spike in growth in the first year of the 6th FYP. During this period, the exports of ready-made garments (RMG) played the dominant role. In addition to RMG products, a number of other items such as ICT, leather, footwear etc. also showed respectable growth on average (10%), but failed to keep pace with RMG exports (16%). Export earnings from woven and knitwear products, which accounted for about 81.2 percent of total export earnings, registered an increase from USD 12.5 billion in FY11 to USD 25.5 billion in FY15. Leather and leather products exports have been promising, increasing by 32.8 percent to USD 745.6 million in FY14 from USD 561.3 million in FY13. Earnings from footwear products registered a growth of 31.2 percent to USD 550.1 million in FY14 after experiencing a decline in FY12.

Table 2.3: Export Performance in the Sixth Five Year Plan (Million USD)

	Jute & Jute goods	Leather	Footwear	Frozen Food	ICT	Others	Non-RMG Total	RMG	Total Exports
FY 10	736.4	226.1	204.1	445.2	35.4	2294.0	3701.7	12496.8	16176.2
FY 11	1114.9	297.8	297.8	625.0	45.3	2669.5	5005.0	17914.3	22919.3
FY 12	939.3	329.8	350.6	637.6	70.8	2940.8	5198.0	19089.8	24287.7
FY 13	1030.6	399.7	419.3	543.8	101.6	3016.5	5502.4	21515.8	27027.4
FY14	824.5	505.5	550.1	638.2	124.7	3051.1	5694.1	24491.9	30186.0
FY15	868.5	397.5	673.3	568.0	132.5	3077.6	5717.5	25491.4	31208.9
Growth (in percent)									
FY 11	51.4	31.7	45.9	40.4	28.0	16.4	35.2	43.4	41.7
FY 12	-15.8	10.7	17.7	2.0	56.3	10.2	3.9	6.6	6.0
FY 13	9.7	21.2	19.6	-14.7	43.5	2.6	5.9	12.7	11.3
FY 14	-20.0	26.5	31.2	17.4	22.7	1.1	3.5	13.8	11.7
FY15	5.3	-21.4	22.4	-11.0	6.3	0.9	0.4	4.1	3.4

Source: Export Promotion Bureau

Box 2.1: Footwear Exports: The Next RMG?

Exports of Footwear have grown by more than 16 times since FY 2001 and its share in the manufacturing sector has also grown in recent years. From little or no exports of footwear before the nineties to \$550 million worth of footwear exports in FY14 (out of which \$378 million comprised of leather footwear), the tables have indeed been turned for the Footwear industry. Experts have gone so far as to say that this sector can replicate the success story to become the next RMG industry in Bangladesh.

	Footwear Exports (in mil US\$)	Growth (%)
FY11	297.8	45.92
FY12	350.55	17.71
FY13	419.35	19.63
FY14	550.11	31.18
FY15	673.27	22.4

Source: EPB

The reasons for the upward trend in exports can be mainly attributed to the diverting of footwear orders from China where the production cost has increased significantly, the improvement in quality of the leather and timely delivery of the leather footwear with the advantage of no labour unrest in the industry. Many leather goods and footwear makers are producing high quality products targeting the middle- and higher-end segments of the market, which ultimately helps in earning more in unit price.

Bangladesh is also emerging as a leading supplier of non-leather footwear for low prices and good quality. The country is now supplying sports shoes, sandals, flip-flops and boots to a number of leading global retailers including H&M, Decathlon, Kappa, Sketchers, Fila and Puma. Non-leather footwear exports stood at \$171.57 million in FY14. Reasons for the fast rise in demand for synthetic footwear include the non-compliance issues surrounding the leather industry, especially the relocation of tanneries to Savar and the price of synthetic or polysynthetic leather footwear being three times cheaper than the genuine leather ones.

The top destinations for Bangladesh footwear exports are Italy, New Zealand, Poland, the UK, Belgium, France, Germany, the US, Canada and Spain. Some other countries like Japan, India, Nepal and Australia are emerging as potential importers of Bangladeshi leather goods. Famous brands like Gucci, Nike, Reebok, Timberland etc., are outsourcing footwear from Bangladesh and are even considering setting up their own factories in Bangladesh. Bangladesh now exports only 0.5 percent of the global leather and leather goods market worth \$215 billion, according to industry insiders. The country will be able to earn at least \$5 billion in exports from leather, leather goods and footwear in the next decade if it can properly address health, environment and compliance issues in the sector.

Over the years, the government has adopted strategies to facilitate more of the emerging exports, footwear being a notable success. The sectors that have high potential are agro-products and agro-processing products; light engineering products (including auto-parts and bicycles); footwear and leather products; pharmaceutical products; software and ICT products; home textiles; ocean-going vessels; ceramics and toiletry products. Moreover, the Government has been selectively according bonded import facilities to more emerging exports (e.g. agro-processing, ship building). In future, this facility may not be limited to 100% export-oriented industries only but extended to industries

producing for both domestic and export markets. Further, the Duty Drawback Scheme is expected to be revamped to ensure world-priced inputs to exporting firms without long lags and high transaction costs for reimbursements.

Nevertheless, the dominance of RMG exports prevails. Indeed, the share of RMG exports in total exports has increased further notwithstanding the Sixth Plan's endeavour to diversify the export base. Yet there are two positive developments on the diversification front.

First, within RMG, there has been growing diversification of products, from lower-end to higher end. And second, the performance of ICT, leather, jute goods and footwear, if sustained over the longer term could provide the basis for strengthening the export base. Nevertheless, this is an area where further efforts are needed.

With regard to exports destinations, in FY14, EU and NAFTA blocs were predominant. The EU bloc accounted for 54.3 percent while NAFTA bloc accounted for 22.6 percent of total export of the country. Export to the ASEAN, SAARC and other regions accounted for about 1.5, 1.9 and 19.7 percent respectively. In terms of demand, the European Union continues to remain the largest destination of Bangladeshi exports, primarily on account of RMG products. Despite recessionary economic environment in the EU region due to the ongoing economic crisis in the Eurozone economies, Bangladesh's RMG exports to the EU continued to increase in the Sixth Plan period. The sharp loss in China's export market appears to have accrued mostly to Bangladesh. In addition to competitive edge, Bangladesh's success in RMG exports to the EU is also due the latter's decision to change the rules of origin in favour of Bangladesh i.e. allowing one-stage processing for GSP eligibility. This particularly helped the growth of woven garment exports in the EU market. The story of Bangladesh's RMG exports to the US market is also positive, though not as robust as in the EU market. Following Vietnam, Bangladesh was the second fastest growing RMG exporter to USA. As a result, its market share of the US RMG imports is increasing steadily. Vietnam and Indonesia are more challenging competitors for Bangladesh in the US market relative to the EU.

Box 2.2: The Electrical and Electronics Sector: Scope in the Domestic and Export Markets

The export basket of Bangladesh in recent years includes a good quantity of electrical and electronic products like refrigerator, freezer, LCD television, DVD players, mobile phones, air-conditioner (AC) and motor cycle. The abundance of labour and rising labour costs worldwide creates opportunities for Bangladesh to invest in the Electrical and Electronics industry. With the passage of time the demand for such items is on increase in different developing and also some of the developed countries. The countries which have been importing the electrical and electronic items from Bangladesh include Malaysia, Saudi Arabia, Ghana, Nigeria, Sudan, Kuwait, Qatar and Myanmar.

The demand for local electrical and electronics products is also increasing as they are receiving positive feedback from domestic consumers. The mind-sets of consumers are changing as they prefer local products over foreign ones. Many of the local products are taking over the domestic market surpassing sales of similar imported products. The ranges of local products manufactured are also expanding.

Over 2500 manufacturers of electrical products are operating now in Bangladesh. Brands like Millat and National are some of the oldest producers of fans and accessories. Local company Walton Hi-Tech Industries has been producing world-class standard electronics. It has been recently trying to fulfil the quality requirements to enter the US market with its electrical and electronic products. There have also been talks with Japan, which has agreed to import some products of Walton and the business process is in progress. The brand's refrigerators and televisions have already contributed significantly to the local fridge market along with motorcycles, air-conditioners and some other products that have also attained huge popularity in the country.

The electrical and electronics industry has low labour cost, the necessary capital, technical know-how, and an efficient chain of marketing network for reaching the entire country. What is needed is a long term investment friendly policy. Most raw materials and components required for this sector are imported and therefore, survival of these manufacturing SMEs is contingent on the careful balancing of the import duty structures and VAT at the point of manufacture. The setting up of a central testing facility for electrical goods to allow standardization of products, along with skill training to workers, research and development, provision of interactive linkages with foreign industrial associations for collaboration and marketing and creation of public awareness in favour of manufacturing SMEs will go a long way in development of this particular industry.

Box 2.3: Performance of the Textiles and Jute Industry during the 6th Plan Period

These two sub-sectors are major export earners and large employers within the manufacturing sector of the country.

Textiles Industry

The Textile Industry is an important segment of the manufacturing industry and provides the very important backward linkage in terms of supplying of inputs for the export-oriented RMG industry as well as meeting the major demand of the domestic market. During the base year of Sixth Five Year Plan (SFYP), i.e. FY 2009-10, the textiles sector supplied about 55% of the domestic demand as well as demand for export-oriented RMG industry and now in 2013-14 i.e. almost at the end year of SFYP, the industry could supply about 62% of those requirements. The primary textile industry can now meet about 85-90% of the knit fabrics and 35-40% of the woven fabrics respectively for the export-oriented knit-wear and woven garment industry of the country. Again, during FY 2009-10 export earnings from primary textile products and Ready-made Garments (RMG) was US\$13.3 billion (US\$0.8 billion from export of primary textile products and US\$12.5 billion from export-oriented RMG), which increased to US\$25 billion in FY2013-14 (US\$1.1 billion from export of primary textile products and US\$24.5 billion from export-oriented RMG). It is to be noted that the achievements made during the 6th FYP in the textiles sub-sector was possible due to the major contribution of private sector for which the government has provided various development policies and incentives.

Jute and Jute goods

Jute and jute goods have long been considered as the major source of foreign exchange earnings of Bangladesh. At present the jute mills of Bangladesh are in operation under both public (BJMC) and private sector (BJMA and BJSA). There are 131 mills under Bangladesh Jute Mills Association (BJMA) including 38 denationalized and 93 mills established by the members of BJMA. Bangladesh Jute Spinner's Association (BJSA) looks after 96 jute twine factories. The activities of jute mills under public sector i.e. Bangladesh Jute Mills Corporation are administered by the Ministry of Textiles and Jute. Besides, there is a government directorate under MOTJ namely, Jute Directorate, which controls domestic and overseas export of jute and jute goods and also removes irregularities in the jute business. The government has adopted some policies for reviving the jute sector, but more needs to be done before we can see tangible progress in this sector taking place. The production of jute goods increased by 10% over the 6th Five Year Period and the export earnings has grown by 8% over the same period. Export performance of jute goods has been unstable due to competition from synthetic fibres.

Source: Ministry of Textiles and Jute

Bangladesh has made progress in terms of employment generation in the labour-intensive manufacturing (esp. RMG and footwear). Compared to its growth and export performance, the ability of the manufacturing sector to create employment has fallen short. The share of manufacturing in total employment was almost stagnant at around 8% percent well until 1990s. This share began to rise due to the growth in the RMG sector and as a result the employment share has grown to 12 percent in 2010, still less than its share in GDP of 18%. However, the RMG sector

now accounts for the bulk of manufacturing employment (60%), with a 40% share of manufacturing value added.

Box 2.4: Ray of Hope for the Shipbuilding Industry of Bangladesh

The shipbuilding industry of Bangladesh has in recent years shown increased activity and has been identified as a potential area for future export growth. Out of the approximately 200 yards that exist in Bangladesh, there are four companies who can make ship maintaining international standards. There are a few more companies who are preparing themselves to make them internationally fit for such shipbuilding. About 10 shipyards of Bangladesh are building export-oriented ships. Besides, passenger ships for local use, Ro Ro ferries, oil tankers, fishing trawlers, etc. are also being built in those shipyards. The main strengths of Bangladeshi shipbuilding lie in its long history of maritime activity, favourable geographical location, a low-cost shipbuilding workforce and industry-related educational and training institutes.

Denmark, Germany, Japan have already given orders and they are highly interested to engage in developing this potentially important sector. Many African countries like Tanzania, Mozambique and Kenya were also in contact with the local shipbuilders to buy a good number of ships. In fact, Bangladesh received many orders from the European countries before the European debt crisis had started in 2010. Between years 2008 and 2012 more than 20 vessels were delivered by Ananda and Western Marine shipyards with an export value of over US\$100 million.

A handful of orders, worth US\$2.0 billion, to buy ships from Bangladesh were cancelled by the European buyers as their banks were not interested to finance such purchases following the financial crisis that swept across Europe in early 2010s. In particular, the export performance of the sector was hard hit, with export earnings in FY2013 and FY2014 coming at only US\$5.73 million and US\$ 0.44 million respectively.

	FY2011	FY2012	FY2013	FY2014	FY2015
Exports of Ships, boats & floating structures (in mil US\$)	40.44	45.95	5.73	0.44	15.92

Source: Export Promotion Bureau

While it took around two decades for the country’s RMG industry to prosper and play a dominant role in export earnings, the shipbuilding industry is expected to do the same but in less time (10 years) given that proper facilities and policies for ensuring compliance with international standards in terms of ship quality, worker safety and environmental pollution; attracting FDI; and provision of a strong network of backward linkages industries are provided towards its development. More importantly, the biggest constraint, that of costly intermediate financing needs to be addressed.

Stepping into the year 2015, shipbuilders are radiating optimism as demand from both domestic and international markets are picking up. Compared to the nine month period of July-March of FY2014, exports of ships have increased by a phenomenal 6100% in July-March of FY2015. With major economies of Europe recovering from the global meltdown, there are prospects for revival of the sector in near future. The local shipbuilding industry is expecting to get orders worth US\$4 to US\$5 billion, from the European countries in coming years. Bangladesh can cater to the global small and medium-sized ship market worth around US\$200 billion since countries such as Japan, South Korea and China are not interested in constructing smaller vessels and focus on building very large specialized hi-tech ships. There are also good prospects in the domestic market for this sector in the form of opportunities for building oil tankers for the government to carry petroleum and building container vessels that will be needed to ply across Bangladesh waters.

Sources: World Bank (2013) Bangladesh Diagnostic Trade Integration Study

2.2.4 The Outcomes of Evolving Policies

Realizing the importance of the manufacturing sector for accelerating economic growth and creating employment, successive governments since the 1970s have been searching for the right policy mix to get results. The 6th FYP was the latest stage in the evolution of policies for inducing dynamism in the manufacturing sector in terms of production and exports. Some of these policies and outcomes are summarized below:

- A notable shift in policy stance has been the drive towards a liberal market economy since 1990s with private sector being the main driver. This is a prominent shift from an early state-led growth model where the state-owned enterprises were the main force behind growth.
- Trade liberalization has also helped in improving manufacturing efficiency and competitiveness. The reduction of tariff and removal of quantitative restrictions have led to a certain degree of import competition which forced many local manufacturers and enterprises to restructure and raise productive efficiency. It has also made it easier for manufacturing enterprises, large or small, to source inputs at competitive prices from abroad. The trade regime also helped the economy to shift from an inward-looking import-substituting bias to an outward-looking export orientation with higher integration of the economy with the global economy. The establishment of export processing zones (EPZ) brought in FDI which not only boosted exports but also had spill over effects on the local economy in the application of improved management and technology. Those who failed to keep up with this change were forced to close down and lay off workers. The jute and cotton mills, particularly the SOEs, were the enterprises that suffered most.
- While privatization, de-regulation, and trade liberalization infused dynamism in the manufacturing sector and boosted exports, this success masks the fact that production and exports began to be heavily concentrated in one product – readymade garments (RMG), which now directly employs about four million workers in some 5000 factories, with exports of \$25 billion in FY2014 making Bangladesh one of the leading clothing exporters of the world. Based on recent trends in the clothing market, analysts believe that there is scope for further expansion of Bangladesh’s RMG sector, with potential exports to reach \$50 billion by 2021.
- While the success of the RMG industry has been hailed – barring the catastrophic events of fire and building collapse in factories resulting from gross deficiencies in governance and compliance standards – other manufacturing industries have had limited success in exports. Whereas their domestic production benefits from a highly restrictive import regime, this undermines efficiency and distorts relative incentives with strong anti-export bias. It also shows the futility of providing high protection to activities whose factor intensity is not consistent with the country’s endowment structure.

2.3 RE-ORIENTING TRADE REGIME FOR EXPORT-LED GROWTH

Export-led growth has been the driver of job creation and poverty reduction in Bangladesh. Export orientation through greater trade openness in goods as well as services helped to overcome three critical constraints that impinge on an LDC like Bangladesh:

- Exports to the larger global market relaxed the constraint from limited capacity to consume domestically.
- Inflow of remittances relaxed the constraint from capacity to save domestically.
- In-bound technology and knowledge transfers through increased trade (imports and exports) extended the capacity of the economy to produce goods and services (trade has contributed to higher productivity).

It is important not to ignore the rapidly growing domestic economy with rising consumer income and expenditures as an important source of demand growth for manufacturing products. The key policy issue to be kept in perspective is that relative incentives for domestic sales and exports must not be so skewed as to discourage production for exports. High protection to import substitute production does create disincentive for export production. The time tested strategy in this regard is to keep incentives neutral between exports and domestic sales with a slight pro-export bias, for the simple reason that no matter how large the domestic market is (\$205 billion GDP of Bangladesh in FY2015), it pales in comparison to the size of the global market which is about \$75 trillion in 2015. Accessing global markets through cost competitive production of exports is the sure shot way to massive job creation at home. We have ample proof of this in the export-oriented RMG industry. It is for this reason that countries like India and China, with large domestic markets, have pursued export-oriented policies for achieving higher growth.

But export orientation and trade openness were not the preferred policies in the early days. After independence, Bangladesh embraced a predominantly import-substituting trade regime. Around 1990, an assessment of the Industrial Sector Adjustment Credit (ISAC II) project revealed that roughly 40% of the tariff lines were subject to over 100% tariffs in addition to widespread bans and restrictions on imports. By 1990, Bangladeshi policy makers realised that an inward-looking import-substituting industrialization (ISI) policy was being an obstacle in growth prospects for Bangladesh. The country eventually opted for a liberalized trade regime with tariff cuts, tariff rationalization, exchange rate liberalization, and drastic elimination of quantitative restrictions. Table 2.4 gives a picture of the latest tariff trends in terms of their implications for nominal protection¹⁰.

Tariffs and para-tariffs¹¹ on imports are now the single most important determinant of trade protection after successive governments in Bangladesh made progressive trade openness the

¹⁰ Nominal protection rates have to be distinguished from tariff/tax incidence as some trade taxes, such as VAT on imports (which are trade neutral) or Supplementary Duties (SD) do not have a one-to-one impact on protection.

¹¹ Trade taxes other than custom duties that are akin to tariffs.

cornerstone of trade policy. The quantitative restriction slate has been wiped pretty much clean since FY2005, leaving tariffs as the main instrument of trade policy and protection. The tariff structure has been simplified by moving to only four non-zero CD slabs – 3%, 5%, 10% and 25%, but the imposition of a plethora of import taxes and levies (e.g. SD, RD, VAT, Ad VAT, AIT) make the tariff structure rather complex. Although the average customs duty has come down over the past 13 years, the average nominal protection rate (NPR) shows mixed trend because of the gradual preponderance of para-tariffs. Also notable are the prohibitively high NPRs on consumer goods that are domestically produced (e.g. 108% in FY2014). Such high rates, if effective, constitute *de facto* import bans.

Table 2.4: Tariff Protection Trends FY01-15

Tariffs (%)	FY01	FY 05	FY 10	FY 11	FY 12	FY 13	FY14	FY15
Avg. CD (un-weighted)	21.1	16.3	13.7	13.6	13.6	13.9	13.2	13.2
Avg. para-tariffs	7.1	10.2	10.2	10.2	12.9	15.1	14.9	13.5
Avg. Nominal Protection	28.2	26.5	23.9	23.8	27.0	28.9	28.1	26.7
Top CD rate	37.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Top NPR*	59.0	60.0	79.0	79.0	88.0	117.0	108.0	108.0

(*) excludes tariffs on cars, alcoholic beverages, and cigarettes, which are not protective tariffs

Source: NBR

The new element is the emergence and sharp rise of para-tariffs as a protective instrument of trade policy, which rose to over 50% of average NPR since FY13. Though cross-country comparison of tariffs is made on the basis of CD¹², it is fair to conclude from available cross-country data that NPR levels are relatively high in Bangladesh thus raising the first wall of anti-export bias. Globally, tariffs have been coming down so that there is a general perception that they do not pose any barrier or market access problems anymore and attention is now being diverted to non-tariff measures. Once Bangladesh graduates out of its LDC status or moves across the middle-income threshold, exporters to Bangladesh could soon start drawing attention to the relatively high tariff and para-tariff levels.

According to the Total Trade Restrictiveness Index (TTRI) based on MFN tariffs, Bangladesh ranks 97th among 125 countries. That perception is based entirely on nominal tariffs and does not include para-tariffs. Effective rates of protection¹³ (ERP) have been found to far exceed NPRs by wide margins because average input tariffs are well below output NPRs. Barring a few products like carbon rods and jute textiles, which are intermediate products, most of manufacturing in Bangladesh is concentrated on consumer goods production, all of which have output NPR rates between 50-100%. These high NPR and ERP levels create anti-export bias that has perverse resource allocation implications that compromise global competitiveness of Bangladesh's exports.

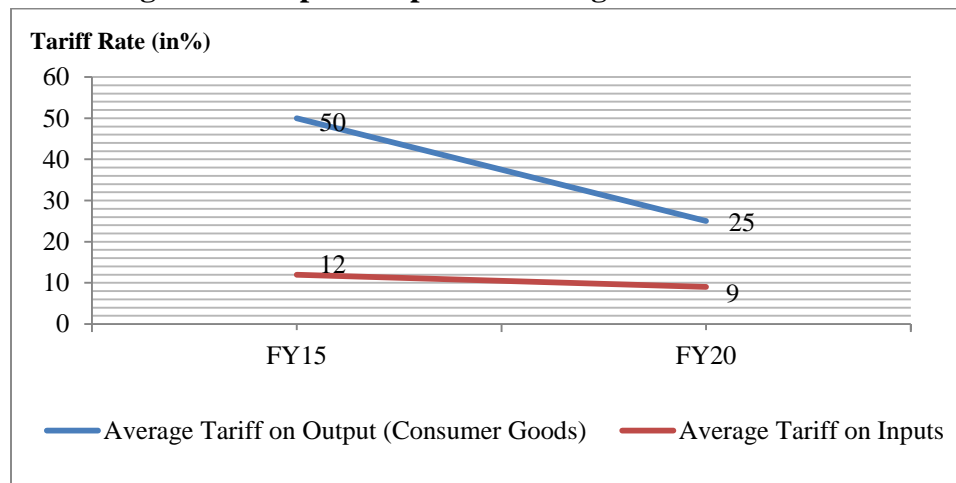
¹² Due to lack of comparable cross-country information on trade taxes other than CD.

¹³ ERP measures the relative change in value added at domestic prices (protective effect on output net of protective effect on inputs) over value added measured in world prices.

Compared to NPRs, Effective protection levels are more pronounced than NPRs and accentuate the anti-export bias.

The trends in nominal protection rates of import categories reveal that in the recent past the average NPR for input categories have been declining rapidly while that of final consumer goods remained practically flat if not increased. This sort of tariff structure is unique for Bangladesh, and it does not support a strategy of high-performing export-oriented manufacturing sector that Bangladesh is striving for during the 7th FYP. The net outcome of this process is higher effective protection to domestic producers over time yielding higher profits simply through tariffs and without any improvement in productivity or competitiveness. Moreover, tariffs on final consumer goods (most of which have domestic production) are too high so that they act as implicit ban on imports resulting in lower revenue yields as well. All the dynamic East Asian economies followed a path of tariff rationalization that scaled back input as well as output tariffs over time.

Figure 2.2: Input-Output Tariff Regime for the 7th FYP



To continue on a path of sustainable export growth with a diversified basket of goods, Bangladesh would have to restructure its tariff regime in order to gradually phase out effective protection levels and anti-export bias. A possible tariff and protection regime over the 7th FYP is charted in Figure 2.2. In view of the currently high levels of NPR on final consumer goods, the proposed structure calls for gradual but significant reduction of NPR on these goods while making modest adjustments to input tariffs along the way. Ideally, the average output NPR of 50% in FY15 will have to be halved by FY20. Meanwhile, average input NPRs will decline from 12% in FY15 to 9% by FY20. This trend in the structure of output-input tariffs seems to be the only way to go if Bangladesh is to undergo transformative change in its structure of production, where production, jobs and income hinge on the success of exports which, by FY2020, could constitute 30% of GDP, from 17% in FY2015.

Market Access and Trade Agreements for export promotion

Bangladesh's superior export performance may be partly attributed to the preferential trade facilities extended by the European Union (EU), and many other developed countries. Bangladesh receives preferential treatment as an LDC under the Special and Differential (S&D) provision of WTO. Such initiatives have been in the form of GSP facilities from the EU, Japan, and Canada; through regional trading agreements (RTAs), like the Asia and Pacific Trade Area (APTA), free trade agreements (FTAs) like South Asian Free Trade Area (SAFTA), and through bilateral trade agreements with various countries. Under the aforesaid initiatives lower-duty or duty-free entry has given Bangladesh's exportable a competitive edge in those markets. Thanks in part to such access, Bangladesh has been able to achieve phenomenal growth of her exports, particularly since the early 1990s, and has emerged as a leading exporter of apparels in the global market. Bangladesh has managed to retain its competitive edge in RMG exports in major export market, following the 2005 phase out of the WTO's Multifibre Arrangement (MFA). Currently, as an LDC, Bangladesh enjoys generalized system of preferences (GSP) in 38 countries, including 28 EU nations. Under the GSP, Bangladesh either enjoys zero-duty benefit overall or on export of its major products to 10 countries. Bangladesh continues to seek DFQF export facility for 97% of tariff lines that was committed by developed countries at the Hong Kong Ministerial in 2005.

At the Ninth Ministerial Conference, held in Bali, Indonesia, in December 2013, ministers adopted the "Bali Package", a series of decisions aimed at streamlining trade, allowing developing countries more options for providing food security, boosting least-developed countries' trade and helping development more generally. Among the issues of Bali Package, three LDC issues, namely duty-free & quota-free market access, Rules of Origin, operationalization of Services Waiver, and Trade Facilitation Agreement were critical for Bangladesh. The Bali decision was to enhance coverage of DFQF schemes within 10th Ministerial Conference by those countries which have not yet provided at least 97% DFQF market access to LDC products. Bangladesh seeks full implementation of Bali package so that the decision can be operationalized properly and much desired commercially preferential market access is achieved.

TRIPS extension for LDCs regarding pharmaceutical products is another important issue for Bangladesh as country's pharmaceutical industry is a very promising one. Bangladesh remains engaged in negotiations in the WTO to extend TRIPS waiver for pharmaceuticals products beyond 2016.

GSP facilities, DFQF Access and RTAs of Bangladesh

More than 50% of Bangladesh's total export (mostly RMG) goes to the EU. This has been possible due to the Everything But Arms (EBA) initiative in 2002, under which Bangladesh received the most generous market access conditions from EU compared to other non-LDCs. The relaxation of RoO criteria (lower domestic value addition requirement in 2013) and EU's replacement of the "two-stage" processing requirement with "one-stage" processing in 2011, have also contributed to

a surge in its apparel exports to EU. The Canadian GSP scheme for the LDCs was revised in 2002 making almost all tradable items eligible for duty-free (and quota-free) treatment except for eggs, poultry, dairy and refined sugar. Average Canadian tariffs on apparel items are about 17 per cent and several apparel items face tariff peaks so that duty-free entry provides Bangladesh with a significant competitive advantage. The US market accounts for 23% of total export. Bangladesh pays duties ranging up to 32% for apparel items and 16-20% on its top 10 exports. Bangladesh receives duty free market access in several developed countries, like Australia, New Zealand, Japan, Norway and Russia. However, its exports to these countries have been negligible. The Global System of Trade Preferences among Developing countries (GSTP) was established by UNTAD in 1989 with the objective to promote South-South trade. However, the tariff concession granted is rather small and most countries have no trade relations with Bangladesh. Japan has extended DFQF facility to Bangladesh's RMG exports. Bangladesh's major export to Japan, RMG, is included in the country's GSP scheme, which covers all but five items. Bangladesh enjoys DFQF in the Indian market except for 25 product lines since 2012 and in the Chinese market covering 90% of all products since 2010. Bangladesh receives preferential market access to a large number of countries (including Pakistan, Republic of Korea, Sri Lanka and Thailand) under the various RTAs of which it is a member, notably SAFTA, APTA and BIMSTEC (which was elevated to a free trade agreement (FTA) in July 2008). In April, 2015 Department of Trade Negotiation of Thailand has published DFQF scheme with 6998 products from LDCs to Thai Market.

Bangladesh has signed a total of 45 bilateral trade agreements and bilateral investment treaties (BITs) with countries all over the world. Twenty three of these treaties have already entered into force, with talks of treaties coming soon into effect with Turkey, Chile and Vietnam. Trade Preferential System of the Organization of the Islamic Conference (TPS-OIC), Trade and Investment Cooperation Forum Agreement (TICFA) and Developing-8 (D-8) PTA are some other trade agreements Bangladesh is a part of.

Gaining market access in non-traditional markets

Despite being fortunately located between the world's fastest growing and potentially largest economies, the shares of China, India, and ASEAN in its exports are only 0.8 percent, 1.9 percent, and 1.5 percent, respectively. Terming the export growth encouraging, market diversification is the key option for Bangladesh to diminish the dependency on the traditional two regions — the EU and the US— which together account for about two-thirds of Bangladesh's total exports. Achieving market access in the non-traditional markets such as the BRICS countries, Japan, S. Korea, and Turkey would be the big alternative destinations of Bangladeshi RMG products in the future as the domestic consumption of those countries is quite large and expanding (Table 2.5).

India and China are both important trading partners for Bangladesh, in particular with respect to imports. However, Bangladesh remains a minor trading partner to these two economic giants, taking up very minimal shares in their exports and imports. But exporting to India and China still remains difficult due to restrictive RoO and manifold NTBs. Given that India has offered DFQF

on all products except 25 (mainly alcohol and tobacco products) simplification of RoO with India and a selective cooperation in the form of a PTA/general trade cooperation agreement with China would be the preferred solutions to facilitate exports to these countries. Japan has turned into a major export destination for Bangladeshi apparel and leather items. Bilateral trade totalled under \$2 billion in fiscal 2014. Surely, Bangladesh can have a larger share of \$35 billion Japanese apparel market if it can remain compliant with Japanese product standards. The bilateral trade volume between Bangladesh and Korea currently stands at \$1.7 billion and even though it is growing, the balance of bilateral trade is heavily inclined towards Korea mostly due to import of industrial components and raw materials. There are potentials to improve the current level of trade with Bangladesh, if Korea imports pharmaceutical products, ceramics, more jute and jute products.

Table 2.5: Exports to Non-Traditional Markets (US\$ million)

	2011	2012	2013	2014	2015
Australia	252.9	347.1	461.9	479.4	606.9
		(37.2)	(33.1)	(3.8)	(26.6)
BRICS	1,096.30	1,255.40	1,478.90	1,721.20	1898.5
		(14.5)	(17.8)	(16.4)	(10.3)
Japan	434.1	600.5	750.3	862.1	915.2
		(38.3)	(24.9)	(14.9)	(6.2)
Korea	163.7	209.7	250.5	344.8	269.0
		(28.1)	(19.4)	(37.7)	(-22.0)
Turkey	724.5	551.9	637.8	856.2	720.9
		(-23.8)	(15.6)	(34.2)	(-15.8)

*Figures for FY15 Mar-June are estimates

Note: Figures in parentheses are growth figures (in%)

Source: Export Promotion Bureau

Expanding exports to some emerging market economies

The Asia region, given both their growing markets and close proximity, provide the greatest opportunities for Bangladesh to diversify and expand exports. Geographical proximity has a positive influence on the volume of trade. Other things being equal, the poorest countries increase their trade share with geographically closer partners when trade costs are lower than for more distant partners. Moreover, Bangladeshi locally produced goods, even those that would not meet the requirements of high income countries with stringent standards, could be exported more easily to neighbouring countries with similar consumers' habits like Nepal, Bhutan, Myanmar, Cambodia, Vietnam etc. In fact, Bangladesh's exports to other low-income countries are more diversified than to high-income ones.

Comprehensive Trade Policy (CTP) for rapid growth

The Comprehensive Trade Policy (CTP) of Bangladesh aims to achieve accelerated and sustainable economic growth by an integrated trade approach. The CTP works towards achieving significant trade growth, which is crucial in raising the growth rate of GDP. The increase and diversification of trade, domestic and foreign investment, as well as the mobilization of internal

resources have been identified as crucial growth elements by the 7th Five Year Plan (2016-20), and emphasized in the CTP.

Ministry of Commerce (MoC), was entrusted with developing the CTP in line with the development objectives of the Perspective Plan.

The following seven guiding principles are the basis for the CTP:

1. To promote diversified, export-led industrialization as major engine for increased and sustained economic growth;
2. To strengthen production networks of existing and new export products, thereby improving Bangladesh's position in global value chains.
3. To increase Bangladesh's international competitiveness by creating a conducive environment for private sector trade and investment including reliable infrastructure, an effective transport network, coherent and enforceable trade-related policies and strengthened institutions;
4. To create favourable market access conditions through taking maximum advantage of existing trade agreements and engaging actively in the exploration of new bilateral and regional trade and investment agreements;
5. To make trade contribute towards poverty reduction by increased and diversified exports, higher income and employment;
6. To make Bangladesh's trade regime contribute towards sustainable development by making it fully consistent with its development objectives and existing international trade commitments.
7. To establish MoC as the national competent authority and apex organisation in all matters relating to trade policy formulation.

Some highlights of the CTP include:

Centrality of Export-led growth. Export growth has been the driver of Bangladesh's economic development in the past decades, helping to lift millions of people out of poverty, reducing the absolute poverty rate from 57% in 1990 to 24% in 2015. Bangladesh's involvement in international trade has been increasing significantly in the past decades, with export values more than quadrupling in the period FY2001 through FY2015, and the ratio of total trade to GDP accounting now for about 45% of GDP.

Export Policy is geared towards strengthening export-led growth leading to job creation, poverty reduction, and higher growth. Besides enhancing export competitiveness, CTP incorporates initiatives for expanding market access to non-traditional markets, and through PTAs and FTAs at regional or bilateral levels.

Implementation Strategy for Comprehensive Trade Policy. Two major areas of reform include establishing better linkages between import and export policies, and enhancing the capacity of the MoC to steer and coordinate trade policies and trade instruments.

On the whole, the CTP will serve as the central coordinating policy mechanism to steer public sector initiatives augmenting export and dismantling any anti-export bias of the policy regime in order to achieve the 7th Plan goal of a high-performing export-oriented manufacturing sector that will absorb bulk of the labour force entering the labour market during the plan period.

Enhanced Integrated Framework (EIF): Bangladesh has joined EIF in November 2009. The main objective of the EIF is to support LDCs in trade capacity building and integrating trade issues into overall national development strategy. Enhanced Integrated Framework (EIF) is the joint initiative of six organizations, namely WTO, UNCTAD, ITC, UNDP, World Bank and IMF. The main objective of the EIF is to enhance trade-related capacity of LDCs. One of the important activities under the EIF is conducting DTIS (Diagnostic Trade Integration Study) to identify obstacles and barriers of the trade regime of the country. Based on the identified obstacles, the DTIS prepares a prioritized Action Matrix for overcoming the barriers and making the trade regime more effective and efficient.

DTIS for Bangladesh has already been conducted. The next step will be implementation of the Action Matrix. In doing so Bangladesh is working in close cooperation with the EIF Secretariat (in Geneva) and development partners for implementing the action Matrix through different projects under Aid for Trade funding.

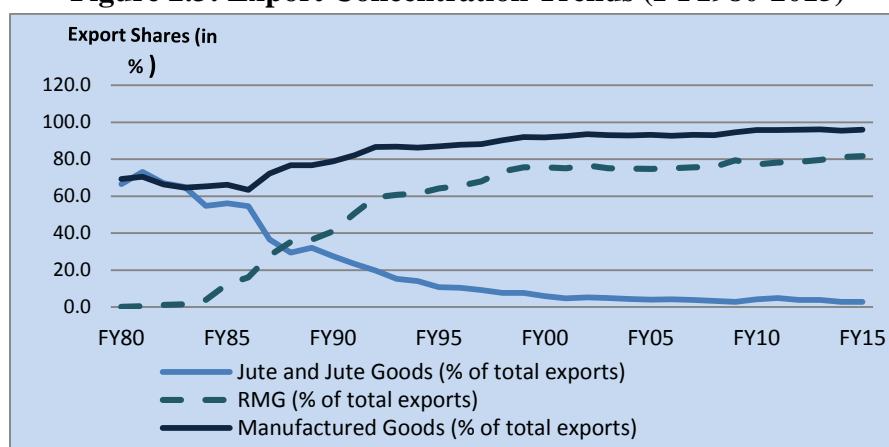
Ministry of Commerce is in the final stages of setting up a National Trade Portal (NTP set to be launched in August, 2015). The main function of the NTP is to make available Export-Import data and provide information on trade issues to the relevant stake holders. It will also connect CCI&E for online operation.

2.4 CHALLENGES AND CONSTRAINTS TO EXPORT DIVERSIFICATION

Bangladesh experienced double digit export growth over the past two decades. Yet this superior performance masks the fact that the surge was limited to one product group – readymade garments – aided among others by the MFA regime. With over four million jobs and 81% of export earnings from the RMG sector, too much of the nation’s fortune is riding on this one sector. Export concentration in readymade garments makes the economy, jobs and income, extremely vulnerable to external shocks arising from changes in global demand for RMG. The government’s focus on export diversification as a cornerstone of its export policy have been continued and intensified during the Sixth Plan period and beyond. Some important non-traditional exports like footwear and leather products, light engineering products (bicycle and electronics), pharmaceuticals, ceramics, jute goods, ocean-going ships, and some labour-intensive products not yet on the export radar, are likely to grow at a much faster rate. This diversification is a key objective underlying the strategy for manufacturing growth. Before the emergence of RMG exports, jute and jute goods dominated the export sector for many decades making up 70 percent of exports until 1981. By 1990, RMG exports overtook the traditional export, but its concentration in the export basket,

which rose to 77 percent, added a new dimension of export vulnerability (Figure 2.3). Export diversification has become a major challenge for future trade policy. While Bangladesh's export growth for the last decade and a half could be characterized as robust, a sudden decline in demand for Bangladeshi RMG would send shock waves throughout the economy. Such a prospect can be avoided through the creation of a diversified export basket. Herein lie the rationale for an effective strategy for export diversification.

Figure 2.3: Export Concentration Trends (FY1980-2015)



Source: Export Promotion Bureau

The government's focus on export diversification as a cornerstone of its export policy will continue and intensify during the Seventh Plan period and beyond. Some important non-traditional exports like footwear and leather products, light engineering products (bicycle and electronics), pharmaceuticals, ceramics, jute goods, ocean-going ships, and some labour-intensive products have the potential to grow. This product diversification is a key objective underlying the strategy for manufacturing growth. Export diversification matters because it can lower volatility and instability in export earnings. Such effects can help hedge against the risk inherent in a market with uncertain returns. Consequently, economic downturns are shorter lived in more diversified economies. Diversified exports reduce the possibility of overreliance on income and employment from any one export product. If export diversification is to be the cornerstone of an export strategy, at least three aspects of the trade policy regime will deserve close attention:

- Ensuring export competitiveness in general – by addressing border barriers (e.g. tariffs) and beyond-the border constraints (e.g. trade infrastructure, energy and telecommunications, regulations, finance).
- Reducing anti-export bias of the trade regime – several researches provided ample evidence of anti-export bias of the current import, tariff and subsidy regime that favours import-substituting production over exports. The duty-drawback scheme to provide world-priced inputs for export production has proved inadequate. Eliminating or reducing the built-in

anti-export bias that still remain will be key to switching the incentive regime in favour of exports.

- Reducing anti-diversification bias – because of the stellar success of RMG exports, trade policy and incentive regime have a clear focus on this sector which is provided a free trade channel plus logistic support (duty free import of inputs, bonded warehousing facilities, back-to-back LC, rapid custom clearance). While such a policy is appropriate for making RMG exports competitive on a global scale, attention needs to be focused on establishing a similar policy environment for emerging and potential exports without which they face formidable barriers in the context of a high-tariff and restrictive import regime in Bangladesh. This particular feature of anti-diversification bias could be unique to Bangladesh and will be addressed during the Seventh Plan.

However, it is not easy to diversify the export basket. Venturing into a new export activity entails significant uncertainty about the profitability and sustainability of the new venture. Finally, research reveals that diverse and more complex economies are more inclusive, as the Gini coefficient (a measure of inequality) and diversification (controlling for income) are significantly related. This implies that economies that are more diverse and more complex tend to be less unequal, even after controlling for income.

But the strategy of export diversification cannot be limited to product diversification in the export basket. Rather, the strategy must embrace many different facets, each of which addresses the vulnerability aspect of export concentration, as summarized below:

- Product diversification – introducing a range of new products in the export basket.
- Geographical diversification – widening the range of destination markets for exports.
- Quality diversification – upgrading the value of existing products, i.e. moving up market from low end to high end products (described as moving up the value chain).
- Goods-to-services diversification – seeking opportunities to expand non-merchandise exports.
- Intermediate goods diversification – product diversification need not imply adding only final consumer goods in the export basket – as is popularly understood in Bangladesh. There are global opportunities for plugging into the supply chain of export powerhouses like China, something that East Asian economies have done successfully. That requires Bangladesh to diversify its manufacturing base into backward linkage industries producing a wide range of intermediate goods for exports within the globalized production chain.

Finally, it is critical that the trade policy regime is geared to ensure export competitiveness in general while facilitating emergence and expansion of new export products. Bangladesh's labour cost advantage remains strong though productivity is a question mark. Yet this advantage, properly harnessed, could yield surprising rewards within the current scheme of globalized production and

supply chains, provided the trade regime is right. The success of RMG is clear evidence of this phenomenon.

2.4.1 Key Constraints to Export Expansion and Diversification

Considerable research has been done on the constraints to exports performance in Bangladesh. Some are generic to the entire economy or the manufacturing sector, but some factors are specific to the export sector. Some others relate to the challenge of export diversification. These constraints can broadly be grouped under the rubric of: (a) **Trade infrastructure**; and (b) **trade policy and incentives**.

(a) Trade Infrastructure

Constraints under trade infrastructure cover factors that affect cost competitiveness, such as technology and labour productivity, enabling environment for trade, the state of trade logistics, ease of doing business, access to finance, and availability of skills. Most of these could be described as supply side constraints behind-the-border, except for those arising from customs clearance procedures.

Technology and labour productivity are obvious factors that influence cost competitiveness. Bangladesh in general is still weak on technology and its average labour productivity is low. These are two areas where Bangladesh needs to work much harder to improve its export competitiveness. To keep pace with the changing market demands of the industry, there is a critical need to restructure curriculum at degree and diploma levels for all technical courses along with the up-gradation of industrial training institutions. The strategy has to be pursued vigorously through PPP and private sector initiatives to operate demand driven technical training centres with public institutions managing quality control and accreditation system with the result that centres of manufacturing technology excellence would be created. Investing in R&D to innovate new technology or processes is also critical. Government will consider setting up a “*Global Technology Acquisition fund*” to enable Bangladesh industries to acquire very high technology knowledge base. A paradigm shift in manufacturing sector can be achieved through development of R&D of product design geared to supply chain management and customer relations. Representatives from FBCCI, MCCI, BGMEA, BKMEA, and other stakeholders could form an action group to take this agenda forward.

Bangladesh can learn valuable lessons from its own experience with RMG exports. In the case of RMG Bangladesh has an edge over its main competitors (China, India, Vietnam, Sri Lanka) in terms of both technology and labour productivity for a wide range of specific product categories that has allowed Bangladesh to penetrate the export market and increase its market share. Bangladesh acquired the technology at the early stages of the evolution of the RMG industry through strategic partnership between Desh Garments of Bangladesh and Daewoo of Korea. Subsequently, this technology got disseminated widely through the RMG network. Over time, new partnerships with leading fashion houses of the world have allowed a continuous upgrading

of designs and quality control that has not only helped Bangladesh to expand RMG exports but also to upgrade its export products.

The *enabling environment for trade* is a key determinant of cost competitiveness of exports. In recognition of its importance considerable attention is now being paid by various countries to this factor. Globally, several indicators of this enabling environment have been prepared that are regularly updated on an annual basis to track progress relative to competitors. Two commonly used indicators are the Enabling Trade Index (ETI) and the Trade Logistics Performance Index (LPI). The ETI 2014 ranking for Bangladesh is shown in Table 2.6. Bangladesh does poorly on most of the indicators included in this index, but scores especially low on transport and efficiency of border administration. This is not surprising as transport and power have emerged as constraints to manufacturing sector in general. Whereas, export competitiveness is sharply reduced by the high transaction costs relative to competitors related to transport services as well as the inefficiencies of custom procedures and border administration.

Table 2.6: The Enabling Trade Index 2014; Bangladesh

	Rank *	Score (1-7)
BORDER ADMINISTRATION	123	3.2
Efficiency and Transparency of border administration	123	3.2
INFRASTRUCTURE	119	2.8
Availability and quality of transport infrastructure	120	2.3
Availability and quality of transport services	103	3.6
Availability and use of ICTs	118	2.4
MARKET ACCESS	57	3.8
Domestic Market Access	126	3.4
Foreign Market Access	7	4.2
OPERATING ENVIRONMENT	99	3.7
Physical security	90	4.9

(*) out of 138 countries

Source: Global Enabling Trade Report 2014, World Economic Forum

Infrastructure deficiencies: The deficiencies in transport and power sectors have emerged as constraints to manufacturing sector. It is recognized by the Government and has prioritized scaling up infrastructural investment in the annual budgets. Any export diversification strategy will fail to deliver unless the problems in the power and transport sector are fixed. To meet the country's infrastructure needs in the next decade and beyond, the Government has undertaken a number of large transformational projects in the areas of energy, power, deep sea port, railway, expressways, and bridges.

Table 2.7: Comparison of Infrastructure Quality, 2014-15

Country	Country Ranking	Overall Infrastructure	Electricity	Roads	Railroads	Port
Bangladesh	130	2.8	2.5	2.9	2.4	3.7
China	64	4.4	5.2	4.6	4.8	4.6
India	90	3.7	3.4	3.8	4.2	4.0

Sources: World Economic Forum, the Global Competitiveness Report 2014-15

In order for countries to be competitive in the arena of global trade and investments, the availability of quality infrastructure which is a key input, is very crucial. Bangladesh suffers from severe bottlenecks in terms of the quality of infrastructure when compared to other countries (Table 2.7). The power, gas, transport networks and telecommunications to all enterprises, and the land and sea ports required to be developed for reducing infrastructural obstacles for exporters.

Ease of Doing Business: The regulatory environment for doing business in a country is yet another indicator of broad-based export competitiveness. The regulatory regime can raise the transaction cost of doing business and hurt exports. In the highly competitive global markets the ability to respond swiftly and timely to business opportunities and commitments can be critical factor underlying export competitiveness.

Historically, the business environment of South Asia has been intrusive with high transaction costs. Deregulatory efforts in South Asian countries, especially in Bangladesh and India, started in earnest only since the 1990s. While progress has been made, there is still a long way to go. Table 2.8 shows the Ease of Doing Business rankings for 2014.

Table 2.8: Ease of Doing Business (2014)

Country	Ease of Doing Business Rank ▲	Starting a Business	Getting Electricity	Registering Property	Getting Credit	Protecting Investors	Trading Across Borders	Enforcing Contracts
Singapore	1	6	11	24	17	3	1	1
Honking	3	8	13	96	23	2	2	6
Malaysia	18	13	27	75	23	5	11	29
Thailand	26	75	12	28	89	25	36	25
Vietnam	78	125	135	33	36	117	75	47
China	90	128	124	37	71	132	98	35
Sri Lanka	99	104	100	131	89	51	69	165
Vietnam	78	125	135	33	36	117	75	47
Pakistan	128	116	146	114	131	21	108	161
India	142	158	137	121	36	7	126	186
Bangladesh	173	115	188	184	131	43	140	188
Bangladesh 2020 target	130	86	141	138	98	32	105	141

Source: The World Bank; Ranking out of 189 countries

Bangladesh has a major challenge in improving its position in Ease of Doing Business and Trading Across Borders. In terms of specific regulatory constraints, investors in Bangladesh face a particularly difficult challenge in getting electricity; in registering property; and in enforcing contracts. Bangladesh, however, does a good job in protecting investors. On the whole, despite a series of deregulatory reforms since the 1990s, the overall business environment in Bangladesh needs to be improved so as to decrease the transaction cost and increase competitiveness. Considerable more progress is needed in a range of business transactions with a view to making

the Bangladeshi investment climate much more attractive for attracting foreign investment and improving export competitiveness. Through adequate investments in trade and transport logistics and infrastructure to facilitate growth of trade and investment, and by aggressively pursuing trade facilitation at the land and sea borders, by the close of the 7th Plan, Bangladesh is expected to improve its ranking in all of the component indicators of Ease of Doing Business by moving up at least 25% over its current rank (Table 2.8).

Labour productivity and Availability of Skills: On the labour front, Bangladesh is very favourably endowed with a large supply of under-utilized labour. The flexibility of labour market has helped the RMG sector to mobilize and train workers at low cost. Despite having an abundance of human resources, Bangladesh lags behind its Asian neighbours and trade rivals in terms of quality of labour and therefore labour productivity. Compared to many other Asian countries, Bangladesh has a rather low level of literacy and years of schooling which in turn reduces the incentives for the private sector to impart training. There appears to be a market failure in the provision of adequate skills mostly due to high rates of worker turnover along with private inability to pay for training. In absence of a market response to the skill gap, government, manufacturers' associations, NGOs, and private institutions supported by public financing are the main providers of various Technical and Vocational Education and Training (TVET) programmes. However, the TVET stream of education is usually not aligned with the various requirements of the garment as well as other sectors. This leads to a lack of employers' confidence in the TVET system and eventually leading to skill shortages and unemployment amongst TVET graduates. Growing numbers of foreign workers in Bangladesh point to a shortage of supervisory and mid-level management skills. Mid-level and higher-level management employees are usually hired from neighbour countries rather than the own country indicating a lack of semi-skilled and high-skilled workers.

The incidence of enterprise-based on-the-job training is low in Bangladesh, especially as compared to other countries particularly in East Asia. One study suggests that only 25 percent of Bangladeshi manufacturing establishments provide their employees with in service formal training. This percentage is low as compared to East Asian countries such as Malaysia and China where the rates are 50 percent and 75 percent respectively. As noted earlier, the RMG sector is in an excellent example of the kind of in-house training that delivers results. In addition to training on the job, the apex RMG institution, the Bangladesh Garments Manufacturers Export Association (BGMEA) has established Bangladesh University of Fashion Technology (BUFT), a full-fledged university, and Bangladesh Knitwear Manufacturers Export Association (BKMEA) has founded i-ART, a fully self-financed training institute.

(b) Trade Policy and Export Incentives

Trade policy could be a constraint or support to export growth and diversification depending on how it is formulated and implemented to ensure competitiveness of exports. Together with export incentives it also concerns the attractiveness of investors to go into exports vis-à-vis domestic

production. The three main components of these policies relate to exchange rate management; trade policy and fiscal incentives.

Exchange rate management: The Exchange rate is a critical determinant of export incentives and as such sound exchange rate management is very important for maintaining export competitiveness, particularly for non-RMG exports, which suffer from significant anti-export bias. The channel through which exchange rate impacts growth is of course through trade. The focus of exchange rate management in Bangladesh has to be on the real exchange rate, which is essentially the nominal exchange rate adjusted for Bangladesh inflation relative to inflation in its major trading partners. By adopting a market-based exchange rate management with effect from May 2003 and combining this with a prudent monetary and fiscal policy management over the longer term, Bangladesh avoided an appreciation of its real effective exchange rate. There were slippages in the short term. For example, a look at the trends in the REER shows real appreciation of about 9% between FY03 and FY06. Thereafter, this trend was reversed through real depreciation for the next five years until FY12. Since January 2012, monetary tightening has helped stabilize the nominal exchange rate while moderating inflation, thus keeping the REER from any real appreciation. As a long-term strategy for export diversification, the appropriate exchange rate management would be to avoid rigidity or real appreciation of REER; a moderately depreciating REER would work better to sustain competitiveness of exports, particularly non-RMG exports.

Trade policy: Perhaps the single most important determinant of export competitiveness is the incentive regime emerging from trade policy. Bangladesh like other South Asian countries started with an autarkic trade policy regime with a host of quantitative restrictions and high tariffs. This complex system of anti-trade and anti-export regime slowly got dismantled, especially since 1990. Today the trade regime is much changed compared to the one prevailing in the 1970s and the anti-export bias of the trade regime is sharply lower than in the past. Yet, as analysed in detail in next section, anti-export bias of the trade policy remains.

Fiscal policy: In addition to the duty drawback scheme that accords to all exporters, the RMG exporters enjoy the special privilege of paying only a nominal income tax on their earnings. The income tax is fixed at a low level on total gross earnings of the RMG sector as a withholding tax, which is also the final tax. This is now fixed at 0.6 percent of total export earnings. While the duty drawback is a legitimate scheme to ensure export competitiveness, understanding of the income tax treatment of RMG earnings can be unclear. In addition, the government offers direct cash subsidy to exports of non-traditional items, announced on an annual basis, with the rate varying from 5% on jute goods to 20% on potatoes in FY2014.

2.5 STRATEGY OF SME DEVELOPMENT WITH EXPORT ORIENTATION

Government has undertaken research which recommends a three step strategy for the development of the SME sector of the country. The first step relates to the consolidation of the naturally

developed capabilities mainly serving the domestic market, the second step focuses on making the entry of SMEs into the export market easier and the third step emphasizes the enhancement of capacities to thrive into the global market. The first step is protection in nature; protecting the naturally developed capabilities whereas the second and third strategies are promotional in nature, promoting the capacities of the SMEs to penetrate into the export market and thrive in the global market.

Identifying Areas of Comparative Advantage

Identifying niches where small and medium enterprises have comparative advantage and higher growth potential is essential element of a strategy for the development of the SME sector. This will mean exploring market opportunities on a sustained basis and mobilizing the required support services for the promotion of these industries once such niches are identified.

Collection and analysis of the relevant industry related information will be an essential prerequisite for such strategic planning. It is with this purpose that the government has set up the SME Foundation whose mandate is to work out such development strategies for the SME sector in Bangladesh on a continuing basis in close tandem with the private sector. The capacity and activities of the SME Foundation needs to be strengthened to this end. Also, a national SME census needs to be conducted through Bangladesh Bureau of Statistic (BBS) in order to create a comprehensive information repository regarding the SME sector. The census will give special focus on enumerating women entrepreneurs engaged in manufacturing enterprises classified as SMEs.

Creating an enabling environment for private investment

Past experiences show that a weak enabling environment faced by the private investment has an adverse impact on the growth prospects of SME. An assessment of the overall enabling environment pertaining to private investment in the economy reveals that the constraints leading to a weak enabling environment fall under three headings: i) policy induced constraints, ii) structural constraints, and iii) constraints arising out of poor business support services and weak governance. In facilitating development of the private sector and SME, the primary role of the government will have to be to create investment friendly law and order situation, supportive legal and regulatory framework and appropriate macroeconomic policies. These will need to be complemented by prioritized public investment designed to ease various structural bottlenecks pertaining to physical and infrastructural facilities, energy, and technology. In addition, the quality of governance will have to be improved to ensure reliable supply of basic services on which honest and efficient businesses depend.

SMEs need a differentiated and hassle free indirect tax system

The structural difference between the SMEs and their large-scale counterparts, justify a case for a differentiated system of indirect tax for the SMEs that will enable them to pay the indirect tax free

from harassment. A graduated system of turnover tax can be designed for the SMEs for this purpose. Critics argue that a differentiated system will discourage SMEs to grow larger in a bid to avoid getting under the VAT net and that a system of turnover tax makes them less attractive suppliers of inputs to other firms who need VAT certificate for input to adjust their own VAT liabilities. However, if the cut-off size limit is sufficiently large to include all SMEs, and the turnover tax is appropriately graduated then the problem of growth disincentive will not be a serious one. On the other hand, the problem of VAT certificate may be resolved by creating a notional VAT equivalence of the turnover tax.

Easier access to imported inputs

One of the key factors that engender rapid growth of a number of small and medium industries was access to imported inputs at lower cost due to reduction of import duty. After the initial rapid pace of liberalization in the early 1990s, the process slowed down and during the past decade, wide spread use of para-tariff reverted to some extent the benefit SMEs gained initially. A strategy for the development of the SME sector in Bangladesh, therefore, needs to be premised on further trade liberalization measures with a view to providing SMEs easier access to imported inputs.

Targeting public expenditure towards augmenting demand

One important factor affecting the growth of SMEs has been the trend in domestic demand. Thus, the rapid growth of the construction sector seems to have contributed to the expansion of SMEs producing non-metallic mineral products, particularly bricks, structural clay and cement products. Public expenditure directed particularly towards the agricultural and the rural sector would raise the purchasing power of the rural people. Since the demand structure of this segment of the population is more oriented to local products, it would act as a stimulus to growth and expansion of SMEs.

Access to financing facilities

The Sixth Five Year Plan recognized availability of credit as one of the most important factors for SME development. Accordingly, the Plan included the following measures for addressing the credit need of the SMEs.

- The comprehensive credit policy for SMEs developed by the Bangladesh Bank constituted a key element of the Plan measures. Under this policy, the commercial banks and other financial institutions are required to disburse SME credit according to the target set by Bangladesh Bank and send disbursement report to Bangladesh Bank.
- Following Bangladesh bank and SMEF guidelines, area and cluster approach is to be adopted in SME credit disbursement.
- To strengthen targeting of SME credit, the Plan provided for (i) a census of SMEs containing detail information on inputs, output, technology and management, (b) issuing identification card with registration number to the SMEs, (iii) creating a database of SMEs

and updating it periodically, and (iv) creation of detail upazila level map of SMEs to identify cluster.

- The financial institutions will be required to develop loan products that relate better to specific type of credit needed in SMEs.
- Provision of subsidized credit to clusters, disadvantaged groups and backward regions with close monitoring.
- Training of bank officials and setting up of SME cells for identifying potential borrowers, loan disbursement, monitoring use of credit and collection of loan.
- PKSF will continue to wholesale credit to its partner NGO-MFIs for small and micro enterprises.
- SME Foundation will continue providing loans at single digit interest rates to local SMEs through its credit wholesaling programmes.

In line with the measures delineated in the 6th Five Year Plan, credit disbursement to SMEs has been geared up following Bangladesh Bank guidelines and as mentioned earlier the volume of SME credit disbursed has increased significantly with visible positive impact on the growth of the sector. However, one aspect on which little progress has been made is with regard to strengthening targeting of SME credit. A prerequisite for this is the creation of SME database, which would help assess the relative growth potentials of diverse SMEs and enable proper targeting of SME credit in line with the earlier suggestion of selective SME development strategy.

Another lopsided feature of the SME credit, particularly those under Bangladesh Bank's refinancing scheme is the predominance of trade and other service activities as opposed to manufacturing amongst the credit recipients. Thus, Bangladesh Bank data shows that more than 60% of the SME credit disbursed accrued to trade and other service activities while the share of manufacturing was less than 40%. Efforts need to be made, therefore, to enhance flow of credit to manufacturing SMEs.

Cluster based SME Development programme

Clustering is a critical concern for rapid industrialization in general and development of SMEs in particular. Growth of SMEs also depends on successful integration, both vertical and horizontal. SMEs alone cannot move further without mutual support from other SMEs or large-scale enterprises. SMEs in Bangladesh face formidable challenges in expanding their capacities. An efficient strategy for capacity expansion of SMEs is through agglomeration of co-located industries to take advantage of scale economies in logistics and infrastructure and a host other ancillary facilities. With this approach in mind, SME Foundation has identified 177 SME clusters scattered throughout Bangladesh, and is now formulating a National SME Cluster development action plan for improving the competitiveness of the SME Clusters. Under the programme baseline database of SMEs in each cluster will be identified through a study by SME Foundation to assess the credit and other requirements. Both financial and logistics support from government and donor agency will be require to implement the programme.

Women Entrepreneurship Development Programme

Female labour force participation (36% in 2010) has remained much lower than male participation (82%). Women account for most unpaid work, and are overrepresented in the low productivity informal sector and among the poor. SME Foundation has been working to bring women entrepreneurs into mainstream development process. Facilitating them for women empowerment is one of the prioritized activities of SME Foundation. Other activities include institutional capacity building of women chambers and trade bodies, formulating gender action plan, encouraging bankers to finance women entrepreneurs, conducting study and survey on women entrepreneurs, organizing women entrepreneur conferences and skill development programme, national SME women entrepreneurship award, SME product fair for women entrepreneurs, etc. Women entrepreneurship development programme of SME Foundation will be prioritized and strengthened under the 7th Plan.

Human resource development

The system of technical and vocational education in the country needs to be revamped for the development of manpower in the SME sector. In line with successful international experiences, the government should provide compulsory, state funded education up to the age of fourteen and partially state-funded, compulsory higher secondary education up to the age of 18 or 19. The majority of students will undergo vocational education from the age of fifteen, and most of them will then join one skilled trade or another, although even among the vocational students some may go on to university education in a subject of their choice. Many of the skilled workers may join family-owned SMEs. The institutional capacity to impart appropriate technical and vocational education needs to be strengthened. For this, close association of the potential employers in developing the right curriculum would be important.

2.6 NEW STRATEGIES FOR DIVERSIFICATION AND EXPORT-LED GROWTH

A strategy for diversification of exports must include a policy package that is multifaceted and comprehensive covering constraints at the borders, behind the borders (supply side), and beyond the borders (market access issues). Thus a multi-faceted approach essential for a successful export development and diversification strategy would include:

- **Addressing constraints at the borders** implies a focus on tariff and non-tariff barriers to imports and exports, as well as better customs facilitation; against a background of appropriate macroeconomic framework (including low inflation, realistic exchange rate, low fiscal and external deficits), anti-export bias policies, and measures to mitigate adverse social consequences of reforms needed to align domestic to international prices.
- **Addressing constraints behind the borders** implies addressing supply side constraints (Infrastructure, trade-related Institutions, policy constraints, including adequate business

regulatory framework, and investment policy regime), competitiveness constraints (standards, packaging, quality, and delivery in time), and needed support incentives (fiscal incentives and credit incentives) for export diversification, including emphasis on R&D for developing improved products or moving up the value chain.

- **Addressing constraints beyond the borders** implies addressing market access barriers to export growth. By and large, expanding exports to respond to increased regional and global market demands requires increased production (supply) of goods and services in many sectors (agriculture, industry, services). This in turn, requires not only adequate infrastructure (telephone, services, electricity, water), but also adequate trade related institutions, good policies, and the ability to deliver quality products in needed quantity and in a timely manner.

A country's export performance and its diversification are closely related to the kind of trade policy that governs domestic production and international trade. Evidence is strong that a highly restrictive trade regime cannot produce a superior export performance whose prerequisite is a high degree of trade openness. Bangladesh trade policy which was earlier characterized by inward-looking import-substituting industrialization changed course in the 1990s towards outward-looking export-oriented development by launching a programme of trade liberalization and greater trade openness. The fruits of that change in policy are quite evident in the superior export performance since then. It has become a national imperative to maintain those positive trends under the Seventh Five Year Plan 2016-2020.

Based on the lessons of international experience and the emerging challenges of global competition, the following approaches will be emphasized during the 7th Plan in order to diversify Bangladesh's exports:

2.6.1 Global Value Chains (GVCs) and Export-led growth

The fragmentation of production processes across different countries has given rise to global value chains (GVCs) creating opportunities for intra-industry trade globally as well as between contiguous economies within a region. To exploit GVCs, entrepreneurs may exploit two specific options: (1) produce intermediate goods; or (2) emerge as an 'assembling' hub. With regards to the first, Bangladesh entrepreneurs need to identify components that involve labour intensive or low skill intensive processes while searching to establish strategic partnerships with established transnational who will assemble the final product in another location. With regard to the second option Bangladesh may ponder emulating China's successes at GVCs by emerging as an 'assembling' hub. The technical 'know-how' needed for the production of an intermediate good in the GVC must be obtained if the local entrepreneurs are not exposed to such expertise. In this context, a prudent strategy for local entrepreneurs is to opt for a collaborative production structure that builds long-run commitments between local and foreign actors, so that the technical 'know-how' needed by the local actors is obtained by inviting Foreign Direct Investment (FDI). On the other hand, if local entrepreneurs are willing to devote resources to assembling activities, then they should choose a product where there is a high local demand in addition to high export demand.

The security of sales in the domestic market will attract FDI from the foreign firm, and a collaborative production structure will diffuse the initial technical know-how needed. East Asian countries have seized early opportunities from this development by linking up with China – the world’s assembling powerhouse. Now, Vietnam, Indonesia, Myanmar, and Cambodia, are joining the fray.

Bangladesh started as a pure ‘assembler’ in a low value added GVC activity – cutting and making of readymade garments (RMG). Thanks to the initial infusion of FDI, bringing technology, management techniques, marketing access and information, both forward and backward linkages were established. Today, Bangladesh has become a leading exporter of RMG in the world.

There are important lessons from this experience regarding the prospects, challenges, and opportunities for Bangladesh stemming from GVCs in other product or service sectors. First, it was a foreign investor – in this instance, Daewoo of Korea – which facilitated Bangladesh’s entry into the GVC by teaming up with a Bangladeshi company – Desh Garments. Second, it was a fact that the choice of the GVC component was based on Bangladesh’s comparative advantage in low-skill intensive manufacturing production. Then, it must be the case that Bangladesh also had comparative advantage in many other low-skill intensive manufacturing productions – which could be in final consumer goods or intermediate goods. With this experience in the background, Bangladesh should be vigorously looking for opportunities to integrate with Asian production networks and value chains, during the 7th FYP period.

The emergence of intermediate goods in Bangladesh’s export basket is an area that should be given more attention. Apart from the critical need for a stable political environment, issues that need priority attention are:

- Efficient Containerization
- Efficient Land Ports
- Information and Communication Technology
- Export Processing Zones or Special Economic Zones

Other issues that also merit attention are: corporate tax regime with appropriate incentives, import liberalization, strong intellectual property rights, rule of law, and a developed financial system, including modernization of Foreign Exchange Regulation Act (FERA) 1947.

Furthermore, in order to promote integration into GVC (and attract FDI with this objective), the following steps would be essential:

- A liberalized investment policy regime, which offers scope for international firms to have unlimited stake in the local firm.
- Joint ventures with established actors within the GVC will allow the diffusion of technology, which ultimately boost the export potential of the local firm.

- Local firms must have the capacity to innovate and acquire a basic level of technological standard, so that such types of cooperation are possible.
- Availability of appropriately skilled labour at a competitive price, which motivates established foreign actors to participate in joint ventures with local players.

2.6.2 Leveraging FDI to stimulate Exports

Export diversification is often constrained by limited domestic capital, technology and market knowledge. The role of foreign direct investment (FDI) in promoting exports has attracted considerable attention in recent times. FDI with their better technological and managerial skills and knowledge about international marketing conditions, are expected to improve the productivity as well as export performance of host country firms by creating certain positive externalities known as ‘spill overs’. Spill overs can take place when FDI improves the productive efficiencies of domestic firms, making their products efficient in price and quality in the international market and thus improving their export performance. Such spill overs may occur either to domestic firms in the same industry group of foreign firms through competition, known as ‘horizontal spill overs’, or to firms in the upstream supply chain through buyer-supplier linkages, known as ‘backward spill overs’. FDI can help to channel capital and technology into industries that have the potential to compete internationally, and the global linkages of multi-national corporations can facilitate their access to foreign markets. In addition to exports that are generated directly by foreign affiliates, FDI can also promote exports of domestic firms through the teaching of proper marketing strategies, methods, procedures, and channels of distribution.

The review of international experience is quite telling. There is a strong body of evidence from a range of countries that FDI have played a positive role in supporting exports in the host countries. The experience of China is particularly illustrative of the potential. The rapid growth of China’s manufacturing exports with a wide range of diversified production and successful penetration in the global markets, especially in those of USA and Europe, suggests that a strategy of mobilizing FDI to deepen China’s manufacturing base and diversified export base has paid off handsomely. Since China is a net exporter of capital it is not so much the money but the technology, know-how and skills associated with FDI that have been instrumental. The lesson for Bangladesh and other developing countries is quite clear.

However, improving the Investment Climate remains a challenge. For a private sector led growth strategy to succeed the overall investment climate must be conducive to the expansion of domestic and foreign private investment. Private investment in Bangladesh has grown substantially owing to improvements in the economic and social environment, yet foreign direct investment (FDI) is limited. Indicators of investment climate for Bangladesh suggest that the cost of doing business is higher than in competing countries. The flow of FDI is very competitive and highly sensitive to the investment climate as well as political and social stability of a country. As such the performance standards required to attract FDI are higher than for domestic private investment. The

latter also has better connectivity with the political elements and is able to often bypass constraints that are not possible for FDI.

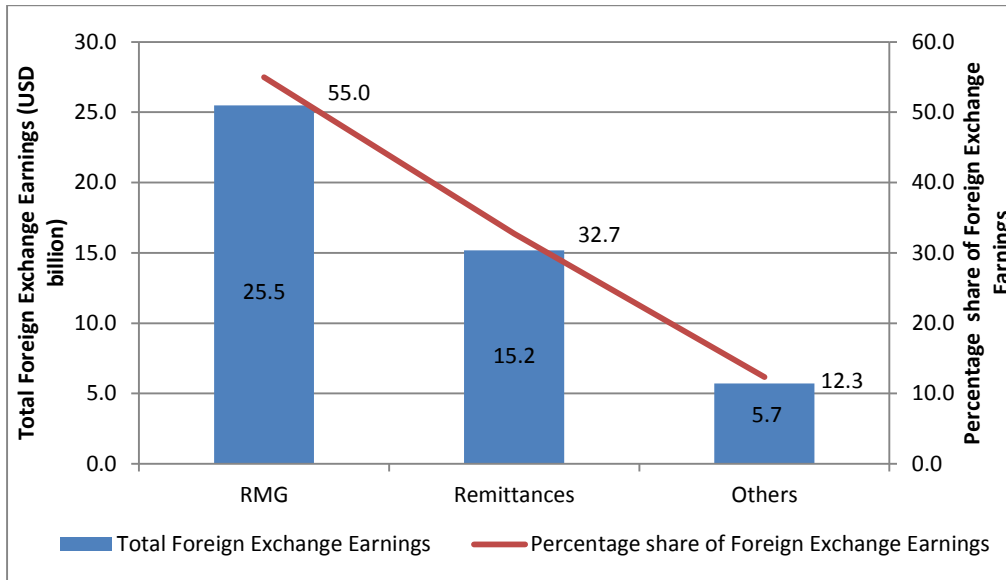
Bangladesh has among the most liberal FDI regime with (a) no limits on income and profit repatriation, (b) 100% foreign ownership allowed, (c) joint ventures without restrictions on shareholding, (d) all sectors open to FDI except few restricted on national security grounds, and (e) generous tax holidays. Yet, the fact that Bangladesh is only a minor player in FDI with \$1.5-2 billion of inflows in FY2014 compared to India's \$28 billion, Indonesia's \$18 billion, Malaysia's \$12 billion, and Vietnam's \$10 billion says a lot about the lack of a sufficiently favourable investment climate. For FDI to flow in the investment climate has to be conducive for foreign investors to feel confident that not only will returns be high but the risks are low. The Government must recognize that the FDI sector is an integral part of the economy – essential to restructuring the economy and raising national competitiveness.—by putting in place market economy institutions and a sound legal framework; building an advanced and integrated infrastructure, particularly transport and ports; removing complexity in land entitlements and mutations, and developing a quality workforce. Furthermore, improving the investment climate requires concerted actions involving, among other things,

- (a) Provision of adequate power supply,
- (b) further business deregulation to build a dynamic export-oriented economy,
- (c) financial sector reforms,
- (d) reforms in tax and customs administration,
- (e) legal reforms that ensure enforcement of contracts,
- (f) setting up more special economic zones to overcome the land constraint,
- (g) branding of special products (i.e. khadi, silk, jamdani)
- (h) improving overall governance, and
- (i) ensuring socio-political stability.

2.6.3 Diversifying into Services Exports

A part of the diversification strategy needs to focus on services exports and not just exports of goods. Bangladesh is heavily dependent on two sources of foreign exchange earnings: RMG and remittance from guest workers abroad, with RMG accounting for 55% and Remittances accounting for 33% of total foreign exchange earnings respectively as of FY14 (Figure 2.4). If anything the concentration has increased over time. Given the downside risks associated with the near-exclusive dependence on these sources of export earnings and limited access to foreign capital markets it is important that Bangladesh develops a long-term strategy to diversify its sources of foreign earnings. A diversified base will also allow for much more scope for expanding exports through domestic policies.

Figure 2.4: Major Sources of Foreign Exchange Earnings FY15



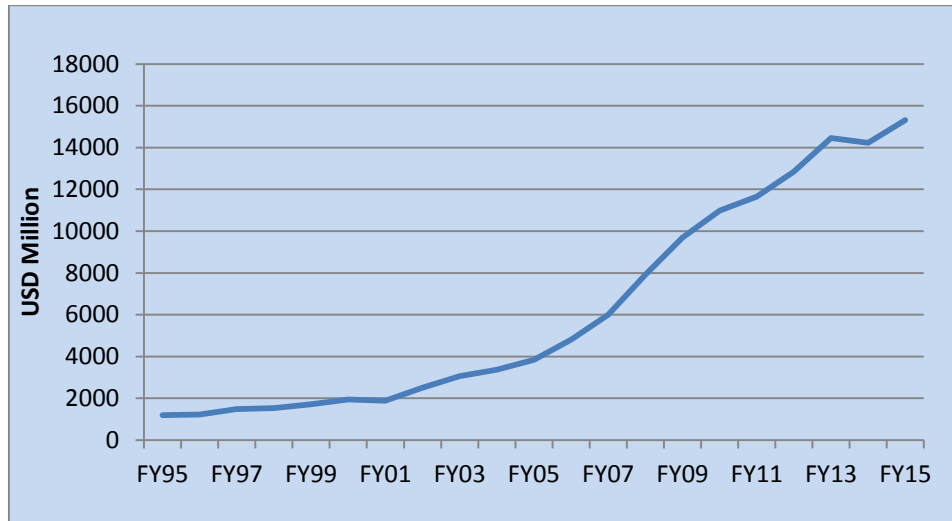
Source: Bangladesh Bank.

A Service Waiver Decision was adopted in the 8th WTO Ministerial Conference in 2011 with a view to providing preferential market access to LDCs. In Bali 2013 it was decided also that efforts will be taken to operationalize the Services Waiver for providing preferential market access to LDCs. Under the Waiver Decision, Bangladesh remains engaged in negotiations with developed and developing countries for receiving preferential market access for potential services along with semi-skilled and skilled human resources under Mode-4 of GATS with great importance and focus.

2.6.4 Export of factor services and Remittance Boom

Bangladesh has already emerged as a leading South Asian player in the export of factor services (labour) through overseas employment to a wide range of countries, especially in the Middle East. While much of the impetus to the surge of remittance in Bangladesh has come from the private sector, government policies have generally played a supportive role, especially through a range of enabling policies to support outward migration of workers, banking support for mobilizing remittances, fiscal incentives (tax free remittance inflows) and a favourable exchange rate. These have paid off handsomely. Remittance inflows grew slowly in the 1990s but then gained momentum in the 2000s. In FY2014 official remittances stood at US\$ 14.3 billion (Figure 2.5). This is now the second highest source of export earnings after RMG. Remittance flows are expected to stabilize in the coming years as some of the problems relating to the legal status of Bangladeshi migrants in Gulf countries are expected to be gradually resolved.

Figure 2.5: Trend in Remittance Inflows FY1994-FY2015 (in Million US\$)



Source: Bangladesh Bank

Strategies for Overseas Employment and Remittance in 7th Five Year Plan

1. An enhancement in technical and organizational capacity of the Ministry of the Expatriates' Welfare and Overseas Employment (MoEWOE) and its subordinate bodies will be required through following institutional reforms:

- The existing set up of the MoEWOE should be strengthened by taking into consideration the changing aspects and condition of international migration. The purview of expatriate welfare must include Bangladeshi diaspora, policy research and migration supported diplomacy which are not systematically developed and monitored. Expatriate and overseas employment is managed by a collaborative effort from different ministries. The MEWOE has to coordinate whole gamut of affairs as a leading ministry.
- To accomplish the goals of Perspective Plan at least 50 new Labour Wings are need to open immediately to strengthen welfare services of expatriates' and expand overseas market.
- There are almost 9 million migrant workers in 160 countries. By taking consideration of ever increasing Bangladeshi expatriates' throughout the world along with proliferation of welfare issue, a separate full-fledged department named 'Department of Expatriates' Welfare' is very much needed to ensure welfare services and marker expansion of Bangladeshi workers.
- The numbers of Technical Training Centre (TTC) and Institutes of Marine Technology (IMTs) have also increased significantly with a need for effective monitoring, recognition of certification. As a result, a separate body named Department for Skill Development Training is very much needed for overall management of skill training programs.

- Take initiatives for specific expansion measures of the District Employment and Manpower Office (DEMO) at the grass-root level. Collaboration of local bodies with the DEMOs are to be strengthened.

2. To earn the maximum benefit of overseas employment, the existing skills of outbound workers need to be improved a lot. Market driven skill development programs with international standardization and recognition should be pursued by the MoEWOE. The diplomacy regarding mutual skill recognition should also be promoted.

3. Sufficient resource allocation should be ensured for the MoEWOE and its subordinate bodies to fulfil the development priorities and promises given by the Government.

4. To increase the positive impact of international migration on socio-economic development of Bangladesh, participations of youth living in lagging regions can be promoted, providing quality skill trainings at minimum cost, ensure further reduction of migration and remittance transfer cost and facilitate remittances into productive investments.

5. The contribution of Bangladeshi Diaspora should be further strengthened by incorporating them in various development activities through effective measures including facilitation of different socio-economic activities, promotion of financial and investment incentives through popular financial instruments, revenue gain through tourism and utilization of their knowledge networks by recognizing and acknowledging their contributions.

6. Negotiation capacity with effective migration supported diplomacy should be strengthened through continues training and interface with a view to develop research and survey-based professional expertise to support initiatives to explore new markets and destinations, strengthen associations in destination countries, periodic review of bilateral and multilateral employment agreement and generate greater oversight of working conditions and breaches of contract to ensure protection of expatriate workers including special emphasis on female migrant workers, eliminate fraudulent recruitment activities and ensure standard and ethical practices.

7. Comprehensive digitization of the migration process is also required for the effort to demonstrate results related to sound planning and management of labour migration as well as for the social protection of the workers and recruitment agent regulation.

8. Widespread campaigns with purposive information kit, explained in simple language, on the costs and benefits of jobs abroad, migrant's rights and responsibilities, choice of placements abroad, the public and private support systems that are available to them can minimize risks associated with migration.

9. Probashi Kallayan Bank is currently providing 'rehabilitation loan' to those returned migrants who are destitute, marooned and victim of unexpected circumstances. Such initiative need to be enhanced after proper scrutiny of individual cases.

2.6.5 Diversifying Services Exports to Non-Factor Services

Experience from India has shown how it has taken advantage of a favourable global environment for non-factor services exports and increased its global market share with a range of non-factor services exports. Pakistan has also done relatively well with non-factor services accounting for some 16 percent of its export earnings from goods and non-factor services. In Bangladesh, non-factor services are still a modest source of export earnings --less than 3 billion dollars – which is below 10 percent of exports of goods and non-factor services.

Although detailed data on the composition of non-factor services exports for Bangladesh is not available, the limited evidence suggests that much of these services are concentrated in the area of shipping related to Bangladeshi exports. More recently, some earnings are coming from banking services linked to the mobilization of remittances and from export of IT services on a limited scale.

The potential for Bangladesh to penetrate the services exports market is large. With its huge and young labour force Bangladesh can be an important player in the global services exports beyond the guest worker initiative. The potential for exports is particularly good in IT, education and tourism. This will require a special mind-set for policy makers to think global rather than inward. In the first place there is a huge deregulation agenda, especially in the area of foreign currency regulation. The exchange regime has to be liberalized to allow exports of tourism, education and IT that are highly sensitive to timeliness of response and transaction costs. Second, substantial investments are needed in education and tourism infrastructure. Much of this will come from the private sector but the government's regulatory policies in the areas of foreign currency transactions, licensing, accreditation, import of trained foreign experts, visas, and foreign investments have to be vastly simplified and digitalized. The government made good progress in deregulating the telecommunications sector, but more recently considerable problems have been reported by foreign investors in the matter of license renewal, taxes and fees. These disputes tend to have a major negative impact on foreign investors in a highly competitive global market and ought to be carefully managed.

2.6.6 Export Processing Zone (EPZs)

EPZs are enclaves within which governments attempt to provide a policy environment and associated infrastructure that are conducive to investors seeking to produce for export. EPZs are generally used to achieve three goals: promotion of investment and employment in export-oriented production; increased foreign exchange earnings from non-traditional exports; and encouragement of foreign direct investment (FDI) in countries where legal, administrative, and infrastructure-related weaknesses impede investment in exportable. Some added objectives are the transfer of technology and know-how from the EPZs and allowing the public and private sectors to cooperate in creating the preconditions for efficient export production. Effective EPZs combine clear private property rights and investment regulations, no restrictions on foreign exchange, tariff-free imports for export production, and moderate levels of taxation, streamlined administrative procedures, and private sector management. The success of EPZs is highly dependent on a hospitable host country economic environment with sound macroeconomic and exchange rate policies.

Bangladesh Export Processing Zone Authority (BEPZA) is the main organization that controls and monitors Export Processing Zones (EPZs). The primary objective of an EPZ is to provide special areas which are conducive to potential investors in terms of a congenial investment climate and exemption from various cumbersome procedures. The facilities offered by an EPZ are plots/factory buildings in a custom bonded area, infrastructural facilities, administrative facilities, fiscal and non-fiscal incentives. There are eight EPZs in Bangladesh. Investment in the country's eight Export Processing Zones (EPZ) has increased by 12.17 per cent while export jumped by 11.72 per cent in the first six months of 2014-15 fiscal year compared to the same period of the previous fiscal year and the cumulative investment stands at \$3.4 billion up to December 2014, and accounted for \$3.8 billion and \$4.4 billion of Exports respectively in FY13 and FY14. Attractive packages of incentives, physical industrial facilities of Zones along with abundance of skilled manpower at a competitive rate have placed Bangladesh's EPZs in a comparative advantageous position over other competing EPZs of neighbouring countries. Apart from the manufacturing sectors EPZs are now inviting investment into infrastructure, power & utility, and environmental management projects which have made the Zones truly attractive investment destination for the prudent investors who looks to the future. Despite worldwide recession FDI has increased in the EPZs during the last few years.

2.6.7 Special Economic Zones (SEZ)

Bangladesh can implement Special Economic Zones (SEZs) as a way of catalysing the desired private sector investment to propel the economy towards 7-8% rate of GDP growth. SEZs have normally the following attributes: (a) geographically delimited area; (b) single management; (c) eligibility of benefits based upon physical location within the zone; and (d) Separate customs area and streamlined procedures. Through SEZs, governments aim to develop and diversify exports to create jobs, and to pilot new policies and approaches (for example, in customs, legal, labour, and public- private partnership aspects). The other big advantage is opportunity to streamline regulatory processes and providing efficient one-stop service as well as ensuring compliance with all regulatory requirements like labour, environment, building code, work place safety etc. It is also intended to realize agglomeration benefits from concentrating industries in one geographical area. These benefits include efficiencies in government supervision of enterprises, provision of off-site infrastructure, improved environmental controls.

It is the Special Economic Zones (SEZs) that have helped many countries (China, East and South East Asia for example) in overcoming similar business environment and investment climate related constraints. SEZs were established by China to serve as "demonstration areas" for policy reforms and to encourage foreign investment. Bangladesh is deficient in both business environment and infrastructure and SEZs could be a way out over the short to medium term attracting FDI while sourcing from the domestic supply chain, and boosting exports through integration into Global Supply Chains (GVCs). Owing to the limitations of the EPZ model in terms of creating spill over to the domestic economy, in 2010 the Government passed the *Bangladesh Special Economic Zones Act 2010*. Special economic Zones (SEZs) unlike EPZs do not just focus on the manufacturing of

export oriented products. The government plans to develop five special economic zones in to attract both foreign and domestic investments. Four SEZs will be set up in Mongla, Moulvibazar and Chittagong's Anwara and Mirersorai areas and the fifth SEZ will be developed in Sirajganj. Government has already planned to establish 30 SEZs with a long term plan of establishing 100 SEZs all over the country.

2.6.8 Trade Finance and Subsidies

Export finance is one of the primary constraints inhibiting exports in many low-income developing countries. Inadequacies may result from the overall weakness of the financial sector mainly in facing difficulties in assessing the creditworthiness of traders. Small firms bear the brunt in obtaining access to trade credit similar to the difficulties they face in accessing other parts of the financial sector. Two public sector mechanism used to promote access to finance (especially for smaller firms) are foreign currency revolving funds (e.g. Export Development Fund managed by the Bangladesh Bank) and pre-shipment export finance guarantee scheme. The revolving funds provide finance for imported inputs based on the exporter presenting the letter of credit which allows the exporter's bank to access the fund's foreign exchange to pay for the imports. The guarantee schemes cover exporters' manufacturing non-performance risks and are generally targeted at smaller firms and new entrants into the export area that have difficulty in satisfying bank's collateral requirements. These trade finance mechanisms have been designed to comply with WTO rules to ensure they are not in violation of falling under the category of subsidies which are conditional on export. Government subsidies in support of economic activities include direct payments or grants, tax concessions, soft loans and government guarantee and equity participation. These may be firm or industry specific with sector specific support having economy wide objectives. WTO rules concern specific subsidies as economy-wide subsidies are presumed not to distort the allocation of domestic resources for tradable.

Box 2.5: Trade Promotion Institutions under the Ministry of Commerce

Export Promotion Bureau

To expand and diversify exports, Export Promotion Bureau (EPB) has set a goal of achieving export earnings at US\$ 60 billion by FY 2016-FY2020 through the exploration of ten new export markets, addition of at least ten new products in the export basket, capacity building of EPB officials and establishment of a permanent Fair Complex to oversee the organization of trade fairs. Sending marketing mission for exploration of new markets, participation in International Trade Fairs for market exploration, issuing GSP certificates through automation system and increasing supply side capacity of the exporter by removing hindrances in the supply chain are some crucial programmes to be adopted.

Bangladesh Tariff Commission

The Commission will continue its activities to making appropriate policy recommendations for trade liberalization. During rationalizing of tariff structure more attention will be given on the interest to the domestic industries so that their products may not be subject to irrational rates of duties and taxes than imported final products. Moreover, the Commission is designated to perform works on issues related to unfair trade such as issues related to dumping, subsidy & countervailing, safeguard measures. The Commission will continue to make policy recommendations to

the government on inducing greater competition in industrial production; encouraging efficient use of resources in the economy, obtaining greater market access through bilateral, regional and multilateral trade agreements including WTO issues.

The Commission has undertaken a set of sub-sector study programmes for the interest of Bangladesh economy; some of those subsectors are the Agro- Processing Industry, Dairy Products, sanitary and phyto-sanitary measures (SPS) and Technical Barriers to Trade (TBT) Impact in the Import Policy, Natural Flower, Ship Building, Jute Industry, Melamine Industry, Motorcycle Industry and Cement industry. These studies have been conducted by BTC to identify problems prevailing in these domestic industries and to counter them through policy recommendations made to the government. During the tenure of the 7th FYP BTC will develop a planning cell and construct a permanent office building to assess the supply gap of essential commodities.

Office of the Chief Controller of Imports and Exports (CCI&E)

The Office of the Chief Controller of Imports and Exports (CCI&E) aims to promote national trade and generate more revenue by provision of online facilities to allow submission of application for an import, export & indenting registration to the CCI&, by digitalizing of all existing records, formulation of Import Policy Order 2015-2018 that is under progress, Integration of online payment facility and digital signature into the system and implementation of online module system by IFC.

Trading Corporation of Bangladesh (TCB)

TCB is the only state-owned trading organization under the Ministry of Commerce. The primary role of this corporation is to assist in maintaining price stability of essential commodities through procurement (domestic/international), maintaining buffer stocks, intervening in markets by selling essential commodities to the impoverished or marginalized people at subsidized prices. To increase TCB's market intervention and institutional capacity for raising working capital to procure essential commodities with cheaper price, expansion of infrastructure and facilities like Warehouses, Cold Storage and Service Centres etc. to store buffer stocks, are crucial.

Bangladesh Tea Board (BTB)

Export-oriented Tea sector plays a significant role in the national economy through export earnings, employment generation, import substitution for meeting internal consumption, and poverty reduction in rural areas of the country. Bangladesh produced 63.88 million kg of tea in 2014 through its 166 tea estates and 500 small growers/holders with 58,719 hectares of land (productivity 1087.9 kg/hectare). Domestic consumption is increasing at about @ 3.23% per annum and BTB has targeted to produce 100.00 million kg by 2025 by enhancing tea productivity up to 1500kg/hectare, new planting, replanting tea and optimal utilization of land.

Directorate of National Consumer Rights Protection (DNCRP)

The Directorate of National Consumer Rights Protection (DNCRP) has been established as a regulatory body to safeguard consumer rights by implementing Consumers Rights Protection Act-2009, conducting surveys of products, goods and/or services regarding consumer safety, providing suggestions and recommendation to the government in the preparation of policies for consumer protection.

Source: Ministry of Commerce

2.6.9 Trade Promotion Organizations (TPO)

TPOs emerged in many countries as 'focal point' institutions to assist exporters in penetrating foreign markets. Though formally not recognized as a TPO, Bangladesh's Export Promotion

Bureau (EPB) acts as one. The strategy would be to make EPB more effective as a TPO over the next five years. For TPOs and other institutions to be effective players in export promotion and diversification, there is a critical need to improve the regulatory framework and processes at and behind the border, covering a wide range of efficiency improvements, such as,

- Efficiency of customs administration
- Efficiency of import-export procedures
- Transparency and efficiency of behind-the-border services
- Availability and quality of transport infrastructure and services
- Availability and use of IT
- Regulatory environment
- Research and development

2.7 ADDRESSING CONSTRAINTS TO ACCELERATE MANUFACTURING GROWTH

Despite improved performance, the manufacturing sector does not show the dynamism that is witnessed in the East Asian economies. The average growth rate is still in the single digit and the employment share of manufacturing is almost stagnant at below 10 percent. Manufactured exports are heavily concentrated in RMG and a few other commodities. To achieve 8-10 percent GDP growth rate and to increase the employment share, the growth rate of manufacturing needs to be boosted to double digit levels on a sustainable basis. Both large and medium-size enterprises need to contribute to this growth. The role of small enterprises is particularly important to provide the employment base. The promotion of small enterprises in rural areas needs to be a major strategic element for creating higher income and employment in the rural economy, which is critical for sustained poverty reduction. Bangladesh can concentrate its development efforts on promoting labour intensive manufacturing exports based on the rationale that it has a relatively abundant labour endowment that gives it a cost advantage in labour intensive products. The experience with the ready-made-garments (RMG) sector validates this.

To be able to address the constraints that can hamper the growth of the manufacturing sector, it is important to understand those various constraints. A whole host of factors affect the performance of the manufacturing sector including external sector developments, the domestic political environment and policy and institutional issues. These factors are briefly reviewed below.

2.7.1 Challenges from global economic developments

Bangladesh economy now is much more integrated with the global economy than in the past. Linkage through trade has been rising significantly, from 19% of GDP in FY90 to about 38.4% in FY14. Exports picked up pace from 1990 onward with Export-GDP ratio rising from a mere 6.5% in FY90 to 12% in FY00, and averaging 19.7% in FY11-14. Exports are a function of global income; hence, fluctuations in global economic fortunes now tend to have a significant impact on Bangladesh's economic performance via commodity trade.

Table 2.9 presents these trends during the 6th FYP captured by two key economic indicators of great relevance to the Bangladesh economy: World Output Growth and World Trade Growth. These trends show that Bangladesh faced a global economy that was generally slowing down, both in terms of output and trade, during the 6th FYP.

Table 2.9: Global Economic Trends

	2011	2012	2013	2014	2015
World Output Growth	4.1	3.4	3.3	3.3	3.9
World Trade Growth	6.7	2.9	3.0	3.9	5.0

Source: IMF, World Economic Outlook, October 2014

The following are significant developments in the global economy that impinged on manufacturing sector performance during the 6th FYP and, in the ultimate analysis, influenced Bangladesh's economic performance as well as future outlook:

- Global economic recovery from the Great Recession was sluggish during 2013 and 2014 but is projected to pick up from 2015.
- Europe came under the spell of a Eurozone Crisis stemming from unsustainable debt burdens of countries like Greece, Spain, Portugal, and Italy. With the exception of Germany, economies of the EU showed anaemic recovery at best, while some economies faced unemployment rates well over 10%.
- The only exception was the US economy which has been showing signs of a decent pick up with annual GDP growth hovering between 2-3% after 2010 and unemployment declining from over 8% to 6.6 % in 2014.
- After a heady pace, growth momentum has slowed in various emerging market economies, notably Brazil, China, and India. China, in particular, is looking at below historical double digit growth rates and rebalancing of demand from external to domestic sources.
- Bangladesh is now recognized as a major global player in the RMG export market. After China, Bangladesh has become the second largest exporter of readymade garments in the world. Roughly 90% of its garment exports are destined for US and EU markets though Bangladesh exporters are breaking into new markets like Australia, China, India, etc.

All this reflects a weaker external environment for the globally inter-connected Bangladesh economy. Even in the face of these anaemic trends in the global economy, Bangladesh's recent growth performance remain resilient and has been growing more than the average growth rates in South Asia, East Asia and the Pacific. Recent experience shows that even a slow recovery in the US-EU economies is enough to push up Bangladesh exports.

On the demand side, the experience suggests that the world demand is not a major constraint for Bangladesh despite the recent global downturn. This is because Bangladesh is still a small player in the world market (exporting \$25 billion of RMG products in a global market of \$400 billion) and the experience of the RMG sector during the recent global crisis shows that a small country like Bangladesh that is producing low-cost, mass-consumption products (low end of the RMG market) can not only survive but even expand its market share with attention to market trends. However, in the coming years, expansion of manufacturing exports will have to be done in the context of global rebalancing, a process that has hastened following the 2008 global economic crisis, where developed country markets will grow more slowly while BRICS and other developing countries will grow faster, especially those described as emerging market economies. Furthermore, Bangladesh could achieve faster and more efficient development of its manufacturing sector by seizing opportunities for growing trade with East Asia and other markets, by specializing in niches and product varieties and becoming more integrated in global production chains, as East Asia starts to shift away from labour-intensive manufacturing. Nevertheless, trade policies of partner countries can reduce access to Bangladeshi exports. These constraints to market access would need to be analysed and resolved through proper dialogue with the authorities of concerned countries at multilateral, regional and bilateral levels.

2.7.2 Export projections during the 7th FYP

For most developing countries, with limited domestic markets, export growth can be the key driver of GDP growth. The main driver of manufacturing growth will be the export markets. This is based on the assumption that external sector will continue to be liberalized and new trade barriers are not imposed by our importing nations. However, growing domestic demand from higher income generation will also provide impetus to import substitute production. The export market is vast allowing industries to take advantage of economies of scale and the scope for creating jobs and income is unlimited. Already manufacturing exports make up more than 90% of our export basket. High manufacturing growth over the next decade will hinge upon continuation of and improvement in the superb export performance of the past 15 years. The key is to produce competitively products in which Bangladesh has comparative advantage and formulate strategies to open export markets.

Two major drivers of Bangladesh's export performance during the 7th FYP are (a) the global economic outlook, and (b) domestic policy and incentive regime. Bangladesh's export projections for FY2016-2020 are made relying on IMF's projections of output and trade growth globally and in advanced and developing economies over the next few years (Table 2.10-2.11), and the articulation of supporting domestic trade and incentive regime during the 7th FYP.

Table 2.10: World Economic Outlook in FY2016-2020

	2016	2017	2018	2019	2020
GDP at constant prices (% change)					
World Output	4	4.1	4	4	NA
World Trade	5.5	5.6	5.6	5.6	NA
Advanced Economies (output)	2.4	2.4	2.3	2.3	NA
Euro Zone	1.7	1.7	1.6	1.6	NA
Emerging /Developing Economies	5.2	5.2	5.2	5.2	NA
Developing Asia	6.5	6.5	6.4	6.3	NA
<i>Bangladesh</i>	7.0	7.2	7.4	7.6	8.0
<i>India</i>	8.1	8.5	9	9.5	10.0
<i>China</i>	6.8	6.6	6.4	6.3	NA

Source: IMF World Economic Outlook, October 2014

Table 2.11: Bangladesh Export Outlook by McKinsey LLC for FY2016-2020

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	Average FY16-20
Exports (US\$ Billions)	31.6	36.2	40.6	45.8	52.7	58.5	46.8
o/w RMG exports	25.0	29.0	32.5	36.4	41.8	46.0	37.1
RMG growth (%)		16.0	12.1	12.0	14.8	10.0	13.0
Non RMG exports	6.2	7.2	8.1	9.4	10.9	12.5	9.6
Non-RMG growth (%)		16.0	13.0	15.0	16.0	15.0	15.0
Export Growth (%)	3.5	16.0	12.2	12.8	15.1	11.0	13.4

Source: McKinsey & Company (2011) report

Export projections in Table 2.11 also take into account export trends during the 6th FYP, including some fluctuations that occur following an exceptionally good or bad year (e.g. 40%+ growth in FY2011). RMG projections take into account optimistic forecasts about RMG exports by McKinsey LLC¹⁴ and the goal of the RMG industry to reach \$50 billion of exports by 2021. Total exports are expected to reach \$58.5 billion by FY2020, with RMG exports continuing to predominate with \$46 billion. Though non-RMG exports are expected to grow a bit faster than RMG, thanks to modest progress at export diversification, their growth acceleration during the 7th FYP will not be enough to make a significant difference in the composition of exports as RMG products still have a lot of ground to cover in the coming years as China gradually moves out of the low end clothing market.

Even these moderately optimistic projections of exports need substantial work to remove bottlenecks to exports, provide adequate port and transport infrastructure to burgeoning export trade, and remove significant degree of anti-export bias in the policy regime.

¹⁴ McKinsey & Company (2011) report, “Bangladesh’s Readymade Garments Landscape: The Challenge of Growth”, predicted RMG exports from Bangladesh would hit \$40 billion by 2018-19.

2.7.3 Institutional and policy constraints

The 6th Plan target of reaching 8 percent annual GDP growth in the outer years was premised on a prolific manufacturing sector growing at double digits on a sustained basis. A strong and competitive manufacturing sector was especially important for creating productive high income jobs in the formal sector of the economy. This clearly required addressing several institutional and policy constraints that were identified in the 6th Plan document, and are just as valid for the success of sector goals during the 7th FYP:

Quite apart from the global economic scenario and domestic political developments, the success of 7th FYP in achieving performance targets for the manufacturing sector depends on how well certain institutional and policy constraints are addressed. Below is a brief review of key challenges in this regard.

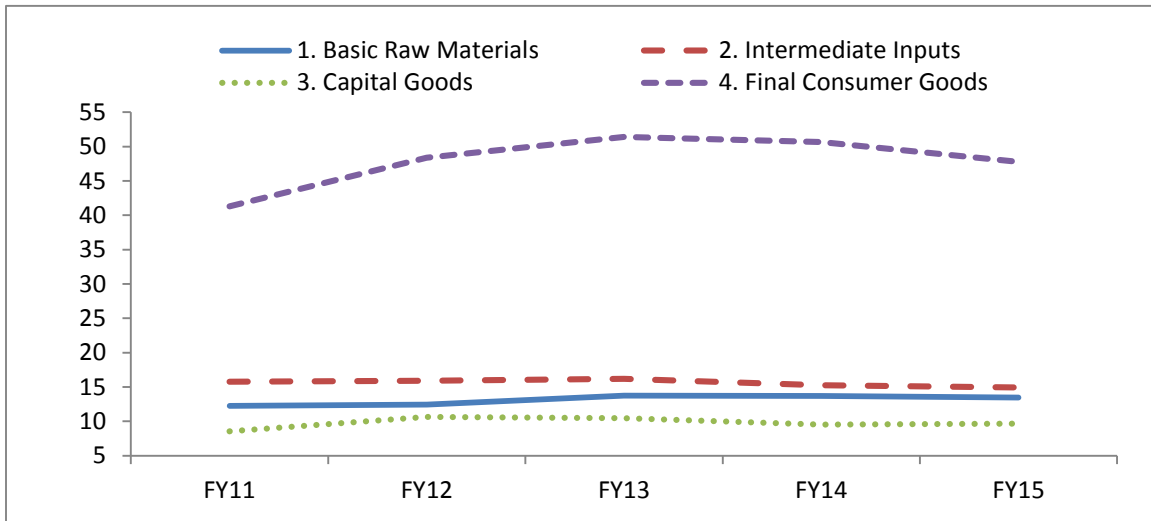
2.7.4 Reversing Anti-export Bias of the Trade Regime

Manufacturing development coupled with export dynamism requires the support of the right industrial and trade policies. This was recognized in the analytics of the 6thFYP; it is just as relevant in articulating the goals of the 7th FYP. Industrial Policy 2010 guided the first year implementation of the 6th FYP strategy for deepening of industrialization in Bangladesh and laid the foundations for a dynamic manufacturing sector and robust export growth by providing a policy and institutional framework to create and sustain the momentum of accelerated industrial growth and employment generation. Special emphasis was placed on rejuvenation of small and medium enterprises (SMEs), in addition to the traditional highlight on a list of thrust sectors, which was formulated on the basis of past performance. These policies will be continued with renewed vigour during the 7th FYP.

With regard to trade policy, the 7th FYP does recognize the imperative of reducing anti-export bias. Apart from pharmaceuticals whose domestic price is controlled in lieu of the fully protected domestic market, effective rates of protection (ERP) average more than 100% for most import-competing domestic industries when ERP for export products is zero or modestly negative. During FY11-15, while average NPRs increased, those for intermediate inputs and capital goods declined further, thus raising ERPs (Figure 2.6).

The policy question is that if such asymmetrical incentives persist, it would be difficult for non-RMG exports to reach the kind of heights that was attained by RMG in the global market. As the study of both nominal and effective rates of protection reveal, the current trade policy stance, while allowing a free trade regime to the RMG sector, essentially perpetuates the high degree of protection support to domestic (import substituting) industries, at the expense of emerging and potential export industries which are driven to import substitute production due to their relatively higher profitability. Continuation of this stance might prop up current profitability of import substituting firms, including that of many that might be uncompetitive or inefficient. But import substitute production catering to the domestic market cannot alone create jobs for the 2.5 million people added to the workforce each year.

Figure 2.6: Average Tariff on Import Categories FY11-15



Source: NBR Tariff database

High ERPs typically indicate latent inefficiency in firms which tend to perpetuate over time. It is then economically efficient to switch resources away from high ERP (processing margin) activities to lower ERP activities – with consequent increase in productivity and manufacturing growth. In Bangladesh, the way to do that would be to cut the sources of the high ERPs, which in turn means cutting the output tariffs which protect them (especially the para-tariffs) combined with increasing the very low input tariffs. This has the advantage of protecting against revenue losses. Increase in imports owing to reduction in tariffs and SDs will also help revenue growth.

In sum, the primary challenge before policymakers over the medium-term is to reverse the anti-export bias of the tariff and protection regime and overall trade policy to ensure neutral if not favourable pro-export nature of the overall incentive regime. As such, the expected dynamism in manufacturing products other than RMG remained unmet and export diversification stalled. This contested issue will have to be faced with rigor during the 7th FYP, and resolved in order to imbibe dynamism into the non-RMG manufacturing sector to fuel the targeted growth in non-RMG production and exports.

In sum, a rapidly expanding and diversified export-oriented manufacturing sector requires a much faster pace of trade liberalization and commensurate measures to minimize if not eliminate anti-export bias of the existing trade regime.

2.7.5 Addressing Power Shortages

The critical role of assured supply of electricity at an affordable price for social and economic development is universally recognized. The Government of Bangladesh identified power supply as a major constraint on GDP growth, private investment and overall economic development. During FY11-15, the government, therefore, adopted a strong and well-rounded reform programme to increase the supply of electricity involving substantial investment, sector reforms and regional trade in electricity. A detailed review of performance of the power sector shows that

considerable progress has been made in expanding the supply of power. This has been a major improvement and a positive factor for the performance of the manufacturing sector. But the average cost of electricity has increased as demand continues to outstrip supply. So, continued efforts are needed to expand power supply and reduce the average cost of production over the 7th FYP period.

2.7.6 Land Management challenge

Serviced land is the single largest limiting factor for new or expanding entrepreneurs. The three main issues surrounding access to land are a) the cost of land, b) issues of procuring land and c) availability of serviced land. Doing Business in Bangladesh 2014 ranks Bangladesh among the ten worst countries for registering properties. Given the importance of this resource in an entrepreneur's decision to invest in the manufacturing sector further reforms and changes have to be introduced otherwise the growth of the manufacturing sector as one of the major sectors in the economy will be in jeopardy. However, during FY11-15 there was only modest progress in reforms that would have improved access to land for setting up manufacturing enterprises. This is a high priority area for policy attention during the 7th FYP.

2.7.7 Challenge of Labour Productivity

Abundant and cheap labour has been the primary source of Bangladesh's comparative advantage in labour-intensive manufacturing. However, while Bangladesh's manufacturing labour is cheap and growing at a rapid pace, labour productivity has been low. Moreover, there are structural barriers to improving labour efficiency, and pervasive skill shortages are reported, particularly in the rapidly expanding RMG sector. Despite past progress, the education and training challenges remain daunting. According to the Labour Force Survey of 2010, some 40 percent of the workforce is illiterate and 23 percent have only primary level education. So, it is a long and arduous road to raise skill-intensiveness in the manufacturing sector. But steps have been taken in recent years, through business associations, and public-private partnerships to raise awareness on the need for creating demand-driven vocational training. Also, the RMG sector model of in-house training provides a good approach that could be emulated in other manufacturing sector.

Regarding quality much will depend upon the quality of labour and adoption of better technology. The Labour Force Survey data show that some progress has been made in upgrading labour skills through improvements in education and training, but there is a long way to go. Indeed, the 88 percent informal labour force requires a long-term massive enhancement effort in education and skills training to be converted into quality labour for manufacturing and formal services. This is a huge challenge and requires a long-term strategy for public investment in human development and improvement in service delivery.

2.7.8 Female Workers disadvantaged by Gender Bias

Higher growth in Bangladesh benefitted from a rising labour force both due to the demographic transition that produced a larger share of working population and an increasing labour force participation rate of the female labour. But wage rates tend to be lower for female workers relative

to male and proper employment regulations to facilitate the participation of female workers (e.g. maternity leave, skill development, child care facilities, etc.) have to be put in place in most areas of employment. The RMG industry has shown the way. However, safety standards in RMG are becoming a major challenge for sustaining the continued expansion of RMG sector. Thanks to recent coordinated efforts of the Government with the Apparel Manufacturers, and the buyer-driven initiatives. Substantial progress in ensuring worker safety standards and improvement in working conditions have been achieved.

2.7.9 Government Regulations for a more favourable business environment

While good progress has been made to deregulate the manufacturing sector, there is still much to be done in improving business laws to ensure enforcements of contracts. Scaling down the coverage and size of SOEs is still needed to provide impetus to private enterprises which often face uneven competition from SOEs in procurement of raw materials and breaking into export markets (e.g. jute textiles).

2.7.10 Need for a Comprehensive Strategy for Small Manufacturing Enterprises

While the emphasis of the 2010 Industrialization policy on SMEs is welcome, the implementation of policies and support strategies has largely focused rather narrowly on access to finance. Progress is needed in regards to developing a focused strategy for S-MEs that is well-founded on evidence and proper diagnostics along with institutional support. The Government needs to focus on this urgently in order to utilize this potential area for diversifying the manufacturing.

Box 2.6: Goals and Targets of the Ministry of Industries under the 7th FYP

The Corporations and Departments under the Ministry of Industries have formulated goals, targets, and projects for strengthening their programmes for overall development of the industrial sector during the 7th FYP:

Bangladesh Standards and Testing Institution (BSTI)

The institute will oversee the Implementation of Bangladesh Standards through a national certification marks Scheme Promotion of quality control, ensuring compliance of products with the Bangladesh Standards, for local consumption as well as for exports. Emphasis will be laid also on periodic review of standards to keep them at par with updated technological developments and establishment of food, cement, bricks and gold testing laboratories, standardization and labelling of energy efficient electrical appliances & equipment of selected 6 BRESL products. To this end, all policies, rules, regulations and criteria are being developed taking cognizance of relevant internationally available documents. BSTI activities should be spread throughout the country starting with establishment of regional certification centres. In order to strengthen technical capacity of BSTI, additional trained manpower including appropriate lab facilities will be created during the plan period.

Bangladesh Small and Cottage Industries Corporation (BSCIC)

The Corporation is mostly committed towards the setting up and development of SMEs in the country other for creating, employment opportunity and to help increasing GDP growth through the establishment and extension of Industrial Estates in various districts of the country. Other goals include installing Central Effluent Treatment Plants and dumping yard and infrastructure development of the park for establishment of Active Pharmaceutical Ingredient (API) Industries and to meet the national demand of honey and increased production of quality honey through modern bee-keeping technology.

Bangladesh Chemical Industries Corporation (BCIC)

The main goal of BCIC is to meet the needs of the country in respect of fertilizer, paper, newsprint, hardboard, cement, glass, sanitary-wares and insulators, chemicals etc. BCIC also aims to make available import substitute and quality products at reasonable prices at the door steps of the people all over the country and earn foreign exchange through export of surplus industrial products.

Bangladesh Industrial Technical Assistance Centre (BITAC) and Bangladesh Institute of Management (BIM)

These two bodies are mostly concerned with skill development of manpower. BITAC aims to attain mid-level technological development for Bangladesh. BIM's main focus is making skill development up to international standard through the strengthening and capacity development of BIM by constructing modern training complex with new generation facilities ready for accommodating management development activities.

Bangladesh Steel Engineering Corporation (BSEC)

Amendment of laws & rules of Bangladesh Steel & Engineering Corporation is a strategy of BSEC, followed by establishment of agro-machineries factory in 15.42 Acre land acquired and owned by BSEC at Chhoypukuria in Bogra district.

Bangladesh Sugar & Food Industries Corporation (BSFIC)

This organization is committed towards the strengthening and sustaining of the production capacity of the existing sugar mills, to meet the local demand by producing white sugar from imported raw sugar, reduce dependency on private sector and stabilize the domestic market and benefit the consumers. BSFIC also aims to produce environment friendly organic Bio- fertilizers, Bio-gas that will reduce fuel consumption, increase sugar cane production and also consider using molasses to produce alcohol/spirit.

Bangladesh Accreditation Board (BAB):

Bangladesh Accreditation Board (BAB) is the only organization in Bangladesh which is responsible for:

- * Accreditation of qualified testing and calibration laboratories according to ISO/IEC 17025.
- * Strengthening Assessor pool through proper training and supervision.
- * Playing significant role globally by participating in and arranging Training, Workshop, Working Group in international level.
- * Accreditation of Certification Bodies and Inspection Bodies and Accreditation of Medical testing laboratories (ISO 15189).

Department of Patents, Designs and Trademarks (DPDT)

Better Public Service Delivery through Automated IP System. The public will be provided with online service. The Department will also ensure transparent and efficient management of its assets and budget.

National Productivity Organisation (NPO):

National Productivity Organisation (NPO) is a specialized organization to carry out productivity promotional activities.

Office of the Chief Inspector of Boilers:

Office of the Chief Inspector of Boilers is an organization in Bangladesh which is responsible for:

- Boiler Inspection & Permitted for Operation.
- New Boiler Registration.
- Inspection & Certification of Local Made Boilers.
- Boiler Attendants Examination.

Source: Ministry of Industries

2.7.11 Other Supporting Measures

On the supply side, much of the policy attention will have to focus on production incentives, quality and cost competitiveness through improvement of infrastructure and trade logistics, and diversification of our export basket.

Incentive system. Regarding production incentives, investment deregulation, tax policies and labour market policies are important. There is also plenty of empirical evidence that the exchange rate and trade protection both matter for exports. Some progress has also been made to improve the tax structure but the inadequacies in the tax system resulting from virtual exemption of resources invested in land and equity markets including capital gains provide a natural bias against investments in risky and taxable ventures as in manufacturing. By and large, the labour markets in Bangladesh are flexible and manageable and wage costs are not a major constraint to manufacturing expansion.

Exchange rate policy. By and large, Bangladesh has well managed its exchange rate policy although the appreciation of the real exchange rate since 2006 needs careful monitoring. While trade protection has come down sharply from its very high levels in the early 1990s, protection still remains high by international standards with a high degree of tariff escalation and effective protection. Trade reform which stagnated over the past few years needs to be put back on track. The adoption and successful implementation of the Digital Bangladesh programme will also help raise labour productivity, reduce transaction costs, and improve market access as well as customer responsiveness.

Cost competitiveness. Regarding cost, the most obvious place to look for improvement is in infrastructure and trade logistics. Both power and transport are key determinants of cost competitiveness. In electricity, the inadequacy of supply is well known. While efforts are underway to mobilize new investments in power, innovative ways must be found to address the power crisis. Among the solutions include better demand management, more aggressive efforts for energy trade with neighbours, ensuring the efficiency of electricity production and distribution, and ensuring the financial viability of the electricity industry.

Gas shortages. Domestic gas has been under-priced and rather inefficiently allocated across competing uses resulting in present gas shortages. A sound energy policy for the long-term will have to ensure adequate electricity to industry based on the optimal balance of fuel sourcing – gas, coal, fuel oil, and hydro – including the exploitation of power trade opportunities across borders.

Transport infrastructure. In transport, Bangladesh faces trade logistics costs that are much higher than in East Asian countries or in India. Trade logistic cost has to be brought down substantially through new investment in transport network including sea-ports, improvements in performance of existing facilities, and much better traffic management.

Branding of Special Products. The special products authentically produced in different districts of Bangladesh can be branded worldwide. These products may include silk from Rajshahi, *Khadi*

from Comilla, *Nakshi Katha*, *Dhakai Jamdani*, different sweets, *Shatranjee*, other hand loom products etc.

Box 2.7: Programmes of Ministry of Industries to promote growth of the Manufacturing Sector

- Ensuring that there is full utilization of current production capacity in the industrial sector. Provide special facilities as well as infrastructural support to Cottage and Small and Medium enterprises (SME) located in different parts of the country. Provide financial, technical, technological and infrastructural facilities in order to market agro-based goods hygienically by processing in frozen, pasteurized, canned or dry form so that goods produced in the country are preserved and marketed in compliance with modern standards in order to ensure that they can be made available in the local market or exported throughout the year.
- Give preference to infrastructural development including ports, power, transport and communications, and human resources development. Specifically promote private investments along the principles of construction, administration and BOO, and construction, administration and BOT in these sectors.
- Assisting backward linkage industries on a priority basis. The objective is to diversify and produce goods of world standard and value added items so that they help to diversify our exports. Provide necessary assistance to value added linkage industries and subcontracting industries so that they are developed.
- Treating the readymade garment and textile industries as priority sectors in view of their special contributions to the country's export trade, and strengthening other industry related policies such as the Textiles policy, Jute policy, and Silk policy as supplementary to the Industrial Policy.
- Collect information on industrial development and arrange for technology dissemination through the Technology Dissemination Cell, set up at the Ministry of Science and Technology. Industry and Business Association, and the Bangladesh missions abroad. Establish coordinated and extensive Management Information service (MIS) comprising different public and private agencies under the Ministry of industries (various chambers of commerce and industries) and arrange for information received from MIS to be supplied to administrative divisions and districts levels.
- Remove policy discrimination, if any, between domestic and foreign investments, and enhance regional and sub-regional cooperation. Take necessary steps to bring about the country's industrial development in line with different agreements with the World Trade Organization (WTO).
- Provide all-out assistance to create a strong capital market so that investments in the industrial sector are increased. Ensuring the availability of the working capital from financial institutions after the establishment of an industry so that working capital can be obtained in time.
- Take initiatives to set up industrial parks with a view to establishing economically viable industries in these industrial sub-sectors. Provide further structural and other facilities to establish and develop compact industrial areas. Develop planned industrial areas by establishing Economic Zones in areas with vast economic potentials, and utilizing local resources.
- Taking into consideration highly developed technology-based seed breeding, production and development, and agricultural goods processing activities as industries.
- Arranging for incentives to be given for research and development, acceptance and transfer of environmentally friendly appropriate technology. At the same time, develop market-oriented institutional structure in overall technological development.
- Promoting foreign direct investments in order to bring about technology transfer, efficiency and management development and enhance marketing skills.
- Creating a long-term credit fund to generate industrial production capacity and also a venture capital fund to support in the commercial production and marketing of creative industries. Also ensuring the availability of assistance of the capital market so that industrial entrepreneurs can overcome the lack of capital and mobilize the necessary capital from the capital market in order to establish or administer industrial enterprises.

2.8 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Though public enterprises exist in a limited form in jute and cotton textiles, and fertilizer sector, trade and industry are by and large in the realm of the private sector. Dynamism of the manufacturing sector, its export orientation, and job creation prospects depend on appropriate industrial and trade policies that support private sector initiatives to invest and become globally competitive. The primary role of Government therefore lies in funding of support services in areas of trade policy, industrial policy, and small and micro enterprises, rather than allocating public resources to install public enterprises. The allocation of public investment will be available in Industrial and Economic Services sector. For manufacturing SOEs, the investment programme will be mainly financed from own resources. The allocation of resources in the 7th Plan is basically intended to finance these support services for the manufacturing sector and fund activities or institutions that facilitate trade (Bangladesh Standards and Testing Institute) and create market access (e.g. PTAs and public expenditures incurred in opening of non-traditional markets) for Industrial and Economic Services sector. The following chapter on overall service sector of the economy analyses the private sector investment in different services. The required public sector investment within the purview of corresponding ministries are allocated here in following tables. Indicative allocations of development resources for Industrial and Economic Services to support the manufacturing sector of the economy in current and constant (FY2016) prices are shown in Tables 2.12 and 2.13 respectively.

Table 2.12: 7th Plan ADP Allocations for Industrial and Economic Services Sector

(Taka billion; FY2016 Constant Prices)

Ministry	FY16	FY17	FY18	FY19	FY20
Ministry of Industries	12.3	17.4	19.6	21.8	24.4
Ministry of Textiles and Jute	1.8	2.2	2.5	2.7	3.1
Ministry of Commerce	2.2	1.8	2.0	2.2	2.5
Ministry of Labour and Employment	2.1	3.4	5.2	7.2	9.6
Ministry of Expatriates' Welfare and Overseas Employment	2.5	5.1	6.1	7.2	8.2
Sector Total	21.0	29.9	35.2	41.0	47.7

Source: Seventh Plan Projections

Table 2.13: 7th Plan ADP Allocations for Industrial and Economic Services Sector

(Taka billion; Current Prices)

Ministry	FY16	FY17	FY18	FY19	FY20
Ministry of Industries	12.3	18.4	21.9	25.7	30.2
Ministry of Textiles and Jute	1.8	2.3	2.8	3.2	3.8
Ministry of Commerce	2.2	1.9	2.2	2.6	3.1
Ministry of Labour and Employment	2.1	3.6	5.8	8.4	11.9
Ministry of Expatriates' Welfare and Overseas Employment	2.5	5.4	6.8	8.4	10.1
Sector Total	21.0	31.7	39.5	48.5	59.0

Source: Seventh Plan Projections

CHAPTER 3

STRATEGY FOR BOOSTING THE SERVICES SECTOR

3.1 OVERVIEW

The services sector is an integral part of the Bangladeshi economy. It provides a convenient bridge for the transformation of the rural agrarian economy to a primarily urban industrial economy. In a typical transformation path, as the agriculture sector modernizes labour transits initially from agriculture to mainly low-skill rural and urban services. These services, mostly informal in nature, provide a cushion for labour absorption as agricultural employment shrinks. The labour thus released from agriculture eventually either retrains and gets distributed to manufacturing and modern services, or stays put in informal services. The growth of services employment and activities is primarily a function of demand. In today's global world where both labour and capital is mobile, both domestic demand and world demand matters for the expansion of the services sector.

A striking aspect of the development of the services sector in Bangladesh is that it not only has responded well to the growing demand emerging from the growth of manufacturing and agriculture activities, it has also positioned itself well in the global market for low-skilled workers, especially to the oil-rich middle-eastern markets. As a result, there has been a rapid inflow of worker remittances that has fuelled huge demand for construction activities and a range of services in both urban and rural areas. This inflow of remittances has played a major role in transforming the rural economy and contributing to poverty reduction.

The services sector has also undergone a slow but steady structural change in terms of supporting the growth of a range of modern commercial activities including banking and other financial services, shipping, Information Communications Technology (ICT), aviation, and storage, tourism and transport support services. Nevertheless, this transformation is rather slow and falls short of what has been achieved in the neighbouring India. This is a missed opportunity that will be explored and developed more fully in the Seventh Plan. This Chapter looks at the developments in the service sector in terms of major achievements in growth, employment, exports and rural transformation and provides a strategy for further dynamizing the services' sector role in Bangladesh economy during the Seventh Plan.

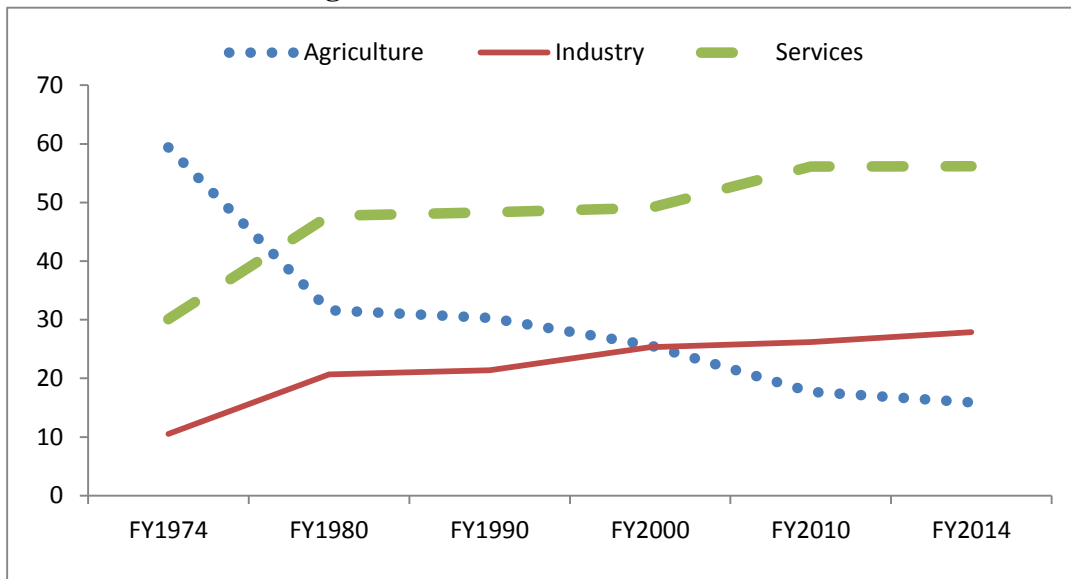
3.2 THE PERFORMANCE OF THE SERVICES SECTOR

The contribution of the services sector to the development of the Bangladeshi economy can be seen from its contribution to four main areas: GDP growth; employment; exports; and rural transformation. These aspects are inter-related and tend to reinforce each other.

3.2.1 Contribution to GDP Growth

One striking aspect of the services sector in Bangladesh is that unlike the conventional wisdom that valued-added and growth in services activities follow the growth in agriculture and manufacturing, the services sector has been a growth leader during most part of the development economy since independence. This is illustrated in Figure 3.1. In the early years after independence as the relative role of agriculture fell, the services sector expanded rapidly, growing much faster than total GDP and its relative share rocketed from 30% in FY 1974 to 48% in FY1980. The services sector continued to grow faster than GDP until FY2010, when its relative GDP share reached 56%. The growth has now stabilized at around the same pace as GDP and the GDP share has also stabilized at around 56%. This near doubling of the relative GDP share of services is a remarkable achievement and has been a major contributor to employment and poverty reduction.

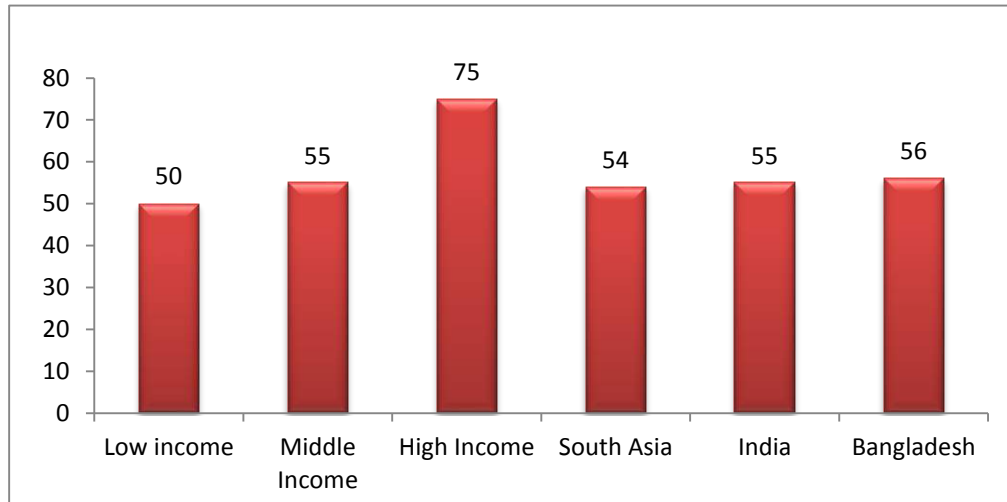
Figure 3.1: GDP Share of Services



Source: Bangladesh Bureau of Statistics

The strong performance of the services sector can also be seen in the context of international comparison. Based on the work of the well-known economist, W. W. Rostow, the conventional expectation is that a poor agrarian economy initially moves to a path of growth take-off based on the strength of the industrial sector and then eventually when it achieves self-sustained growth the role of services sector expands. In contrast to this, in Bangladesh, as in India and other South Asia, the services sector played a stronger role than the industrial sector in the early stages of development. As a result, the share of services value-added in total GDP is higher than the average for the low income economies (Figure 3.2).

Figure 3.2: Role of Services Sector, 2010 (% of GDP)

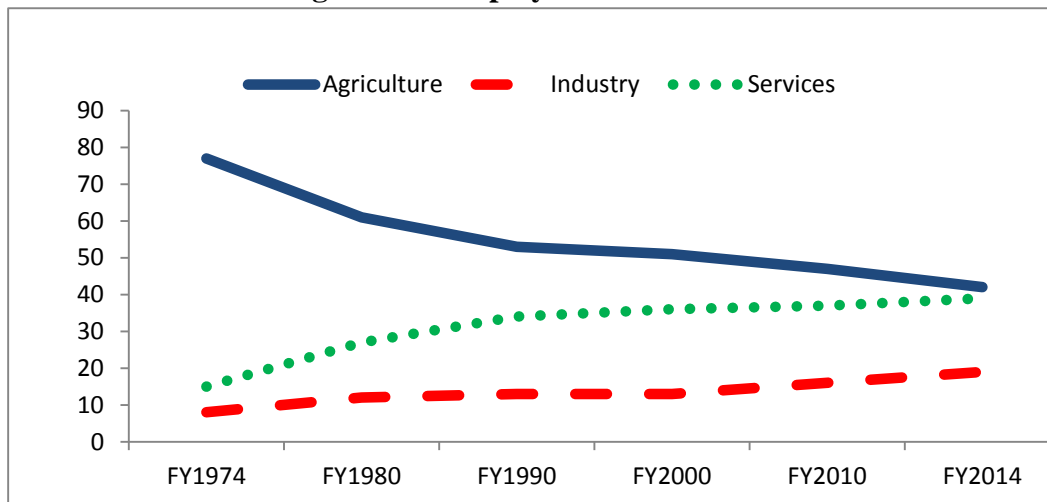


Source: World Development Indicators, 2012, World Bank

3.2.2 Contribution to Employment

The employment contribution of services sector is illustrated in Figure 3.3. Unlike the analysis of traditional migration models (Lewis, Fei-Ranis and Harris-Todaro), the services sector provided the initial cushion to absorb the surplus labour released from agriculture. This was particularly true during the early years. Thus the employment share of services surged from 25% in FY1974 to 34% in FY1990. It has continued to grow faster than total employment since then, although the pace is less rapid than during the FY1974-FY1990 period.

Figure 3.3: Employment Share of Services

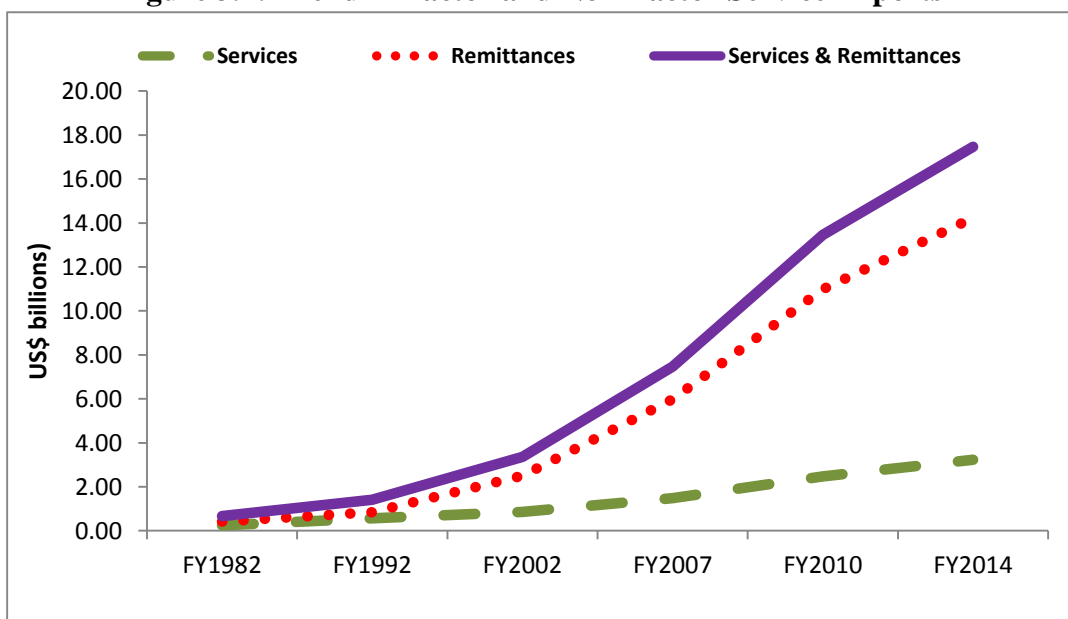


Source: Bangladesh Bureau of Statistics and GED estimates

3.2.3 Contribution to Exports

The services sector has been a major driver of exports. The main contributors have been export of workers and a range of other factor and non-factor services. The growth of these sources of export earnings is illustrated in Figure 3.4. Export of workers and remittance inflows took off in a big way after 1990. Other service exports have also shown some upward movement, but income from remittance inflows has dwarfed the contribution from other services. Remittance inflows reached US\$ 14.2 billion in FY2014, growing by an average of around 13% in US Dollar terms between FY1990 and FY2014. Other service export income also grew significantly although at a more modest pace of 8% per year.

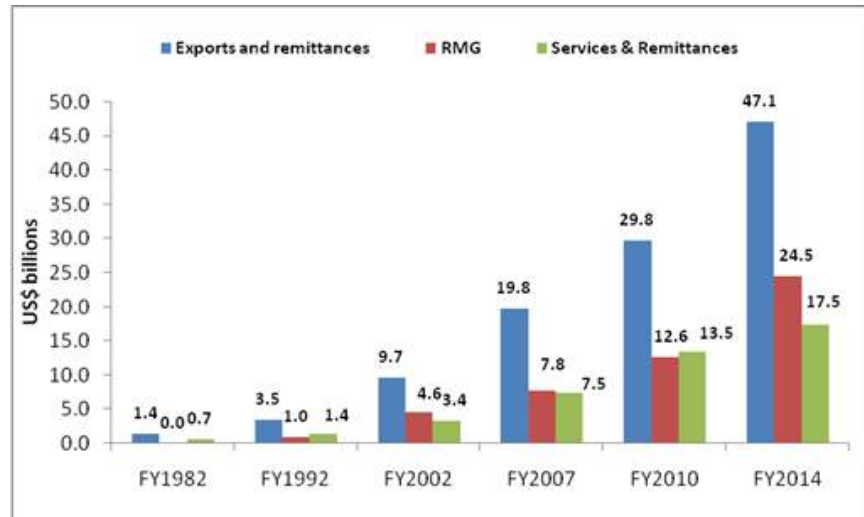
Figure 3.4: Trend in Factor and Non-Factor Service Exports



Source: Bangladesh Bank

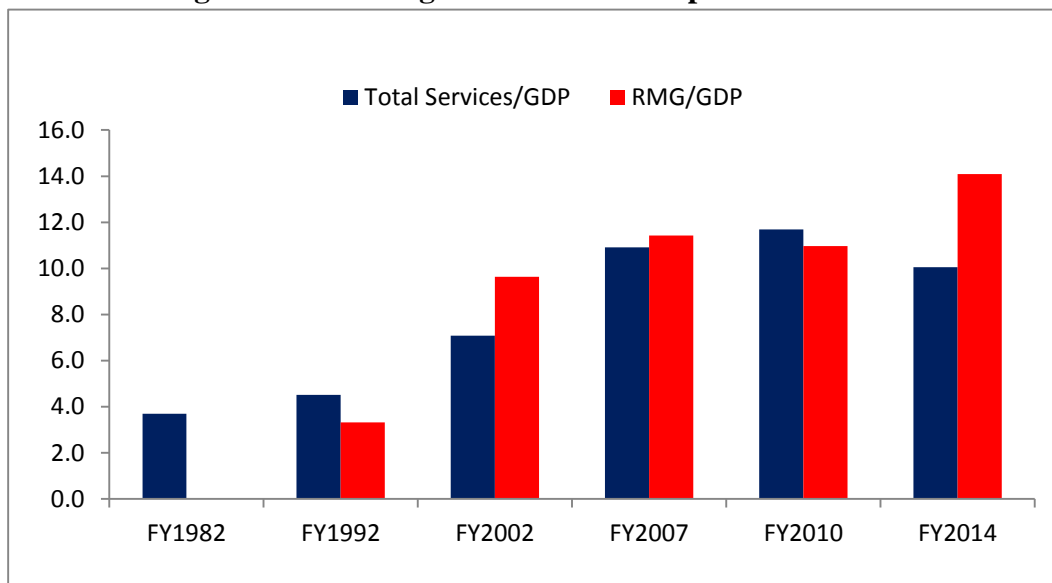
Income from remittances and other service is a major source of exports and an important driver of GDP growth. Before the emergence of ready-made garments (RMG), they were the largest source of export earnings (Figure 3.5). This dominance prevailed even after the arrival of RMG well until FY2010. The relative role of remittances and other service earnings has fallen somewhat since then. These now constitute the second largest source of export earnings after RMG. Even so, they account for 37% of total export earnings and amount to 10% of GDP (Figure 3.6). The solid contribution of services sector to export earnings is self-evident. The challenge moving forward during the Seventh Plan is whether this role can be preserved and further expanded, especially in the case of other services.

Figure 3.5: Role of Services Exports in Total Exports



Source: Bangladesh Bank

Figure 3.6: Earnings from Services Exports as % of GDP



Source: Bangladesh Bank and Bangladesh Bureau of Statistics

3.2.4 Contribution to Rural Transformation

Over the past 40 years the rural economy of Bangladesh has undergone an amazing transformation. Poverty has declined substantially, life expectancy has increased by a large number of years and adult literacy has improved significantly. Census Data (BBS, various years) and Household Income and Expenditure (HIES) Data (BBS, Various Years) suggest that these substantial improvements in the fundamental indicators of well-being of the rural population were also accompanied by enhancements in the quality of life in terms of quality of dwelling, access to safe water, access to sanitary facilities, access to electricity, access to rural roads, access to telephone, access to internet, better health facilities and growing education of rural children at the primary

and secondary level. The Bangladesh rural economy and the social scenario today are vastly different from the 1970s.

Along with social progress, the sources of income have changed dramatically. Agriculture is no longer the dominant source of income. The rural households now draw a substantially larger proportion of their income from non-agricultural activities and transfers, mainly from foreign migrant workers. The effects of growing demand for services in the rural economy financed by the remittance and non-farm income is adding a new dimension to employment opportunities for services in rural areas. The observed improvement in the quality of life of the rural population in terms of housing, rural infrastructure, health and education is an example of the growing demand for services. The expansion in rural electrification, cell phone and internet services is also changing the economic and social character of the rural population.

The emphasis on food production from the early years of independence has been a hallmark of public policy in Bangladesh that has served well the cause of poverty reduction overall, but especially in rural areas. Investment in irrigation and rice technology has yielded huge dividends. Rice production soared from a low of only 9.3 million tonnes in 1972 to a remarkable 33.8 million tons in 2013. Along with some production of wheat, per capita food grain availability almost doubled from 133 kilogram per person per year in 1972 to 258 kilogram in 2013. This rapid expansion of food per capita has been an important contributor to the sharp reduction in the incidence of mass hunger and poverty. Due to land constraint, area under food production did not increase much (less than 1% per year) but production growth mostly happened from a strong increase in productivity. As a result of adoption of better production technology (seeds, fertilizer and water based green revolution) and multiple cropping, per acre rice productivity increased from only 403 kilograms in 1972 to 1158 kilograms in 2013, which is almost a three-fold growth. This productivity improvement along with generous input subsidies has helped keep the price of rice low for consumers. The productivity growth and subsidies protected farmer income and incentives from falling while low rice prices protected the consumers, especially the poor who have a much larger share of food grain in their consumption basket than the non-poor.

Fertility decline and growth of food production explain the developments in rural Bangladesh between 1972 and 2000 quite well. From 2000 onwards, other dynamic factors have started playing a more dominant role in changing the rural landscape. To appreciate their role, it is instructive to look at the sources of rural household income (Table 3.1). While there are major concerns about the accuracy of the income data, especially those reported in the 2010 HIES, the directional changes indicated by earlier HIES numbers are helpful. These directional changes are also consistent with the independently prepared national accounts data. HIES Data suggest that even as late as 1991 farming accounted for some 53 percent of rural household income. By 2005, this share had fallen dramatically to only 34 percent, whereas the share of non-agricultural income surged from 36 percent to 51 percent. The other important and growing contributor is total transfers from domestic and foreign sources, which expanded from 11 percent in 1991 to 14 percent in 2005. Much of this transfer is accounted for by the contribution from foreign remittance.

Table 3.1: Sources of Rural Household Income (percent)

Year	Total Household Income	Agriculture	Non-agriculture	Transfers	(Foreign Remittances)
1991/92	100	53	36	11	(4)
1995/96	100	47	43	10	(5)
2000	100	35	53	12	(8)
2005	100	34	51	14	(9)

Source: BBS, HIES (various years)

This is corroborated by developments in national accounts that show that as compared with agriculture, which grew by an average of 4.4 percent during 2005-2010, manufacturing grew by 8.2 percent and services by 6.2 percent (i.e. both grew much faster than agriculture). The employment share of agriculture also fell while the employment share of manufacturing and services grew. Importantly, the value of remittance inflows nearly tripled between 2005 and 2010 in US dollar terms. If the 2010 rural remittance share was similar to its share in 2005 (57 percent), then this would imply that rural household income from remittance would have also grown by nearly 3 times in nominal dollars.

Although, farmers benefitted from a substantial improvement in the terms of trade owing to a surge in rice prices, the most likely scenario is an increase in the income shares of non-farm and transfers and a further reduction in the share of income from farming.

These changing income trends suggest a huge economic transformation of the rural economy as non-farming activities have become the dominant source of income in the rural areas. While the income from farming tends to be more equalizing than income from non-farming and transfers, once the general equilibrium effects of growing demand for services in the rural economy financed by the remittance and non-farm income is considered, the most likely beneficiary of this is the rural wage earners, who tend to belong to the poorest income group. The observed improvement in the quality of life of the rural population in terms of housing, rural infrastructure, health and education is an example of the growing demand for services.

The expansion in rural electrification, cell phone services, mobile banking services, e-commerce, and internet services is also changing the economic and social character of the rural population. Better communications along with improvement in rural transport has lowered the transaction costs between the rural and the urban centres, thereby facilitating the expansion of trade and commerce. The expansion of ICT services to the rural economy is slowly but surely reducing the information gap between the urban market centres and rural production points and also helping improve production technology. Additionally, the expansion of mobile financial services is changing the payments options. Both are helping reduce cost and secure better returns to rural entrepreneurs. The role of ICT in rural transformation is discussed in greater detail in Chapter 12 of Part 2.

3.3 EMERGING ISSUES AND CHALLENGES IN THE SERVICES SECTOR

Notwithstanding the past solid performance of the service sector, there is substantial scope for further dynamizing the contribution of this sector to the development of Bangladesh, especially in terms of growth and equity. There are a number of issues and challenges that need to be addressed during the Seventh Plan. First, despite some progress with modernizing the services sector, it remains dominated by informal activities where productivity and incomes are low. Much of the poor outside agriculture are engaged in these low-productivity, low-income informal services in rural and urban areas. Second, the skill base of the services sector is low that largely explains the dominance of informal, low productivity, low income activities. Third, while earnings from export of labour services have done very well, the performance of export earnings from other services is considerably below potential. Fourth, the regulatory policies and public institutions for supporting the expansion of modern services require revisions and upgrading in order to fully exploit the benefits of a modern and dynamic services sector.

3.3.1 The Structure of Services Sector

The structure of services sector is shown in Table 3.2. Trade is the dominant services activity, growing rapidly between FY1974 and FY1980 and then, on a trend basis, expanding at a slightly higher pace than overall GDP. The growing importance of trading activities can be gauged from the fact that its GDP share in FY2014 already exceeds the GDP share of agriculture and forestry combined. The expansion of trading activities has benefitted from a very flexible and fairly liberal entry/exit strategy into the sector. The investment requirements are relatively low and also flexible because scale can be adjusted easily to fit the available financing. Trading is a major source of rural non-farm employment and income.

The other important source of growth in services sector is personal and community services. The expansion of personal services is the direct outcome of a buoyant Bangladeshi economy and the generous inflow of remittances. The demand for a range of personal services including chauffeurs, plumbers, shoe-repair, informal electrician, tailoring, household support staff, florists, hair dressing, beauty salons and parlours and the like have mushroomed all over urban Bangladesh, especially in the high income metropolitan cities of Dhaka and Chittagong. The high income elasticity of demand for these services and plentiful supply makes this a very vibrant source of income and employment. Wage data from the 2010 Labour Force Survey shows that the average wages here tend to be significantly higher than average wages in manufacturing, even though this is largely an informal source of employment. As in the case of trading, the highly flexible employment market with almost no regulatory intervention has contributed to the expansion of this activity, with value-added growing faster than average GDP on a trend basis. Also, the investment requirements are minimal. However, the skill requirements are significant. Nevertheless, except in the case of chauffeurs where a driving license is required, all other skills are learnt through on the job training without any formal licensing or certification.

Table 3.2: The Structure of Services Sector (% of GDP)

Activities	FY1974	FY1980	FY1990	FY2000	FY2010	FY2014
Trade	9.3	12.9	11.9	12.3	14.0	13.4
Transport	4.2	10.5	9.3	7.6	9.0	9.1
Telecoms	0.2	0.2	0.4	0.7	1.6	1.5
Financial Services	1.3	1.4	1.3	1.5	3.1	3.9
Real Estate	5.6	6	8.3	8.9	7.2	7.1
Public Administration	2.2	2.3	2.3	2.6	3.3	3.4
Education	1.6	1.9	1.9	2.3	2.4	2.6
Health	1.2	2	2.2	2.3	2.0	2.1
Hotels and Restaurants	0.3	0.4	0.6	0.6	0.9	1.0
Personal and Community Services	4.2	10.1	10.1	10.6	12.6	12.1
Total Services	30.1	47.7	48.3	49.1	56.1	56.2

Source: Bangladesh Bureau of Statistics

The third major service activity is the transport sector. The major transport components are shown in Table 3.3. Land transport seems to have performed well after FY2000, thanks to the de-regulations of the transportation sector by the government in FY1998 that led to massive investment by the private sector. As a result land transportation grew faster than overall GDP. However, water and air transport have performed poorly. Even in land transport, there are major performance issues in road infrastructure and rail services, detail discussed in Chapter 6 of Part 2 under the transport and communication sector. The implementation of the transport infrastructure strategy underscored in the Part 2, Chapter 6 will have a positive effect on increasing the growth of value-added from land transport.

Table 3.3: Composition of Transport Sector Value-Added (% of GDP)

Transport Mode/Activity	FY1980	FY1990	FY2000	FY2010	FY2014
Land	6.6	6.7	6.1	7.6	7.9
Water	3.3	2.2	1	0.8	0.6
Air	0.1	0.2	0.2	0.1	0.1
Storage etc.	0.2	0.3	0.3	0.5	0.5
Total transport	10.2	9.4	7.6	9	9.1

Source: Bangladesh Bureau of Statistics

The rapid decline in the share of water transport shows a huge neglect of this mode of transportation. Given the large network of waterways in Bangladesh, river transport serves a major development role in the mobility of rural people and commodity flow. With the growing congestion of road network and limited capacity of rail cargo services, water transport provides a huge opportunity that seems to have been missed out. This is a major challenge for the Seventh Plan.

There are several factors that have constrained the performance of river transport. The most important factor is the limited navigability of many river ways owing to the growing incidence of

siltation. Huge investments are needed for river dredging to make them more navigable and conducive to the use of modern river vessels. A second factor is the inadequacy of safety standards to protect people and cargoes from accidents. Many river vessels have questionable river-worthiness features. Additionally, the frequency of over-loading is huge. Due to absence of adequate monitoring and enforcement, safety standards are frequently violated resulting in accidents that cause substantial loss of life and property. Collusive behaviour of safety inspectors and vessel owners further add to the problem. Because of safety concerns a large amount of potential river traffic tends to get diverted to land transport that further adds to the congestion problem. A third problem is the inadequacy of river ports and cargo holding capacities. It is obvious that a combination of major investments in river dredging and river ports combined with effective monitoring and implementation of safety standards will substantially improve the quality of water transport and spur private investment and value-added. This is a major challenge for the transport sector during the Seventh Plan.

Regarding air transport, the main constraint is the weak performance of the national carrier Bangladesh Biman. The demand for air transport has swelled at both the international and domestic level. Yet, the capacity constraints are overwhelming. Notwithstanding numerous reform efforts, the management problems of Bangladesh Biman still remain. As a result, it has not been able to benefit much from the large growth in the demand for both international and domestic travel. High-performing international carriers, especially Emirates, Etihad and Qatar Airways, have captured the bulk of the market share of international travel to and from Bangladesh. In the area of domestic air travel, the Government deregulated air operations to allow for national based private air services. The response has been positive but inadequate. A major constraint is investment. Air services are highly capital intensive and also require special skills, the absence of which tends to make domestic private investment hesitant to enter this high-risk sector. The inadequacy of domestic air connectivity combined with heavily congested land transport is a major constraint to the growth of the tourism industry. The Seventh Plan will need to adopt a proper strategy and policies that will address this constraint.

A fourth large contributor to services GDP is the real estate sector. It has generally been on an upward trend. It grew faster than GDP during the FY1974-FY2000 period. As a result, its GDP share increased from 5.6 percent to 8.9 percent over those years. The activities of the real estate sector got a boost from the inflow of remittances. Also, with growing urbanization, the demand for urban housing and urban office space has surged. The supply of real estate services has responded adequately to the demand and the market works competitively. Two concerns, however, is first the inadequacy of home loan mortgage services and the second is the inadequacy of enforcement of zoning regulations. The inadequacy of long-term home mortgage options reduces the effective demand for housing services, while the ineffectiveness of zoning regulations reduce the quality of real estate services with excessive bias towards commercial real estate services. This in turn contributes to the weakness of urban development.

The low value-added of education and health services despite growth of these services is a worrisome development. This largely reflects the expansion of low quality services in both areas. While the composition of activities in both sectors has changed substantially with a growing share of private provision of both education and healthcare services, the average service quality and inputs remain low. The inadequacy of tertiary education in science and technology area is emerging as a major constraint to the expansion of quality and high-value-added service exports. In the area of health, the absence of modern health financing options, such as health insurance, is an important constraint to the more rapid expansion of higher value health services.

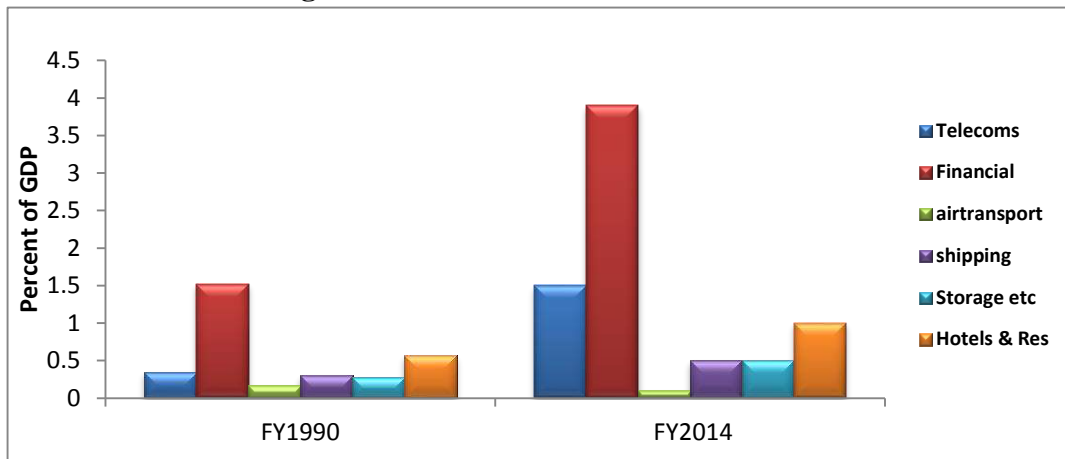
One major service industry not directly reflected in the service sector value-added is the role of tourism. This is mainly because the direct effects of tourism are captured through the travel receipts in the service account of the balance of payments, whereas there are large indirect effects based on tourist spending on travel, hotels, food and purchases of other local goods and services. These effects are picked up in the growth of value-added and employment in these activities. The multiplier effects of tourism can be large as reflected in the role of tourism in such economies as Thailand and Malaysia.

3.3.2 Structural Change in Services

One important question is the extent of modernization of the services sector. While in each category of service there is a mix of formal and informal provision, the absence of data makes it difficult to fully understand the extent of modernization of the services sector. In view of this limitation, the modernization is defined more specifically in terms of growth of new activities that is much more skill based, involves better technology and relatively more capital intensive. These activities include Telecoms and ICT, banking and financial services, aviation industry, international shipping, hospitality industry (hotel and restaurants) and modern storage and transport support services. Each of these activities holds considerable growth prospects and can cater to both domestic and international demand.

The expansion of high potential modern service activities is indicated in Figure 3.7. Starting from low base values in FY1990, all services except air transport have grown faster than GDP. The financial sector in particular has done well, thereby acquiring a rapid increase in its GDP share. Storage and transport support services and telecoms services have also performed well. However, in comparison to its potential ICT and telecoms services have under-performed. International shipping also has under-performed. Hospitality service growth has shown some momentum starting from its tiny base value, but compared to potential it has under-performed. Along with domestic air travel, it constitutes another constraint to the expansion of tourism activities.

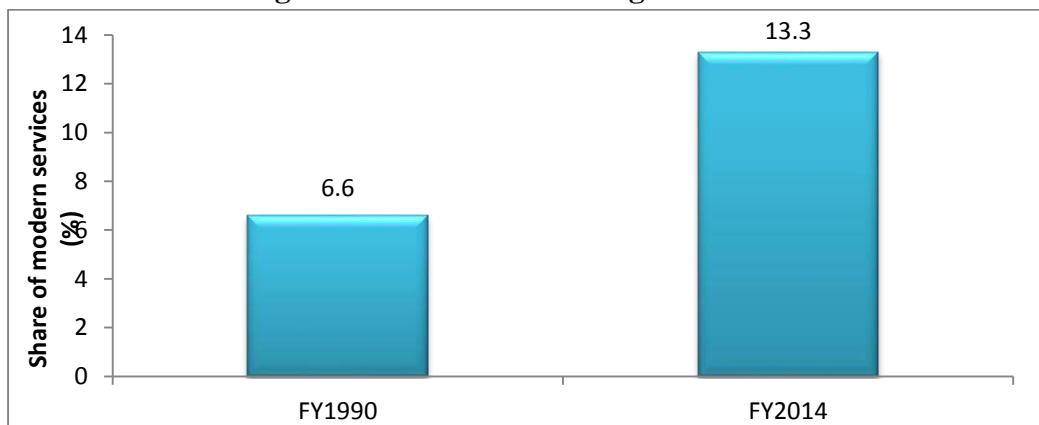
Figure 3.7: Growth of Modern Services



Source: Bangladesh Bureau of Statistics

The growth of high-potential services is beginning to make an impact in terms of modernization of the services sector. Thus, the share of modern services has expanded from 6.6 percent in FY1990 to 13.6 percent in FY2014 (Figure 3.8). Nevertheless, as noted, many of these services are under-performing relative to domestic and international demand. In particular ICT, hospitality services, shipping and aviation services can considerably expand by taking advantage of considerable global demand for these services. How to dynamize these services is another major challenge for the services sector during the Seventh Plan.

Figure 3.8: Structural Change in Services



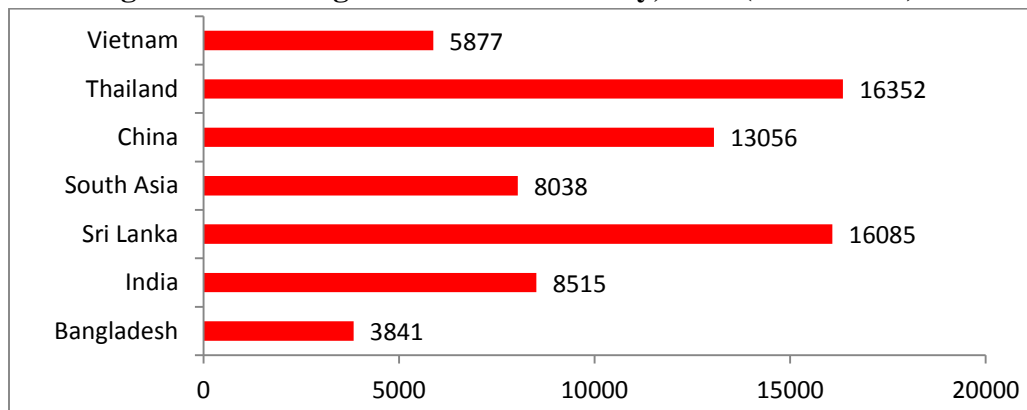
Source: Bangladesh Bureau of Statistics

3.3.3 The Productivity Challenge in Services

Apart from the specific need to expand the contribution of high-potential services in the economy, there is the more general challenge of increasing the productivity of services activities. Professional and skill-intensive services such as banking, finance, ICT and aviation tend to be high productivity, high income activities. As seen above, the role of these activities is still limited despite recent growth. But other services like trade, transport, personal services generally tend to be dominated by low productivity informal activities.

In order to provide a reference point, it is first important to look at how average labour productivity compares internationally across key trade competitors. This is shown in Figure 3.9. Even after allowing for purchasing power differentials of the US dollar across countries, the average labour productivity in Bangladesh is far behind its main trade competitors. The productivity challenge for the economy as a whole is tremendous.

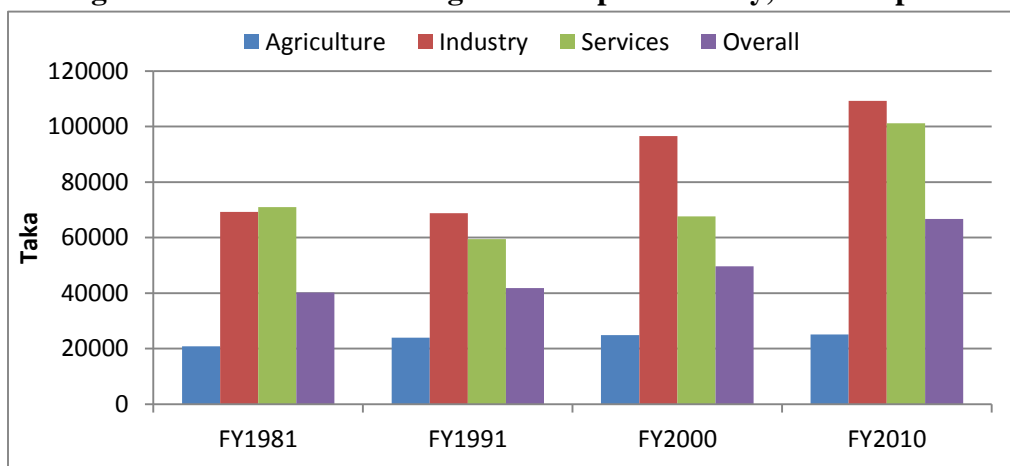
Figure 3.9: Average Labour Productivity, 2010 (1990 PPP \$)



Source: World Bank Database, 2014

Looking at the sectoral level, the average labour productivity shows that productivity in manufacturing is highest, followed by services (Figure 3.10). Not surprisingly, average productivity is the lowest in agriculture, which pulls down the average productivity and partly explains the observed very low average labour productivity at the comparator level. The average productivity differentials across sector are reasonable. The development process involves labour transfers from the lowest productivity activity (agriculture) to medium average productivity activity (services) and then eventually to the highest productivity activity (industry).

Figure 3.10: Trend in Average Labour productivity, 1995/96 prices

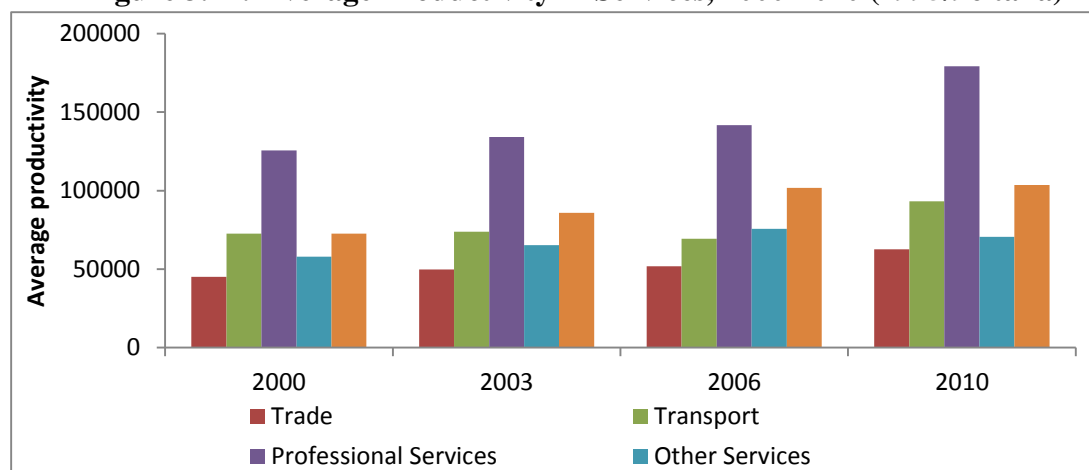


Source: Bangladesh Bureau of Statistics

The aggregate services is a mixed bag of very high (modern services) to low productivity activities (trade, personal services). Comparable data are available from 2000 to 2010 that makes it possible

to calculate disaggregated productivity numbers. The services data are broken down into four main categories: trade, transport, professional services and other services. The trend in average productivity for these services sub-group is shown in Figure 3.11.

Figure 3.11: Average Productivity in Services, 2000-2010 (1995/96 taka)



Source: Bangladesh Bureau of Statistics

As expected, there are large productivity differentials within the services category. Highest productivity is found in professional services, followed by construction, transport, other services and trade. The gap in productivity differential between professional services and trade is particularly large; the average productivity in professional services is almost three-fold higher.

The productivity challenge in the services sector is clear. Trade, transport and personal services account for almost 84% of total services employment. Yet, the average productivity in these activities is much lower than in professional services. A major challenge for the Seventh Plan is to increase the productivity in these low productivity services sector.

3.3.4 The Skills Challenge in Services

The low productivity in trade, transport and personal services when compared with the high productivity in professional services is largely explained by the skills differentials between these activities. On average, the professional services are characterized by labour force with tertiary degrees and other professional and specialized training. In contrast, the average skills level in transport, trade and personal services is very low. Some insights on the skills challenge in the services sector can be obtained from the combined analysis of the 2010 Labour Force Survey data and the 2010 HIES data. The LFS 2010 suggests that some 79 percent of labour force engaged in services sector is informal in nature. The level of formality varies considerably by occupation, with most informal activities concentrated in trade, transport and personal services (over 90 percent of activities are informal in nature) while activities in financial sector, education, real estate and public administration are mostly formal (60-80 percent). According to HIES 2010, the average years of schooling for formal workers are 10.1 years among public sector employees and 5.9 years among private sector employees. In contrast, informal workers, including day labourers and self-

employed, have 2.1 and 4.2 years education on average. In 2010 there were some 15 million day labourers and 20 million self-employed in the workforce. Some 9.7 million day labourers and 8.9 million self-employed had no education at all. The large bulk of these informal workers and self-employed are engaged in the services sector who lacks skills challenge in general.

The skills situation in the formal services is better. Modern services such as ICT, telecoms, financial sector, aviation, international shipping and professional services are the largest employer of the products of the tertiary education system. Although there are quality differentials among supply sources of the tertiary education network, the expansion of these services is usually constrained by supply of specialized skills needed. In particular, the ICT industry is constrained by supply of skills. Public administration, education and health services are primarily dominated by the graduates of the tertiary education system, yet quality differential between various suppliers of tertiary education is substantial that reduces the value-added of these services.

In 2010 about 3.7 percent of the workforce (2 million workers) acquired skills from the higher education system and most of them are employed in formal services sector. Male graduates outnumber female graduates. Enrolment in higher education is expanding rapidly in recent years at an annual average pace of almost 12 percent, growing from about 1 million in FY2005 to 2.2 million in FY2012. This is the result of both a higher rate of graduation at the secondary level and also the rapid growth of private supply of tertiary education. This is a welcome development and with continued progress this will be highly beneficial for the expansion of modern services including ICT. Nevertheless, less than 10 percent of the students are enrolled in engineering, science and technology related subjects. This low concentration technical and scientific education is a weakness of the higher education system and tends to reduce the relevance of the higher education to market demand.

3.3.5 Services Exports Challenge

The strong performance of international remittances is indicative of the success achieved by Bangladesh in creating impressive number of overseas jobs through expanding destination countries, improving skills of migrant workers and enhancing negotiating capacities. This is a welcome development and benefitted from a range of government support services including remittance facilitation, government level dialogue with host countries to protect the interests of the migrant workers, tax exemption, and information sharing. There is a dedicated Ministry, the Ministry of Expatriates' Welfare and Overseas Employment, that promotes the interest of the migrant workers. Further efforts are underway to improve these services. In this context, more initiatives including strengthening the Ministry of Expatriates' Welfare and Overseas Employment will be needed during 7th FYP period.

The breakdown of services export income is shown in Table 3.4. The largest source of service export income is government services (47 percent). In the private sector, the four largest service exports are transport (15 percent), Telecoms and ICT (14 percent), business services (13%) and tourism (5%). The remaining 6% is comprised of a range of services including financial services.

While the composition of private export earnings from services looks promising, the yields from three high-potential activities: international transport, tourism and ICT are very low.

International Transport Services: In transport, the opportunity cost of weak earnings is reflected in service payments. As compared with export earnings of merely \$461 million from transport services in FY2014, Bangladesh paid a huge service charge on transport from international providers to the tune of \$5303 million. This yawning deficit on the transport front is a reflection of the strong dependence on foreign shipping and airlines for international passengers and freight services owing to the weak capacities and poor service quality of Bangladesh air and shipping services. The huge demand for these services from trading and passenger traffic presents a substantially investment opportunity for local investors that needs to be cashed in through proper public investments in related infrastructure (sea ports and airports, and container terminals) and facilitating regulatory policies. Strong efforts are needed during the Seventh Plan to reduce this deficit by raising the capacities and performance standards of the shipping and air industry. This will also help diversify the sources of export earnings.

Table 3.4: Other Services Exports Income (million USD)

Type of Services	2009- 10	2010- 11	2011- 12	2012- 13	2013- 14
Total other services income	2233.6	2570.2	2491.4	2827.6	3115.3
1. Manufacturing services on physical inputs owned by others	0.0	0.0	42.5	47.9	62.1
2. Maintenance and repair service	0.0	0.0	0.0	3.0	5.2
3. Transportation	150.6	191	336.1	458.7	460.9
3.1 Passengers	17.7	30.6	2.9	2.3	1.7
3.2 Freight	22.6	35.2	30.6	44.4	36.0
3.3 Others	110.3	142.0	302.6	411.9	423.2
4. Travel	79.1	85.6	97.0	107.3	142.4
4.1 Business	1.1	0.9	1.7	2.5	1.2
4.2 Personal	78.0	84.7	95.4	104.8	141.2
5. Construction services	5.6	11.3	28.9	40.3	45.7
6. Insurance services	6.7	7.8	11.6	11.8	2.5
7. Financial services (Other than insurance)	45.0	59/6	49.1	61.8	59.2
8. Charges for the use of intellectual property	0.3	0.7	0.8	0.5	0.3
9. Telecommunications, computer and information services	246.5	349.6	520.7	349.5	444.8
10. Other business services	495.1	670	313.1	316.4	403.3
11. Personal, cultural, & recreational	1.5	1.9	2.1	4.7	20.5
12. Government goods and services, n.i.e.	1203.2	1192.7	1089.5	1425.6	1468.3

Source: Bangladesh Bank

Tourism: Like the inflow of remittances, receipts from tourism can be a major source of export earnings. Importantly, it creates demand effects for a range of domestic goods and services and thereby contributes to the total employment and the GDP of the economy. Thus, while the direct measure of tourism is captured through the travel receipts in the service account of the balance of

payments, the employment and GDP effects based on tourist spending on travel, hotels, food and purchases of other local goods and services are picked up in the growth of value-added and employment in transport, hotels, restaurants and trade activities. While all activities have forward and backward linkages, tourism is particularly potent source of forward and backward linkages unleashing a lot of derived demand activities. Consequently, tourism can be a major source of growth and employment in a developing economy.

Bangladesh is blessed with natural beauty, ranging from mountains to rivers to beaches to bio-diversity and from ancient archaeological sites to medieval monasteries, temples, pagodas, mosques and churches. It boasts the longest natural beach in the world in Cox’s Bazar as well as the largest mangrove forest in the world at the Sundarbans. Despite this, the tourism industry is far from thriving. In fiscal year 2013, tourism accounted for an estimated 2.2 percent of GDP. Total contribution of tourism to GDP in FY13 was around US\$ 5 billion for Bangladesh, which is only 10 percent of the global average of US\$ 55 billion. This suggests that the scope for expanding the economic contribution of tourism services is enormous.

The number of tourists has grown from 113.2 thousands in 1995 to 303.4 thousands in 2010; most recently it is estimated at about 500 thousands. However, the pattern of tourism inflows has been erratic with wild swings between years reflecting haphazard growth. Although recorded foreign earnings reported in the balance of payments were a mere 142 million in 2014, this understates the true contribution of tourism to the economy. Estimates show that tourism contributes to about 2.1% of GDP and supports some 1.3 million jobs. Viewed from this angle, the potential for exploiting the tourist instrument for augmenting the role of the services sector is tremendous. From an international perspective, tourism in Bangladesh is at a nascent stage (Table 3.5).

Table 3.5: Cross Country Comparison of Tourism Performance

Indicators		World	Asia-Pacific	Bangladesh	Malaysia	Thailand	India	China
Direct Contribution to GDP	% of 2013	2.9	2.9	2.1	7.2	9	2.0	2.6
	Rank			143	32	25	149	116
Total Contribution to GDP	% of 2013	9.5	8.9	4.4	16.1	20.2	6.2	9.2
	Rank			165	41	35	135	92
Direct Contribution to Employment	% of 2013	3.4	3.5	1.8	6.7	6.6	4.9	3.0
	Rank			155	35	38	56	106
Total Contribution to Employment	% of 2013	8.9	8.2	3.8	14.1	15.4	7.7	8.4
	Rank			166	50	46	111	95
Capital Investment	% of 2013	4.4	3.8	1.5	7.7	7	5.3	2.8
	Rank			178	62	71	78	148
Contribution to Total Exports	% of 2013	5.4	4.9	0.5	8.5	16	4.1	2.1
	Rank			177	85	62	132	162

Source: Based on Travel and Tourism Economic Impact 2014, Bangladesh, WTTC

Based on 6 indicators, Bangladesh ranks between 143 and 178 globally. For instance, according to total contribution to GDP (both direct and indirect), Bangladesh’s position is at 165 while Thailand and Malaysia rank at 35 and 41 respectively. Bangladesh’s position is worse in terms of capital investment. Bangladesh’s position is at 178 while the positions of Thailand and Malaysia

are respectively at 71 and 62. Disappointing position in capital investment is the result of poor performance in other indicators. Presently, the inadequacy of investment in tourism infrastructure is the most fundamental challenge facing the tourism sector. Both public investment and private investment will be necessary. A particular challenge will be to spur the growth of the domestic airline industry and develop international standard hotels and tourist resorts.

The Government has pursued several policies and legislations for the tourism sector including the Bangladesh Tourism Board Act and the Tourism Policy 2010. The aim of these policies is to create a tourism friendly environment in Bangladesh, ensure quality service, and ensure comfort and safety of the visiting tourists. The Ministry of Civil Aviation and Tourism is vested with the overall coordinating responsibilities for policy formulation while implementation is the responsibility of the Bangladesh Parjatan Corporation. Several initiatives are underway to boost tourism services over the medium term. These are summarized in Table 3.6. The successful implementation of these initiatives during the Seventh Plan will have a significant positive impact on tourism.

Table 3.6: Ongoing Tourism Expansion Initiatives

Medium-Term Strategic Objectives	Activities	Implementing Departments/Agencies
Safety and security of tourists	Upgrading security forces through new intakes and training.	Ministry of Home Affairs
Safe and secure aviation system	Upgrading Hazrat Shahjalal International Airport	Civil Aviation Authority
	Construction of Civil Aviation Authority's Head Office	
	Development of Cox's Bazar Airport	
	Infrastructural development of the existing airports and construction of a new international airport.	
Expansion of tourism	Identifying potential tourist spots scattered over different places of the country and modernizing and expanding existing ones	Bangladesh Parjatan Corporation
	Involving local government institutions in tourism activities	
	Creating infrastructure and improving management of the tourism industry through Public Private Partnership (PPP) arrangements	
	Producing documentary films on Bangladesh Tourism & publicising tourism events	
	Procurement of Water Vessels and Tourist Coach for Package Tour.	
	Maintaining tourism related training courses and establishing 4 more tourist training centres	

Medium-Term Strategic Objectives	Activities	Implementing Departments/Agencies
	Participating in tourism fairs organized home and abroad and arranged related programmes	Bangladesh Tourism Board
	Preparation of short Term, Mid-Term and Long-Term Tourism Master Plan for the country for guiding development activities for tourism	
	Visit Bangladesh Campaign. for Development and Promotion of Tourism	
	Capacity building in tourism sector	

Export of ICT services: Bangladesh is a relative new comer to the ICT sector. The emphasis gained momentum in the wake of the leadership role provided by Prime Minister through the Digital Bangladesh initiative developed in the context of Vision 2021. The Sixth Plan put considerable emphasis to the implementation of the Digital Bangladesh initiative. Considerable progress has been achieved. The ICT progress, development impact and challenges are discussed fully in Part 2, Chapter 12 dealing with Knowledge Economy and ICT.

However, much of the ICT focus has been in improving the connectivity and service delivery inland within the country. The impact on export of ICT services has been relatively modest when compared with the global market prospect. As shown in Table 3.4, earnings from ICT exports have grown from \$247 million in FY 2010 to \$445 million in FY2014. This is a welcome increase but pales into insignificance when compared with ICT earnings of \$ 72 billion in India in FY2014. Even after allowing for size effects, India’s exports of ICT services amounts to 4.3 percent of GDP whereas it is less than 0.3 percent of GDP in Bangladesh. The global market for ICT services is huge and India has successfully tapped this market even while expanding ICT services domestically. An important target for the services exports for the Seventh Plan will be to boost the penetration of Bangladesh into the global ICT market through a well thought out ICT strategy that looks at both domestic market and also the global market. The ICT Strategy for the Seventh Plan is developed in Chapter 12 of this Second Part of the Plan document.

The past experience suggests a number of factors that constrain the growth of ICT exports. First, although a significant number of educated and qualified entrepreneurs have started ICT ventures during the last couple of decades, most are trapped in the ‘small size-low growth’ situation because of fund constraints. Besides, there is severe gap in both quantity and quality as far as the human resource for software industry is concerned. This is due to institutional deficiency of the tertiary ICT-related educational institutions (lack of industry orientation of teaching resources, slowness of curriculum modernization etc.) as well as inadequate quality input from the higher secondary education system to the tertiary level. Hence, the IT companies’ cash flow is often erratic and cyclical, not favouring long term strategic planning.

High cost of bandwidth deters growth of domestic market for ICT and absence of IT park/software Technology Park, high internet cost, and power outage are some of the common infrastructural problems for most of the IT enterprises. Growth of export of ICT industry is below the expected level due to inadequacy in entrepreneurial dynamism, limited overseas marketing budget and absence of government level initiatives in promoting country brand. Policies and facilities are not friendly for value added service providers in the mobile phone industry.

3.3.6 Regulatory Policies and Support Institutions

The services sector is dominated by private business and individuals. Public ownership of services is limited primarily to public administration, public schooling, public health facilities and a limited number of public financial enterprises. So, the main driver of service output, export and employment is private enterprise and private investment. Yet, the government's role is very important in providing the infrastructure support services, in providing the regulatory regime and in providing proper institutional support. But this was not the situation in the early years after independence when public provision of services was dominant. Through a series of deregulation drives and associated policies, the service sector was progressively deregulated and private provision encouraged. This deregulation policy has continued with recent efforts focused on encouraging private provision even in areas that are traditionally considered the domain of the public sector: education, ICT services, aviation and electricity. The response to this deregulation drive has been highly positive. The Government will continue this policy during the Seventh Plan.

Despite good progress, there are several areas of concern that will need to be addressed in the Seventh Plan. The price of bandwidth needs to be reduced to facilitate increasing number of net users, enhancing demand for local content and applications and developing a connected Bangladesh. Whilst the lowest recorded price of fixed-broadband (as a percent of GNI per capita) is 0.7 per cent in case of China, it is 7.3 per cent in Bangladesh. The Rural Telecommunications Network Development and Utilization Guideline 2010 will need to be implemented to make sure that the existing network infrastructures have been optimally utilized for commercial communication and key social services (e.g. education, health care, e-governance, etc.). Another important issue is the taxation policy. The tax rates on ICT services and banking services are very high and may need to be revisited, especially to spur the expansion of ICT.

A second regulatory issue that needs attention concerns the need for quality assurance and accountability. Both these matters relate specifically to education, health and food services. A huge number of education, health and food enterprises have mushroomed throughout the country but quality of service provided, safety standards of food catered to customers and accountability of medical profession for improper diagnosis and medications have not received adequate attention.

A third regulatory issue concerns transport safety standards in both land and river transport. The frequency of fatal accidents for both modes of transport is far too many and cannot be considered as acceptable. As noted earlier, in addition to the issue of navigability of many river routes owing

to heavy siltation, the inadequacy of safety standards of river transport has lowered the demand for this important mode of transport.

A fourth regulatory issue concerns compliance with zoning laws. In the absence of proper implementation of zoning laws, the location of service enterprises have complicated urban traffic management and reduced the quality of life and safety standards of residential neighbourhoods. This matter needs urgent attention and resolution through a time-bound implementation.

Regulations are helpful only to the extent that these are properly monitored and implemented. The accountability for regulations and implementations are usually assigned to concerned line Ministries overseeing the service along with a number of specialized institutions. The rapid growth in private services has not been matched by an expansion in the capacities of these ministries and agencies. Moreover, there are substantive challenges regarding training and incentive policies for public agency staff that are linked more broadly to overall public administration capacity and good governance. This is a long-term challenge that will need to be addressed holistically over a long period of time.

3.4 THE SEVENTH PLAN STRATEGY FOR ENHANCING THE ROLE OF THE SERVICES SECTOR

The services sector plays a solid role in the development of Bangladesh and over the years, and specifically during the Sixth Plan, impressive progress has been made to improve the performance of this sector. Nevertheless, as noted, there is tremendous scope for further improvement, especially in the area of export of non-labour services.

3.4.1 Objectives and Targets

The main objectives of the service sector are:

- Increase the average labour productivity of services
- Increase the share of modern services in total services GDP
- Increase the growth of non-labour export services focused specifically on ICT, international transport and tourism
- Harness the catalytic role of tourism as a growth driver
- Maintain the growth of overseas employment
- Improve quality and safety of services.

Related to these core objectives, the key outputs and targets are defined in Table 3.7. These are achievable targets and their implementation will further strengthen the role of the services sector in the development of Bangladesh.

Table 3.7: Seventh Plan Service Sector Targets (FY2016-FY2020)

Targets	Base Year Values (FY2015)	End Year Values (FY2020)
Service sector growth (% per year)	6 % (FY2010-FY-2015)	7% (FY2016-FY2020)
Increase in average labour productivity	4% (FY2000-FY2010)	5% (FY2016-FY2020))
Share of modern services (%)	13%	17%
Earnings from ICT, travel and tourism (\$ billions)	1.5	6.0
Raise overall annual GDP contribution of tourism	2.2 %	4.0%

3.4.2 Services Sector Strategy

The sector strategy consists of five main elements:

- Improve the incentive policies for boosting private investment in services.
- Increase public investment in key service sector infrastructure.
- Strengthen the skills base for the service industry
- Strengthen implementation of prudential regulations to boost service quality, increase public safety, improve compliance and ensure accountability of service providers.
- Strengthen public institutions to support the growth of services sector and improve service quality, safety and accountability.

3.4.3 Incentive Policies

Learning from the positive results of the past experience in Bangladesh, the deregulation drive to motivate greater private provision of services sector activities will continue. Experience with deregulation of the service industry in other emerging economies, especially India, is similarly positive. Each line Ministry concerned with regulating a particular service will undertake dialogue with concerned service providers through public meetings with business chambers and conduct special purpose surveys as necessary to obtain specific feedback on regulatory burden or other constraints. The findings of these consultations and surveys will be used to reform policies and institutions as relevant. Foreign investment in export oriented services will be promoted, especially with a view to importing technology and thereby increasing service quality and export competitiveness. Import of technical skills in the area of aviation, international shipping, ICT and tourism will be facilitated. Wherever possible, joint venture with foreign partners will be encouraged. To encourage greater tourism, the visa requirements for visitors will be further simplified through visa on arrival facilities. Steps will also be taken to ensure the full safety and hospitality of all visitors.

The Government recognizes that the ICT is a high potential sector. The Digital Bangladesh initiative reflects this priority. While considerable progress has been made under the Sixth Plan, the ICT industry is still at an early formative stage and there is tremendous scope for service expansion and industry growth. In that regard the Government will review all ICT policies to ensure their consistency with private incentives for additional investment. Specifically, the

Government will invite private sector and not-for-profit sector for rolling out broadband connectivity in rural area. Basically it might be government-private-NGO partnership for reaching the very last mile, where there is already vibrant NGO presence. Here, local entrepreneurs will be encouraged to launch last mile internet service to local community. The Government is aware that the tax policy for ICT has been raised as an issue by the service providers. The tax policy for ICT will be re-examined to check for its consistency with the development objective of faster growth of this high return enterprise. The relevant international experience will be reviewed to determine proper response to this incentive issue. The competitiveness of the ICT industry is necessary to attract additional foreign investment and expand exports and the Government intends to make Bangladesh an attractive ICT export Centre.

In the area of aviation, the Government will explore the option of twinning arrangement between Bangladesh Biman and a reputed international airline. This will provide Biman management essential on-the-job training with how to run and manage a profitable airline industry in this globalized and highly competitive aviation world. The demand for Biman air services, especially to London and the Middle East market is huge and upgrading of Biman skills and service performance will allow the capture of a larger share of this market. With good and reliable services, Biman can also attract cost conscious international travellers coming to Bangladesh and back. Biman will be run as a commercial enterprise with full management flexibility. Management and staff remuneration will be market based and management will be held accountable for financial performance.

Regarding domestic aviation, the possibility of joint ventures with international partners will be encouraged. The shortage of domestic private investment is a major constraint to the expansion of domestic air services, which in turn hurts tourism prospects. Joint ventures might help relieve this constraint. The possibility of joint ventures in international shipping will also be explored. For both areas, a special study will be commissioned to highlight the constraints and identify specific reforms. The study will be conducted in the next two years and its recommendations will be implemented following cabinet approval.

In tourism, the Seventh Plan strategy consists of two broad elements: Expansion of fixed infrastructure to facilitate an expanded and safe aviation system in Bangladesh and second to expand and upgrade the tourist industry facilities comprising of visa and currency exchange facilities, hotels, restaurants, tourist resorts and inland transportation.

Safe and secure aviation system: The performance, issues and challenges of the civil aviation system, will be discussed in detail in Part 2, Chapter 6 in the context of transport sector development. As noted and summarized in Table 3.6 above, the Seventh Plan has adopted a significant plan to upgrade both the international and domestic aviation capacities. Timely implementation of this programme will be very helpful to facilitate the proposed expansion of the tourism sector in Bangladesh.

Tourism facilities and support services: Based on the lessons of good practice international experience from countries that have done well in tourism including Malaysia and India, the Seventh Plan will focus on 5 entry points: (1) establishing 3 premium shopping outlets that meets international standards in the cities of Dhaka, Chittagong and Sylhet; (2) developing an eco-nature integrated resorts near Sundarbans; (3) development of a strait Riviera linking Teknaf to Sundarbans; (4) promoting the archaeological sites; and (5) establishing eco parks in Chittagong and Sylhet; and (6) development of professional tourist agencies and guides. Additionally, there are several common enablers that will be put in place to ensure successful implementation of the above. These are:

- *Increase and focus marketing:* Devise and ensure the right level of marketing support in the priority markets;
- *Ensure an adequate supply of qualified human capital:* Introduce measures to address issues pertaining to the supply and quality of workforce in the tourism industry;
- *Improve the tourism environment:* Improve offerings and accessibility for key tourism enablers (such as taxi services), access to funding, security and regulations as well as improving the service quality of front-line staff;
- *Rollout of visa facilitation services:* Ensure that tourists from our target markets are not subject to overly strict visa procedures.

Successful implementation of the tourism strategy will require a strong public-private partnership. The Government's role is to provide investments in fixed infrastructure (aviation), provide right incentives and enabling environment including ease of entry and exit, and ensure the safety of the tourists. Much of the investment in tourism facilities and services will have to come from the private sector. The Parjatan Corporation will work closely with Chambers of Commerce to determine how this investment promotional activity can be facilitated. Depending upon need, other incentives including credit facilities and tax incentives may be considered as relevant. Partnership with foreign investors will be encouraged.

3.4.5 Strengthen the Skill Base of the Service Sector

The policies and investments to upgrade education and training quality, including the emphasis on expanding tertiary education reviewed in Part 2, Chapter 11 will also benefit the service sector. However, there are some additional and more focused initiatives that will be needed to upgrade the capabilities in export-oriented services like aviation, international shipping, tourism and ICT.

Much of the specialized skills in aviation, international shipping and tourism are best acquired through on-the-job training. Hence twining arrangements and joint ventures with international partners are the best ways to impart these skills. The success of the RMG industry, for example, owes a lot to these types of international partnership arrangements. The hotel industry that caters to international tourists is also benefitting from similar arrangements, but the scope for doing more is substantial. To facilitate on-the-job training, apprenticeship program will be strengthened. In this context, apprenticeship at overseas need to be pursued. Specialized non-traditional skill base

training centres (e.g. catering, hospitality) will be established. The Government will review regulatory policies to promote these partnership arrangements including further simplifying work permits, visa requirements, security clearances etc. of international technical experts.

Regarding the ICT, special efforts are needed on a number of fronts. First is the need for expanding the breadth and depth of science and technology education in Bangladesh. The tertiary education system is still unduly biased in favour of general education. The Government will support the growth of centres of excellence in science and technology through grants and PPP initiative. The Government will also expand the spending on R&D for the economy that will support the growth of scientific education and research. Public spending on R&D is the most important driver of the growth of science and technology education and research in advanced economies. Additionally, a long term plan will be undertaken so that current supply of 5,000 yearly IT graduates can be doubled in next 2-3 years. Students from non-metropolitan cities with relatively low overseas migration trends will be encouraged to enrol. To facilitate this, colleges under national universities will be required to start IT education. Also, special education loan policy and scholarship programmes will be designed to encourage students for IT education enrolment. More industry involvement will be ensured during academic programmes.

3.4.6 Strengthen Prudential Regulations

Prudential regulations are needed to protect consumer interest (all services), to protect depositor interests (in banking), to protect state security (internet security) and to protect citizen safety (transport, food industry, health care). In many areas prudential regulations are in place. Nevertheless, in view of the observed gaps in regulatory framework for many services, the Seventh Plan will seek to strengthen the regulatory framework for services sector

Accordingly, all regulatory authorities dealing with transport, trade, education, health, tourism and ICT will be asked to look at the adequacy and relevance of all concerned regulatory issues, both prudential and enabling, with a view to upgrading and modernizing the regulatory framework for services sector. The objective of this review will be to facilitate private investment while protecting genuine consumer and state interests. Proper consultation with stakeholders will be done to ensure correct diagnostics for reform. Lessons of international experience will also be reviewed as necessary

In the area of prudential regulations, the emphasis will be on the following core aspects:

- Accreditation policies to ensure minimum quality standards in education.
- Licensing of health practitioners and private hospitals/clinics/labs to ensure health safety and acceptable standards.
- Licensing of food vendors in hotels, restaurants and other commercial food vendors to ensure sanitation and health safety standards.
- Strict monitoring of licensing and driving records of truck and bus drivers.
- Monitoring of road damage based on vehicle weight and loading norms.

- Strict implementation of safety features of commercial vehicles
- Strict inspection of all river vessels and monitoring of vessel loads.
- Require purchase of accident insurance for all enterprises engaged in the transport industry.
- Enforcement of proper zoning laws for all commercial enterprises and strict implementation of parking regulations for all vehicles.
- Strict monitoring and enforcement of the recruitment process of overseas employment.
- Enforcement of laws and regulations related to overseas employment.

The implementation of these regulations will require proper education through mass media as well as cooperation with the private enterprises. To minimize the administrative burden on public institutions, a system of financial penalty will be instituted to provide an incentive for self-regulation. Implementation will be done through spot check. To ensure that the regulations are not used by public agency staff to harass the enterprise or increase the cost of doing business, all licensing requirements will be administered online with established timelines for responses. An online complaint registry will be established to redress enterprise grievances. Staff of public regulatory agencies will be enhanced as necessary and will be given necessary training. Strict disciplinary actions will be enforced for public service agents that are found in violation of ethical and service standards.

3.4.7 Strengthen Public Institutions

The challenge of strengthening public institutions is pervasive in Bangladesh. This was discussed at length in Part 2, Chapter 1. The regulatory institutions for services are no exceptions. However, there are some strong institutions that implement regulations well. A prime example is the Bangladesh Bank that regulates the banking sector quite effectively. Nevertheless, the regulatory capacity is uneven. The Seventh Plan will place particular emphasis on this constraint.

The strategy for reforming public institutions for the economy as a whole was discussed in Part 2, Chapter 1. The strategy is also broadly relevant for service regulatory agencies. However, the regulatory agencies dealing with services that are subject to global competition require special skills and capacities. These include: the Civil Aviation Authority; the Ministry of Shipping; the BTRC; and the Parjatan Corporation. The capacity and effectiveness of each of these regulatory agencies is critical to increase the international competitiveness of related services. The Seventh Plan will commission specialized task forces to review the capacity of each of these agencies with a view to determining specific ways these agencies can be strengthened to improve export competitiveness of aviation, shipping services, tourism and ICT.

3.5 MIGRATION FOR DEVELOPMENT

Migration is an integral component of the development process in contemporary Bangladesh. Migration is recognised as a driver of development, among others, by creating employment for a large number of workers and bringing in remittances for millions of individuals from low or marginal economic backgrounds.

In line with the recommendations of major international processes e.g. United Nations High-Level Dialogue on International Migration and Development (2013), the Eight Point Agenda for Action and the development of the Post-2015 Development Agenda and the Sustainable Development Goals (2016-30), Bangladesh is moving to integrate migration across the national development planning process. In particular, Bangladesh has been making pronounced efforts to enhance dialogue and cooperation in migration and development by hosting several high-level events¹⁵, and assuming the Chairmanship of the Global Forum on Migration and Development (GFMD) in 2016. The adoption of the Overseas Employment and Migrants Act (2013) further reflect the political will to address migration and development inter-linkages in a comprehensive manner.

While migration and mobility (*both internal and international*) are often recognized as drivers of national economic expansion, they are also associated with urbanization, environmental and overall developmental challenges. Often, high costs are borne by migrants both at origin and destination, and their families, which are not compensated by financial gains. Migration also impacts gender dynamics, the composition of families, and societal structures at large. Finally, irregular migration and displacement, high recruitment costs, violations to migrants' human and labour rights, restricted access to information and services, limited socioeconomic participation in destination areas, and the re-integration challenges of returnee migrants, all negatively impact the migration-development nexus.

Some linkages between migration and the medium term development priorities are analysed, and entry points are identified for migration considerations to be mainstreamed into five year planning process and relevant sectoral policies below:

3.5.1. A robust evidence base of migration and development mutual effects in Bangladesh

Besides the maintenance and strengthening of the relevant structures e.g. the National Skill Database and the Migration Information System, there is an urgent need for building a comprehensive evidence base on the different kinds of migration and mobility to, from and within Bangladesh; and the mutual effects of migration on Bangladesh's development and of development or sectoral policies on migration decisions, conditions and outcomes. A full-fledged situation analysis could be a starting point for such a comprehensive examination and data collection endeavour.

3.5.2. Economic growth and equity

Remittances and financial inclusion

It is well-known that officially recorded remittances to Bangladesh make up a large part of the GDP, with direct macroeconomic benefits. Remittance inflows is estimated to be more than US\$

¹⁵the Global Leadership Meeting on Population Dynamics in the Context of the Post-2015 Development Agenda (Dhaka, March 2013), the Global Expert Meeting on Migration in the Post-2015 Development Agenda (Dhaka, April 2014), organized by the Government of Bangladesh jointly with the Government of Switzerland.

15 billion in 2015. Remittances continue to contribute to macroeconomic stability and, at the micro-level, improve the beneficiaries' standards of living contributing to poverty reduction and to making vulnerable communities resilient to economic, political or environmental shocks. However, remittances may contribute to deepening regional inequalities, as they privilege specific groups or areas, which are not always the most disadvantaged, potentially furthering rural-urban and international migration. Moreover, remittances are 'private resources' and the decision on their utilization lies on the senders and recipients alone.

Governments ought to and can play a key role to help reducing remittance costs which is also a key target of the global Post-2015 Development Agenda (and the SDGs). A key challenge is to improve the regulatory frameworks governing remittances to ensure that: (i) remittance senders and beneficiaries receive accurate and transparent information on remittance prices, (ii) financial and non-financial institutions in the remittance market provide inclusive services and are publicly accountable; (iii) that South-South cooperation, especially with countries of destination, lays the ground for agreements between central banks to facilitate remittances including through the management of exchange rates; and that (iv) regulatory frameworks allow for the development of partnerships between financial and non-financial institutions to expand service provision, including by diversifying the offer of transfer options.

Fostering Diaspora Investments

The Bangladeshi diaspora possess a wealth of resources and knowledge, and cross-border networks that could contribute to trade, investment and skills development Policies to attract direct foreign investment will also encourage investment resources from the diaspora. These policies relate to the reform of investment codes to ease the process of setting up businesses, the provision of tax incentives, the establishment of 'one-stop-shops' that expedite in one single place the different administrative procedures, or that provide referral services relating to business creation.

In addition, micro-, small- and medium-scale entrepreneurship is perhaps the most accessible type of entrepreneurial activity for migrants and the members of their families, often backed by remittances, cross-border social networks and private savings. More targeted financial, training and social protection policies and measures could support migrant-led SMEs development. Entrepreneurs should also be offered information and opportunities for training and protection against risks e.g. insurance, to prevent them from failing or falling into unsustainable debt.

3.5.3. Skills and overseas labour market development & protection

The Seventh FYP is concerned with promoting labour migration, including from lagging districts, and improving the skills base for the development of new overseas labour market opportunities for Bangladeshi nationals, ensuring the protection of migrant workers' human and labour rights. Regarding migration from lagging regions, the share of international migration from Rangpur, Khulna, Barishal and Rajshahi Divisions to total labour migration has increased from 13.43% (2010) to 20.53% (2014). Female migration has also increased from 7.09% (2010) to 17.86% (2014).

The objective of promoting labour migration is in line with the Overseas Employment and Migrants' Act, 2013. The goal is to raise the share of overseas employment of skilled labour from 35% to 50% by 2030. This reflects the need for robust market analyses and consistent skills development strategies. A key step in this regard is the consolidation of the National Skill Database, including data on migrant workers, and of labour market information systems to assess the demand for different categories of workers in overseas markets. Even though BMET has already well-operating statistical procedures in place, the concrete steps and innovations to achieve connectivity with the overall NSDC database are yet to be undertaken. In line with the recommendations of the Colombo Process, another priority should be the enhancement of the National Technical and Vocational Qualifications Framework (NTVQF), matched with the strengthening of technical and vocational education institutions. Such a framework would facilitate the development and certification of competencies and skills to enhance domestic or overseas employability, potentially reducing the vulnerability of overseas workers by opening up opportunities for safe and decent employment.

Interventions to ensure the protection of migrant workers' human and labour rights should target not only potential and actual migrant workers and recruitment agencies, but also employers and relevant public institutions. Besides continued support to potential and actual migrants through the dissemination of information and post-arrival assistance, the capacities of consular networks could be strengthened so to enable them to provide effective referral services. In addition, the ability of the Wage Earners Welfare Fund Board to support the needs of migrant workers and its transparency need to be enhanced through multi-stakeholder participation within the Board. In order to support the reintegration of returning migrants, an endowment fund could be established. Better identification of victims of human trafficking through fraudulent recruitment is necessary to provide adequate assistance and prevent other workers from falling into similar exploitative conditions. This is linked to strict regulation of private recruitment agencies in addition to continued efforts to provide potential and actual overseas workers with information, building the capacity of border officials and sensitizing and building the capacity of employers to identify formal intermediaries committed to ethical recruitment. The Government's Vigilance Task Force can be further strengthened to combat irregular migration, in accordance with the Overseas Employment and Migrants Act, 2013. Finally, joining the existing relevant international instruments relating to the protection of migrants' human and labour rights, smuggling and trafficking in persons should be pursued and followed by the harmonization of national policies and laws with those standards.

3.5.4. Human development and migration

It is increasingly recognized that migrant's contributions to development of countries of origin and destination depend on their well-being. Along these lines, the challenge is to move from 'tapping on diaspora' to ensuring that diaspora members and migrants are not only agents but also beneficiaries of development, by improving their civic and socioeconomic participation at home and abroad. Education, healthcare and gender equity are aspects of human development that affect

and are affected by migration decisions, conditions and outcomes. Hence, migration considerations should be integrated in these sectoral policies.

Education and migration

Despite Bangladesh's laudable efforts to diversify the skills composition of labour migration flows (i.e. the MoEWOE Skills Development Fund), as recognized by the National Skills Development Policy, labour migration from Bangladesh is largely lower skilled. This put millions of Bangladeshi workers, especially the female workers, at considerable disadvantage compared to workers from other Asian countries. The Skills Development Policy has identified the need to conduct needs assessments to ensure that technical and vocational training courses correspond better to the skills demand in the national and international labour markets. Such assessments should also consider the national population dynamics. Training should also be accredited at national and international level. In addition, a comprehensive skills development policy should also consider the TVET needs of internal and returning migrants.

The lack of quality education opportunities may lead some to pursue education abroad, especially at tertiary level. Provisions for safe international student mobility that facilitate access to high quality education abroad should also be considered in the educational and migration policies and in bilateral and regional agreements. Education and migration policies should further consider the potential contributions of Bangladeshi international students and professionals to raise the skills base of the country. Attracting qualified workers to Bangladesh requires not only flexible admission policies but also provisions to facilitate the socioeconomic participation and the integration of professionals, including Bangladeshi professionals abroad, and the members of their families in the receiving society.

Health and migration

Health is closely interlinked with sustainable development as health is a result of as well as a contributor to people-centred development. Despite the contribution made by migrants to development, generally migrants underutilize health care services and their right to access to basic health services is overlooked. Considering its indivisibility and inter-dependency, social inequality in health could be addressed in the improvement of social protection mechanisms. Based on the World Health Assembly's Resolution on Migrant Health and its principles, Bangladesh would take steps to: (i) review existing policies to promote migrant-sensitive health policies and public health strategies; (ii) consider migrants' health in the national health information system; (iii) collect, standardize and analyse qualitative and quantitative information in relation to migrants' health for policymaking; (iv) gather, document and share information and best practices for meeting migrants' health needs in countries of origin or return, transit and destination; (v) ensure equitable access to health, disease prevention and care for migrants and their families without discrimination; (vi) build capacity, guidance and set standards for service providers and professionals promoting cultural and gender sensitivity to deal with migrants' health issues; and (vii) promote bilateral and multilateral cooperation on migrants' health among countries involved in the whole process of migration.

Gender equity and migration

Male and female workers who are less-skilled and incorporated in low-wage occupation are both exposed to different forms of abuse. However female migrants, unlike men, tend to have limited access to education and training and limited decision-making power concerning their mobility. The former is compounded by limited access to information, poor bargaining power over working conditions, and exposure to gender-based discrimination and in some cases to gender-based violence. Most Bangladeshi female migrants are employed in low-wage and low-status occupations where they are subject to violations of their labour and human rights. Measures to ensure international and internal migrants' access to legal and social protection; strict contract monitoring; and adequate outreach, follow-up and support (shelter, legal and psychosocial support) need to be put in place. The needs of internal female migrants in terms of skills development, access to decent work and justice should also be taken into account in relevant sectoral policies.

3.5.5. Enabling frameworks for migration and development: governance and South-South cooperation

The Government of Bangladesh has ratified the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (1990) and enacted the Overseas Employment and Migrants Act, 2013 to regulate labour migration. In line with the Palermo Convention, it has also enacted the Human Trafficking Deterrence and Suppression Act, 2012 and taken up a rolling three-yearly National Plan of Action to implement the new law aiming at curbing all forms of trafficking in persons, inclusive of trafficking in labour migrants.

There is an urgent need to sensitize the population and build the capacity of government, civil society and private sector actors to implement the existing legal provisions. The Programme on Mainstreaming Migration seeks not only to support the establishment and consolidation of intra-governmental mechanisms for coordination on migration and development but also to continue assisting governments in building capacities to design, implement and monitor the national migration and development policies and strategies. With regard to South-South Cooperation, Bangladesh participates actively in the Colombo Process for Asian labour-sending countries, and contributes to the process through both sharing its best practices and reviewing and implementing its recommendations.

3.6 INVESTMENT REQUIREMENTS FOR THE SERVICES SECTOR

Much of the investment in services sector will come from private sector. The improvements in regulatory and incentive policies will spur the expansion of private domestic and foreign investment. Yet, complementary public investments in fixed infrastructure will be a critical determinant for expansion of private investment in services.

To secure the modernization of the services sector both public and private investment will need to go up as a share of GDP. In the indicative projections, total investment requirements in services will go up from 8.9 percent of GDP in the base year (FY2015) to 12.1 percent of GDP in FY2020.

Public investment increases from 2.3 percent of GDP in FY2015 to 3.4 percent in FY2020, whereas private investment moves up from 6.6 percent of GDP in FY2015 to 8.7 percent of GDP in FY2020. Most of the public investment will be in physical infrastructure and facilities related to transport, ICT, education and health facilities. Along with reforms of regulations and incentives for private investments, these complimentary public investments will be necessary to spur the expansion of private investment.

Table 3.8: Investment Requirements of the Service Sector

(Taka billion FY2015 prices)

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Public	350	403	464	533	612	743
Private	1018	1089	1280	1446	1713	1885
Total	1368	1492	1744	1979	2325	2628
Public (% of GDP)	2.3	2.5	2.7	2.9	3.0	3.4
Private (% of GDP)	6.6	6.7	7.3	7.7	8.5	8.7
Total (% of GDP)	8.9	9.1	10.0	10.6	11.6	12.1

Source: Seventh Plan Projections

SECTOR 4: AGRICULTURE

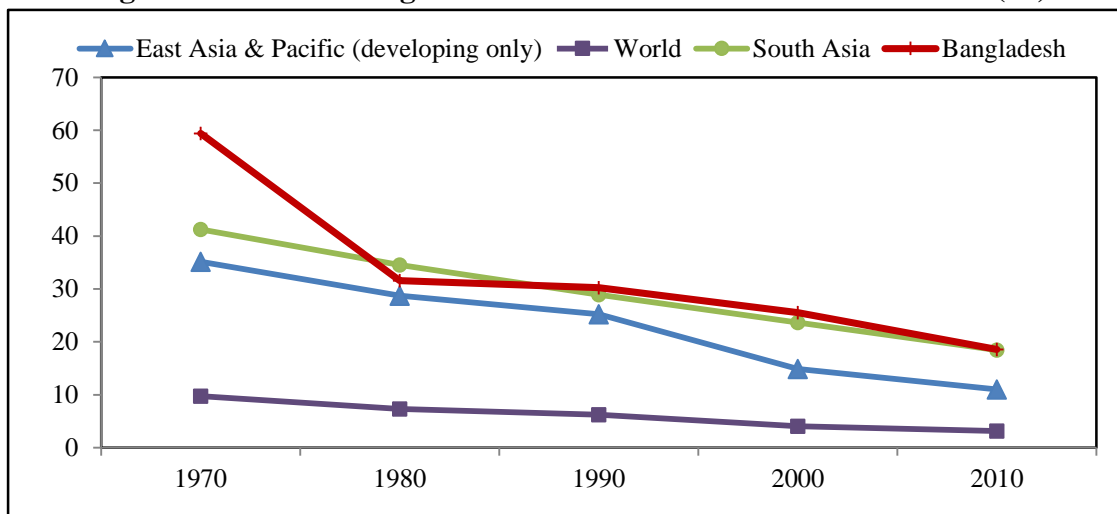
CHAPTER 4

STRATEGY FOR AGRICULTURE AND WATER RESOURCES

4.1 INTRODUCTION

In keeping with the stylized facts of development, the share of agriculture in Bangladesh's GDP has been on a secular decline for the past four decades. This trend is part of the qualitative transformation process of Bangladesh's Economy (Figure 4.1). While there has been an accompanying declining trend in agricultural employment along with rising wages, almost half of the national work force continues to be employed directly or indirectly in the agriculture sector. Marginal farmers and landless farm workers also constitute a major part of the population below the poverty line in Bangladesh. As such, the strategic importance of agriculture in meeting basic food demand and providing livelihood for a substantial part of the population deserves added and focused attention.

Figure 4.1: Trend in Agricultural Value Added as a share of GDP (%)



Source: World Bank, WDI 2012

Growth in agriculture has accelerated from less than 2.0% per year during the first two decades after independence to around 3.0% during the last decade (FY2000-FY2010). This steady growth in agriculture along with a strong emphasis on rice production has enabled Bangladesh to achieve near self-sufficiency in cereal production. Sound agricultural performance of the past decade has been instrumental in raising farm incomes and increasing real agricultural wages, thereby contributing handsomely to rural poverty reduction.

Nevertheless, the Government's targeted policy interventions have been successful in keeping the cost and price of agricultural produce at prudent levels. As a result, the balance between supply

and demand has been maintained. Yet, there is no room for complacency and the Government is mindful of the need for maintaining a policy regime to incentivise and motivate farmers to diversify agricultural production toward increased production of cash crops.

4.2 PERFORMANCE OF AGRICULTURE SECTOR UNDER SIXTH FIVE YEAR PLAN (6TH FYP)

The 6th FYP was built on the lesson learned from previous plans and policies. Taking into consideration the ground realities and changing economic landscape it had been mainly premised on the following targets and goals:

- Achieve an average of 4.5% real growth in agricultural sector over the Sixth Plan period
- Raise farm productivity and real income of farm families in rural areas on a sustainable basis.
- Attain self-sufficiency in food grain production along with diversification into other cereal and commercial crops.
- Expand application of technology and mechanized cultivation.
- Ensure sustained agricultural growth through more efficient and balanced utilization of land, water and other resources.
- Encourage research on adaptation to climate change, and proper use of genetically modified technology in agriculture.
- Promote non-crop agricultural activities related to forestry, livestock and fisheries.

The country has been mostly successful in attaining food security notwithstanding some deficiency in nutritional target. However, there are lots of soft grounds to cover, in terms of efficient resource utilization and delivery the projected outcomes. Following data in Table 4.1 provides a comparison between resource provision in the 6th FYP and expenditures.

Table 4.1: ADP Expenditures Compared to 6th FYP Allocations
(Billion Taka)

Fiscal Year (FY)		Agriculture	Livestock & Fisheries	Food	Water Resources
FY11	ADP Expenditure	10.20	2.8	2.2	13.5
	SFYP Allocation	10.54	3.73	3.20	14.07
FY12	ADP Expenditure	9.83	4.1	2.5	14.4
	SFYP Allocation	15.63	3.84	3.63	16.49
FY13	ADP Expenditure	11.09	3.6	4.3	17.6
	SFYP Allocation	20.46	4.14	3.51	18.72
FY14	ADP Expenditure	13.25	4.6	3.2	19.7
	SFYP Allocation	26.06	4.92	4.21	22.02
FY15	ADP Expenditure	14.23	6.1	4.8	24.7
	SFYP Allocation	32.21	5.62	4.86	24.89

Source: 6th FYP and IMED.

A review of the performance of the agriculture sector during 6th YFP is summarized below¹⁶.

4.2.1 Agriculture Sector Performance during the Sixth Plan

There was considerable success in implementing the underlying agriculture strategy during the 6th Plan. Average agriculture sector GDP growth reached 3.5%, along with exceptional performance during FY10 and FY11. The slowdown in domestic demand has reduced the growth of the crops sector but forestry and fishing have gained momentum. Consistent with the ongoing structural transformation of the Bangladesh economy, the share of agriculture in GDP is falling but agriculture continues to be the largest source of employment and a major contributor to poverty reduction. The achievement of food self-sufficiency is a major milestone for Bangladesh. Steady progress with diversification in favour of fish, meat and vegetable production is also contributing to the nutrition strategy of Bangladesh.

Table 4.2: Growth Performance of Agriculture Sub-Sectors

Rate of growth	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Agriculture(A+B)	5.2	5.1	3.1	2.1	4.4	3.0
A. Agriculture and Forestry	5.5	5.0	2.4	1.2	3.8	2.1
i) Crops & horticulture	6.1	5.6	1.9	0.2	3.8	1.3
ii) Animal farming	3.4	3.5	3.4	3.5	2.8	3.1
iii) Forest and related services	5.2	3.9	4.4	4.5	5.1	5.1
B. Fishing	4.1	5.2	5.4	5.5	6.4	6.4
Percent of GDP (%)						
Agriculture (A+B)	20.3	20.0	19.4	18.6	16.5	16.0
A. Agriculture and Forestry	15.8	15.6	15.0	14.3	12.8	12.3
i) Crops & horticulture	11.4	11.3	10.8	10.3	9.3	8.8
ii) Animal farming	2.7	2.6	2.5	2.4	1.8	1.7
iii) Forest and related services	1.7	1.7	1.7	1.6	1.7	1.7
B. Fishing	4.5	4.4	4.4	4.3	3.7	3.7

Source: Bangladesh Bureau of Statistics

4.2.2 Challenges

The major issues and challenges facing Bangladesh agriculture during 7th Five Year Plan and beyond will be promoting the use of agricultural technology with supportive policies, reforms, regulations and incentives in place for raising productivity and profitability; increasing diversification of production in line with consumption diversification to promote nutrition; increasing private sector participation in the agriculture and improving agro-processing value chains; reducing instability of production; increasing resource use efficiency; reducing loss of arable land; minimizing yield gap; maintaining food security, safety and quality; expanding irrigation and farm mechanization through appropriate technology; and developing resilience to climate change impacts.

¹⁶ Mid-Term Review of Sixth Five Year Plan

Promoting Agricultural Technology Systems: The average farm size in Bangladesh is becoming smaller each year and the cost-risk-return structure of farming is becoming adverse. While adequate production and income growth at national level are necessary, these are not sufficient for eradicating under nutrition. The research programmes of the National Agricultural Research System (NARS) organizations have been striving to develop technologies of crops that are both economically viable as well as ecologically sound. The recent achievements in agriculture have mainly been on development and adoption of new technologies. However, many challenges still remain. Post-harvest infrastructure is generally poor particularly for perishable high value products. This calls for developing technology choices according to agro-ecological conditions and market demand, soil health management, enhancement of water conservation to allow ground water recharge, quality and affordability of inputs, credit and insurance.

Increasing private sector interest/investments in agriculture value chain: Another challenge is to sustain and further develop the capacity of agriculture to effectively respond to market signals – to ensure that what is grown can be sold at remunerative prices, both to maximize rural income generating opportunities and optimize the use of limited natural resources. The small and marginal farmers need to be supported in producing diversified crop suitable for both markets and household consumption to improve their nutritional status. They also need to be supported in selling their products at remunerative prices by developing linkages with domestic and international markets.

Sustaining climate change challenges: Sustaining agricultural production and developing resilience to climate change will continue to be a key issue. Bangladesh agriculture is still largely dependent on nature particularly weather, hence is full of uncertainties and vulnerabilities. Flood, drought, water logging, salinity intrusion, tidal surge, uncertain rainfall, land degradation, extreme temperatures are common events of vulnerabilities. Because of these and other factors new issues keep coming and there are no one go solutions to these.

The Comprehensive Disaster Management Programme (CDMP) and other analyses done at the Climate Change Cell of the Department of Environment suggest that 10-15% land of the country will be inundated due to sea level rise of 45 cm by 2050. Therefore, effective implementation of the Bangladesh Climate Change Strategy and Adaptation Plan (BCCSAP) 2009 will have to be a priority issue; and new policy options and actions should ensure that cutting edge technologies are embedded in integrated farming options, and should provide backward-forward linkage, diversification, farmer market links and post-harvest loss and value addition so as to provide additional stimulus for farmers' income.

4.2.3 Crop Sector

Performance of Crop Sector under 6th FYP

Within crop sector, rice production dominates. Since independence, rice production has more than tripled from 11 million tons (milled rice) in 1972 to about 34.854 million tons in FY15. Since late 1990s, most of this growth has occurred initially through development and adoption of improved

rice varieties, use of good quality seed along with fertilizer and lately especially during 2009-2014 with stress tolerant; salt, heat, water logging/submergence tolerance varieties: and hybrid rice varieties supported by irrigation in Boro rice in the dry season; supplemental irrigation' in Aman rice; and introducing Boro rice in low lying areas by replacing rain fed Aus/Aman rice of local varieties with high yielding varieties. Along with wheat, the total food production has grown rapidly in Bangladesh since independence (3.2% per annum) substantially outstripping the population growth rate (Table 4.3). This has been a major development success for Bangladesh and a key contributor to poverty reduction. This progress continued during the 6th plan and Bangladesh has now achieved food self-sufficiency.

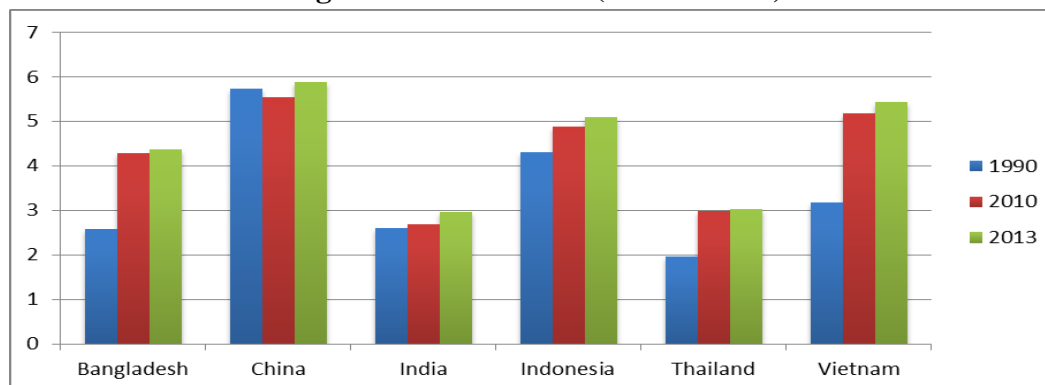
Table 4.3: Index of Food Grain Production (FY 72=100)

	Aus Rice	Aman Rice	Boro Rice	Total Rice	Wheat	Rice and Wheat
FY 72	100	100	100	100	100	100
FY 80	120.0	128.2	139.6	128.3	731.9	135.2
FY 90	105.7	161.6	347.1	181.2	787.6	188.1
FY 00	74.1	181.0	634.5	236.0	1628.3	251.9
FY 08	64.4	169.7	1022.0	296.0	746.9	301.2
FY 09	80.9	203.9	1024.7	320.4	751.3	325.3
FY 10	73.0	214.3	1039.1	327.1	797.3	332.5
FY 11	91.1	224.6	1071.2	343.2	860.2	349.1
FY 12	99.6	224.7	1079.3	346.7	880.8	352.8

Source: Ministry of Agriculture, Bangladesh Bureau of Statistics

Given the declining trend in cultivable land, 6th FYP had focused on raising productivity as the key to increasing production in agriculture sector. Within the existing structure, there is ample scope for productivity gain as many of the agricultural products are of low yield in comparison to other economies. As for rice, which is the dominant output of agriculture, over time there has been substantial increase in productivity (Figure 4.2). Some small gains have been made in rice productivity during the first three years of the Sixth Plan.

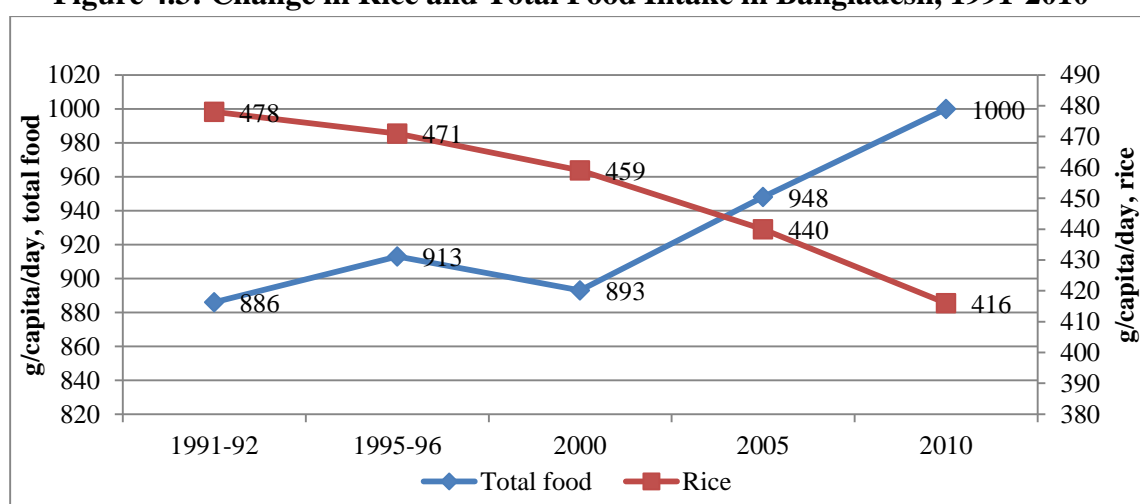
Figure 4.2: Rice Yield (MT/Hectare)



Source: FAO and World Bank

Over time, there has been some degree of diversification from this ‘mono-crop’ agriculture with increased production of non-cereal crops and commercial high value crops, particularly those of fruits and vegetables. With income growth, the structure of demand for food has also changed. The successive HIES Reports show that considerable consumption diversification has taken place, with lesser per capita consumption of rice and increased consumption of high value food items such as meat, fish, milk and edible oil. As shown in Figure 4.3 below, there has been a secular decline in per capita rice consumption though per capita total food intake has been going up, the decline in per capita rice consumption puts a limit on how rapidly agriculture can grow if it remains dominated by rice and there remains a rice export ban. This is an important policy challenge for the 7th Plan.

Figure 4.3: Change in Rice and Total Food Intake in Bangladesh, 1991-2010¹⁷



Source: HIES 2010 data.

Rice is the dominant staple food crop and occupies over three fourths of cropped area. Other prominent crops are jute, wheat, potato, maize, pulses, oilseeds, spices, vegetables, sugarcane, cotton, and tea. In recent years, the cropped area under Boro rice, maize, potato and vegetables has increased.

Since the start of the millennium, maize production has been gaining momentum due to favourable environment for higher productivity and a stable and expanding market as feed for the poultry and livestock and has now overtaken that of wheat. Since maize is used as poultry feed, the substitution of wheat by maize has also had a negative impact on the supply of staple food for people and has put more pressure on cereal to meet the growing food grain demand.

Over the last two decades significant progress has also been made in the production of potato and vegetables. The major problem faced by potato and vegetable production is the volatility in prices and large post-harvest loss, occasionally over 30%. It will be difficult to sustain the growth of

¹⁷ HIES Report 2015 has not yet been published during the preparation of 7th Five Year Plan

production of these high-value and labour-intensive crops unless investment is made in the post-harvest management (a 10% reduction of post-harvest loss would add 10% additional food for the nation), processing and storage to stagger marketing of the crops throughout the year to match the demand that remains stable across the season.

The production of some crops including pulses, and sugarcane has either remained stagnant or declined over time. The production of oilseeds, cotton, and jute had picked up in recent years but market and price uncertainty remains a challenge. Table 4.4 below shows that during the 6th plan period jute production has increased more comparing any time before.

Table 4.4: Area and Production of Jute from 2005-06

Year	Area (Lakh ha)	Yield (t/ha)	Production	
			In lakh tonnes	In lakh bale
2005-2006	4.02	2.08	8.38	46
2006-2007	4.19	2.09	8.79	48
2007-2008	4.41	1.89	8.32	46
2008-2009	4.21	2.00	8.42	46
2009-2010	4.17	2.17	9.16	50
2010-2011	7.09	2.13	15.11	84
2011-2012	7.60	1.90	14.41	80.83
2012-2013	7.27	1.81	13.19	74.37
2013-2014	6.66	2.03	13.57	75.36
2014-2015	7.02	1.92	13.52	75.01
2015-2016	7.03	1.93	13.62	75.60
(Estimated Target)				

Source: BBS and DAE

The fast shrinking and deteriorating natural resources like land, water, biodiversity and changing climate are threatening sustainability of food and nutritional security. Yield and knowledge gaps exist. Water use efficiency at farm level is poor. Average post-harvest loss is around 15-20%. The problem of technological fatigue is further compounded with huge technology gap at various levels. This calls for developing science based technology generation, dissemination and application systems. To be competitive in the world market, Good Agricultural Practices (GAP) and Sanitary and Phyto-Sanitary (SPS) measures will also have to be popularized and promoted.

New technology generation for vulnerable areas e.g. stress tolerant varieties and management practices, quality improvement of major crop varieties, pest and disease management, resource conservation, value addition and post-harvest management, and climate smart technology, continue to be the major challenges.

The recent crop sector development shows transformation from subsistence agriculture into semi-commercial agriculture. Emphasis is now on the way to transform semi commercial agriculture

into a commercial activity for which more private investment, process changes, more market and credit accessibility backed by appropriate policy support will be needed.

Crop Sub-Sector Specific Challenges

During the 7th Plan period maintaining food security by raising productivity, profitability and higher growth in crop sector will be important challenges to overcome. These will need to come from increasing agriculture-product diversification and consumption for improving nutrition; increasing resource use efficiency and judicious use of agricultural inputs; promoting science-led agricultural technology systems and dissemination of improved technology; reducing loss of arable land; minimizing yield gap; production, distribution and preservation of quality seeds; reduce output loss through technology based weather prediction and forecasting and better crop disease management and bio-control of pest; shifting where feasible to higher-value crops for commercialization including increasing quality horticultural crop production; reducing instability and production costs; popularizing of good agricultural and IPM practices; linking farm-produces with market so as to overcome the issue of low price of products at farm level, low investment in agriculture and inadequate credit support to farmers; facilitating increased private investments in agriculture and agro-processing value chains alongside public investments, and more public private partnerships; ensuring safety and quality agro-produces; expanding irrigation and farm mechanization with appropriate technology including better use of renewable energy; developing resilience to climate change impacts; expanding agriculture to the newly accrued coastal land and marine islands; identifying and removing structural bottlenecks have to be in place.

Challenges to Raising Productivity:

Sustaining growth: Bangladesh has attained self-sufficiency in rice production, resulting from stimulating production growth over the past years. Yet, rice production in future will have to be pursued with decreasing availability of the critical inputs land and water, and under conditions of progressively negative impacts of climate change. While additional land could be brought under crops through increases in actual area cropped (conversion of non-crop or non-agricultural land and restoration of degraded land) and increases in cropping intensity, yet the competing demand for land beyond agriculture (industry, urbanization, infrastructure needs) will make this difficult. In terms of cropping intensity, while the present rate of 1.9 compares favourably with other Asian countries, including India (Punjab) at 1.78 and Pakistan at 1.25, it is below Vietnam and Java, Indonesia. So there could be some possibility of increase in intensity. Thus, in absence of major technological breakthrough with development and diffusion of extra high yield augmenting new varieties, sustaining higher agricultural growth will be under challenge.

Productivity Enhancement: Productivity gain can come from two sources – technological change and correction of market distortions. As is well known, production performance of rice over the last two decades is attributable to two stimulating rice varieties BRRI Dhan 28 and 29 which may

be reduced, as they are becoming vulnerable to pest and diseases, over the coming years. Although BRRI has developed quite a good number of rice varieties over the recent past years, some with special traits, none have so far demonstrated to be promising enough to replace BRRI Dhan 28 and 29. Technological progress resulting in improved seeds (HYV) was responsible for doubling yields per acre during the 1970s. Whereas over 70% of cropped area today is under HYV, with current rates of conversion, almost all suitable land is expected to come under HYV within the next decade or so. Thus in absence of major technological breakthrough with development and diffusion of extra high yield augmenting new varieties, productivity enhancement will be a challenge.

Investment in Research and Incentives to Agricultural Scientists: Farm level productivity gain can be achieved through technological change and minimization of yield gap through effective extension services. Agricultural research has not been provided adequate resources. This largely resulted in the “brain drain” of trained professionals who migrated to research centres overseas. This trend needs to be reversed by substantially increasing research and extension allocation of budget as a percentage of Agricultural GDP from its present allocation level of around 1.5%. Research Investment needs to increase to a considerable level to facilitate lab, infrastructure, higher studies and training opportunities. Incentives to agricultural scientists need to be considered to protect the brain drain and also to attract bright students to agriculture education.

Minimizing yield gap: The difference between farm level yield and yield at research stations of crops has remained an issue of concern for many years. It is generally recognized that the actual yield of crops fall short of potential yield by about 30%. Farmers’ acceptance of a technology does not necessarily depend on the objective attributes of a technology, but on a range of socioeconomic factors associated with adoption of a technology.

Technology transfer/dissemination: Technology transfer/dissemination activities need to be strengthened by revitalizing the District Technical Committee (DTC), Regional Technical Committee (RTC), Agricultural Technical Committee (ATC) & National Agricultural Technical Coordination Committee (NATCC) and operationalizing these committees.

Commercialization of Agriculture: Crop agriculture is mainly operated yet at subsistence or semi-commercial level, which needs to be commercialized with high value crops such as aromatic rice, vegetables and fruit production and processing. Good agricultural practices need to be employed for production and post-harvest management. Meanwhile, agriculture has started to transform from subsistence mode in the past to semi commercial level at the current stage. In the wave of globalization, small holders need to be enabled to integrate in the markets to effectively contribute to the production of high value crops. To this effect, they need better access to credit and other agricultural services - such as extension, information and local market infrastructures and services. Most importantly there needs to be more private participation and investments in the agriculture value chain development. Fair price and market access to encourage farmers will be ensured to further intensify jute production in order to satisfy domestic and export demand.

Diversification into High Value Crops: Bangladesh given a price responsive market and the right policy environment could have a comparative advantage in certain high-value crops, including traditional fruits and vegetables. The future of non-rice crops will depend on the removal of a number of constraints that currently inhibit their expansion, including comparatively less attention given to development of appropriate technology for non-rice crops and inadequacies of market infrastructure and services. Minimization of risks to production associated with price volatility are critical challenges.

Agro-Processing: Food processing e.g. fruits canning, fruit drinks, mushroom growing and processing, processing of vegetables, and dried food production also has considerable potential, provided quality control can be ensured. To ensure that their production and export potential are fully realized, the government needs to continue its current commitment to investing in manufacturing and infrastructure, but more so in facilitating private participation in different aspects of those value chains.

Farm Mechanization

Expansion of mechanization: Rapid expansion of mechanization is needed due to the dearth of animal draft power, dearth of farm labours along with increasing wages, and declining interest of young people in traditional agriculture. Farm mechanization, supported as much as possible by increased use of solar power as source of energy, should help in improving productivity, reducing cost of production, increasing input use efficiency (water, seed, fertilizer, land and labour) and achieving timeliness of crop production operations in a sustainable manner. Agricultural mechanization is also required to reduce the crop turnover time.

Need for affordable and suitable equipment: There is a need for development of more efficient and less costly equipment so that farmers can benefit. In BARI, research on the use of solar panel to generate power for irrigation is in progress. Since agriculture is the mainstay of the economy, promotion and development of agro-related metal industries to provide support to agricultural production is a major concern. Selective mechanization based on traditional devices, with strong emphasis on wider use of solar power, conducive to productivity will be adopted. In the context of market economy, emphasis will have to be given to the collaborative role of public and private sectors in technology development and its diffusion. Private sector may also be encouraged to develop research facility for agricultural equipment/tools development and allowed for marketing with patent rights.

Declining availability of land for crop agriculture, and decreased soil fertility: With contesting demand from a growing population and other necessary growth augmenting and job creating sectors like urban, industry, infrastructure, the availability of land for agriculture is declining. The land quality is also deteriorating due to degradation of soil fertility (e.g. nutrient imbalance), soil erosion, soil and water pollution and increased soil salinity. There is non-regulated and excessive use of groundwater and limited effort to augment surface water. In order to produce more food for

an ever increasing population, provide raw materials for agro-industries and generate higher income for farming communities in the face of a decreasing land and water resources, the challenge is to develop existing agricultural production system into a more dynamic, market oriented and sustainable commercial sector. This can be done by achieving higher productivity and profitability through irrigation expansion, agricultural intensification, diversification, mechanization and value addition. Land and water continues to be the most misused natural resources. A countrywide campaign is, therefore, required to conserve water and use it judiciously and institute proper land use planning system. Mandatory rain water harvesting and water use efficiency deserve higher priority.

Other Challenges: There exists several other challenges in crop subsector: (a) low quality and adulterated agricultural inputs (fertilizers and pesticides) marketed by unscrupulous traders, (b) abrupt depletion of soil organic matter, (c) insufficient discharge of irrigation water at the peak demand hours of Boro crop due to depletion of groundwater table, (d) intrusions of saline water into the groundwater table, (e) flash flood and drainage problem, (f) degradation of land (salinity, erosion, water logging etc.), (g) combating climate change effects on agriculture, and (h) farm gate price support for the producers, etc. Finally, in order to achieve the objectives of 7th FYP, a national farmers' database need to be developed for smooth implementation of agricultural policy, protecting the rights of farmers and intellectual properties developed by the farmers.

4.3 CROP SUB-SECTOR STRATEGIES UNDER THE 7TH PLAN

The development vision for agriculture under the 7th Five Year Plan is to ensure food and nutritional security, enhancement of sustainable intensification and diversification of climate resilient agricultural production with increased commercialization, and livelihood improvement through technological innovations and use, strengthening of research and extension system, developing supply chain extension, value addition of agricultural products, and linking farming community with markets, both local and global. The major focus of the Seventh Five Year Plan (7th FYP) in the sector, therefore, centre's on consolidating and expanding the productivity gains already achieved in food grain production as well as designing policies, strategies and actions to accelerate the crop diversification and commercialization process by increasing local and export market opportunities by the farmers and other stakeholders. Thus, the major objectives of the crop sub-sector for 7th FYP are to:

- Ensure food security for the national populace in which food is broadly defined to go beyond cereals, and food security is defined in terms of all its dimensions including availability, access, utilization (nutrition) and stability:
- Develop agriculture as a basis for agro-based industrial expansion while encouraging export of such agro-processed/agricultural commodities, particularly aromatic and premium quality rice, potatoes, vegetables and fruits keeping in view domestic production

and consumption needs and ensuring fair market price of the produces for sustainable and profitable agriculture;

- Increase productivity and real income of farm families in rural areas on a sustainable basis;
- Promote farmer's right through documenting farmer's indigenous innovations, farmer's creativity under plant variety and farmers right protection act and establish a database for indigenous technologies practiced by rural farming community;
- Promote science-led agriculture technology systems and encourage research and adoption of modern agricultural practices for development of drought, submergence and saline prone agriculture considering water and time economy, adaptation to climate change, proper use of genetically modified technology in agriculture, and promote adoption of modern agricultural practices in dry land, wetland, hills and coastal areas including use of environment friendly green technologies (e.g. IPM, INM, AWD, etc.) and climate-smart/resilient technologies; introduce salinity, submergence and other stress tolerant varieties specially in the Southern regions;
- Ensure sustained agricultural growth through more efficient and balanced utilization of land, water and other resources, and encourage more use of surface water for irrigation and reduction of pressure on ground water while expanding irrigation facilities through improving existing irrigation system and related infrastructures. Renewable energy (solar and wind power) is given more importance in the 7th FYP. Installations of solar panels for small scale irrigation in rural areas will be given priority;
- Encourage wider women participation in homestead based agricultural production, post-harvest management, agro/food processing, marketing and decision making for ensuring women empowerment;
- Promote farmer's right through digital repository by achieving farmer's indigenous innovations, farmer's creativity under intellectual property laws and protect their intellectual properties and establish a database for indigenous technologies owned by the rural farming community.

Targets: With a view to enhancing agricultural production and ensuring food security, the target under the 7th FYP would be to attain and maintain self-sufficiency in staple food (rice) production and meet the nutritional requirement of the population through supply of an adequate and diverse range of foods. Production and consumption diversification with high value crops including vegetables, fruits, has to be the ideal target for food production in the country. Table 4.5 shows the projection of production of selected crops as depicted in the Perspective Plan of Bangladesh 2010-2021. The projected production increase will be supported by increase in irrigated area.

Table 4.5: Projection of Production of Selected Crops up to 2021

Crops	Production (million MT)		
	2011	2015	2021
Rice	33.54	34.9	36.81
Wheat	0.97	1.16	1.40
Potato	8.33	8.76	10.34
Oilseeds	0.40	0.45	0.52
Pulses	0.23	0.26	0.31
Maize	-	1.63	1.85

Source: Perspective Plan Projection (GED 2010)

The Table 4.5 shows that rice production is projected to reach 36.81 million tons in 2021 from 34.9 million tons in 2015. This seems to be a plausible target for rice production in view of the fact that in absence of any extra ordinary yield augmenting rice varieties and under conditions of declining availability of critical inputs land and water, and also under conditions of climate change impacts, rice production cannot be expected to increase at a higher rate. This level of production is consistent with the objective of food sufficiency. Among the other crops, except for potato, the projected production will fall short of requirement and the country will have to depend on imports of varying magnitudes to match supply with the demand.

4.3.1 7th Plan Policies and Strategies for the Crop Sub-sector

Overall, the strategy for 7th FYP will be to accelerate the process of transformation from already existing semi-subsistence farming to commercialization of agriculture. This strategy will require achieving productivity gains, diversification and value addition commensurate with national environmental protection and climate change adaptation strategies. Encouraging agricultural growth will require various policy changes/adjustments ranging from applying new technology and extension services to providing credit to small farmers. The past growth in agriculture was helped by the new HYV (high yielding variety) technology, particularly in rice, in which both the state and the market played important roles. All out support will be provided to achieve the stipulated objectives in the field of crop production, yield gap minimization, expansion of irrigation facilities, quality seed production & distribution, Good Agricultural Practices (GAP), farm mechanization, quality horticultural crop production and popularization of IPM practices.

Given the above principles the following specific strategies will be pursued for the development of the crop sector.

Creating Opportunities for Sustainable Agriculture and Green Growth: Sustainable agriculture will be built on current agricultural achievements while adopting new approaches that can maintain high yields and farm profits without undermining their resource conservation on which the agricultural system depends. Integrated Pest Management (IPM) programme will be intensified and expanded in order to safeguard crops from pest and combat environmental degradation due to pesticide uses. Organic farming along with use of crop residues, compost, and animal waste has been popularized but need more effort. Plant protection activities are largely in

the private hands. However, the public sector programmes are confined to qualitative and quantitative aspects of plant protection: pest's surveillance, monitoring and early warning against pest attacks, advisory service to farmers, traders and others dealing with pesticides and quality control of pesticides marketed by the private sector. Sustainable agriculture will be built on current agricultural achievement adopting sophisticated approach that can maintain high yields and farm profits without undermining the resource conservation on which agricultural system depends. The system will be built on an approach that will explore connection between farming and other aspects of social, economic and ecological environment. Sustainable agriculture will be planned and implemented in such a way that it will be resource conserving, socially supportive, commercially competitive and environmentally sound.

Application of Science and Technology for higher levels of Food Production: In response to rising population, growing incomes, increasing demands and greater trade and exports, crop production output will be increased by growing more crops per year through expansion of water management practices, improve pest control and use of short duration variety. Greater stability and dependability in food production will be achieved through genetic improvement, crop management, post-harvest handling and through crop protection. Plants with superior characteristics will be developed so that they will be productive on nutrient poor soil. Research programme on the basic biological processes that control productivity will be given emphasis.

A balanced, sustained robust soil health is a must for achieving sustained food and nutritional security. Hence, more food has to be produced with lesser resources, and in this situation it will be critical to increase the efficiency of production through the application of science and technology. Besides crop variety, cultural management, soil and nutrient management, irrigation water management and pest & disease management technology development and agri-machineries development; emerging technologies like information technology and computer application, use of super-efficient and more accurate electronic equipment, Geographic Information System (GIS), biotechnology, gene management, IPR, bio-safety, laser technology, efficient micro irrigation system, conservation agriculture, site specific nutrient management based on soil test for macro and micro-nutrient should receive special attention. More agro-meteorological information would be utilized for crop production planning and pest and disease management strategy. Efforts will be made to base the 7th and subsequent Plans on accurate estimates of agricultural production and crop damages using Remote Sensing tools for which expertise exists with CEGIS.

Agricultural Research: The National Agricultural Research System (NARS) institutes generate the demand-led agricultural technologies (varieties and management practices) and information. It also covers scaling-up the developed technologies including validation trials. Priority will be given to address the problem areas (like hills, coastal, haor and barind areas) that are more prone to weather vagaries and that have proportionately higher populations of poor and vulnerable people. The research will develop and refine technologies that will bridge yield gaps and promote diversification, sustainable natural resources management: rain water and river water harvesting for agricultural production, disease and pest management, development of varieties/species with

post-harvest technology of high value agricultural commodities, mechanization, etc. It will also address climate change effects by breeding and introducing saline and drought tolerant, short duration varieties, introduction of high value commodities and low-cost, high-impact post-harvest technologies as well as research on packaging, harvesting, maturity index, food processing and market intelligence. Research on IPM, on-farm water management, food technology, biotechnology, bio-security and socio economic condition will have special emphasis along with other contemporary issues. Research thrust would include, but not limited to, quality seeds, yield and quality improvement programme of rice, wheat, maize, pulses, jute, seaweeds and aquatic plants, oilseeds vegetables, fruits, cotton, sugar cane and stress tolerant and climate change resilient variety development; improved management practices for field crops, vegetables, fruits, flowers with thrust on marginal and unfavourable eco-system; post-harvest management, processing and value addition of agricultural commodities; pest and disease management for crop, natural resource management (NRM): land, water and bio-diversity; energy management in agriculture; equipment development for farm mechanization; socio-economic, policy and extension research, etc. Considering climate change and other issues like salinity, research emphasis will also be on sugar crops including sugarcane, sugar beet, date palm, palmyra, palm, jute, cotton, tea, etc.

Farming system research will be undertaken on a pilot basis to extrapolate advanced technology and identify adoption constraints and their solution and establish strong linkages among research-extension and farmers communities. The major researchable areas by NARS institutes are:

- Research thrust on yield and quality improvement of rice, wheat, maize, pulses, oilseeds, tuber crops, vegetables, fruits, cotton, jute, seaweeds, aquatic plants, spices and stress tolerant, climate change resilient variety development and improved management practices; post-harvest management, processing and value addition of agricultural commodities; pest and disease management for crop; natural resource management (NRM); biotechnology & bio-diversity; farm mechanization etc.;
- Development of HYV having at least 10% yield advantage over existing mega varieties, like BRR1 Dhan29 etc.;
- Development of hybrid and biotech/transgenic crop through strengthened capacity on this sectors and initiate basic research to support applied and adaptive research;
- Address the problem areas (like hills, coastal, haor, bills, char land and barind areas) that are more prone to climate;
- Research on climate SMART agriculture, breeding and introduction of climate resilient varieties for saline and drought tolerant, heat & cold tolerant, submergence etc.;
- Develop and refine technologies that will bridge yield gaps and promote diversification, sustainable natural resources management, rain & river water harvesting for agricultural production, disease and pest management, etc.;
- Research on IPM, on-farm water management, high value commodities, safe food and quality food, Good Agricultural Practices (GAP); and market intelligence;

- Farming system research to extrapolate advanced technology, identify adoption constraints, their solution and strengthen strong linkages among research-extension and farmers communities;
- Policy formulation on socio-economic, extension research, subsidy/incentive to inputs and commodities etc.;
- Concentrating of rural households to release more arable land for crop production;
- Besides crop research, upgrading the facilities of Agriculture Research Institutes (ARIs) (e.g. development of land, lab., training facility, infrastructure) with due attention to regional and sub-stations; for HRD arranging higher studies, training, study visits etc.; establishing Agricultural Museums.

Crop Zoning and Land Use Planning: Considering the increasing demand for food production, it is an essential task to promote optimum land use and its conservation. Historically, land use planning has largely been an economic concern. Focus will be given on comprehensive land use planning through integration of economic, ecological, social and cultural values in production programme in order to develop options so that informed choices can be made. In the seventh five year plan, emphasis will be broadened to include soil and water conservation, land development, drainage and flood control, and reclamation programme. The integrated and dynamic nature of people's livelihood strategies and how these affect their decision making and capacity to use and manage the natural resource base will be an important consideration for land use planning. Production programme will be organized based on crop zoning.

Agricultural Inputs- Seeds and Fertilizers: At present, BADC, as per seed policy 1993, concentrates its efforts on the production of HYV seeds of paddy, wheat, maize, spices, vegetables, pulse and oil seed, potato and jute in the seed farms and also uses farmers to multiply seed on contract basis. Contract growers will do production programme of all other crops beyond foundation seed. With the introduction of seed policy, emphasis has been given to private sector involvement in research and development of hybrid and HYV seed. The concerned agencies under the MOA, BADC and Horticulture Centres of DAE, will be further strengthened in order to ensure production of quality seeds/quality planting material at all stages of its production- breeder, foundation and certified seed and encouraged farmer to produce quality seed and farmer to farmer seed exchange. Seed production activities through biotechnology will be expanded. Emphasis will be given on creating facilities and infrastructure support for hybrid seed production, marketing and development. Farmers will be given training and technical assistance to extend improved methods of seed production, testing, storage and post-harvest management.

Fertilizer is one of the critical inputs required for increasing crop production. The expansion of modern agricultural practices together with intensified cultivation has led to an increasing demand for fertilizers. It is, therefore, necessary to ensure timely supply of fertilizers to meet the increasing demand. Imbalanced use of chemical fertilizers is causing land degradation and excessive mining of plant nutrients resulting in the decline of soil fertility on the one hand and reduction in the potential yield on the other. Emphasis/support will be given for the production of bio-fertilizers

and facilitating their increased use. Rebalancing of fertilizer subsidy for encouraging balanced use of fertilizers has given some results. It is, therefore, important to adopt pragmatic measure to encourage farmers using balanced fertilizers to maintain soil fertility.

Promotion of Precision Agriculture: For resource conservation and judicious use of inputs, the Seventh FYP will give more focus on the Precision Agriculture (PA). Precision agriculture will ensure optimization of inputs use and maximization of returns while preserving resources and reducing environmental risks. Precision agriculture will be adopted wherever possible. Land levelling with laser equipment, buried pipe irrigation, drip & sprinkler irrigation, hydroponic culture of vegetables, bed planting, use of Urea Super Granule (USG) & IPM are some of the examples of precision agriculture. This will save inputs, increase yield and profitability, and improve environmental management.

Promoting agricultural diversification and expansion of Horticultural Crops: Agricultural diversification will allow shifting from cereal-cereal cropping patterns to cereal and non-cereal based high value cropping patterns with value added product, including expansion of horticultural crops, promoting sugar beet production and processing it as sugar crop. Through diversification, food habit can slowly be changed and nutritional security will be better achieved. In promoting agricultural diversification, the important consideration will be to support small and marginal farmers. Policy support will also be provided to small and marginal farmers in selling their surplus products at remunerative prices by linking them with domestic and international markets. Agricultural diversification will also achieved by further development of jute, cotton, quality tea production for local consumption and exports as well as that of aromatic rice and commercial flower cultivation, their marketing, and development of associated value chains.

Use of Water Resources and Water Economy: Water is a very essential input for increasing crop production and sustainable agriculture. Due to climate change and lifting ground water in an unplanned way, a significant portion of the country is not getting irrigation water during dry season. Therefore, a well-planned irrigation management system is essential for gradual increase of cropping intensity as well as yield. Irrigation efficiency will be ascertained and modern water management technology will be promoted to enhance irrigation efficacy and water productivity through optimal use of available water resources. The government has laid special emphasis on the increased use of surface water and reduced use of groundwater in irrigation to protect the ecological balance and reduce irrigation expenses. Thus, conjunctive use of surface and groundwater would be stressed. As part of the strategy creation of water reservoir/ rain water harvesting in rain fed/coastal/hilly areas will be encouraged, and small scale water resources systems will be developed (particularly through BADC/LGED/BWDB) along with monitoring the maintenance of the small scale water resources infrastructure at local levels by ensuring community participation and taking care of environmental and social issues.

In order to ensure water efficiency and for best utilization of water resources following strategies will be adopted:

- Rain water harvesting for irrigation
- Use of surface water to minimize the use of ground water
- Irrigation at night
- Use of solar power for irrigation
- Construction of solar panel over canal or water body
- Discouraging the use of deep tube well for irrigation
- Discouraging the cultivation of high water demand crop in Barind Area

Introduction and Popularization of Good Agricultural Practices (GAP): Protocol development for Good Agricultural Practices (GAP) suitable for Bangladesh agro-ecological and socio-economic conditions should be the major priority as required under the new Agricultural Policy. New Agriculture Policy of GoB also calls for development and implementation of such protocols, i.e. codes, standards and regulations for fulfilment of trade and food safety and quality requirements. There are four pillars of GAP: economic viability, environmental sustainability, social acceptability, and food safety and quality. Research and extension will put effort jointly to promote the process.

Farm Mechanization: Use of farm tools and machinery improves work efficiency and resource use efficiency; helps intensify crop production and transform to commercial agriculture; enhances productivity and profitability of land, labour and inputs. Use of machinery reduces harvest and post-harvest losses, production costs, and drudgery of farm workers; ensures timely operation, faster speed, higher precision and quality produce. Mechanization creates employment opportunities; provide dignity to agriculture profession and better livelihood, and increases gross income. Moreover, animal draft power is drastically reduced on the farm due to high maintenance cost, shortage of feeds/fodders, and lack of grazing fields. Rural people have been migrating to urban areas for employment and better amenities; this will continue to cause a shortage of agricultural labour on the farm. With mechanization there will also be higher need for energy supply. Energy input on the farm in Bangladesh (about 1.09 kW/ha) is much less compared to Japan (8.75 kW/ha), Italy (3.01 kW/ha), France (2.65 kW/ha), UK (2.50 kW/ha), and India (1.50 kW/ha). This indicates that Bangladesh has ample opportunity in mechanizing agriculture and increasing productivity. The energy supply linked to farm mechanization including irrigation will be more from renewable energy sources, particularly solar energy. The Government will, of course, have to play its pro-active role in popularizing the use of selected demand-led agricultural tools and machinery, and facilitating use of renewable energy including solar power in agriculture production.

Boosting Agro-Processing Industries: Agriculture has huge implication including agro-processing and food industries which will be labour intensive, supporting the creation of employments, as targeted in 7th plan. The SMEs in agro-processing industry will support the growth effort of 7th FYP and support the rural economy. Bangladesh experiences seasonal surpluses in several agricultural commodities of perishable nature. Development of agro-

processing facilities can prevent postharvest losses and enhance farmers' income. The agro-processing industries are developing in Bangladesh. Most of the technologies and facilities for handling, storage, processing and packaging of farm products and by-products should be of international standard for domestic and external consumption. The existing underutilized capacity need to be expanded. Agricultural research institutes, especially BARI will carry out research on technology development for post-harvest management e.g. packaging and agro-processing. In this regard the agro-processing research facility of BARI will be strengthened during plan period. Meanwhile, some technologies are already available with these institutes for the development and growth of agro-processing industries in the country. As a support measure efforts will be made to make available refrigerated compartments in train and also refrigerated vans for the transport of agriculture produces with a view to minimizing post-harvest losses. Nevertheless, the private sector should be encouraged to export processed fruits and vegetables to domestic as well as overseas market. The process of supporting agro-business will be continued and strengthened during the Seventh Plan period.

Value Chain Development: Value chain development for identifying constraints to marketing supply channel is a new tool for rationalizing prices of agricultural produce between farm gate and consumer. MOA has been supporting value chain development of selected vegetables and fruits through its development projects. In the seventh five year plan the approach will be applied to other crops such as aromatic rice. The main effort will be to improve the efficiency of agricultural marketing to reduce market distortions and the cost of marketing, and to ensure that farmers get proper price for their produce and consumer gets quality products. For quality control and ensuring traceability, phytosanitary requirements, Department of Agricultural Marketing (DAM) will need to be involved and its capacity developed. The seventh plan will improve marketing services with a view to ensuring fair returns to the growers for their produces and adequate supply to the consumers at reasonable prices. In this regard, the establishment of HORTEX, a private board for value chain promotion for high value commodities, is an important institutional development. In addition, DAM will also be expected to play its role in value chain promotion and due emphasis on capacity building of government extension agencies for which necessary steps will be taken. A sustainable developed value chain will depend on active participation by all actors. So the role of the private sector in participating in the agriculture value chain is of critical importance. Strengthening the institutional capacity and reducing financial and regulatory constraints to address the complex production and marketing constraints including developing a viable private sector led value chain will be an important strategic issue to address. For value chain development augmentation of required technological support services should also be strengthened.

Agricultural Credit: Inadequate access to credit has plagued poor farmers and share croppers for many years. Inadequate capital of farmers' own and limited institutional credit hinders the production of rural poor farmers. Because they have little access to formal financing institution, they mostly rely on costly informal credit source. Recognizing this, the government through its

various agencies is trying to improve access and availability of credit at lower interest rate especially for production of pulse, oilseed and spice crops.

Agricultural Extension: Transfer of technologies and diversification and intensification of crop production programme through appropriate extension services are of crucial importance. The extension services must be able to render required technical advice and management support at the appropriate time and place. Currently, the extension service draws its strength from research findings as well as from farmer's innovation. On the one hand, it acquires up-to-date findings from research and transfers them to the farmers, and on the other hand, it brings feedback in the shape of farmers' problems to the concern of researchers for possible solution and again takes back the results to the farmers for their field adoption. For effective research-extension-farmer linkage, the New Agricultural Extension Policy (NAEP) established the Regional Technical Committee (RTC) and District Technical Committee (DTC) which have been replaced by 18 Agricultural Technical Committees (ATC), each covering 2-6 districts in similar Agro Ecological Zone (AEZ). The composition of National Technical Co-ordination Committee (NTCC) has been amended to include representatives from NGOs and farming community. The following priority strategy will be adopted for extension services:

- Strengthening research–extension-farm linkages;
- Expansion of small scale irrigation technology and surface water for irrigation;
- Different salinity tolerant Boro and other stress tolerant varieties of rice should be extended;
- To extend Boro rice cultivation in the Southern region, a new agricultural extension strategy will have to be pursued;
- Popularization of salt tolerant variety in the coastal region;
- Diversification to high value crops, i.e. cotton crops in Barind area, Hilly areas, southern coastal region and char land areas with appropriate extension strategy as cotton varieties are highly drought and salt tolerant.
- Ensuring quality of seed, pesticide and fertilizer through proper monitoring;
- Improving extension services, through qualitative demonstration, field days, and agricultural exhibition;
- Strengthening field level activities through proper delegation of authority from headquarters to field level;
- Marginal and small farmers will receive priority attention;
- Development and promotion of environmentally sound farming practices;
- Promote mechanization of farming operations;
- Promote community seed production, storage and distribution;
- Promotion of Rice Yield Gap Minimization (RYMG) techniques;
- Promotion of green growth agriculture by intensifying IPM, IDM, ICM, AWD and organic farming;

- Promotion of value chain and efficient marketing system
- Strengthening human resources development programme of extension agencies through higher education, training and exposure visit;
- Strengthening MIS (ICT) based knowledge management system and e-agriculture;
- Establishing more Agriculture Information and Communication Centre (AICC) at village level;
- Establishing more Farmer's Information and Advisory Centre (FIAC) at union level;
- Promote business development initiative in agriculture;
- Continuing price support and input subsidy to farmers;

Mainstreaming Women in Agriculture: Women are crucial in transformation of agricultural products into food and nutritional security in Bangladesh. Gender based inequalities all along the food production chain must be reduced and the active engagement of women at all levels of decision making is absolutely necessary to attain food and nutritional security. Women will require access to information, credit and other business development services in order to capitalize on the new market opportunities along changing or emerging value chains. Capacity building is required to ensure that women remain active and assure important positions in leadership and decision making in economic organizations. Special policies and provision are often required to ensure that women have control over important income generating activities:

- Developing women friendly technology and business environment;
- More women participation in market transaction;
- Capacity development of women for small-scale entrepreneurships;
- Collective action and market linkages;
- Supporting homestead agricultural value addition strategies;
- Recruit more women agricultural workers and increase their participation in the technology innovation;
- Protection of women and children from health hazards during agricultural operation.

Agriculture in the newly accreted Coastal Land and Marine Islands: Bangladesh has acquired or in the process of acquiring a sizeable land area in the Bay of Bengal. Advance planning should be adopted to utilize the land for agriculture expansion. In order to make best use of these land, following measures should be undertaken:

- Research work will be initiated to utilize marine and coastal resources.
- Strengthening research and establishment of research-extensions linkage for development and disseminating salt tolerant varieties and for introduction of new profitable cropping patterns in the newly accreted coastal land and marine islands.
- Steps will be taken to cultivate crops like Khesari, Mugbean, Water melon, Vegetables, Cowpea, Sesame, Sunflower, Groundnut, Sweet gourd, Chilli, Sweet Potato, Barley,

Soybean, Sorghum, Chewing varieties of Sugarcane, Sugar beet and Coconut etc. in the coastal area and marine islands. All these are suitable for marine Islands.

- Mixed fruit (saline tolerant fruit trees) orchards with intercropping and coconut and betel nut cultivation will be promoted for production of horticultural crops.

Seaweeds as Food and for Disease Control: Seaweed is a marine algae and is classified as a plant. It is a versatile plant used as food for human consumption. Seaweeds are used for different purposes such as fodder, fertilizer, industrial and pharmaceutical raw materials, etc. Seaweed has great value in providing low-cost, wholesome nutrition and therapeutic protection. Bangladesh is rich with 133 species of seaweed and eight of them are commercially important. These could be produced commercially in a large scale. Coastal area with sandy and muddy beaches, estuaries and mangrove swamps provides substrate and habitats for various seaweeds cultivation. However, seaweed industry in Bangladesh is at its infancy stage. It is not widely adopted as food due to technological and socio-economic constraints and shortage of skill manpower for wild seaweed harvesting. The technology for the cultivation of different commercially important seed stocks and their improvements will have to be developed through research. In addition, extensive surveys will have to be conducted to identify suitable sites for large-scale seaweed culture. Culture of high value seaweeds should be aimed, as a part of integrated coastal development programme.

Crop Disease Management: Diseases are caused by fungi, bacteria, viruses, viroid, mycoplasma like organism, nematodes, algae, and phaeoorganic parasite in addition to non-biotic reasons such as drought, water logging and mineral deficiency. Increasing knowledge on the epidemic growth pattern has now rendered their control possible. Diseases control measures will be addressed considering the host-environment-pathogen-triangle. Emphasis will be given in developing diseases prediction system that will enable optional usage of fungicides. Various approaches like host resistance; crop cultural practices like, use of resistant variety, crop rotation, cropping system/mixed cropping, seed treatment etc. and sanitation; mechanization and biological control will be strengthened in research and extension activities. This will enable the disease to keep below the Economic Threshold Level (ETL). In the Integrated Disease Management (IDM) approach all the available control technologies are blended to minimize the economic damage caused by diseases for which this action will be pursued vigorously. Moreover, plant quarantine will be enforced to protect agricultural crops and related activities from hazardous organism that may unintentionally get introduced. As such plant quarantine activities will be strengthened to render an efficient service.

Bio-Control of Pest: Several hundred of insect species known to damage agricultural crops inflict severe losses in crop production and some of them damage the produce in storage. These facts emphasized the necessity of effective pest management against crop failure. Currently Integrated Pest Management (IPM) is being practiced. Bio-control of pest is one of the components of IPM. The biological control has great potential in suppressing pest population and causes no environmental pollution. However, bio-control approaches have not been investigated thoroughly and on sustained basis. Therefore, research and development activities in these areas have to be

planned and implemented systematically for the interest of crop protection, human health and safe environment.

Technology based weather prediction and forecasting: Weather plays an important role in agricultural production. It has a profound influence on the growth, development and yields of a crop, incidence of pests and diseases, water needs, fertilizer requirements, physical damage to crops, soil erosion etc. Bad weather may affect the quality of produce during transport and viability and vigour of seeds and planting material during storage. Even on a climatological basis weather factors show spatial variations in an area at a given time, temporal variations at a given place and year to year variations for a given place and time such as: early monsoon, late monsoon, short or long monsoon, short/long summer and winter. Thus, there is no aspect of crop culture that is devoid of the impact of weather. Moreover due to climate change the sufferings to crop agriculture in Bangladesh are very high.

In such cases for optimal productivity strategic planning of crops and cropping practices, short-period climatic data, both routine and processed, have a vital role to play. Therefore, research work need to be conducted to generate technology based timely, accurate and well-organized weather forecasting system in the context of climate change and crop production. In addition to that research for producing crop varieties in considering climatic variability, crop-cultural practices to minimize the effects of mid-seasonal hazardous weather phenomena, medium range weather forecasts with a validity period that enables farmers to organize and carry out appropriate operations will be tried out. There are several international and national studies including those by CEGIS which show that crop yield improves by 10-15% through reduced crop damage by providing localized weather information to farmers. The rapid advances in Information Technology and its spread to rural areas will be used as a tool for reducing impact of such mid-seasonal weather related hazards. Pre-seasonal forecasts with reasonable validity period and field-measures to counter the effects of forecasted hazardous weather, pests, diseases etc. will be a priority of the Ministry of Agriculture.

Rural Human Resources Development: Extension department have been organizing training and demonstration for farmers on agricultural, social and environmental development in their technology transfer process. Several other training institutions teach and train personnel who serve agriculture sector. These institutions are Central Extension Resources Development Institute (CERDI) transforming to the National Agriculture Training Academy (NATA) in Joydebpur, Graduate Training Institute (GTI) attached to Bangladesh Agricultural University (BAU) in Mymensingh and 16 Agricultural Training Institutes (ATIs) located throughout the country; although the training facilities vary considerably among the institutes, they are generally inadequate and need support for overall improvement. The computer labs of Agriculture Information Centres can be used for producing ICT skilled human resources at local level. In order to reduce 'yield gap' government will try to reduce 'information gap'. Modern ICT/MIS tools would be used for agricultural information dissemination. In this connection Farmer's Information

and Advisory Centre (FIAC) has been established at union level linking farmers and extension official through ICT/MIS. This will be further strengthened and expanded in the Seventh Plan period.

4.4 NON-CROP SECTOR STRATEGIES UNDER THE 7TH FYP

4.4.1 Livestock Sub-Sector

Livestock contributes to food and nutritional security, income generation, and forms an important livelihood base for millions of resource-poor livestock keepers in Bangladesh. The rapid population growth, urbanization and the associated increase in the demand for animal products have presented golden opportunities to the livestock industry. While Bangladesh has a high cattle density, yet the current production of milk and meat are quite inadequate to meet the current requirement, and the deficits are estimated to be 57% and 33% respectively. The average weight of local cattle are also low and ranges from 100 to 150 kg for cows and from 150 to 250 kg for bulls that are approximately 25-35% less than that of Indian cattle. Milk yields are also extremely low: 200-250 litre during a 10 month lactation period in contrast to 800 litre for Pakistan, 500 litre for India and 700 litre for all Asia. Besides, on the poultry side there is also large dearth in the availability of eggs. Table 4.6 shows the stock of livestock population and Table 4.7 the shortage in production compared to demand. The current production of these commodities need to be increased at least 2 times by the year 2021 to feed the growing population in the country. This illustrates how urgent is the need to increase the production of milk, meat and eggs.

Table 4.6: Livestock Population (2014-15)

Sl. No.	Species	Numbers (Million)	
		2001-02	2014-15
1.	Cattle	22.46	23.64
2.	Buffalo	0.97	1.46
3.	Goat	16.96	25.60
4.	Sheep	2.20	3.27
5.	Chickens	152.24	261.77
6.	Duck	34.67	50.52

Source: Department of Livestock Services and BBS

Table 4.7: Demand, Production and Deficiency of Milk, Meat and Eggs (2014-15)

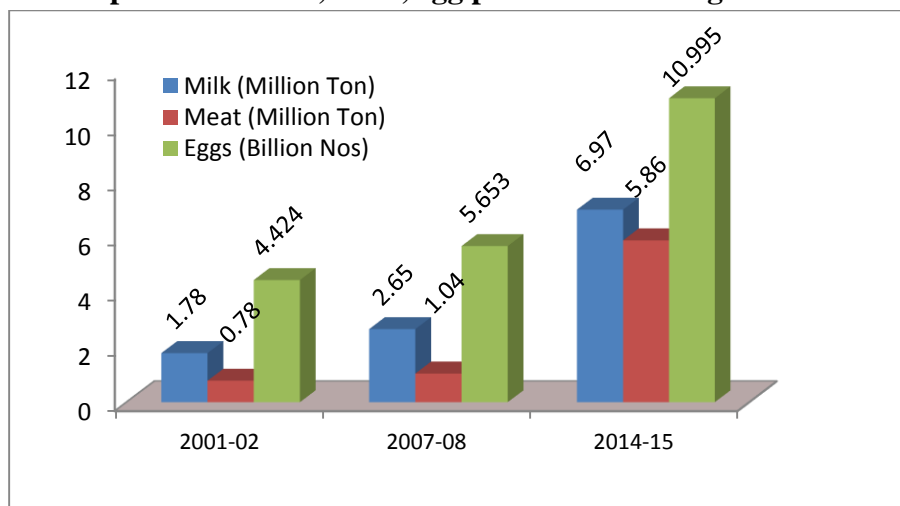
Products	Demand		Production		Availability		Deficiency	
	2001	2015	2001	2015	2001	2015	2001	2015
Milk (Million Tonnes)	11.86 (250 ml/day/head)	14.48	1.78	6.97	37.51	122.00 (ml/day/head)	10.08	7.51
Meat (Million Tonnes)	5.69 (120 gm/day/head)	6.95	0.78	5.86	16.44	102.62 (gm/day/head)	4.91	1.09
Egg (Million Numbers)	13520 (104 nos/year/head)	16504.8	4424	10995.2	34.03	70.26 (nos/year/head)	9096	5509.6

Source: Department of Livestock Services and BBS

Performance of Livestock Sector under 6th FYP

The livestock sector, whose contribution to GDP averaged at 2.5% during FY11-FY13, currently employs around 20% of rural work force and serves as a major source of protein. From a 2% growth during 1980's, its growth averaged 4.4% per year during FY05-.FY09, but fell by roughly one percentage point during FY11-FY13. About 44% of the high quality animal protein comes from livestock sources. Over the last five years, since formulation of the National Livestock Development Policy, Bangladesh has progressed a lot in terms of milk, meat and egg production. The milk, meat and egg production respectively for FY15 had been 6.97 MMT, 4.86 MMT and 10,995.2 million, compared to 2.65MMT, 1.04 MMT and 5,653 million respectively for FY08 and 1.78MMT, 0.78 MMT and 4,424 million respectively for FY01. This data illustrate that the size of the livestock sub sector increased almost 1.00 to 1.50 times between FY01 to FY08 and 3 to 4 times between FY01 to FY15 (Figure 4.4).

Figure 4.4: Comparison of milk, meat, egg production among 3 different fiscal years



Source: Department of Livestock Services and BBS

It is evident from the graph that milk, meat and egg production growth has been accelerated during 6th FYP period. Demand for livestock is buoyant and the growth of demand continues to outstrip supply (Table 4.7 above). The positive supply response is a welcome development. This is an important area where greater policy focus and support would yield substantial positive benefit in terms of growth, employment and consumer welfare. Bangladesh also exports livestock related products, including live animals, raw hides and skin, processed leather and leather goods, gelatine, etc., and in FY14 it ranked third after RMG and shrimp.

Current and Future Challenges in Livestock Sub-Sector

Livestock sector constraints as identified by National Livestock Development Policy are:

Milk Production: Dairy farming in Bangladesh is affected by myriads of constraints such as: (i) limited knowledge and technical skills of smallholder dairy farmers; (ii) scarcity of feeds and fodder; (iii) poor quality of feeds; (iv) frequent occurrence of diseases; (v) limited coverage of veterinary services including poor diagnostic facilities; (vi) lack of credit support; (vii) limited milk collection and processing facilities and low prices at collection points; (viii) lack of insurance coverage; (ix) absence of market information; (x) lack of appropriate breeds and (xi) absence of a regulatory body.

Meat Production: Increased demand for quality meat, beef production has become an important income generating activity for small farmers and a potentially important tool for reducing poverty. Beef production is considered to have high income generating potential, but faces constraints such as lack of appropriate breeds, knowledge gaps of farmers, lack of proper veterinary services and quality feeds. Besides, most meat is handled (including slaughter) under unsatisfactory sanitary conditions in both rural and urban areas. Enforcement of legislation relating to slaughtering or meat inspection is weak. There is generally poor pre-slaughter conditions, sanitation, removal of waste materials, and disposal of offal. Constraints to long term development of the beef industry include lack of improved breeds, low meat quality and limited access to credit and insurance amongst smallholders.

Poultry Development: The backyard poultry units require minimum inputs and are often part of integrated crop aquaculture-livestock farming systems. Their productivity is relatively low but profitability can be high due to low input costs and recycling of on-farm by-products. Commercial production systems use birds of improved genetic stock and reared under semi intensive or intensive management. There are currently an estimated 1,35,000 commercial poultry farms in Bangladesh, supported by 08 Grand Parent Farms and 205 Parent Stock Farms. The constraints facing the sector in general include: (i) lack of infrastructure beyond the Upazila Head Quarters for providing services to poultry farmers; (ii) shortage of skilled manpower; (iii) shortage of duality chicks and breeding materials; (iv) shortage of poultry feed/feed ingredients and high prices; (v) poor quality of inputs; (vi) lack of quality control facilities for medicine, vaccines and biological products, feed and feed ingredients, chicks, eggs and birds; (vii) drug and vaccine

residues in poultry meat; (viii) shortage of vaccines; (ix) lack of organized marketing systems; (x) poor provision of veterinary services and (xi) insufficient credit and capital especially for the poor. The possible threat of Avian Influenza exacerbates some of these concerns and shortcomings and would require additional measures to be taken.

Feeds and Fodder Management: The acute shortage of feeds and fodder is one of the single most important obstacles to livestock development in Bangladesh. The main constraints for feeds, fodder and animal management include: (i) shortage of feeds and fodder; (ii) scarcity of land for fodder production; (iii) seasonal fluctuations in supply of feeds and fodder; (iv) low quality feed; (v) high feed prices; and (vi) poor husbandry practices. Feed resources are primarily derived from crop residues and cereal by-products. Most of the dairy and poultry farmers have been facing the problem of adulterated and inferior quality of commercial feeds and feed ingredients. Feed labelling and control is inadequate. Most feed millers do not disclose the necessary information on the packaging with regards to feed composition, ingredients, date of manufacturing, date of expiry, storage guidelines, energy levels, and protein and vitamin contents. Feed millers are widely suspected of minimizing feed production costs either by use of inferior quality ingredients and/or inclusion of lower proportions of high value ingredients. Poor packaging materials contribute to reduced quality and shelf life.

Breeds Development: Livestock development through the application of science-led methods of breeds and breeding in Bangladesh is still at an early stage of development. Lack of a national breeding policy, use of inappropriate breeds, weak infrastructure (national service delivery, and breeding farms), human capacity and limited technical knowledge have constrained the development of livestock sector. The genetic potentials of local breeds are generally poor and cross breeding with exotic breeds has long been pursued. There are a number of promising well-adapted native livestock breeds in the country (e.g. Red Chittagong cattle, Black Bengal goat, Bengal sheep, Naked Neck chicken etc.), which could be developed into high yielding breeds through cross breeding in a systematic manner. Unplanned and sporadic attempts that were made for breed improvement of various species but not with adequate success, because the initiatives were not based on thorough breed/ genotype testing results and not based on well-thought out and sound breeding goals, breeding criteria, animal recording systems, animal evaluation procedures and animal selection and mating plans. There is no regulatory body or National Breeding Act to regulate breed imports, merits and quality of breeds, breeding materials and breeding services. Within the existing cattle breeding services (including artificial insemination), farmers have little or no idea of the merit and quality of the semen being provided for insemination. The same is true for other species such as goats, buffaloes and applies also to imported germplasm (live animals, semen, embryos, etc.).

Marketing of Livestock Products: There is no developed marketing network and market information system for milk and milk products to support smallholder dairy farmers in the rural areas. Commercial marketing of milk started in the late 1970s by Milk Vita. Milk Vita has established milk-processing plants in various places and collects milk from its cooperative

members. Aarong, Pran and Aftab recently are commercially meeting the demand of processed milk products in the country. Milk production costs are largely determined by feed prices (wheat and rice bran), which are increasing in some cases rapidly.

On the other hand the egg marketing system can be characterized as oligopolistic, under control of the Aratdars who extend credit to the poultry farmers who in turn are obliged to sell through the Aratdars for loan repayment. The time and distance from sourcing to marketing is often long with traditional means of transportation.

Veterinary Services and Animal Health: The quality and quantity of vaccines produced and delivered by the DLS are inadequate. The use of subsidies in vaccine production needs to be rationalized to encourage private investors in this sector. Quality control for standard vaccination needs to be developed (for both local and imported varieties). There are inadequate provisions for movement control and quarantine during disease outbreak or epidemics. Disease diagnostic facilities are also limited to shortage of skilled manpower and fund. There are only few local veterinarians trained in clinical pathology to diagnose diseases properly.

Access to Credit: The following constraints and challenges characterize the credit sector: (i) insufficient funds; (ii) inappropriately packaged loans for production cycles of livestock; (iii) collateral requirements effectively reducing credit access for smallholders, notably the poor; (iv) inadequate loan supervision; (v) insufficient training in financial management and business planning (applies to both loan providers and takers); (vi) inadequate technical support; (vii) inappropriate interest rate policies and practices; (viii) smallholder vulnerability and risk from natural and man-made disasters; (ix) absence of required servicing of the hard-core poor.

Livestock Extension: The mandate and functions of DLS include all activities related to livestock development and control of livestock diseases. The major challenges faced by DLS were identified as (i) Inappropriate mandate and functions; (ii) Structural and Organizational deficiencies; (iii) Thin and weak frontline services at the upazila; (iv) Weak linkage with research organization including BLRI; (v) Weak management system and MIS (management information system); (vi) Slow recruitment and absence of performance based promotion system; (vii) Shortage of skilled manpower; (viii) Lack of regular skill development training and (ix) limited budget allocation for researchers.

Targets and Objectives for the Livestock Sub-Sector

The goals and objectives for the livestock sub sector include:

- To promote sustainable improvements in animal productivity of milk, meat and egg including products processing and value addition;
- To promote sustained improvements in income generation, nutrition and employment opportunities for the landless, small and marginal farmers, and women in livestock rearing; and

- To facilitate increased private sector participation and investments in livestock production, livestock services, market development and export of livestock products and by-products.
- To facilitate development of entrepreneurship for livestock commercial production.

The target for achieving the goals and objectives will be to raise production levels to meet the growing demand through policy support, institutional capacity building, regulatory streamlining, and easing access to credit, increased private participation, providing training on poultry and livestock management, introduction of insurance for livestock farmers, and direct public investments. The projected incremental demand for milk, meat and eggs and the targets during the 7th plan period are shown in Table 4.8 below.

Table 4.8: The Projected Demand and Supply of Milk, Meat and Eggs

Items	The nutritional demand and production (2014-15)		The nutritional demand and production (2016-17)		The nutritional demand and production (2020-21)	
	Demand	Production	Demand	Target	Demand	Target
Milk (million MT)	14.48 (250ml/ person/day)	6.97 (122ml /person/day)	14.61 (250ml/ person/day)	7.70 (131.31ml/ person/day)	15.22 (250ml/ person/day)	9.29 (150ml/ person/day)
Meat (million MT)	6.95 (120 gm/ person/day)	5.86 (102.62 gm/person /day)	7.01 (120gm/ person /day)	6.16 (105gm/ person/day)	7.30 (120gm/ person/day)	6.81 (110gm/ person /daily)
Egg (Million nos)	16504.8 (104/Year /Person)	10995.2 (70.26/Year /Person)	16650.2 (104/Year /Person)	12007.4 (75/Year /Person)	17344 (104/Year /Person)	15843 (95/Year /Person)

Source: Bangladesh Economic Review, Ministry of Finance FY2013/14 and Seventh Plan Projections

Policies and Strategies for the Livestock Sub-Sector

Livestock sub-sector development strategies and policies identified by National Livestock Development Policy include the following:

Livestock extension: Front line extension services of DLS would be updated and extended and resource allocations to it would be increased and would be reformed to enhance its role as a provider of public goods services, viz. regulatory measures, quality assurance and control, monitoring function, food safety function, disease surveillance, while private sector, NGOs and CBOs (Community Based Organizations) would be encouraged to provide more of the livestock services viz. veterinary services, vaccination.

Dairy development: In order to reduce the demand and supply gap, the supply chain based production, processing and marketing of milk and milk products, including co-operative dairy development (Milk Vita model), would be promoted. Smallholder dairy farming integrated with crop and fish culture would be promoted.

Meat production: For bridging the demand-supply gap, production of better beef breeds, improvement in cattle fattening system, more breeding of the “Black Bengal goat”, along with more hygienic avatar system, will be undertaken with necessary knowledge transfer for increased productivity at farm level. Besides buffalo, sheep farming would also be developed in selected high potential areas through special projects.

Poultry Development: Private sector has been investing in poultry farms with positive results. While this needs to continue, successful pro-poor models would be replicated. Policy support will also be provided to help small commercial farms to convert into profit oriented bigger farms following cooperative system. For technology transfer, poultry farms of the DLS would be utilized as breeding and multiplication farms/centres for smallholder training, technology testing and demonstration. To ensure quality and productivity, criteria and guidelines would be established to ensure supply of quality day-old chicks, and quality control of poultry feeds and feed ingredients would be ensured through establishment of a legal body and enforcement of regulations. Bangladesh Livestock Research Institute (BLRI), which has been declared as the National Reference Laboratory for detection of Avian Influenza virus and other emerging diseases, would be strengthened to international standards with adequate trained manpower.

Breeds Development: Conservation and utilization programme of potential indigenous breeds for subsistence semi-commercial farming would be a priority. An autonomous unit/institute would be established for quality assurance and certification of livestock products, vaccines and biologics. Artificial Insemination (AI) is a useful instrument for breed development, which would be further strengthened.

Livestock Research: Research capacity of BLRI and Universities/Institutes, including human resource capacity, would be enhanced to address national priority and untapped potential of regional livestock resources, and to ensure safe production of animal products and by-products, animal protein supplement, feed additives, premixes, probiotics and mineral and vitamin supplements as inputs for poultry and livestock development. Private and NGO initiatives in livestock research would be encouraged and supported.

Veterinary Services and Animal Health: Policy support will be provided to accelerate the development of private and community-based veterinary services, including compliant private veterinary diagnostic centres, clinics and hospitals. An autonomous Quality Control Agency would be established to ensure quality of veterinary drugs, vaccines, feeds, feed ingredients and breeding tools and materials.

Feeds, Fodder and Animal Management: Long term fodder development programme would be taken throughout the country, including large scale private sector participation, to minimize the acute shortage of feeds and fodder. A strategy would be developed for community-based fodder cultivation along roads and highways, rivers and embankments, in Khas lands and in

combinations with crops. An Animal Feed Act would be approved and implemented to ensure feed quality.

Hides and Skins: An autonomous agency would be needed for quality control and certification of hides and skins, and environmental legislation on slaughter and tannery operations would be framed and enforced; and butchers and merchants (Farias, Beparis and Aratdars) would be trained on basic knowledge of flaying, curing and storing for improved management and quality of hides and skins.

Marketing of Animal Products and Value Chain Development: Traditional animal products marketing system will be improved through linking products to market and processors as well as value chain development activities will be facilitated.

Access to Credit: Smallholder dairy producers and entrepreneurs will be facilitated through allowing access to bank financing at an affordable rate of interest which will be farmers friendly.

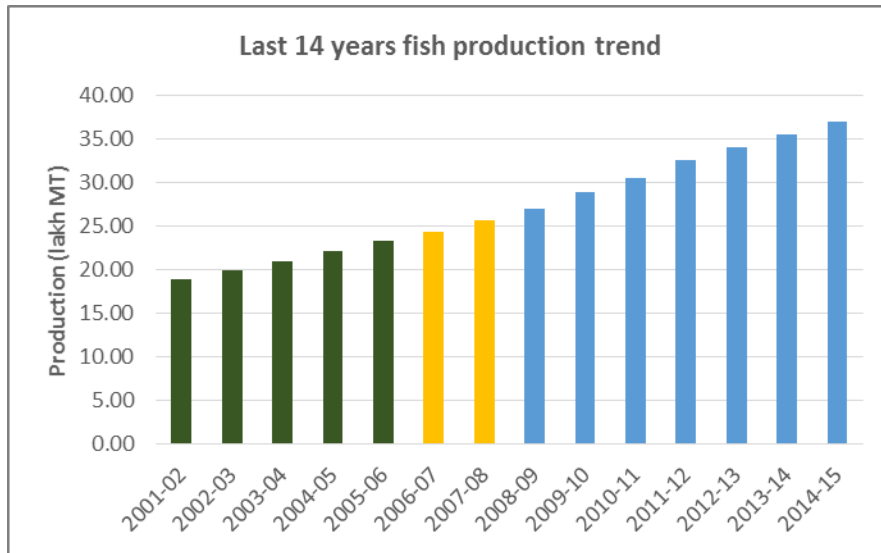
Subsidy for marginal farmers: As 20% population are directly and 50% are indirectly involved in poultry and livestock for their livelihood. So, to eradicate poverty of major portion of the rural people, it is reasonably required to give subsidy in poultry and livestock inputs (feeds, etc.) for respective marginal farmers.

4.4.2 Fisheries Sub-Sector

Performance of Fisheries sub-sector under 6th FYP

The fisheries activities can broadly be classified under three categories: inland capture fisheries, inland culture fisheries, and marine fisheries, where the inland aquaculture contributing more than 55% of total production of this sector. Fisheries sector plays a very important role in the national economy having a share in GDP of about 3.69 percent and engaging more than 11% of rural labour force. GDP contribution of fisheries sub-sector over the last 10 years (FY06 to FY15) varied from 3.67 to 3.79 percent. There had been several actions undertaken for increasing fish production. These included increasing total water area for aquaculture, augmenting open water capture fishery, ensuring access of the poor and genuine fishers to fish cultivation, accelerating aquaculture farming, developing technologies through supporting fishery research, disseminating evolved technologies through strengthening extension services, promoting private sector, improving fish marketing and processing system, quality control and so on.

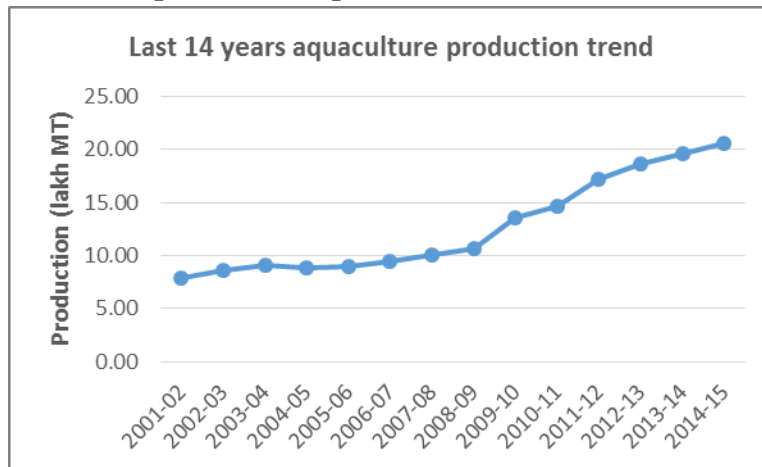
Figure 4.5: Comparison of Fish Production in last 14 Years



Source: Department of Fisheries and BBS

Figure 4.5 suggests that fish production increased almost 200 percent in 2014-15 (projected: 37.03 lakh MT) in comparison to the baseline production of 2001-02 (18.90 lakh MT). Where, the growth rate of aquaculture production is remarkably increased due to socio-eco-friendly interventions taken by the present government (regimes started from 2009). The average aquaculture growth rate was 4.72%, 6.18% and 11.04% during the period of 2001-02 to 2005-06, 2006-07 to 2007-08 and 2008-09 to 2014-15, respectively (Figure 4.6). According to FAO statistics 2014, Bangladesh is ranked 4th in capture fisheries and 5th in world aquaculture production.

Figure 4.6: Comparison of Aquaculture Production in last 14 Years



Source: Department of Fisheries and BBS

Total aquaculture production has been increased by 82.65% in the year 2008-09 to 2014-15 in comparison to the same time span i.e., 2001-02 to 2007-08. Aquaculture contribution toward total

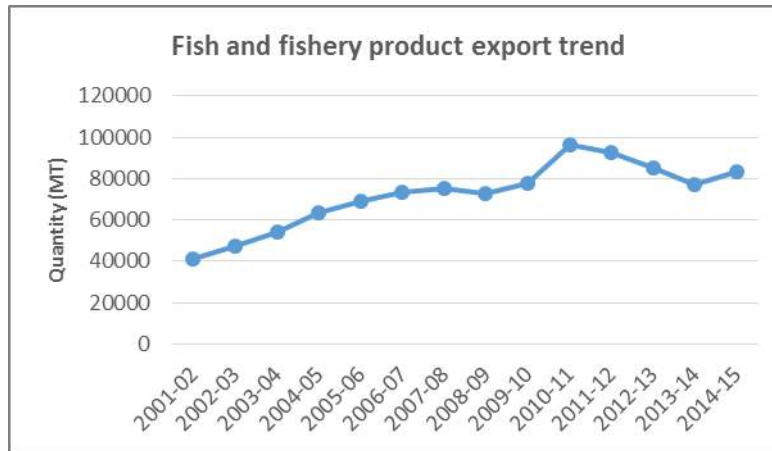
fish production was around 40 percent on average during the period of 2001-02 to 2007-08, which has been raised to about 51 percent on average in the year 2008-09 to 2014-15 due to expansion of location-specific and suitable technologies at growers' level.

It would be noteworthy to mention that, hilsa production substantially increased due to undertake a number of social and technical interventions by the present government. The average annual hilsa production during the period of 2001-02 to 2005-06, 2006-07 to 2007-08 and 2008-09 to 2013-14 were 245.69, 284.60 and 339.16 thousand MT, respectively. Where as in 2013-14, hilsa production even increased at 385.14 thousand MT. This success is accelerated due to active consideration of social safety net programs like VGD, VGF and alternative income generating activities (AIGAs) by the government. Available information reveals that, in the year 2004-05 to 2007-08 only 6.91 thousand MT food grains were distributed among the hilsa fishers, where from 2008-09 to 2014-15 total 158.78 thousand MT food grains were distributed by the present government.

The sub sector's contribution to the national economy is significant, as it provides about 60% of the animal protein intake and more than 17.7 million people are engaged with this sub sector on full time and part time basis. At the end of the 6th FYP, additional average annual employment in fisheries sector is increased from 0.3 million during the period of 2001-02 to 2007-08 to 0.65 million in the year 2008-09 to 2014-15. Women participation in aquaculture interventions and fisheries resource management is substantially increased, almost 20 percent of the total beneficiaries. A combination of export and buoyant domestic demand has spurred profitability and growth of fisheries activities. Real prices have been increasing providing incentives for further investment and expansion in this important agricultural activity.

Fisheries sector has been earning a notable amount of foreign exchange. In 2014-15, the country earns almost Tk. 4660.60 crore by exporting almost 84.0 thousand MT of fish and fisheries products. Export volume is substantially increased from 2009 and onward due to address the all possible compliance issues by the present government. Presently the Department of Fisheries (DoF) successfully operating three Bangladesh Accreditation Board (BAB) accredited Fish Inspection and Quality Control (FIQC) Laboratory, which are well-equipped with modern and sophisticated machineries (like LC-MSMS, UPLC, ELISA, AAS, PCR) to comply the international standards. Note that, the average export volume of fish and fishery products were 55040, 74502 and 83605 MT during the period of 2001-02 to 2005-06, 2006-07 to 2007-08 and 2008-09 to 2014-15, respectively (Figure 4.7).

Figure 4.7: Export Trend of Fish and Fishery Product in last 14 Years



Source: Department of Fisheries and BBS

There has also been a structural change within this sector as the importance of small-scale open water fisheries declined while close water culture fisheries grew. The current good practices of open water fisheries management such as replenishing stock and developing and implementing fisheries management regulations; preserving fish sanctuaries; banning fish catch during certain periods and ensuring community based fisheries management; protecting dry season water flows, restoration of habitat and fish species; integrated Coastal Fisheries Resource Management; maintenance of ecosystem health and management of pollution; coping with climate changes has yielded positive results. The recent success in Hilsa management programme, and the achievement of a number of other aquaculture programmes as MACH, CBFM-II and others, point to the way forward for management of the inland and coastal/marine capture fisheries.

During the implementation of 6th FYP, a number of regulatory frameworks have been developed to harness the potentials of aquaculture and fisheries resources. Fish Hatchery Act 2010, and Fish Hatchery Rules 2011; and Fish Feed and Animal Feed Act 2010, and Fish Feed Rules 2011 have been approved by the government to ensure good quality fry/fingerlings (seeds) and good quality fish feeds at farmers'/entrepreneurs' level. To sustain the aquaculture industry, National Aquaculture Development Strategy and Action Plan of Bangladesh (2013-20) and National Shrimp Policy 2014 have been approved by the competent authority, following the aims and objectives of National Fisheries Policy 1998 and National Fisheries Strategy 2006.

Challenges facing Fisheries Sub-Sector

Degradation of natural resources: Production from the four million hectares of seasonal floodland is by far the most important component of the inland fishery, which includes floodplains, *beels* and rivers. As monsoon water annually spreads across the floodplain, nutrients are released and primary production increases many fold. However, encroachment and degradation of natural resources, rapid urbanization, and infrastructure investments have emerged as challenges that have negatively impacted fisheries, and increased pollution.

Inland capture fisheries: Conservation and sustainable management: Until recent decades, most part of the fish consumed came from inland capture fisheries. This segment is now shrinking (as evident from fish species generally available in the market) mainly because of over-fishing, use of destructive gears, silting up of water bodies, closure of natural fish passes, non-fishers' control of the jolmohal by mal-practices in lease and by encroachment; and pollution of water bodies by agro-chemicals, industrial wastes and urban sewers etc. The result is sharp decline of inland capture fisheries, which was a main source of livelihoods of the poor fishers and a source of free protein supply for many rural households. Particularly, fish availability in the rivers, estuaries, beel, haor, baor, Kaptai Lake and the Sundarbans remained on declining trend.

The challenge of declining capture fishery could be reversed with right policies, regulations, investments, and management. The key elements of such strategies would be to enhance the current good practices of open water fisheries management, like the recent success in Hilsa management programme. Implementation of these measures is fraught with a lot of difficulties, but limited examples of good practice, like the Hilsa management, show a way forward. Maintaining sanctuaries combining banned seasons, gear restrictions and protected areas is hindered by lack of alternate livelihood supports to fishermen particularly during banned seasons. Enhancing Social Safety Net support to fisher-folk will be required.

Inland aquaculture: Among various segments of the sub sector, the inland aquaculture experienced fastest growth mainly through the introduction of new technologies, species and intensification and improvement of farming particularly in pond aquaculture, all over the country. This has been accompanied by some new challenges, such as the following:

- Poor brood stock management
- Inadequacy of the supply of fish and shrimp spawn and fries of desired quality and from reliable source at reasonable price
- Low availability of reliable and quality fish feed at reasonable cost
- Spread of infectious diseases of both fish and shrimp
- Lack of institutional capacity to assist with the needed extension service, ensure supply of quality inputs and quality of the produce and supply chain development.

The main support needed and provided for sustainable development of inland aquaculture is nationwide extension service by the DOF presently down to Upazila level. Inadequacy of field level manpower is the main constraint in this regard. Another constraint is scarcity of quality fish fry and fingerling. Private hatcheries have developed all over the country and they produce more than enough fish fry. But, due to lack of proper supervision and monitoring from the GoB side, the quality cannot be ensured. The same applies to quality of shrimp fry and feed quality for both fish and shrimp farms. The Fish Seed Multiplication Farms (FSMF) down to district and some of the important Upazilas, in the past produced and supplied fish seed and fish fry to nurseries and farmers. Increasingly, the private hatcheries have taken over this role, now producing about 99%

of fish fries. The challenge is one of quality control and regulating of the private hatcheries for quality and imparting training to the private hatchery and nursery operators.

Marine fisheries resource management - Conserving marine fishery resources and expanding marine fishing zone: As discussed in Chapter 2 Part 1, the informed use of ocean resources for development is an important part of the 7th Plan strategy. In this regard, the proper harvesting of marine fishing is important. The marine fisheries resources of Bangladesh already imparts crucial role in the economy of Bangladesh contributing about 17% of the total fisheries production of 3.55 million MT during 2013-14. The entire industry of shrimp aquaculture depends upon on marine sector for steady supply of berried penaeid shrimp to ensure supply of post larvae. A number of confronting issues like overcapacity of fishing effort, infringement of rules and regulations, entry of illegal fishing vessels and pouching in the Bangladesh EEZ (up to 200 nautical miles from the baseline comprising 118,813 sq. km of maritime waters), long gap exploratory survey on stocks assessment, intense and overfishing deploying destructive and illegal gears, shift in climate change paradigm, IUU (illegal, unreported and unregulated) fishing, destructive fishing, pollution, catching of juveniles, degradation of highly productive coastal and near-shore marine habitats like coral reefs, mangroves, estuaries, spawning and nursing grounds seriously impacts our marine fisheries productivity disrupting ecosystem function. If overfishing continues at an alarming rate then a time will come when important fishery will reach a point of no return jeopardizing the whole industry. In order to establish a comprehensive plan for sustainable conservation, management and exploitation of resources from the sovereign marine waters the present status of fisheries resources and its future potential for the national economy needs to be framed out.

Shrimp and brackish water aquaculture, and sustainable development of shrimp and prawn farming: It is generally agreed that both freshwater and brackish-water aquaculture will continue to grow at about 5.6% and 3.2% per year respectively. Aquaculture specifically shrimp and prawn production, which is also an export earner, involves manufacture of numerous inputs such as feed, fertilizers, pesticides and veterinary drugs, as well as of technical devices for water treatment and pond operation. The off-farm post-harvest production links also include processors and marketing agents (packaging, transport, export-importers, consumers, quality control).

While shrimp and brackish water aquaculture expanded massively during 1980s and 1990s, it has been experiencing several threats. In past years there were problems with shrimp cultivation and processing, such as, quality assurance and traceability and inadequacy in social compliance, which affected export. Recently, during 6th Plan, the quality assurance system with regards to fish and fishery products have been improved remarkably. Laboratory facilities for microbiological, residual and chemical testing have also been raised up to the European standard and sustained successfully. The implementation of National Shrimp Policy 2014 will ensure right strategies and policies to be taken for helping this potential sector to grow in a sustainable way.

While our processors and hatcheries have created excess capacity, shrimp production could not reach the desired and potential level. One reason is that our shrimp farms, particularly the brackish water bagda farms, use very traditional and extensive method, hence yield remains very low, only about 200 kg/ha.

Marketing: While Bangladesh Fisheries Development Corporation (BFDC) is involved in the processing, transportation and marketing of fish and fish produce, their role is now decreasing, with the private sector expanding fast and has substantially taken over the role. The challenge will be for the public sector to provide regulatory oversight and quality assurance and play a more facilitative role providing appropriate extension and technology dissemination services, so that private sector continues to innovate and invest in the supply chain.

Quality assurance: Concerns remain in quality assurance. In the past, the product quality control measures were limited to export and particularly of shrimp. Even then, it was not possible to adequately comply with the maintenance of HACCP standard and experienced return of containers for detection of Nitro furan and other hazardous chemicals. For such problems, shrimp export, particularly to the EU countries was hampered and temporarily closed several times. The challenge is to overcome this situation, it will be highly essential that the laboratory capacity of DOF and other GoB agencies are enhanced, not only by procuring equipment, but also with trained manpower and provision of operating expenses.

Besides GoB laboratories, the processing plants should be compelled to establish and manage own QC labs and an international accreditation system should be established networked to both GoB, industry-operated and NGO-promoted QC labs. This strategy has been proven successful in China and is likely to yield good result in Bangladesh. These should include adequacy of policies, appropriateness of institutional framework and human resource needs and capabilities.

Climate Change: Of the major long-term environmental concerns, global climate change is the most serious issue likely to affect Bangladesh over the coming decades. Although impacts of global warming are still far from precisely predictable, the prospect is sufficiently probable and alarming to warrant precautionary action at both national and international levels. Both coastal and freshwater fisheries are likely to be adversely affected by changing temperature, siltation, inundation and salinity regimes.

Other Challenges: While aquaculture has been progressing with reasonable success as a result of various technologies developed and disseminated, some new and challenging issues have cropped up in the process, which need to be seriously addressed to maintain the current growth of the aquaculture industry. Some of the important issues are listed below:

- Brood stock management and quality seed production
- Quality fish feeds and other farm inputs
- Threatened aquatic bio-diversity

- Infectious fish and shrimp diseases
- Quality of aquaculture and fisheries products, promoting value addition and trade issues
- Commercial pearl culture
- Understanding riverine fishery dynamics
- Livelihood changes of riverine and coastal fishermen
- HACCP and traceability with respect to shrimp export

Research: Fisheries research need to be upgraded to continue the flow of technology generation. Various policies of other ministries impinge upon fisheries sub-sector development because these policies regulate the availability of, access to and use pattern of the open water bodies. These need to be coordinated and a necessary legal framework needs to be formulated. Quality assurance in fish harvesting, processing, marketing and export need to be especially emphasized and appropriate actions undertaken.

Goals and Strategies for Fisheries Sub-Sector during 7th FYP Period

The vision 2021 of the government targeted to achieve its goals of self-sufficiency in food and thus increased food security, which includes attaining self-sufficiency in production of fish and shrimp and generate surplus for export, along with improvement in food safety standard of fish production. The 7th plan will also promote increased participation of women in fish cultivation. These require achieving a dual objective of enhancing productivity, livelihoods security and equitable distribution of benefits side by side with the conservation of potential fisheries resources and aquatic biodiversity of rivers, beel, haor, baor, flood plains and other water bodies.

The strategies for achieving the goals and objectives will be as follows:

a. Open water fisheries management

- Control of pollution of the rivers in which the main actor will be the Ministry of Environment in collaboration with other concerned agencies.
- Prevent further deterioration of water logging, blockade of water-flows and shrinkage of water-bodies by infrastructures like embankment, roads, urban housing projects and industrialization. Such projects must follow the environmental rules and regulations (including EIA, SIA, etc.) and incorporate adequate mitigation measures in consultation with the Ministry of Fisheries and Livestock.
- In the case of such problems created by existing infrastructure, projects and programmes will be implemented to construct and maintain fish-passes, fish-friendly regulators, re-excavate canals and rivers restoring and conserving productivity as much as possible.
- Establish and maintain fish and wetland sanctuaries which will comprise complete ban on fishing in certain eco-sensitive areas like Sundarbans, parts of Kaptai Lake, and several sections of the

river Halda, selected beels and haor areas and certain sections of the Bay of Bengal etc. Similarly, along the major rivers having parallel channels, selected ones will be preserved.

- The conservation strategy will specially include seasonal ban, gear restriction, identifying genuine fishers by providing ID Cards, species restriction, and alike.
- Besides strict implementation of the Fish Act, 1950; government will look into the possibility of making available insurance schemes for the fish farmers, and will assist the fisher folk accessing Social Safety Nets like VGD and VGF and alternative livelihoods support during the restriction period of fish catching.
- The fishermen will be organized in sustainable community based organizations and such organizations will be given management responsibility of khas jolmohal on long term basis so that they conserve rather than just exploit resources. Present short term leasing system, often benefiting the influential elite and the leaseholder not taking any effort to conserve, will gradually be replaced by the long term lease to organizations of genuine fishermen who will be trained in sustainable management and provided other support.
- Daudkandi model of seasonal floodplain aquaculture will be further promoted to expand all over the country but with added emphasis to combine maintaining sanctuaries in the important beel and haor areas; keeping enough opportunities to free flow of water between rivers and beels; rearing fries of various indigenous species in nurseries and supplementing natural stock.

b. Inland aquaculture

- Maintain purity of brood stock of indigenous carp and other indigenous fish species conserving the natural breeding, spawning, nursery and grow-out areas to complete the whole lifecycle and natural reproduction process.
- Purebred brood fish of commercially important indigenous fish species will be maintained in the selected Fish Seed Multiplication Farms of the DOF, research stations of the BFRI, other GoB establishments and promoting private and NGO hatcheries with facilitation and monitoring support by the DOF and BFRI.
- Brood fish from the above source will be distributed to the GoB hatcheries and selected private and NGO hatcheries to produce good quality fish seed and fries of commercially important and endangered species.
- Operation of hatcheries, nurseries and supply of spawn and fry, in which private sector is the key player, will be constantly monitored by GO-NGO collaboration and public private partnership. Compliant hatcheries will be awarded quality certification. Advertising in the printed and electronic media must contain such reference of quality certification. Gradually, marketing of fish fry and spawn without holding quality certificate will be banned, initially in the selected districts and then all over the country.
- Production, import and marketing of fish and shrimp feed, feed ingredients, minerals and vitamin premix, and other inputs, in which private sector is the key player, will be

constantly monitored by GO-NGO. Compliant feed mills and other enterprises will be awarded quality certification.

- Aquaculture and conservation will be restructured to reinforce the strengths of each other, sustainable and community based flood plain aquaculture will be combined with maintaining sanctuaries and restocking of indigenous species
- Pen culture and Cage culture will be further promoted but guided and monitored for species selection, location, target group identification, and feed and input use etc. Special care will be taken to restrict pen and cage culture of exotic carnivorous species like piranha. Species promoted for cage and pen culture will include all indigenous carp species, mono-sex tilapia, shorputi, shrimp, prawn, and selected exotic carps etc.

c. Shrimp and coastal aquaculture

- Government defined shrimp farming zones in the coastal region based on natural advantages of shrimp and prawn farming with restitution of water management infrastructure in each zone to optimize production and environmental sustainability. Different methods of aquaculture and farming system will be promoted in different zones depending on suitability- such as shrimp with salt limited to south eastern Cox's Bazar district, shrimp with paddy in Khulna and Satkhira districts, mono-crop improved extensive shrimp farming in limited areas of both southeast and southwest regions, improved traditional golda farming in areas like Bagerhat, northern Khulna and banning extensive shrimp farming in low-saline and non-saline areas.
- Introduction of Specific Pathogen Free (SPF) shrimp by private sector, which is duly facilitated by the government.
- Production of virus-free shrimp PL requires availability of virus free mother shrimp which is becoming scarce. Conservation of shrimp and prawn parent stock and their harvest by stress-free trawling, transportation and rearing in the hatcheries will be facilitated. To ensure supply of virus-free shrimp PL, all hatcheries will ensure PCR test of both mother shrimp and shrimp PL and DoF will provide certification of PL quality of both golda and bagda hatcheries.
- Import of both golda and bagda PL will be controlled, including illegal border trading.
- Extension support and research extension linkage will be strengthened.
- Community organizations of shrimp farmers and other primary stakeholders will be supported with technology, input, financing and market linkage by contract growing system run by the processing plants and monitored by the DOF and partner NGOs.
- Traceability of supply source, with e-Traceability and subsequently screening throughout the supply chain, will be ensured by contract growing and marketing system which will also ensure supply of virus-free PL, good quality and contamination-free feed and other inputs at reasonable price.

d. Marine Fisheries and Exploring Blue Economy

The marine fisheries resources of Bangladesh play a crucial role in the economy of Bangladesh contributing about 17% of the total fisheries production of 3.55 million MT during FY14. The entire industry of shrimp aquaculture depends upon on marine sector for steady supply of berried penaeid shrimp to ensure supply of post larvae. In order to establish a comprehensive plan for sustainable conservation, management and exploitation of resources from the sovereign marine waters as well as explore the new opportunities of Blue Economy the present status of fisheries resources and its future potential for the national economy will be framed out. The strategies and actions shall include:

- Rapid assessment of fisheries stocks by species in recently resolved South-West waters of EEZ (19,467 sq.km)
- Formulation of National Marine Fisheries Policy during the 7th Plan
- Restrict and control pouching of resources and illegal entry of foreign trawlers
- Identify conservation needs and methods that can be effectively administered and regularly monitored
- Cooperate with the Coast Guard and Navy on the control of encroachment and breach of regulation, also by local vessels.
- Institutional capacity building of the concerned agencies, strengthening of monitoring, Control and Surveillance System (MCS) in the Bay of Bengal.
- Promote development of technology for production of seed for culturing marine fish, and seaweed.
- Collaborative effort for distant water fishing (beyond 200 miles of EEZ and Area Beyond National Jurisdiction (ABNJ)) to explore and exploit tuna and large pelagic fishes.

In pursuing the strategy, efforts will be made to achieve the projected targets listed in Table 4.9 below.

Table 4.9: Projected Production and Demand

Source	Baseline (2013-14)			Projection (2020-21)		
	Water area ('000 ha)	Total production ('000 MT)	Production (kg/ha)	Water area ('000 ha)	Total production ('000 MT)	Production (kg/ha)
1 River, estuaries	854.00	167.37	196.00	854.00	169.05	197.95
2 Sundarbans	177.00	18.37	103.00	177.00	21.28	120.23
3 Beel	114.00	88.91	779.00	114.00	104.72	918.60
3 Kaptai Lake	69.00	8.18	119.00	69.00	11.25	163.04
4 Floodplain/Haor	2696.00	712.98	265.00	2617.00	841.20	311.32
Total open water	3910.00	995.81		3831.00	1147.50	
5 Pond/Dighi	371.00	1526.16	4110.00	393.00	1982.39	5044.25
6 Baor	6.00	6.51	1187.00	5.00	8.10	1620.00
7 Seasonal cultured water-body	137.00	207.80	1531.00	211.00	492.45	2333.89
8 Shrimp/prawn Farm	275.00	216.45	786.00	275.00	226.60	824.00
Total aquaculture	789.00	1956.92		884.00	2709.54	
9 Marine Artisanal	0.00	518.50			603.72	
10 Trawler	0.00	76.89			91.25	
Total marine		595.39			694.97	
Grand total		3548.12			4552.01	
Total Demand		3792.00*			4528.00**	

Source: Department of Fisheries and background paper.

** Including other uses fish (export + fish meal + wastage); **Considering 60 gram per capita consumption and BBS projected population growth*

4.5 FORESTRY SUB-SECTOR

The main objectives of the Sixth Five Year Plan were to expand forest resources, make forests productive, develop institutional capacities, and to encourage peoples' participation. There was also a vision to achieve 20 percent forest coverage by the end of 2015 as expected in the Twenty Years Master Plan (1995-2015) prepared for Forestry Sub- sector. In line with the above objectives, plantation target of 302,000 hectares was fixed for the plan period. Accordingly many development projects were undertaken with the financial assistance from development partners, Bangladesh Climate Change Trust Fund (BCCTF), Bangladesh Climate Change Resilient Fund (BCCRF) as well as government's own resources. Against the set target about 57,186 hectares of plantations were raised in last 4(four) years and additional 8,628 hectares will be raised during terminal year of the 6th Plan which will make only 21.80% achievement. Due to non-availability of suitable newly accreted lands in coastal areas caused impediments to achieve plantation target. Also, because of competing demand for agriculture land and also illegal settlements resulted in

loss of forest land which also undermined achieving of the target of 20 percent forest coverage by the end of 2015.

During the 6th FYP, all plantation programmes were implemented in marginal lands and buffer zone of forests under participatory approach involving surrounding poor peoples and forest dependent communities respectively. The success of participatory forest management in Modhupur Forests of Tangail district got appreciation from different authorities and got 'HSBC-Star Climate Award' in 2012. Such programmes have already established an indication of future increase of forest cover throughout the country.

During the 6th Plan coastal afforestation in newly accreted chars in the coastal areas was given due emphasis and about 24,646 hectares plantations were raised during last four years and another 3,420 ha. will be raised in this year. Green belt, though not contiguous, was established in the coastal zone to serve as shelterbelt against cyclone and tidal surge. The scope of coastal afforestation will be increased in future as a result of re-fixing of maritime boundary of the country. Raising plantation along the side of the roads and embankments was continued to establish 500 meter wide permanent green belt along the coast. During plan period about 13,864 km. strip plantations were raised and 53 million seedlings were distributed for homestead planting.

All possible interventions were undertaken to conserve biodiversity of the Sundarbans Mangrove Forests. Extraction of all types of trees was stopped after cyclone Sidre and proposal for total stop of harvesting forest resources in Sundarbans Mangrove Forests is now under active consideration of the authorities. To protect Royal Bengal Tiger, the main flagship wildlife species of Bangladesh, Tiger Action Plan is prepared for 2009-2017 period and accordingly different conservation activities have been implemented. During the last plan period efforts were made to strengthen capabilities of Forest Department by imparting training to officials and staffs on wildlife conservation, construction of smart green infrastructures in the forests and providing necessary logistics.

Adequate emphasis was given during the 6th FYP to the effective biodiversity conservation in the country. Accordingly initiatives have been taken to establish wildlife division and national park, botanical garden and eco-park in selected areas. The Protected Area (PA) coverage is increased to 10.72% from 10% of the total forest area of the country.

Social Forestry programme has got momentum in the last few years. About 500,000 poor people are involved in Social Forestry Programme. More than Taka 2,080 million is distributed among 105,633 beneficiaries. Among the non-wood forest resources 2,940 ha. bamboo 2,667 ha. cane, 1,050 ha. murta and 850 ha. golpata plantation has been raised during the last plan period.

Major challenges for Forestry Sector revolve round the following:

Land record and demarcation: As scarce and valuable resource, absence of proper document and conspicuous demarcation of forest lands and lengthy procedure of disposing up land related

cases in the courts have been encouraging unauthorized and illegal possession and encroachment by influential quarters and causing shrinkage of forest area of the country. Ever increasing population pressure and rising demand of land for homestead, agriculture, urbanization, industrialization, construction of road network etc., are all serious threats to the existence of remaining forests. Effective enforcement and prosecution of the Forest Act, 1927, Environment Protection Act, 1995 and Wildlife Protection and Security Act, 2012 can help protect forest resources.

Protection of Forest Resources: The demand for timber, fuel wood, poles and saplings, mainly as fuel wood mainly for cooking, brick burning and tobacco curing, making huts, thatches and sheds of betel leaf plantations are the main threats to the existence of forest.

Forest Management in Chittagong Hill Tracts: In Chittagong Hill Tracts the Unclassified State Forests (USF) fell vacant and unutilized due to long outstanding land tenure conflict. These forests have potentials for meeting the major demand for forest produce of the country and could supply raw materials to forest-based industries. For creating enabling situation for national forest programme implementation the conflict resolution is crucially important.

Inadequate Human Resources and Logistics: Forest land and resources growing over it are both scarce and valuable and in an over populated country like Bangladesh suffering from unemployment and poverty, protection of these valuable open resources is quiet difficult. Moreover, multidimensional activities like wildlife and eco-tourism management, promotion of eco-system services, climate change mitigation and adaptation activities, carbon sequestration and trading etc. are now associated with forest conservation. It needs appropriate institutional framework with adequate trained manpower to face future challenges for sustainable forest management. It also requires re-structuring of Forest Department for strengthening capacities.

Goals and Objectives for the Forest sub-sector under the 6th Plan:

The development vision of the forestry sub-sector is to expand forest resources of the country for maintaining ecological balance and sustainable economic growth. In Forestry Sector Master Plan (1995-2015) a target was fixed to achieve 20 percent forest coverage by the end of 2015. But now it is clear that it is not achievable at all because in a land scarce country like Bangladesh there is hardly any scope to spare additional lands for forestry except newly accreted chars in the Bay of Bengal. It is not enough encouraging as the tree coverage of the country has increased to 19.2% with only $\geq 10\%$ tree density. During the 7th plan period emphasis will be given to increase tree density $\geq 70\%$ by improving stand quality through different management interventions.

At present forestry sub-sector is getting more importance in government policy and strategy. Budgetary allocation has increased to accomplish new forestry programmes. More avenues are opened such as ‘Bangladesh Climate Change Trust Fund’ and ‘Bangladesh Climate Change Resilient Fund’ to support forestry sub-sector in climate change perspectives. In this scenario development initiatives will be taken with following objectives:

- Conserve and protect forest ecosystems for biodiversity and overall environmental stability, and implement forestry development programmes with due emphasis on climate change adaptation and mitigation;
- Continue and expand people oriented afforestation programme for poverty alleviation and increased employment opportunity for forest dependent community including women;
- Strengthen and expand co-management system in all Protected Areas (PAs) to achieve meaningful participation of local people through CBO, local government bodies and government agencies in forest conservation;
- Protection of wildlife and control illegal trade of wildlife and trophies;
- Institutional and human resources development;
- Watershed management and soil conservation;
- Promote multiple land use technology to ensure increased productivity and supplement agricultural production, and encourage private plantation of rubber, orange and non-traditional fruits like chalta, olive, wood apple, cashew nut, amloki, horitaki, bohera, lotkon etc. and other high-value trees;
- Expand facilities for eco-tourism and recreation.

Strategies and Policies of the Forest Sub-Sector

In line with the objectives mentioned above strategies and policies for the forestry sub-sector will be as follows:

- Moratorium on felling in the natural forests will continue. Existing natural forests, denuded hills and scattered tree forests will be divided into ‘core zone’ and ‘buffer zone’ and assisted natural regeneration will be initiated to improve and conserve biodiversity in the core zone. The productivity of the buffer zone will be enhanced for meeting local demand of forest produce. Scientific management principles will be strictly followed to restore productivity of these lands.
- Necessary programmes will be taken to improve quality and increase tree density of the existing forests and older plantations through ‘enrichment planting’ and ‘assisted natural regeneration’.
- Plantation activities in coastal zone will be intensified with the aim of strengthening adaptation and mitigation initiatives against climate change impacts. Due attention will be given for selecting suitable plant species.

- An estimated 50,000 ha. land of hill forest and 5,000 ha. of plain land forest will be planted during the plan period. Productivity of plantations will have to be increased. Multi-purpose trees will receive special attention to increase the productivity of land under forest.
- People's participation will be continued in afforestation programme in all marginal lands and buffer zone of forests. Integration of tree plantation and crop cultivation will be practiced. Programme to rehabilitate the degraded Sal Forests will be taken up as part of important development activities.
- The existing coastal afforestation and enrichment plantation will also be continued. The existing mature coastal plantations will remain for reinforcing green belt. An area of 30,000 ha. will be planted and replanted in the coastal areas.
- Due importance will be given to the Sundarbans Mangrove Forest for its biodiversity conservation. Different measures will be taken to conserve and protect wildlife with special attention to Royal Bengal Tiger. The activities of 'Emergency Tiger Response Team' and 'Village Tiger Response Team (VTRT)' constituted with the local peoples of surrounding villages will be continued for relaying stray tigers.
- To prevent the extent of damage by cyclones and tidal surges, creation of 500 meter wide permanent Coastal Green Belt along the coast will be continued and remaining vacant spaces will be brought under tree cover. Moreover, seedling will be raised to sell in subsidized rate for the coastal zone to facilitate homestead and private plantation.
- The Reed lands of Sylhet region have long been lying unutilized. Under the 7th Five Year Plan 5000 ha. of Reed lands will be planted. The clear-cut demarcation of Reed land is prerequisite for effective management of this fresh water swamp forest.
- Social forestry has become a social movement in Bangladesh. Social forestry programme will continue for expansion and strengthening of upazila nurseries, union level nurseries, expansion and strengthening of forest extension and nursery training centres. An estimated 20,000 km. of strip plantations will be raised during the plan period. Local government bodies will co-ordinate the afforestation programme at the grass root level under this programme. During the 7th Plan, NGOs will be more directly involved in afforestation programme. They will motivate people through informal training and other extension services and will assist Forest Department to implement such programme.
- Researches indicate that wood energy contributes 13 percent of the total fuel consumption of the country. Wood fuel is the most important form of energy for domestic use in rural areas. In Bangladesh, domestic cooking consumes 65 percent of fuel wood and the rest 35 percent is consumed by the industrial and commercial sectors. For the prevailing demand through social forestry, short/medium rotation fast growing tree species have to be planted

along the roads and embankments, and on marginal and fellow lands with active participation of local people.

- Non-wood forest products have substantial potentials for economic benefit. Bamboo, agar tree, cane, murta, medicinal plants, honey, wax, golpata, etc. will be developed during the 7th Five Year Plan in a systematic way. Rubber plantation and commercial production of rubber through private sector will be facilitated.
- Emphasis will be given for forest land survey and updating the land record. Initiative has been made through formulating a project, which is expected to be implemented during the 7th Five Year Plan. Forest areas will be demarcated to avoid unlawful encroachments.
- The protected area (PA) coverage will be increased to 15 percent of the total forest land during the 7th Five Year Plan period. Carbon stock will be measured in all potential PAs and programmes for forest conservation along with people's welfare to be taken under Clean Development Mechanism and REDD⁺ initiatives.
- Programmes will be taken to protect the threatened and endangered species of flora and fauna and the fragile ecosystems.
- To conserve and protect forest ecosystems, efforts will be made to remove trees not suitable or detrimental to the environment of Bangladesh. In this context efforts will be made to reduce the coverage of eucalyptus trees which are not deemed suitable for Bangladesh.
- Watershed management, wetland conservation etc. will be initiated in the new area and also will be intensified in the old area for better conservation of nature in the country during the plan period.

4.6 MANAGING WATER RESOURCES

Agricultural practices in Bangladesh are controlled by the hydrological-cycle. Farmers need protection against flood in wet season, irrigation in dry season, supplementary irrigation even in wet season, protection against saline water intrusion in coastal area, proper drainage both in wet and dry season, protection against river erosion, protection against the water related hazard (storm surge/cyclone) in coastal belt. Besides these natural phenomena, the man-made interventions both within and outside the country are adding challenges in the water sector development and management of the country.

Under these circumstances, water resource planning in Bangladesh has to take into account a variety of geographic, economic and environmental factors. Bangladesh is the largest delta in the world – located at the confluence of three of the worlds' major rivers the Ganges, the Brahmaputra and the Meghna and their tributaries and distributaries. The river systems drain a total area of about 1.72 million square kilometres in India, China, Nepal, Bhutan and Bangladesh. Only 7 (seven)

percent of the catchment area lies within Bangladesh, the remaining portion lying within upstream countries of India, China and Nepal. Besides these three major rivers, Bangladesh also shares 57 trans-boundary rivers with her neighbours (54 with India, and 3 with Myanmar). These river systems carry between 1.0 and 1.6 trillion cubic meters of freshwater and 1.0 billion tons of sediments annually, the status of which is dynamic and considered as the lifeline of Bangladesh. This has a decisive significance and challenge, with around 93% of the total basin actually lying outside Bangladesh. Being the lower most riparian country, Bangladesh alone cannot undertake any meaningful and comprehensive water resources development programmes to harness the waters that flow over its territory, as it is largely dependent on the upper riparian countries for water availability and use. The country faces tremendous water scarcity in the northwest drought prone areas during dry season, whereas a significant portion of the country is flooded during monsoon. Such seasonal water variances affect the irrigation, fishing etc. and hence shape up our socio-economic condition. In addition to that, physical and chemical pollution to both the surface and groundwater sources is a major problem, which hampers the domestic use of water.

Over the centuries, the natural delta has become highly modified, interfering with the natural water dynamics, and thus exacting several comprehensive resource oriented development plans and strategies by the Government of Bangladesh. Given the complexity of issues and the critical importance of the delta for development of Bangladesh, the Planning Commission has undertaken a massive task of preparing Delta Plan, what is titled “Bangladesh Delta Plan 2100 (BDP 2100)”. This will offer a long-term perspective (50 to 100 years) with an adaptive planning concept, considering the spatial and temporal extents of all the issues surrounding the delta and its management.¹⁸ To implement the delta plan Government will establish a ‘Delta Commission’ which would look after issues concerned like water resource management, land reclamation from the sea and rivers, land protection and agriculture management, and other water related issues. The overall ambition of BDP 2100 is to achieve a sustainable, integrated and adaptive delta, water management and governance, promoting regional cooperation and managing risks of climate change and others towards a prosperous Bangladesh delta. The strategy for water resource management under the 7th Plan will be taken in a way that it acts as a building block for achieving the very long-term goals and objectives of the BDP 2100.

Review of Performance of the Water Resource Management during the 6th Five Year Plan.

During the last five years water sector interventions broadly followed the directives set forth in the National Water Management Plan (NWMP) as well as the 6th Five Year Plan. The NWMP is a rolling plan prepared in 2001 for 25 years. The benefits derived from the above mentioned interventions are contributing to the poverty reduction initiatives of the country. Through the FCD and FCDI projects, BWDB has created favourable environment for HYV rice production. This induced enhanced employment generation for rural agriculture labourers. Moreover, construction works and annual operation and maintenance works in the infrastructures of these FCD and FCDI

¹⁸ Delta Vision – Goals and Strategies, Planning Commission, 2015

projects provided wage income opportunities for the rural skilled and unskilled poor labourers roughly equivalent to one-third of the total annual agricultural wage income.

Bangladesh Water Development Board (BWDB) for the last 55 years has been engaged in the development and management of the water resources of the country and till 30th June 2014 completed a total of 776 projects. Through various components under these projects, it has made a total of 6.2 million hectare of agricultural land free from flood and drainage congestion. Through 38 largest, 60 large and 156 medium and small irrigation projects, it has created the necessary infrastructure of providing irrigation facilities to an area of 1.572 million hectares, thereby producing an annual additional food grain of 10.0 million tons. It constructed 11,283 km of embankment of which 4571 km are in the coastal area. BWDB has also been able to reclaim about 10,020 sq. km of land from the sea in the Meghna estuary through construction of a few cross dams. Through these various water management activities BWDB covers about 40% of the country and 50% of the total flood plain area.

The direct impacts of about 776 projects implemented so far by BWDB are (a) creation of secured environment for crop production that ensured food security of the country, (b) rural employment generation, (c) protection of agricultural land, towns, human settlements from river erosion and (d) reclamation of land; While the indirect benefits are; (a) better communication; (b) security from water-borne hazards (like flood, cyclone, storm-surges, saline water intrusion, water logging, drought), (c) primary defence against possible sea level rise resulting from climate change and (d) enhancement of agro-based economic activities is a flood-free secured environment.

The recently enacted Bangladesh Water Act 2013 is designed for integrated development, management, extraction, distribution, usage, protection and conservation of water resources in Bangladesh. Water Resources Planning Organization (WARPO) under Ministry of Water Resources, which is working as the Secretariat to the Executive Committee of National Water Resources Council (ECNWRC) is preparing concerned rules and regulation thereof.

On the other hand, Local Government Engineering Department (LGED) has been mandated for development and management of small scale water resources for the command areas under 1000 hectares. LGED's initiatives on the development of Small Scale Water Resources (SSWR) started in 1960 under Thana Irrigation Programme. With their prior experience, during the period 1995-2015, LGED has developed around 720 small scale water resources sub-projects that improved water management of around 450,000 hectares of land. In these developed sub-projects, sustainable use of water resources has been facilitated with the participation of local stakeholders along with local government institutions and communities. These sub-projects are being run by elected bodies of Water Management Cooperative Associations (WMCA) under Department of Cooperatives. Integrated Water Resources Management Unit (IWRMU) of LGED provides necessary guidelines and support for their smooth operation, maintenance and sustainability. The practices developed with small scale water resources over the last two decades have multidimensional positive impact on cereal and non-cereal food production, fisheries

development, nutrition development of project areas, enhancement of income, and microfinance by cooperatives, skill development, women empowerment and finally poverty alleviation of the sub-project areas.

Current and the future challenges of the Water sector.

The water sector of the country is facing the following challenges that need immediate attention. These challenges are:

a) Population: Though the population growth has slowed down in recent years, the absolute number of people in the country is very large. It rose from 29 million in 1901 to 130 in 2001 which is expected to rise to 181 million by 2025 and 224 million by 2050. This will continue to adversely exert pressure on all natural resources especially land and water, and so special attention needs to be given to this challenge.

b) Poverty Alleviation and food security: Poverty (one-fourth of the population) is the country's most serious socio-economic issue that needs immediate attention. The water sector interventions have potential to contribute to additional food-grain production of 10 million tonnes and rural employment generation of 20 million man-days, which will help food security among the poorer people.

c) Availability of Surface Water: Bangladesh is the lower riparian of the major rivers. The country faces acute shortage of surface water (from the trans-boundary Rivers) in dry season while, during wet season, experiences catastrophic flood at a regular interval. Coupled with this, the quality issue of surface water comes in due to industrialization. The water quality during dry season is posing environmental crisis for the country especially around urban/industrial zones.

d) Trans-boundary water Issue: Trans-boundary water sharing issue would be pursued with the co-riparian country on a priority basis to address dry season water scarcity.

e) Abstraction of Groundwater: Availability of groundwater throughout the country is not uniform; abstraction of this resource is restricted due to geological (rock strata), technical (aquifer below economic abstraction depth) and quality (presence of arsenic in the water) issues.

f) River Management: Though the rivers of the country are the hope and aspiration for the nation, they also cause catastrophic disaster in the form of flood, river erosion and sedimentation. Moreover, encroachment along the riverbank by illegal land grabbers and pollution are causing dying of the river system. It needs special attention. Top most priority would have to be attached towards river dredging to revive the rivers.

g) Climate Change: Impact of climate change will be fatal for Bangladesh, as she possesses land at low elevation. In respect of climate change, the country is not an actor but the worst sufferer. BWDB/LGED coastal FCD/FCDI projects and submersible embankment projects in Haor area are the first stage defence in case of climate change.

h) Cyclonic Storm: The coastal zone of Bangladesh is exposed to water related hazards (cyclone/storm surge/tidal bore/tsunami) and the degree of risk would be more destructive in case of adverse climate change impact.

i) Participatory Water Management: Sustainable operation and maintenance of BWDB/LGED FCD/FCDI projects is hinged on Participatory Water Management through Water Management Organization (WMO). Institutionalization of WMOs in all BWDB projects is a major challenge in the coming days.

j) Budget Constraint: Water sector needs enhanced allocation in the national budget for several important on-going projects e.g. Teesta Barrage Project, Buriganga Restoration Project, Capital Dredging project and projects on Climate Change Adaptation and Mitigation Measures to fulfill the targets of vision 2021. A large number of big projects are being processed under the Ministry of Water Resources, i.e. Ganges Barrage Project, Mongla-Ghasiakhali, BEZA, Buriganga River Restoration Project, Urichar-Noakhali Cross Dam, CDSP-V, ORIO project in Bhola (Dutch assisted) and River Management Improvement Project. Moreover, if Ganges Barrage project takes into consideration then a large number of ADP allocations will be required. Furthermore, Projects or Program are to be taken on Climate Service, Disaster Risk Reduction, and Eastern bypass etc. may require especial emphasis during 7th plan.

Challenges of BDP 2100 for Water sector

Like many deltas of the world, Bangladesh is not without challenges, many of which are closely related to its downstream location within the basins of the major sediment laden rivers, having an intense pressure on the scarce water resources. Hence the challenges of BDP 2100 for water sector are mentioned below:

- Building a climate resilient society is perhaps the biggest challenge for the country. The country needs to overcome its hurdles in tackling the consequences of frequently occurring natural disasters.
- Maintaining the coastal polders is a major challenge, while ensuring community level climate sustainability is also important.
- Management of saltwater intrusion, flood risk mitigation, climate proofing, dry season flow augmentation, erosion protection and river navigability and connectivity restoration, removal of drainage congestion and water logging, restoring surface and groundwater quality in the sensitive areas, revitalizing regulated freshwater flow etc. are some of the salient challenges of Bangladesh.
- The country needs to ensure sustainable water utilization, especially in the north-west and north-central regions where water has gradually emerged as a scarce resource.
- The urban areas need integrated water treatment and efficient water supply facilities. Spatial planning implications for sources allocation and equitable utilization of resources are another endeavour for water sector development.

- The implementation of Integrated Water Resources Management (IWRM) concept in the development projects is a major challenge.
- Resolving social conflicts and disputes regarding community level water management and use is of high significance in the rural areas.

7th Plan Objectives for Water Resources and Policies for Water Management

The vision, goals, objectives and targets of the water sector for 7th Five Year Plan have been defined in conformity with the vision 2021. One of the root-cause for rural poverty is river erosion. The number of people losing everything i.e., land, shelter (home), livelihood means, due to river erosion is significant numbering to 60,000 people per year. River management, commonly understood as dredging, would be given top most priority with feasibility assessment in case by case. Another priority is to take measures to reclaim land in the coastal areas.

The programmes/projects included in the water resources sector of the 7th FYP would require approximately Tk. 591,421 million for implementation. Institutional, human resources, logistics and financial involvement for successful implementation of the projects are gigantic and needs a well thought strategy/ strategies.

The following strategies would be followed in the 7th FYP period:

1. **River Dredging:** Dredging would be carried out in a systematic and comprehensive way in combination with riverbank protection for non-destructive, easy and smooth passage of flood flow of the river system. Such a planned activity would arrest river erosion, which is also a major factor of rural poverty. While making plans for river dredging, priority may be given for rivers of Khulna, Jessor, Shatkhira and Bagerhat to mitigate the perennial water logging and intrusion of saline water to Sundarbans.
2. **Dry Season Water Scarcity:** In the wake of continued stress on surface water especially during the dry period, top-most priority would be given on water sharing of the Common/trans-boundary Rivers with the neighbouring country/countries following the model of the Ganges Treaty-1996. Efforts should also be made to excavate/re-excavate the natural canals as that can help small scale surface water irrigation.
3. **Basin-wide Water Resources Development Initiative:** Initiative would be started immediately to enter into agreements with co-riparian countries for sharing the waters of international rivers, data exchange, resource planning and long-term management of water resources under normal and emergency conditions of flood, drought and water pollution. While moving towards the attainment of basin-wide plans in the long run, it will also be necessary for Bangladesh to concentrate on the development of individual hydrological areas to meet short and intermediate term requirements.

4. **The Ganges Barrage Project with ancillary infrastructure:** The feasibility study of the Ganges Barrage Project has been done during Sixth Plan period, where Pangsha of Rajbari district is selected for the construction of the main Barrage. Total length of the Ganges is 2,200 km of which 240 km lies inside Bangladesh. Total area of Bangladesh dependent on the Ganges for water is 46,000 square kilometer. The proposed Barrage is 82 km away from Bangladesh-India border & 52 km from Hardinge Bridge/Pakshi Bridge & Rooppur atomic energy center downstream. As per feasibility study, Ganges Barrage Project has contained 78 Spillways with 2.10 km barrage length, 3 Offtake Structures, 8 Regulators, 265 km embankment improvement, 1,116 km river/khal re-excavation etc. The project will require a period of 7 years for its completions. In 7th FYP period, government will pursue to (i) harness properly the benefits of the Ganges Water Treaty 1996 (ii) to save the Sundarbans and the south-west region of the country from salinity intrusion and (iii) to utilize the surface water in the wake of wide-spread arsenic contamination in groundwater.

5. **Reducing Climate Change Induced Internal Migration and Reclamation of Agricultural Land through River Channelization:** Channelization and morphological prediction of major rivers reducing river erosion, thereby helping reduce internal migration caused by such erosion, and reclamation of agricultural land will be pursued under the plan. Major rivers of Bangladesh like the Brahmaputra, the Jamuna, the Meghna use up huge lands, which can be effectively managed through channelization using Remote Sensing, based morphological prediction information. Furthermore, river dredging can enhance the functionality of rivers. The dredging volume, in turn can be used for productive purposes. CEGIS has gained experience in assessment and optimum use of the dredged volume for various productive purposes; and this knowledge and experience will be used for river channelization. This will, thus, be facilitating the navigability, land reclamation, and riverbank protection.

6. **Participatory Water Management:** The approach would be followed in all water resources sector projects right from the identification up to monitoring & evaluation. The approach is mandatory for all public sector institutions.

7. **O&M of Completed Projects:** The completed projects of water resources sector especially the flood control, drainage and irrigation project would be properly operated and maintained with the participation of stakeholders so that the targeted benefits of the projects are ensured. Dedicated fund for operation and maintenance may need to be created for all projects.

8. **Command Area Development for Food Production:** BWDB would continue to pursue command area development activities in surface water irrigation project and to explore expansion of irrigation, river protection and embankments.

9. **Coastal Zone Management:** Coastal Zone is the zone of prosperity and at the same time most vulnerable place within the country. The area would be treated as a special zone.

10. **Public Private Partnership:** As water resources development interventions are costly initiatives, public-private partnership model has to be explored whenever possible.

11. **Climate Change:** The issue would be assessed on a realistic scale and then the effects of the issue on the water resources sector would be addressed with reasonable care. BWDB, LGED, BHWDB, WARPO, RRI, IWM and CEGIS would take joint effort in the field with WARPO in the lead.

12. **National Water Resources Database (NWRD):** As per directives of ‘National Water Policy’ and ‘National Water Management Plan (NWMP)’, WARPO works as the exclusive government institution for macro-level water resources planning. It also serves as the Executive Secretariat of the ECNWRC. Among others WARPO is responsible for:

- Preparing and periodically updating the NWMP for approval of the NWRC; and
- Setting up and updating the National Water Resource Database (NWRD) and Information Management System.

As such, WARPO will continue updating and upgrading the collaborative platform for archiving all water resources data and information to be used as reference in any project formulation in the 7th Five Year Plan. These data and information are meant to be used for water resources research and planning at any level.

13. **Department of Bangladesh Hoar and Wetlands Development (DBHWD):** The government of Bangladesh changed the Bangladesh Haor and Wetlands Development Board into a Department on 4 June 2015 in a view to achieve a holistic and sustainable development of haor and wetlands of the country. This entity has already prepared a master Plan of Hoar lying in 7 Districts, namely- Sylhet, Moulovibazar, Brahmanbaria, Hobigonj, Netrokona, Sunamgonj and Kishorgonj. In the Hoar Master Plan as many as 154 Projects have been identified for integrated development and improvement of livelihood of the people haor area.

14. **Small Scale Water Resources Development:** The country still has thousands of potential small scale water resources sub-projects for development. LGED will continue to develop these with strategies i) ensuring participation, social inclusion and empowerment; (ii) promoting good governance at WMCA; (iii) services delivery; and (iv) caring for the environment and sustainable development. The SSWR sub-sector policy could be ‘Implementing small scale water resources systems following Integrated Water Resources Management IWRM’.

State of the Water Resources of the Country: The state of the water resources of the country in the perspective of time and socio-economic setting needs continuous updating and monitoring, and WARPO with the help of all the stakeholders of the water resources sector especially with BWDB, LGED, BHDB, JRC, IWM and CEGIS would update the National Water Resources Management Plan (NWMP). The organization will also archive water resources data in the National Water Resources Database (NWRD).

Policy: The National Water Policy adopted by the Government in 1999 would be the guiding document in the water sector activities in 7thFYP period. Moreover, the Coastal Zone Policy

(2005), Bangladesh Water Act 2013 and Participatory Water Management Regulations (2014) and other relevant document of the government would be taken to put into effect.

4.7 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Agriculture sector, which is overwhelmingly private sector driven will continue to need public resources. This support will mainly be in building connectivity to the markets and providing resources for advent and use of newer technology through both research and extension, supporting more active private sector involvement/investments in the agriculture supply chain including the cold chain. Agriculture is also linked to ensuring food security. Besides, better water resource management facilitates agricultural transformation. Both of these will continue to require large public funding.

The resource needs are huge because there is competing demand from various sectors. So creative measures will have to be undertaken to mobilize additional resources, particularly those that could lead to more private solutions which may call for Public Private Partnerships (PPPs) where feasible. There also needs to put more efforts to leverage donor funding, particularly the concessional funds from World Bank, ADB, JICA or any other source. Taking into consideration the resource constraint and based on the projected overall resource envelope, and a careful assessment of relative expenditure priorities, development resources for the four Ministries/Divisions are given in Table 4.10 and 4.11 below. These are only indicative figures to broadly support achieving of the 7th Five Year Plan strategic goals and vision regarding development of agriculture and water management in Bangladesh.

Table 4.10: ADP Allocations for Agriculture Sector in the 7th Plan

(Taka billion; FY2016 Constant Prices)

Ministry/Sector	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Ministry of Agriculture	18.4	26.0	29.3	32.5	36.4
Ministry of Fisheries & Livestock	8.0	8.2	9.3	10.3	11.5
Ministry of Land	2.0	2.3	2.6	2.9	3.4
Ministry of Water Resources	30.6	38.7	43.7	48.5	54.3
Sector Total	59.0	75.2	84.8	94.2	105.6

Source: Seventh Plan Projections

Table 4.11: ADP Allocations for Agriculture Sector in the 7th Plan

(Taka Billion: Current Prices)

Ministry/Sector	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Ministry of Agriculture	18.4	27.5	32.8	38.4	45.1
Ministry of Fisheries & Livestock	8.0	8.7	10.4	12.2	14.3
Ministry of Land	2.0	2.4	2.9	3.4	4.2
Ministry of Water Resources	30.6	41.0	48.9	57.3	67.3
Total	59.0	79.7	94.9	111.3	130.8

Source: Seventh Plan Projections

SECTOR 5: POWER AND ENERGY

CHAPTER 5

POWER AND ENERGY DEVELOPMENT STRATEGY

5.1 BACKGROUND AND OVERVIEW

In the current globalized environment of trade and investments it is most important for a country to be competitive and uninterrupted supply of power is an essential element for it. Bangladesh has made strong progress with the expansion of exports that has supported a rapid growth in manufacturing output and employment. Further progress on exports and the ability to develop a diversified export base will require an efficient and low-cost power infrastructure that will strengthen the competitiveness of Bangladeshi exports.

At around the time of the initiation of the Sixth Plan, Bangladesh was facing major infrastructure challenges, especially in the supply of electricity. In 2008-2009 power outages were a common phenomenon and it became obvious that without a major investment effort the growth momentum might be jeopardized. Accordingly, the Sixth Plan prioritized the need for improved supply of power, energy, transport and other infrastructure services for achieving its growth strategy. In particular, highest priority was placed in improving the supply of electricity. The policy and institutional support were geared up to help leverage private investments alongside public investments in energy and power sector. The financing strategy emphasized both public funding as well as financing based on public-private-partnership (PPP). Emphasis was also placed on improving efficiency and service delivery of relevant public agencies through a series of structural reforms involving regulatory regime, pricing policy and institutional arrangements.

Table 5.1: Comparison of Infrastructure Quality 2014-2015

Country/ Region	Country Ranking*	Overall Infrastructure Score	Electricity
Bangladesh	130	2.8	2.5
India	87	3.6	3.4
China	46	4.7	5.2
Cambodia	107	3.1	3.0
Myanmar	137	2.1	2.8
Pakistan	119	2.7	2.1
Sri Lanka	75	4.0	4.8
Thailand	48	4.6	5.1

Source: World Economic Forum, the Global Competitiveness Report 2014-2015; ranking out of 144 countries

The Global Competitive Index (GCI) published by WEF shows that Bangladesh made progress in improving its overall infrastructure performance score during the Sixth Plan, up from 2.4 to 2.8,

although the relative ranking has fallen (Table 5.1). The gap in infrastructure quality is especially large when compared with Thailand, China, India and Sri Lanka. Most visible progress has been made in electricity supply, where the score has risen to 2.5 from 1.8, thereby increasing the overall performance index for Bangladesh (Table 5.2). While these are indicative performance ratings, the low scores in most areas of infrastructure quality and the overall country ratings are suggestive of the potential challenges ahead notwithstanding the important progress during the Sixth Plan. Indeed, power development is a long-term challenge that will need to be pursued through successive medium-term plans. The Sixth Plan made a major start that needs to be further pushed ahead in the Seventh Plan and then beyond over the longer term.

Table 5.2: GCI Comparison between the 2009-2010 and 2014-2015 for Bangladesh

Year	Country Ranking	Overall Infrastructure Score	Electricity
2014-2015	130*	2.8	2.5
2009-2010	126**	2.4	1.8

Source: World Economic Forum, the Global Competitiveness Reports 2009-10 and 2014-2015.

*Ranking out of 144 countries; ** Ranking out of 133 countries

This Chapter reviews the progress with infrastructure (power and energy) development in the Sixth Plan. It focuses on achievements and strengths and identifies areas where further efforts are needed during the Seventh Plan. Against the backdrop of the Sixth Plan experience, it develops a strategy for developing power and energy sector in the next 5 years and beyond in the context of the Seventh Plan period. Specific policies and institutions are suggested along with identification of public investment priorities and required financing.

5.2 ENERGY SECTOR

5.2.1 Sixth Plan Performance in the Energy Sector

The energy sector consists of electricity, gas, coal, liquid fuel, wind energy, solar and other non-petroleum fuel. These are all interlinked with the main focus is on generation of electricity and the two primary fuels that Bangladesh possesses, gas and coal. The critical role of assured supply of electricity at an affordable price for social and economic development is universally recognized. The Government of Bangladesh has identified power supply as a major constraint on GDP growth, private investment and overall economic development. It has, therefore, adopted a strong and well-rounded reform programme to increase the supply of electricity involving substantial investment, sector reforms and regional trade. The key elements of the Government's power sector strategy are:

- A rapid growth in electricity generation.
- Development of transmission and distribution system in line with generation.
- Mobilizing private and joint venture investment in power sector.

- Diversification of primary fuel for electricity generation.
- Use coal as main source of energy for power generation.
- Improving power sector efficiency and reducing transmission and distribution losses.
- Use of alternative sources of energy.
- Use of nuclear energy for power generation.
- Exploring electricity-trading options with neighbouring countries (India, Nepal, Bhutan and Myanmar).
- Use of alternative sources of financing (Export Credit Agency, etc.)

Achieving the Targets of 6th FYP: Table 5.3 provides a snapshot of the progress in achieving the strategic objectives of the energy sector during the Sixth Plan. As evident, the most impressive performance has been in terms of expansion of generation capacity. This growth in generation capacity along with expansion of transmission and distribution networks have helped achieve substantial progress in both the indicators for the power sector: increasing growth of per capita consumption of electricity and improving the access of the population to electricity.

Table 5.3: Energy Sector Objectives/Performance Indicators for the Sixth Plan

Objectives/Performance indicators	FY2010 (baseline)	FY2015 (achievement)	FY2015 (target)
Make Power Sector Financially viable	Subsidy Tk. 12 billion	Subsidy Tk. 61 billion	Surplus
Total installed generation capacity of Electricity	5823 MW	13540 MW	15457 MW
Increase efficiency of energy use as well as reducing system loss	16% T&D loss	13.03%	13.75%
Diversify fuel use in power generation, i.e. from gas to coal, liquid fuel (Installed Capacity grid based)	84% gas; 8% liquid fuel; 4% coal ; 4% others	63% gas; 29% liquid fuel; 2% coal; 6% others	71% gas; 20% liquid fuel; 3% coal; 6% others.
Increase private sector investments in electricity, gas, and other energy supply	36% of installed generation capacity	43% (including imports)	44% (including imports)
Encourage energy trade	0 MW	500 MW	500MW
Finalize the coal policy		Not done	Finalize coal policy
Per Capita Generation of Electricity	220KWH	371KWH	360 KWH
Access to Electricity	48%	72%	71%

Source: Power Division and Finance Division

5.2.2 Progress with Primary Fuel

Natural gas: The relatively uninterrupted supply and liberal use of gas has been a major boon for the Bangladesh economy. Considerable success was achieved during the Sixth Plan. Since January 2009, a total of 1,363 million cubic feet per day (mmcf) gas production capacity has been added through drilling wells/workover/capacity enhancement. During this period, due to decline in capacities of some old wells and ceasing of production from some others have led to net increase in production capacity of 956 mmcf. As a result, average gas production surpassed 2,770 mmcf in June 2015 from 1,744 mmcf in January 2009. It may be mentioned that among 26 gas fields that are discovered in the country, 20 gas fields are presently in production. So far, the highest gas production achieved in the country is 2,785.80 mmcf. During the last six and half years, 767 km high pressure gas transmission pipeline has been constructed. In addition, for boosting the transmission pipeline pressure, three compressor stations have been installed at Muchai, Ashuganj and Elenga. Of them, compressor stations at Muchai and Ashuganj are in operation. After commissioning of these compressor stations, transmission line pressure as well as volume of gas transmitted from upstream sources have increased significantly. The current situation is indicated in Table 5.4.

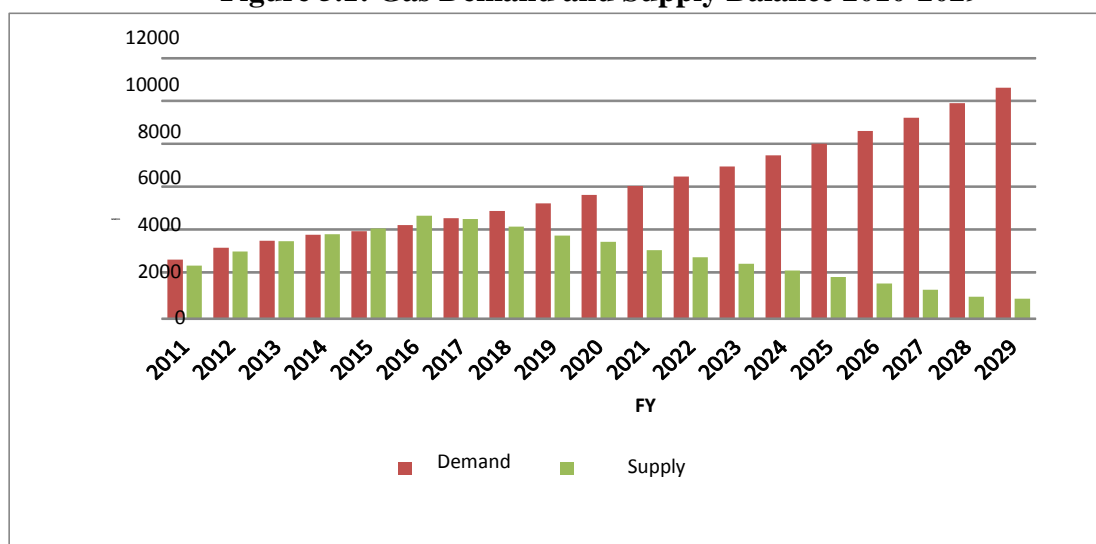
Table 5.4: Current Natural Gas Situation, 2015

Sl. No.	Items	Quantity
1.	Total Number of Gas Fields	26
2.	Number of Gas Fields under Production	20
3.	Total Number of producing Wells	98
4.	Total Reserve of Extractable Gas (Proven + Probable)	27.12 TCF
5.	Total Consumption of Gas (up to June 2015)	13.032 TCF
6.	Total Reserve Remaining (Proven + Probable)	14.088 TCF
7.	Daily Gas Production	2700 MMCFD
8.	Production by Petro Bangla	1100 MMCFD
9.	Production by International Oil Companies	1600 MMCFD
10.	Daily Demand of Gas	3200 MMCFD
11.	Daily Shortage of Gas Supply	500 MMCFD
12.	Gas Production increased from January 2009 to June 2015	956 MMCFD

Source: Ministry of Petroleum and Energy

Yet, owing to the absence of new major discoveries and very liberal use a burning issue for Bangladesh now is the growing shortage of natural gas. Petro Bangla estimated in 2010 that the widening gap between demand and supply would be 7 to 9 TCF by FY2029 (Figure 5.1). Most recent data suggests that the current reserve will likely be depleted in less than 10 years. Out of the 27.12 TCF recoverable reserves, Bangladesh used 13.032 TCF natural gas by June 2015.

Figure 5.1: Gas Demand and Supply Balance 2010-2029



Source: Petrobangla

As a result, some 14.088 TCF reserve remains for future consumption. If Bangladesh’s gas demand continues to grow at the current pace of 7% per annum, the current reserve will be completely depleted by FY2023 (Table 5.5), unless gas supply capacity is substantially added through new gas field exploration/development and gas imports.

Table 5.5: Reserve to Production (Supply) Projection from 2015

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Production (TCF)	1.1	1.2	1.3	1.3	1.4	1.5	1.7	1.8	1.9	2.0
Growth Rate	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Cumulative Production (TCF)		2.3	3.5	4.9	6.3	7.9	9.5	11.3	13.2	15.2

Source: Ministry of Power, Energy and Mineral Resources and Petrobangla.

As against this difficult current situation, the potential outlook is good. Bangladesh is likely to have considerable unexplored/undiscovered gas resource. Although the survey was conducted more than 10 years ago, available data indicates that Bangladesh may have 8.4 TCF of gas resources. If 50 percent of the 8.4 TCF becomes available for power generation (based on the current gas consumption pattern where Power Sector contributes a half of the total gas sales), it will support around 2,500MW highly efficient combined cycle power plants over their 30-years lifetime. Petrobangla should undertake most of the onshore exploration on its own at relatively lower cost. At the same time effort should be made for offshore exploration under Production Sharing Contract (PSC) with reputed International Oil Companies (IOCs).

In the past domestic exploration of gas field was constrained by lack of funding. To support BAPEX for undertaking seismic survey and exploration works, in 2009 the Government took the

initiative to establish the Gas Development Fund (GDF), where 15 percent of the gas tariff is utilized for upstream exploration and development activities. Currently, subsidiary companies of Petrobangla have been implementing 13 projects amounting Tk. 22.84 billion with this fund. Besides, Petrobangla and its subsidiary companies have been implementing 8 projects amounting Tk. 12.23 lakh with own financing.

The IOC investments are done through the Production Sharing Contracts (PSCs), where company's costs are recovered from a percentage share of production and the balance is shared between the GoB and the Company. While IOCs are both producing in on-shore and off-shore, especially in the off-shore, IOC is the main player, BAPEX has resumed survey and exploration efforts, such as in Mubarakpur. Efforts have also focused on strengthening the technical capabilities of BAPEX.

On the other hand, the undiscovered on-shore resources, in particular “Moderately Folded Anticline” (19.0 TCF with 95 percent POE) and “Surma Basin” (8.1 TCF with 95 percent POE) are either coastal-transitional areas or swampy-marshy areas, where seismic survey and drilling are difficult to conduct. However, the active survey/exploration/development movement has to be further accelerated even in these “difficult areas” to meet the national gas demand and contribute to the economic growth. Therefore, in addition to the utilization of BAPEX, the Government has made efforts to attract foreign investments through International Oil Companies (IOCs) to exploit its natural gas. In fact the utilization of IOC has long history in Bangladesh since 1970's. By 2015, the production of IOCs accounted for more than half of the Bangladesh's domestic gas production (Table 5.6).

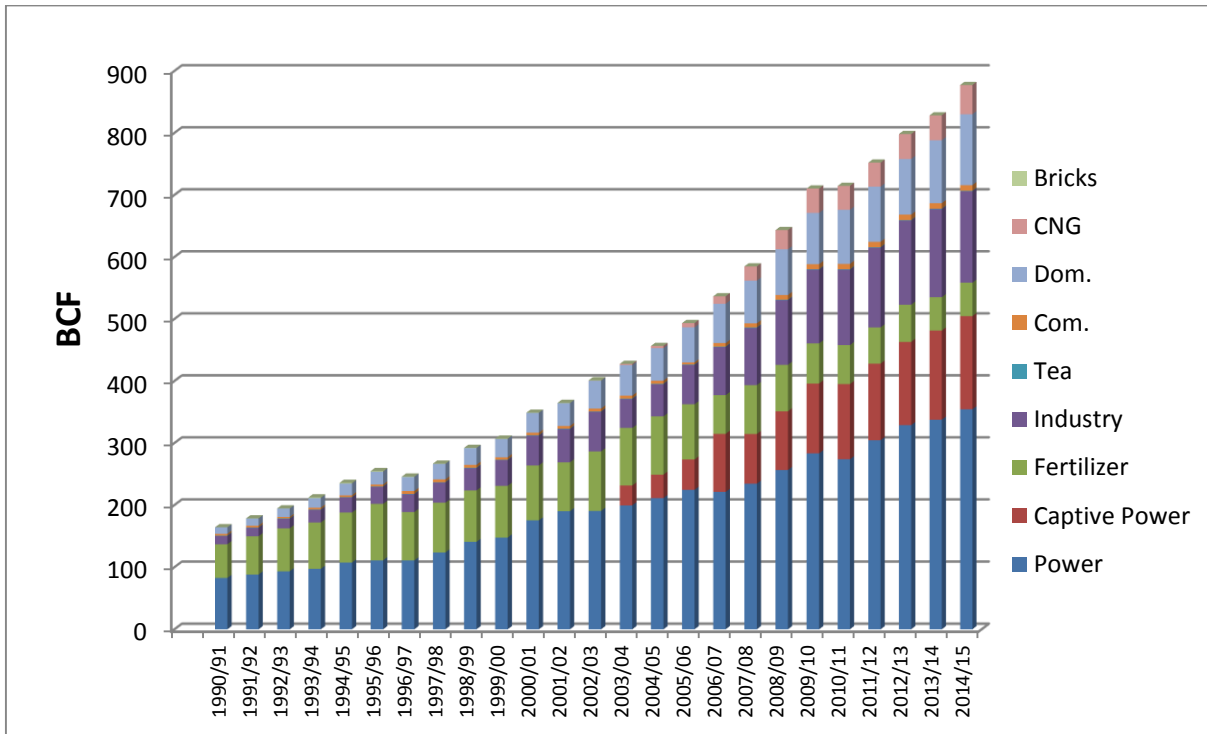
Table 5.6: Production Volume Share in 2011

	Production Volume (mmcf/d)	Production Share
Petro Bangla	1100	40.74%
International Oil Companies	1600	59.26%
Total	2700	100%

Source: Petro Bangla

Gas demand: In a supply constrained environment, demand management can be a major strategic tool for conserving energy and ensuring its efficient use. Fertilizer used to be the biggest domestic natural gas consumer in the early 1980s. This pattern changed over the last decade and the Power Sector (including Captive Power) became the predominant consumer of the domestic natural gas, followed by Industry and Domestic Sectors. Sector-wise gas consumption from 1990-91 to 2014-15 are shown in Figure 5.2.

Figure 5.2: Sector-wise Gas Consumption form FY91-FY15



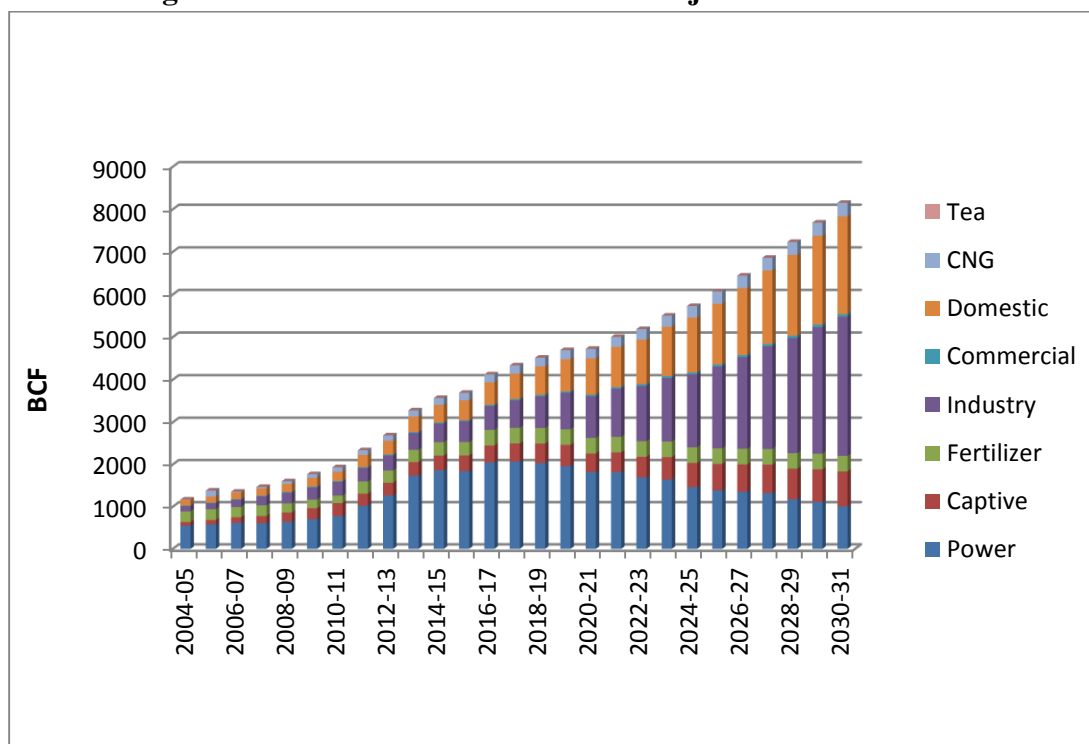
Source: Petro Bangla

The use of gas for power generation is known to be most inefficient. The BPDB-owned gas-fired power plants accounts for more than half of the national installed capacity (MW), and nearly half of the electricity production (GWh). The thermal efficiency of these gas-fired power plants is, however, about 25-30 percent maximum, which is half of the state-of-art combined cycle power plant thermal efficiency. In another word, the publically-owned power plants consume nearly twice as much to produce one unit of electricity as combined cycle power plants. Some actions have been taken in this regard. For example, steps have been taken to generate additional 700-800 MW power through repowering gas based old power plants. Actions have been taken to convert Ghorashal, Baghabari, Shikalbaha and Shahjibazar simple cycle power plants into combined cycle power plants. Nevertheless, addressing this energy efficiency issue is a major challenge that will be tackled during the Seventh Plan.

The gas consumption of the Industry and Domestic Sectors currently accounts for 29 percent to the total demand; this is projected to increase to 61 percent by FY2030 (Figure 5.3). This implies that if the Industry Sector improves its gas use efficiency (for example adopting co-generation system to utilize exhausted gas from boiler), the gas demand can be substantially saved. Similarly, if Bangladesh Domestic Consumers can be made more sensitive to the gas price (e.g. pre-paid metering system), contrary to the current fixed price system, the gas demand will be drastically reduced. In other words, Demand Side Management (DSM) through Energy Efficiency and

Conservation (EEC) improvement will be a key focus of the gas sector in the Seventh Plan to conserve the shrinking gas resources.

Figure 5.3: Sector-wise Gas Demand Projection to 2030-31



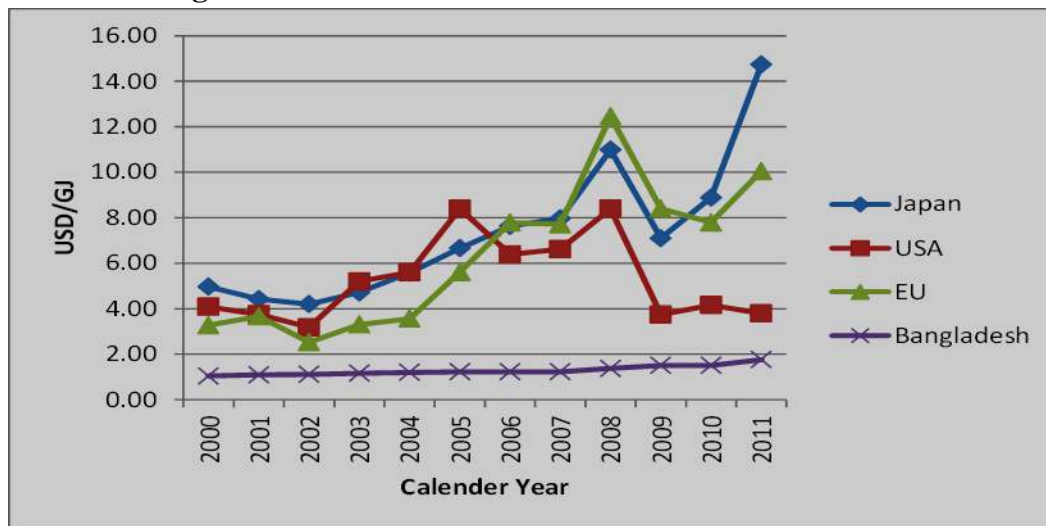
Source: Petro Bangla

LNG imports: Recognizing the growing demand of natural gas due to rapid economic growth, Petro Bangla has started working on LNG import. Texas-based Excelerate Energy and Petro Bangla signed a non-binding term sheet on 25 February 2015 to set up the country's first liquefied natural gas import terminal near Moheshkhali Island in the Bay of Bengal near Chittagong. Excelerate Energy conducted met ocean study. Based on the results of the study, Petro Bangla is on preparing for signing a terminal use agreement with Excelerate Energy for 15 years, subject to approval from the cabinet purchase committee. The FSRU will have 138,000 cubic metres of LNG storage capacity and a base re-gasification capacity of 500 million cubic feet of gas a day (mmcf). The gas supply is due to start in 2017. International Finance Corporation (IFC) will have equity participation in the terminal company, according to the statement. According to the energy ministry's estimate, the government will have to spend around \$2.7 billion annually to import 500 mmcf LNG and to use the floating terminal.

Moreover, the Government is going to undertake two land based LNG terminal in the country. The capacity of the proposed each land based LNG terminal is 6 MMTPA. The land based LNG terminal would be completed within 5-7 years. Location of the terminal would be selected as per recommendation of an upcoming feasibility study.

The LNG import will expose Bangladesh to the international gas traded price. Currently the weighted average price of domestic gas in Bangladesh is about 1.7USD/GJ, which is far below the international traded gas price (Figure 5.4). Assuming that LNG import starts in 2017, the weighted average of Bangladesh gas tariff will drastically jump up from the current 1.7USD/GJ to at least 3.1USD/GJ, ignoring transmission and distribution cost within its territory (Table 5.7). This cost escalation will need to be built in developing further the LNG import strategy. This also has implications for proper pricing of gas for domestic use in order to minimize the energy subsidy pressure on the budget.

Figure 5.4: International Gas Price from 2000 to 2011



Source: Petro Bangla and IMF

There are three major reasons for the projected increase in gas prices. First, the world gas trade prices are basically based on prices in three major markets – US, EU and Japan. The US relies on domestically produced shale gas and pipeline-traded gas; EU imports both piped gas and LNG; and Japan relies on LNG import. Second, Bangladesh will enter the international gas trade as “late comer” and its import will be much smaller than predecessors. As such, Bangladesh LNG is likely to face higher end of international gas price range, i.e. somewhere between EU and Japan price (12-13 USD/GJ). And third, similarly to Bangladesh, other emerging economies, such as India, will soon demand for LNG. This means that Bangladesh would need to compete not only with the existing big customers (EU and Japan), but also with other countries (Figure 5.5).

Table 5.7: Gas Price Projection in 2016 (assuming Bangladesh starts LNG import)

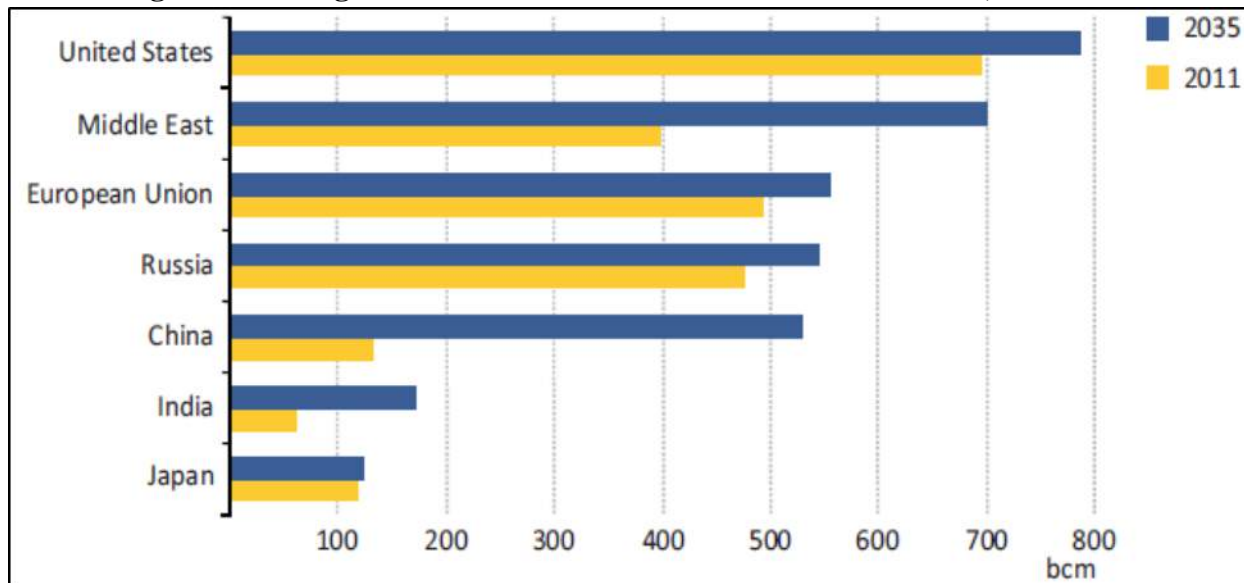
	Bangladesh	US	EU	Japan
Gas price (USD/GJ)	3.1	4.2	11	14

Source: IEA World Energy Outlook and Government of Bangladesh

So, when one seventh (14%) of gas supply (500 out of 3,500 mmmcf) is LNG and LNG is imported at 12 USD/GJ, the weighted average gas tariff would jump to 3.1USD/GJ (Table 5.7). This energy

price jump, although still much lower than international gas prices would immediately impact the production cost increase especially in the manufacturing industry. The resulting demand for energy subsidies will present a major policy challenge.

Figure 5.5: Bangladesh and International Natural Gas Demand, 2011-2035



Source: IEA World Energy Outlook 2013

Domestic coal: Bangladesh is endowed with rich bituminous coal deposit, with the measured and probable coal reserves total 3,300 million tons. Out of five identified coal fields, namely Barapukuria, Phulbari, Khalaspir, Dighipara and Jamalganj, only Barapukuria is actually producing coals. Barapukuria’s measured and probable reserve is 390 million tons. This mine has capacity to produce one million tonne per year. Coal production has been increased significantly than previous period through application of modern coal extracting method i.e. Longwall Top Coal Caving (LTCC) method. At present daily 4,500-5,000 million tonnes of coal is being produced from this mine.

Coal produced from Barapukuria has good heating value, more than 6,072kcal/kg (25.68MJ/kg). This level of quality coal can be used for coking coal. Currently, the Barapukuria coal is fuelled for the mine-mouth Barapukuria Coal Power Generation (125 MW 2 units) and brick kilns. However, with such good heating value, Barapukuria coal could be used for higher energy efficient use, such as higher efficient coal-fired power plant (Super-critical or Ultra Super Critical) power plant, or for more energy-intensive industry use such as steel production (coking coal). The Government is also aware of the environmental consequences of coal mining and is taking steps to address the concerns. In addition, appropriate compensation has been paid to affected families displaced by mining.

Besides, feasibility study for extension of existing underground mining operation of Barapukuria Coal Mine towards the southern and the northern side of the basin without interruption of the present production is being undertaken. Moreover, 2-D seismic survey of Dighipara Coal Field has been completed with own fund of Petrobangla. From the result of the survey the coal field is considered to be prospective for development.

In the world, the gas is being produced from many other sources other than the conventional sources. A Coal Bed Methane (CBM) feasibility study project has been undertaken to evaluate the methane gas reserve as well as to examine the commercial viability for extraction of CBM from Jamalganj coal field which is about one kilometer deep. A foreign consulting firm has been engaged for this study. It is expected that the drilling work will be started from November 2015.

Despite its rich endowment, Bangladesh is yet to establish or implement National Coal Policy for the strategic utilization of domestic coal. The Draft Policy was developed in 2007 and since then it has been suspended mainly due to the debate around environment and social impact of mining coal. A key step that will be taken in the Seventh Plan is to finalize and adopt the National Coal Policy. The Government believes that coal mining is essential to provide low-cost power in Bangladesh and it can address the genuine environmental and social concerns to make this a win-win policy.

Imported coal: The PSMP 2010 includes coal-fired power plant projects (both domestic and imported) totalling around 20,000 MW. Given the present status of domestic coal, the implementation of these projects will require imported coal for fuel. The total coal requirement would be approximately 60 million ton per year. Handling this massive volume of coal import will require huge port, rail transport and coal stocking infrastructure. However, so far there is only one on-going deep-sea port project in Matarbari island which will be able to cater ships having 80,000 tonnes capacity. This is currently dedicated for Matarbari Ultra Super Critical Coal-fired Power Plant, one of the six national high prioritized projects under Prime Minister's direct supervision. In the near future, however, the Government intends to expand this deep-sea port and develop a coal Centre as "An Energy Hub" for the whole country. The coal Centre will be carried out through PPP (Public Private Partnership) scheme.

Import petroleum products: In the last six years, Petroleum import has grown by 8.02 percent specially for meeting growing demand of furnace oil for power plants since 2010 (see table 5.9). With further economic growth, petroleum import and consumption trend is expected to continue around 6% due to prospective road connectivity and transit among neighboring countries of this region. In FY2014-15, Bangladesh Petroleum Corporation imported approximately 5.4 million tons of petroleum products, worth approximately 3,449 million USD, out of this, power sector (public and private) consumed 1.364 million tons, which accounts for 25.65 percent of the total consumption, communication (transport) sector 2.472 million tons i.e. 46.46 percent and agriculture 0.929 million i.e. 17.46 percent.

Table 5.8: Petroleum Products Import from FY2003-FY15

Year (FY)	Crude Oil		Refined products (HSD, SJO, Jet & Mogas)		Lube Base Oil		HSFO		Total		CARG in Qnty
	Qnty in MT	Total Value (Crore TK)	Qnty in MT	Total Value (Crore TK)	Qnty in MT	Total Value (Crore TK)	Qnty in MT	Total Value (Crore TK)	Qnty in MT	Total Value (Crore TK)	
2003-04	1,252,424	1,848	2,262,348	4,016	6,516	18	0	0	3,521,288	5,883	-1.5%
2004-05	1,063,208	2,262	2,651,891	7,152	10,189	38	39,859	62	3,805,006	9,576	
2005-06	1,253,285	3,751	2,380,533	9,383	5,137	36	0	0	3,638,955	13,169	
2006-07	1,211,037	3,985	2,536,535	10,446	4,287	25	0	0	3,751,859	14,456	
2007-08	1,040,084	5,094	2,273,263	14,343	5,006	30	0	0	3,318,353	19,467	
2008-09	860,877	3,431	2,477,754	10,885	4,828	24	29,920	60	3,403,444	14,461	8.02%
2009-10	1,136,567	4,702	2,634,212	12,028	7,262	52	0	0	3,778,041	16,782	
2010-11	1,409,302	7,037	3,259,344	20,281	4,745	44	230,431	1,123	4,903,822	28,484	
2011-12	1,083,467	7,054	3,409,934	27,111	4,980	53	680,982	3,819	5,179,363	38,037	
2012-13	1,292,102	8,537	2,827,160	219,493	4,853	39	803,603	4,367	4,927,719	34,892	
2013-14	1,176,693	7,957	3,158,343	23,486	-	-	1,016,101	5,145	5,351,137	36,588	
2014-15	1,303,195	5,739	3,409,578	18,570	-	-	6,932,24	2714	5,405,986	27,023	

Source: Bangladesh Petroleum Corporation

Furthermore, for the present generation scenario, liquid fuel based power generation will be continued until large scale coal based power plants are in line. Accordingly, the PSMP2010 shows that the oil fuel cost for Power Sector is anticipated to jump up from 700 million USD in FY2013 to 3,000 million USD in FY2022.

Renewable energy: Considering the country's future energy security, the Government has given priority to the implementation of renewable energy, energy efficiency as well as energy conservation programmes during the Sixth Plan. The Renewable Energy policy was approved in 2008. Through this policy the Government is committed to facilitate both public and private sector investment in renewable energy projects to substitute indigenous non-renewable energy supplies and scale up contributions of existing renewable energy based electricity productions. The Policy envisioned 5 percent of total generation from renewable sources by 2015 and 10 percent of the same by 2020. A nodal agency, the Sustainable and Renewable Energy Development Authority (SREDA), has been established and is expected to start working soon. Several fiscal incentives have been extended by the government to Renewable Energy project developers and investors. Dedicated funding support has also been extended through government financial institutions like Bangladesh Bank and IDCOL as well as through private commercial banks. Moreover, Government has extended fiscal incentives including duty exemption on certain renewable energy

products, e.g. solar panel, solar panel manufacturing accessories, LED light, solar operated light and wind power plant.

There is already some significant success in the area of solar energy that has delivered 150MW equivalent of power primarily through a highly successful Solar Home System (SHS) programme (Table 5.9). Some 4 million SHS units have been delivered. While the delivered cost of electricity is high (about Tk. 76/kWh), they provide basic lighting and other services in areas where the grid is unlikely to reach for a long time. Roof top solar PV systems are also being introduced in the country with the current installed capacity estimated at 32 MW. There is also 180 MW of wind potential that has been identified through a USAID project. Mini-grids and grid-connected MW-scale solar PV plants are also being explored. The Government’s plan is to generate 800MW of power through renewable energy by FY2017 with a target of 10% of the total electricity to be met from renewable resources by FY2020. A special fund has been established to finance renewable energy based power plants. Some taka 4 billion was allocated to this Fund in FY2015.

Table 5.9: Renewable Energy Progress during the Sixth Plan

Programme	Achievement
Solar Home System (SHS)	150 MW
Solar Irrigation	1 MW
Roof-top solar PV at Government buildings	14 MW
Wind energy	2 MW
Biomass based electricity	1 MW
Biogas based electricity	5 MW
Total	173 MW

Improved Cooking Stove: As part of the Government’s efforts to disseminate cleaner and more sustainable energy to all, Improved Cooking Stove (ICS) can play an important role. With conventional biomass fuels, ICS can provide higher energy efficiency and less smoke than open-fired stoves. In other words, ICS can also contribute to the health hazard risk of women and children, while also contributing to the reduction of loss of woods. However, despite its relatively long experience since 1988, only some 200,000 ICS have been sold so far. Two of the important constraints are: i) levy of import tax and duties to imported ICS materials (e.g. steel metals) that discourages domestic production; and (ii) lack of easy access to loan to purchase ICS.

Box 5.1: Energy Conservation Initiatives during the Sixth Plan

Energy conservation targets

- 10% of primary and secondary energy saving by 2015
- 15% by the 2021 and
- 20% by 2030

Ongoing energy efficiency and savings programmes

- Closure of the shopping mall & market after 8 pm
- Holiday staggering programme in commercial areas and markets.
- Operation of irrigation pumps from 11 pm to 5 am
- Maintain the temperature of AC not below 25^o C
- Conversion of Simple Cycle power plant to Combined cycle Power Plant
- Replacement of inefficient incandescent bulb with energy efficient CFL/ LED bulb.
- Use of CFL/LED in Government & semi-government offices.
- Conventional street lights will be replaced by LED and solar subsequently
- Replacement of single cycle plants by CCGT for base load operation
- Re-powering of inefficient and old power plants for capacity & efficiency improvement
- Performance improvement of inefficient power plants
- Introduction of quality pre-paid and smart metering all over the country
- Use of Improved Rice Parboiling System in the rice mills
- Use of Improved Cook Stoves in the rural areas and Improve gas stoves in the urban areas
- Use of energy saving Intelligent Motor Controller (IMC)
- Reduction of technical and non-technical system loss
- Incorporation of Energy Conservation issues in the academic curriculum of School/Madrasas/Colleges
- Include Energy Conservation and Energy Efficiency issues in the National Building Code
- Technical Assistance to Review the Approaches for Increasing the Efficiency of Gas Utilization in Certain Major Users (TAIEGU) Project was successfully implemented by Petrobangla.
- Reviewed the existing major gas users such as Fertilizer industries, Captive power plants, Glass industries, re-rolling mill and other industrial establishments that use boilers.
- Assessed the existing amount of gas needed to produce unit product for different major users; and make the difference between the actual need & the practical use.
- Reviewed and assessed the existing efficiency of the major gas users and identify the inefficient gas users' causes of low efficiency, recommend the technical aspects to remedy the inefficiency of the identified major gas users with cost- benefit analyses.
- Executed three Pilot Programs to ensure effective utilization of natural gas by selecting three different inefficient units (captive power generator, re-rolling mill and industrial boiler).
- Developed some industrial norms and standards, which will be beneficial for the users and national perspective as well.
- Arranged stakeholder's seminar/workshop, conducted overseas study tour and local training program.

Implementation of energy standard & energy star labeling programme through BSTI

- Refrigerator, Ceiling Fan, Electric motors, CFL, Electric Ballast, AC

Energy Conservation & Energy Efficiency Programme: The Government accorded high priority to the promotion of Energy Efficiency (EE) and Energy Conservation (EC) programmes during the Sixth Plan. The “Energy Efficiency and Conservation Map” and “Energy Efficiency Action Plan” have been prepared, and preparation of “Energy Efficiency and Conservation Master Plan” with support from Government of Japan is under process. Time-bound targets for energy savings have been set and programme implementation is well underway. The energy saving targets through the Energy Efficiency Action Plan and successful implementation of specific programmes will conserve resources. It will be a major step in implementing a sound energy strategy in Bangladesh.

5.2.3 Energy Pricing and Subsidies

Electricity is not the only energy product that faces a pricing challenge. Fuel oil and gas also have major pricing issues. In the case of fuel oil, the big challenge is the pricing of diesel. Despite numerous adjustments, the gap between average cost and price is large. Given the large volume of diesel consumption, the losses from the Government’s fuel oil operations are enormous. The subsidy on account of fuel amounted to taka 152 billion in FY13. In the case of gas, there is no net financial loss because gas is produced domestically. But gas prices are very low in relation to the opportunity cost in terms of imported-fuel equivalence. If electricity were to be priced based on the full cost of oil and the opportunity cost of gas, the economic cost of electricity per kWh would be much higher and the resultant electricity subsidy in economic terms would also be much higher. Even without accounting for the economic price of gas, total energy subsidies amounted to taka 204 billion in FY13, which is almost 2% of GDP. This subsidy excludes capital investments financed entirely from the national budget, which amounted to taka 100 billion in FY13. The total gap in energy sector finances was taka 304 billion, which is about 3.0% of GDP. Research shows that much of the energy subsidies benefit households that are not poor. As such, there is a huge policy issue relating to proper pricing of electricity, fuel and gas. An added dimension is that as domestic gas supply gets increasingly constrained, there is a need to conserve gas, to import LNG and also to encourage the use of LPG. All these aspects are integrated with the proper pricing of natural gas. This matter will remain a challenge for the Seventh Plan.

5.2.4 Seventh Plan Strategy for Energy

It is clear that the Government put top most priority with the development of the power sector during the Sixth Plan. In particular, it received the highest priority in ADP allocations and the amount of resources increased progressively. Important successes were achieved in the power sector in terms of new installed capacities and associated supply of power. In primary energy new investments were modest and the progress with diversifying and increasing the supply of primary fuel was very limited.

The strategy for the power and primary energy sector during the Seventh Plan will need to build on the lessons of experience of the implementation of the Sixth Plan. An important priority will be to address the implementation gaps of the Sixth Plan. For example, the focus of the power sector

should not be just increasing generation at any cost, but for long term competitiveness of industry as well as for being fiscally sound to go for more efficient and least-cost generation. One big challenge in the primary energy sector is the absence of a strategic long-term view about how the growing needs of primary fuel will be met in the next 10-20 years. Policy on primary fuel, particularly coal policy is urgently needed. The other important priority will be to address some of the major institutional constraints that have hampered implementation of energy projects. A third priority is the reform the PPP strategy with a view to achieving stronger progress with investments in primary energy during the Seventh Plan.

5.2.5 The Strategy for Primary Energy Sector

Supply of Primary Energy

The evidence provided above showed clearly that Bangladesh has to push the country to increase its reliance on imported primary energy. This would continue to increase the cost of power generation and add to the fiscal pressure on the budget. Therefore the most important strategic issue facing relating to energy in the Seventh Plan is the strategy for supply of primary energy. A judicious combination of choices relating to domestic supply options and import options will need to be made to ensure the efficient and cost-effective supply of primary energy.

Most importantly, the Government should urgently finalize and adopt the long-pending National Energy Policy, or alternatively develop an Energy Master Plan. In this policy, the following items would need to be delineated: i) Gas Allocation Policy, ii) Domestic gas exploration policy, (iii) Domestic coal utilization; iv) Energy import) Demand side management and energy conservation, vi) Improved Cooking Stove (ICS); and vii) Energy subsidy and pricing.

i) Gas Allocation Policy

Since Bangladesh will be facing extraordinary challenge for gas supply in near future, it is critical for Bangladesh to establish clear-cut gas allocation policy to best utilize the limited domestic reserve. Even after domestic reserve is depleted, an expensive LNG cannot be used as freely as domestic gas was in the past. Therefore, regardless of domestic or import, policy on gas allocation is required. “Gas Allocation Policy” may not need to direct cross-sector allocation; rather it should direct allocation for more energy-efficient users within one sector. For example, within Power Sector, higher energy-efficient combined cycle power plant should enjoy higher priority of gas supply over efficiency-deteriorated aged gas power plants, because lower efficiency means more gas consumption to produce one unit of electricity.

In addition, as part of Gas Allocation Policy, policy on how to disseminate gas prepaid meter and LPG should also be defined. Some of the current natural gas demand should be curbed by prepaid meter, and be replaced with LPG. A policy should define replacement of existing pipelined gas by LPG followed by price adjustment.

Considering the technical feasibility of LPG usage, Domestic and CNG (mini cab) are the sectors to apply and promote for LPG usage. Currently, Domestic and CNG together account for 16 percent of the total gas demand. However, these two sectors' demand growth is strongly coherent to GDP growth. In other words, these two sectors are expected to grow around 7-8 percent per year and they will account for nearly 40 percent of the total gas demand in the next twenty years. This figure supports why the Government should implement LPG use particularly in Domestic and CNG sector. The Policy should delineate the extent which Domestic and CNG sector should use LPG, instead of domestic gas or LNG. Energy tariff (gas and LPG) reform should simultaneously be applied, in order to minimize the gap between the gas users and LPG users.

Furthermore, in order to promote the use of LPG, the price policy needs to be adjusted to minimize the difference between LPG and pipelined gas tariffs. Currently LPG users are facing more than 9 times higher tariff (at per calorific value) than that of pipelined domestic gas, where one 12.5 kg cylinder costs at 1200 Tk.

In addition to LPG, Biogas can also be considered as the alternative of pipeline natural gas. Similarly to the LPG utilization policy, Biogas utilization policy may also define how Primary Energy, namely pipeline gas, LPG and Biogas can be best mixed.

ii) Domestic Gas Exploration Policy

Bangladesh still has untapped gas resources. The cost of exploration and development of untapped resource is lower than the cost of LNG import. Therefore, Bangladesh will urgently need to focus on investment for exploration and development. Subsequently, LNG import should be considered to ensure smooth supply of natural gas.

Furthermore, in order to implement exploration and development of undiscovered resources, external resources may be required. The untapped resource is likely to lie in coastal/transitional areas, hill tract areas or in the offshore areas where seismic survey and drilling is difficult. Especially, deep off-shore oil and gas exploration require high technology and huge capital. In order to address such technical and financial issues, Joint Venture or "Strategic Partnership" between BAPEX and foreign companies may be sought or Production Sharing Agreement with IOCs who are experienced in such areas can be signed. After delineation of maritime boundaries with Myanmar and India, a new opportunity has opened up for offshore exploration. Therefore, both onshore and offshore oil and gas options should be pursued.

Domestic Coal Utilization

The high quality of domestic coal produced from Barapukuria could be used for higher value-added process. With as high heating value as coking coal, Bangladesh's domestic coal is currently being fuelled to the sub-critical coal-fired power plant. Alternatively, this coal should fuel higher energy efficiency coal-fired power plant such as Super Critical or Ultra Super Critical power plants. This coal can also be used as coking coal. Such utilization would contribute to the higher

value-added economic activities, and should be directed by the articulated Domestic Coal Utilization Policy. At the same time, when Barapukuria Coal Mine realizes production increase, the risk mitigation measures should be taken so that both the production increase and social and environmental concern can be properly addressed. Such direction should also be articulated by the Policy.

In addition, if Barapukuria coal is exported as coking coal or steam coal, and less quality coal is imported for Barapukuria Coal Power Generation, there should be some economic gain. For example, currently Barapukuria Coal Power Generation buys coals from the coal at 112USD/ton. As an extreme example, however, if the Barapukuria coal can be exported at 148USD/ton (as a steam coal or coking coal) and steam coal is imported at no more than 100USD/ton, 1 ton of good quality of coal will be able to import more than 1.48 tons of steam coal. This implies that the possibility of coal export shall be considered more proactively.

iii) **Energy Import**

Import LNG/Gas pipeline: Bangladesh is likely to take upper side of the international gas price when it actually start importing the gas. In order to mitigate the very high unit price and to have bargaining power, it is critical for Bangladesh to take various measures, such as diversification of gas suppliers, and co-purchasing of natural gas with other countries. In particular, Bangladesh may pursue: i) in addition to the current negotiation with Qatar, pursue other LNG supply sources; ii) Bangladesh's LNG share will amount merely to 1% of world LNG trade in 2020. In order to obtain extra buying power, co-purchasing with India or other South Asian countries could be sought; and iii) periodical contract review to seek more favourable conditions of a contract and domestic resource development could also be pursued.

Import Coal: In order to receive the import coal, currently there is only coal stockyard plan dedicated to the Matarbari Ultra Super Critical Coal-fired Power Plant. For other coal-fired power plants, in order to identify required coal amount for power generation, the detail coal design or suppliers are required. In order to delineate the required coal quality (heating value, ash and water content, etc.) and quantity, further studies for each project pipeline are required. Based on such studies, a required capacity for coal-import port can be identified. Alternatively, at least macro level demand projection is required. In addition, the Government should quickly implement the planned study to design coal Centre with the capacity of 12 million ton in Matarbari area. This coal Centre would serve for multiple coal-fired power generation projects.

v) **Demand Side Management (DSM) and Energy Conservation.**

In view of the severe gas constraint and its high value to the Bangladesh economy, a strong effort is needed to conserve gas use in Bangladesh. This has to be an integral element of the energy strategy for the Seventh Plan. The policy effort involves substitution of low thermal efficient gas-fired power plants with more energy efficient plants; incentives for adoption of improved fuel use efficiency and energy conservation technology in industry; and conserving gas consumption by

households through proper metering and pricing based on volume of gas consumed rather than a monthly flat rate per stove. The potential for conserving gas through these steps is enormous and the value of gas saved much exceeds the financial cost of implementing these policies. This is an urgent policy priority.

vi) Improved Cooking Stove (ICS)

In view of the impediments that ICS is facing, such as tax barriers and access to loan, which are quite similar to what were experienced in Solar Home Systems (SHS) dissemination in Bangladesh, it is quite likely that the impediments could be overcome with appropriate financial incentives and regulatory schemes.

viii) Energy Subsidy and Pricing

As seen in the previous sections, between FY2014 to 2019, the energy import will substantially increase, mainly because of LNG, coal and oil import for power generation. As a result, energy costs will drastically increase. Therefore, the Government needs to determine the extent to which Energy Subsidy could be allowed in high priority sectors that also maintains budgetary discipline. The subsidy policy will need to be coordinated with pricing of energy products both for fiscal sustainability but also to promote efficient energy use in total as well as by product categories.

5.2.6 Summary of suggested policy actions in energy

There are quite a number of policy actions that are needed in the primary energy sector. These are summarized in Table 5.10. The responsible agencies and a possible timeline for implementation are also suggested. The timely implementation of these policies will play a critical role in supporting the development of primary energy and the associated power generation Programme.

Table 5.10: Time-Bound Action Plan for the Energy Policy and Strategy

SI.	Actions	Responsible Agency	Timeframe
1	Establish Gas Allocation Policy (incl. LPG and Biogas Alternative policy)	Energy and Mineral Resources Division	FY2015-FY2016
2	Domestic Gas Exploration Policy	Energy and Mineral Resources Division	FY2015-FY2016
3	Energy Efficiency and Conservation Programme	SREDA	FY2016-FY2020
4	Domestic Coal Export Policy	Energy and Mineral Resources Division	
5	Develop Energy Subsidy Policy	Finance Division and Energy and Mineral Resources Division	FY2016 (by when LNG import starts)
6	Import LNG Strategy	Energy and Mineral Resources Division	FY2015-FY2016 (Before LNG import starts)
7	Planning for Import Coal Facilities	Energy and Mineral Resources Division	FY2016
8	Financial Incentive Mechanism for Improved Cooking Stove	SREDA	FY2015-FY2016
9	Promote Use of LPG in Domestic and Transport Sector	Energy and Mineral Resources Division	FY2016-FY2020

5.2.7 Institutional Reforms in Energy

The challenges in the energy sector are enormous. Much of these relate to policy and institutional reforms. A list of the major policy reforms was provided in Table 5.10. These are tough reforms and strong political will is necessary, especially regarding the adoption of domestic coal policy. Yet, the importance of timely implementation of these reforms cannot be overstated. The successful implementation of an efficient power generation strategy is critically dependent upon the implementation of these reforms relating to primary energy.

In addition to strong political will and leadership, improvements are also needed in the technical and negotiation capacity of the Ministry and associated energy agencies. The growing reliance on imported primary energy requires strong skills and knowledge about global energy markets and future outlook in order to negotiate the best prices and assured timely supply of primary energy.

Administrative and technical capacities also need to expand in a number areas related to domestic gas exploration, negotiation of IOC investments, development and implementation of renewable energy programmes and the implementation of DSM initiatives. The implementation of DSM initiatives will require proper dialogue and coordination with the industry and transport sector.

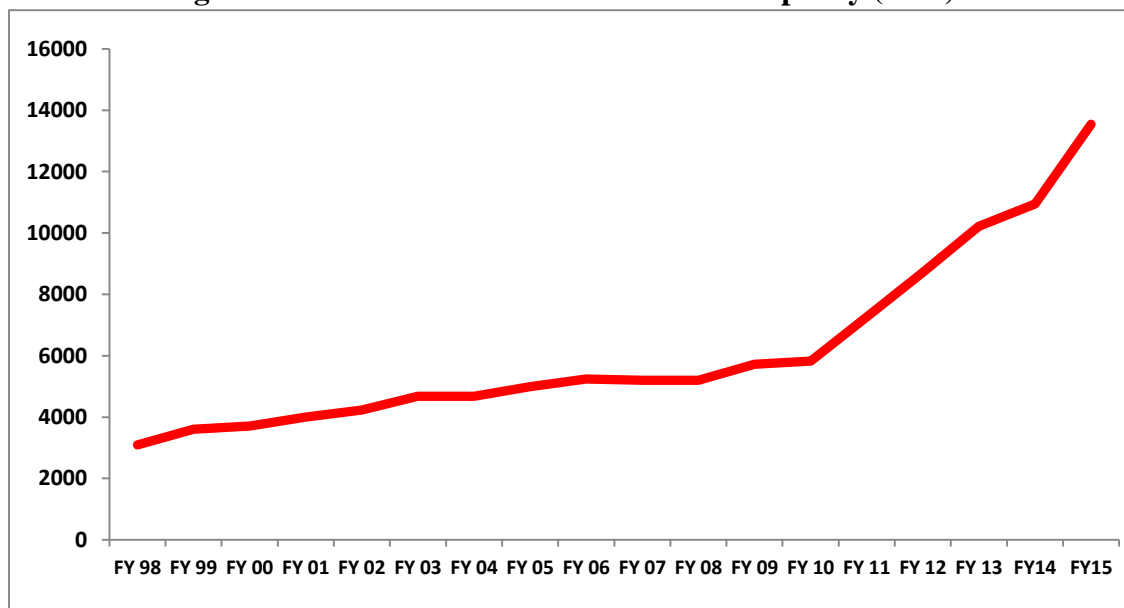
The financial requirements in primary energy are huge. PPP programmes can be a major source of such financing. The implementation of the government’s PPP Programme for infrastructure has not moved much.

5.3 POWER SECTOR

Electricity installed capacity and generation: In FY2010 the Government adopted the Power System Master Plan (PSMP) 2010. The increase in power generation is impressive in last five years. The long-term grid based trend in installed power capacity is shown in Figure 5.6. Between June 2010 and June 2015, total installed power capacity increased from 5,823 MW to 13,540 MW (including captive power). This is a massive increase in installed capacity within a 5 year period.

The population’s access to electricity increased from the FY2010 baseline of 48 percent to 72 percent in FY2015, thereby exceeding the 71 percent target set in the RF. The other RF indicator, per capita electricity consumption, also increased from 220 kWh to 371 kWh, which is close to the RF target for FY2015. Overall, these numbers suggest an impressive performance in electricity production, distribution and generation during the Sixth Plan.

Figure 5.6: Trend in Grid Based Installed Capacity (MW)



Source: Ministry of Power, Energy and Mineral Resources

Mobilization of private investment in power generation: Mindful of the financial constraints in the public sector, the Government aimed to secure a substantial increase in power generation from the private sector based on its Private Sector Power Generation Policy (PSPGP). The PSPGP was approved in 2006. The record shows a substantial increase in new generation from private sources during the Sixth Plan (Table 5.11). For example, the share of private power, including 500 MW of imports, in terms of installed capacity increased from 36 percent in FY2010 to 43 percent in

FY2015. This contribution of private sources to increased power supply in the past 5 years is impressive.

Table 5.11: Installed Capacity by Ownership Excluding Captive Power (MW)

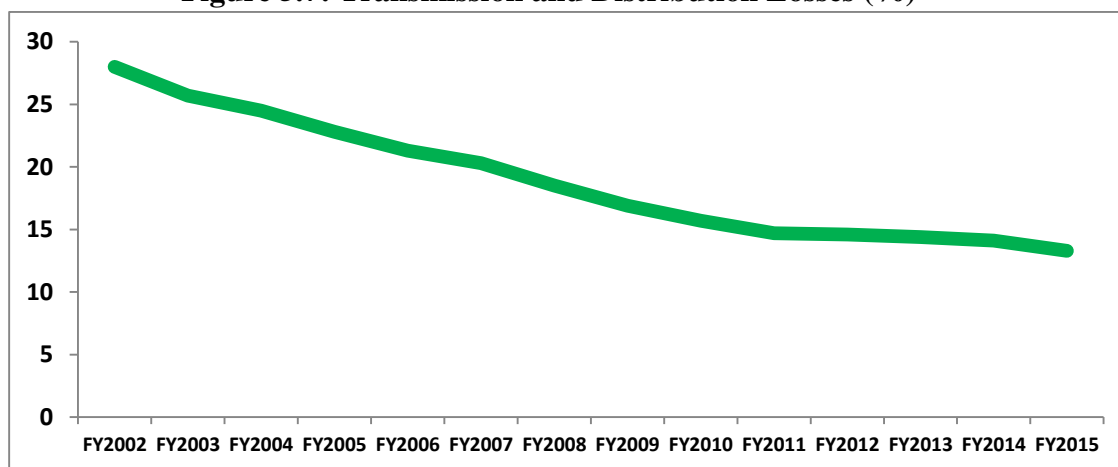
Fiscal Year	Public	Private	Import	Total	Private as % of Total
2010	3719	2104	-	5823	36%
2011	4027	3237	-	7264	45%
2012	4910	3806	-	8716	44%
2013	5400	3751	-	9151	41%
2014	5812	4104	500	10416	39%
2015	6020	5012	500	11532	43%

Source: Power Division, Ministry of Power, Energy and Mineral Resources

Power trade: Significant progress has been made in importing power from neighbouring countries. Bangladesh is now importing 500 MW power from India through the 400 KV transmission line & HVDC sub-station. Import of 100 MW power from Palatana, India is under process. It is expected that it would be possible to import additional 500 MW power through Bheramara & Boharampur grid lines from India.

Power sector efficiency: One important indicator of power sector efficiency is the reduction in transmission and distribution (T&D) losses. Bangladesh has made remarkable progress on this count (Figure 5.7). The T&D losses fell from a high of 28.43 percent in FY2000 to 17.25 percent in FY2009. It declined further to 13.03 percent in FY2015. This is a very good performance by international standards.

Figure 5.7: Transmission and Distribution Losses (%)



Source: Power Development Board

Improvements have also been made in reducing the incidence of power outages, increasing the efficiency of billing and collections and reducing the backlog of accounts receivable. These improvements have had a beneficial effect on the overall power sector performance. They also

signify important improvements in sector governance and sector management. For example, a part of the T&D loss reflects power leakage, which has been substantially curtailed.

Progress with transmission and distribution: The Generation & Distribution Utilities plan has proceeded in line with implementation capacity and needs. Some nine development & renovation projects have already been completed and another five development projects are in progress. At present, the length of total distribution line is 341,000 km which was 256,143 km in 2009. The total infrastructure that will be added to transmission network by the end of Sixth Plan is shown in Table 5.12.

Table 5.12: Major Transmission Programmes Implemented in the Sixth Plan

Investment Project	Actual Implementation
400kV Transmission Line	164.7 ckt. Km
230kV Transmission Line	381 ckt. Km
132kV Transmission Line	433 ckt. Km
400kV HVDC Station	500 MW
Substations Capacity 230/132kV	2400 MVA
Substations Capacity 132/33 kV	2029 MVA
Capacitor Banks installation at Grid substation at 33 level	600 MVAR

Source: Power Division

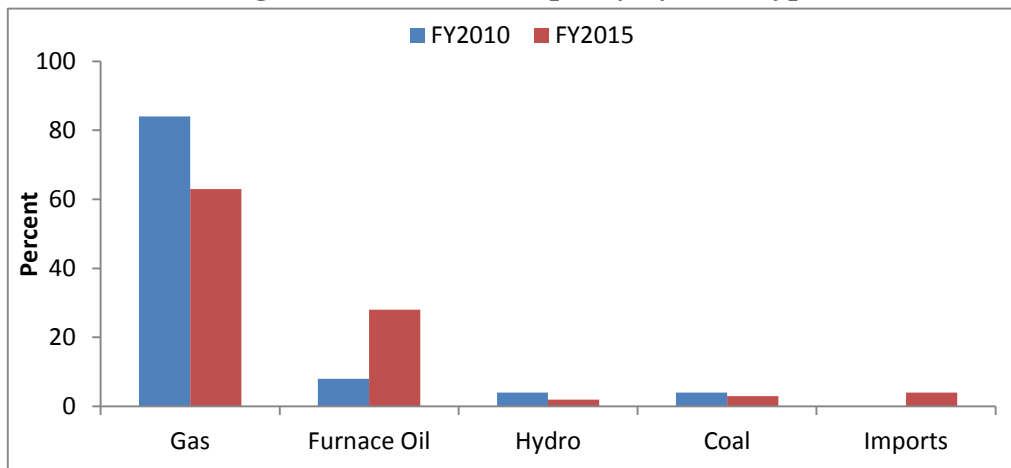
Progress with sector reforms: Along with greater investment, there has been significant progress with power sector reforms. The unbundling of electricity system along functional lines, substantially improved O&M practices, computerization of metering and billing practices, follow-up on bill payments and accounts receivables suggest considerable improvement in sector governance and management practices. The establishment and functioning of the BERC, the successful implementation of the IPP policy and the initiation of power trade with India are also important indicators of ongoing institutional changes that could have a very positive effect on power sector performance over the longer term.

Fuel mix and primary fuel supply: Bangladesh power sector is heavily reliant on gas. In FY10, some 84 percent of power-installed capacity was gas-based; some 4 percent was coal based; 4 percent was hydro-based; and the remaining 8 percent was fuel oil based (Figure 5.8). In FY15 with competing demands for gas and constrained supply, the share of gas-based installed capacity fell to 63 percent. The contributions of hydro and coal were already negligible; they fell further (to 2 percent each). Some 4 percent of power supply is import based; and the remaining 29 percent is now liquid fuel based.

The rapid growth in the share of liquid fuel based power supply from only 8 percent in FY2010 to 29 percent in FY2015- is a reflection of a major primary fuel constraint in Bangladesh. Along with reliance on rental power, substitution of high cost fuel oil with low cost domestic gas has contributed to the rapid increase in the average cost of electricity generation. Gas supply is increasingly getting constrained relative to demand. There is now a severe rationing of gas. Even

though priority has been given to power sector, which has come at the expense of fertilizer production, the galloping demand for gas in power production far outstripped gas supply. Coal mining has not proceeded owing to the lack of a coal policy. The planned imports of coal have stalled owing to infrastructure constraints. It appears that the increasing reliance on imported fuel oil will likely continue in the short term that would continue to increase the production cost of electricity. The falling international fuel oil price over the past few months has provided some relief; even so, the fuel cost of imported fuel oil substantially exceeds the cost of heavily-subsidized domestic gas.

Figure 5.8: Installed Capacity by Fuel Type

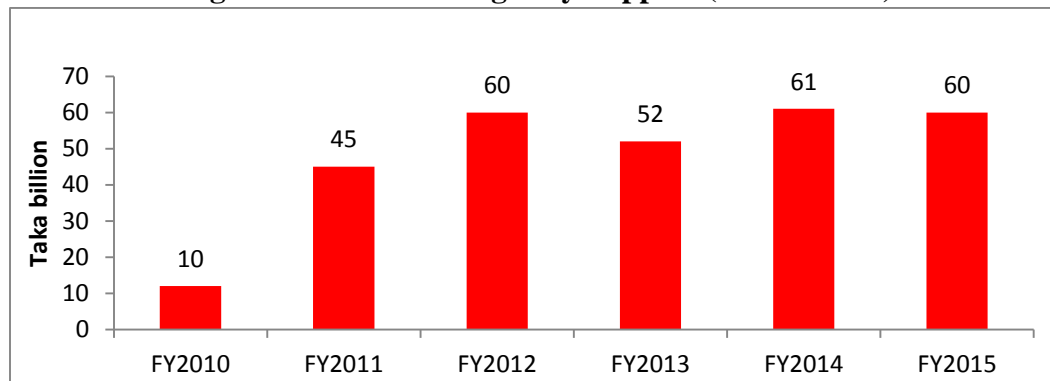


Source: Ministry of Power, Energy and Mineral Resources

Electricity pricing policies: The establishment of the Bangladesh Energy Regulatory Commission (BERC) in 2003-2004 improved power tariff setting mechanism. Tariffs now get adjusted fairly regularly in accordance with established BERC guidelines. Even so, the gap between the average cost of electricity production and the average bulk supply tariff remains large.

The reliance on liquid fuel based power plants and the growing share of fuel oil in power generation have progressively increased the average supply cost of power and have strained power sector finances. As noted, the average bulk supply cost of power surged from Taka 2.65/kWh in FY2010 to Taka 6.10/kWh in FY2015, which amounts to a galloping 26 percent increase per year. The BERC responded by increasing bulk average tariff at a regular interval. Even so, the average bulk supply tariff of electricity is less than the average cost of production. The resulting financial losses have created pressure on the national budget. BPDB has received budgetary support from Government due to loss between bulk supply cost and bulk supply tariff (Figure 5.9). Thus, the electricity budgetary support increased from Taka 10 billion in FY2010 to Taka 61 billion in FY2014. The budgetary support is Taka 60 billion in FY2015. The recent decline in international fuel oil prices will provide some relief for the Budget. Yet, in view of uncertainties of international oil prices, electricity pricing and subsidy will continue to pose policy challenges during the Seventh Plan.

Figure 5.9: Power Budgetary Support (Taka billion)



Source: Ministry of Finance

5.3.1 Progress with Financing of Power and Energy Investments

The Sixth Plan strategy for financing energy investments involved three mechanisms: public investment through the ADP; private IPP investments; investment through the public-private partnership. The first two sources were directed to the power sector; the first and third sources were intended as the main contributors to primary energy sector.

Investment financing of power and primary energy through the ADP is shown in Table 5.13. Several points are worth noting. First, consistent with the priority accorded to energy, ADP allocations were increased progressively and in line with the suggested allocation in the Sixth Plan. Second, within energy, the power investments received most of the budget allocations. The power sector was also very efficient in using the allocated resources. The coordination of financing with project implementation has been a strength of the power sector and sets a good example how physical planning of projects and financing should be coordinated in other ministries and public entities. Third, primary energy also showed considerable efficiency in utilizing the allocated resources, but actual resource allocation was modest.

Table 5.13: ADP Allocation for Power and Energy Sector during the 6th Plan

Ministry/ Division	Taka Billion														
	FY2011			FY20 12			FY20 13			FY20 14			FY20 15		
	Allocation ADP	SFYP	ADP Expenditure	Allocation ADP	SFYP	ADP Expenditure	Allocation ADP	SFYP	ADP Expenditure	Allocation ADP	SFYP	ADP Expenditure	Allocation ADP	SFYP	ADP Expenditure
Power Division	50	50	59.1	71.9	70.7	71.6	85.6	85.6	88.5	79.3	109	78.3	92.7	134.6	83.3
Energy & Mineral Resources Division	11	10.8	9.7	7.3	15.5	7.5	16.1	17.2	16	19	20.1	18.4	22.2	22.9	18.1
Total Energy	61	60.8	68.8	79.2	86.2	79.1	102	103	104.5	98.3	129	96.7	115.0	157.5	101.4

Source: Finance Division, Ministry of Finance and SFYP.

Example how physical planning of projects and financing should be coordinated in other ministries and public entities. Third, primary energy also showed considerable efficiency in utilizing the allocated resources, but actual resource allocation was modest.

Regarding private investment in energy (channels 2 and 3 identified above), there was significant success in the power sector, but less so in primary energy. Both IPPs and Rental Power played a role, but Rental Power dominated. In primary energy, there were very limited new investments in off-shore oil and gas exploration. No new PSCs were signed; however investments in existing contracts went forward. Also, one small primary energy project-- LPG Bottling Plant at Kumira (Jetty, Pipelines & Storage Tank)—was included in the high priority PPP list of the Government. However, this did not happen. Most new investments in primary energy were funded publicly through the ADP. The relatively low-level of spending in primary energy including from the private sector is mainly due to inability to reach closure on the number of initiatives. Once these implementation constraints are resolved during the Seventh Plan, the financing needs in primary energy will increase substantially.

5.3.2 Progress with Institutional and Policy Reforms

There were a number of important policy and institutional reforms that happened during the Sixth Plan in the energy sector. The main reforms during the Sixth Plan were:

- Sustainable and Renewable Energy Development Authority (SREDA), Act 2012
- The Rural Electrification Board (REB) Act, 2013
- Interim Action Plan for Improvement of Energy Efficiency and Conservation
- Clean Cook Stove Country Action Plan
- Special Act for Quick Procurement in Power and Energy Sector
- Electricity (Amendment) Act, 2014.
- Energy Efficiency and Conservation Rules

The focus of these reforms were to enable quick supply of power to meet the crisis in the power sector and longer-term measures to conserve energy, promote renewable energy and strengthen the distribution of power in rural areas. The longer-term reforms are well directed and their successful implementation based on supportive institutional arrangements will be essential for securing the objectives of the power and primary energy sector during the Seventh Plan.

5.3.3 The Strategy for Power Sector

Bangladesh has made significant progress in increasing power generation capacity, in increasing actual power production and consumption and in increasing the population's access to electricity. This progress was achieved through a strategy that combined greater public investment in electricity, encouraging private supply of power, engaging in power trade with India and improving sector efficiency by sharply reducing T&D losses. This strategy should continue during the Seventh Plan. Additionally the Seventh Plan should make strong efforts to make progress in areas where the Sixth Plan was deficient. Two major performance gaps in the power sector are:

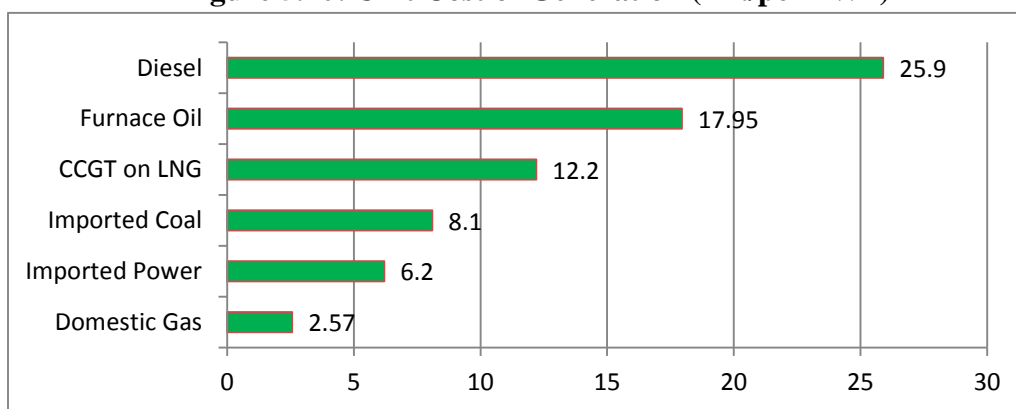
(a) increasing cost of electricity production and (b) continued operational deficits in the power sector. The seventh Plan strategy needs to recognize these short-comings of the Sixth Plan power strategy and take adequate measures to correct them.

The power generation strategy for FY2010-FY2030 was adopted in FY2010 under the Power Sector Master Plan 2010 (PSMP 2010). The generation plan is based on achieving 8 percent average GDP growth and the Government’s target to ensure that electricity reaches every household by FY2021. Based on these targets and peak load demand forecast, the PSMP 2010 set installed generation capacity targets of 23,000 MW by FY2020 (end of Seventh Plan); 24,000 MW by 2021; and 40,000 MW by 2030.

When PSMP 2010 was adopted, the electricity supply situation was very difficult. Understandably, therefore, the electricity expansion decisions in the early years of the Sixth Plan were based more on pragmatism and quick response considerations rather than cost considerations. The future expansion paths were based on adoption of low-cost and efficient source of electricity. Several strategic considerations have gone into it: reduce the reliance on high-cost rental power plants with a time-bound plan to phase them out; to the extent that size of generation unit has an impact on per-unit cost, this aspect is taken into account for both public sector investments and IPPs; the choice between power imports through grid connectivity with neighbours and domestic production; and most importantly, the choice of fuel.

The choice of primary energy has a determining influence on the unit cost of electricity (Figure 5.10). Broadly speaking gas-based units and coal-fired plants tend to have much lower average unit cost of production than those based on fuel oil (furnace oil and diesel). Power generated through diesel (e.g. self-generation through privately owned small generators) is the most expensive method, followed by fuel oil. Imported power is also a very attractive option.

Figure 5.10: Unit Cost of Generation (Tk./per kWh)

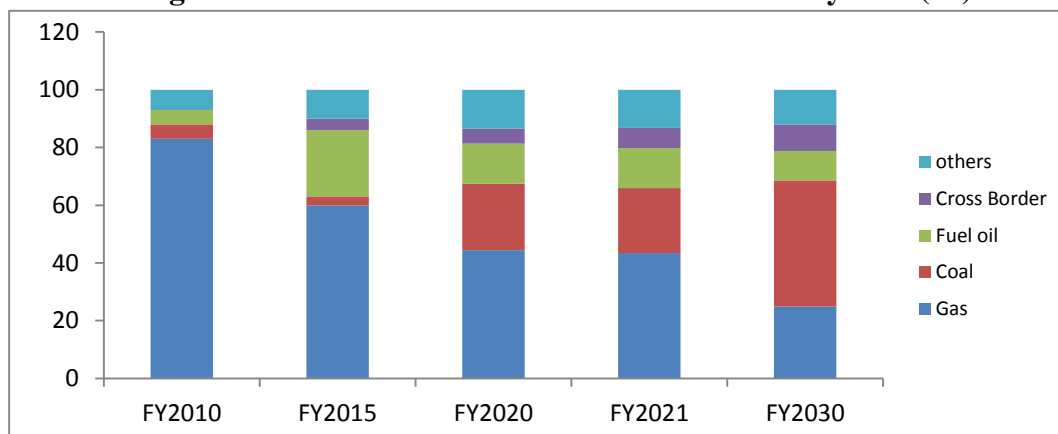


Source: Compiled by GED

Since least cost domestic power generation depends upon choice of primary fuel, the success of least-cost power generation strategy depends critically upon the availability of primary fuel. A review of the PMSP 2010 shows that in view of the growing shortage of domestic gas the

Government planned for substitution of coal for gas as the primary fuel for generating electricity (Figure 5.11). The plan also assumes growing share of trade and nuclear based power (others). The sharp projected increase in use of coal is striking; the projected share of coal goes up from only 3 percent at the end of the Sixth Plan (FY2015) to 21 percent by the end of the Seventh Plan and subsequently to 50 percent by FY2030, when it becomes the dominant source of power. Interestingly, the share of nuclear power also increases significantly from zero in FY2015 to 8 percent by the end of the Seventh Plan and to 10 percent by 2030.

Figure 5.11: PSMP 2010 Power Generation Plan by Fuel (%)



Source: PSMP2010, PDB

The implementation experience of the Sixth Plan shows that the assumptions about the availability of primary fuel are not realistic and have to be changed. The strategy to diversify the primary energy source away from domestic gas is essential, as Bangladesh has been facing huge challenges in the area of primary fuel. It pointed out that a big obstacle is that coal-based generation plan is yet to take off. The most important constraint is the inability to adopt and implement a domestic coal policy. The reliance on imported coal and LNG options have their own challenges in terms of availability, investment costs and domestic handling logistics. Prospects for power trade are good. But the realism of supplying electricity through nuclear fuel during the Seventh Plan needs to be revisited.

Based on these lessons of experience of the Sixth Plan and a more realistic assessment of the energy supply prospects, the Government has revised the PSMP 2010 projections for power generation for the Seventh Plan (Table 5.14). In this revised scenario, total of generation during the Seventh Plan period (FY2016-FY2020) will increase by 12,584 MW (excluding captive power), which is larger target than the large scale coal based power plants are in line. The reliance on gas and liquid fuel continues until FY2018. A major switch in fuel use is expected to happen starting with FY2019, when a massive increase in power generation is expected based on imported coal. The first LNG-based power plant is expected to be commissioned in FY2020. With successful implementation of the revised power generation plan, a major transformation is expected in the fuel source of power generation, away from domestic gas and imported liquid fuel

to imported coal and LNG. Further increases are planned for imported power and some small increments are expected from renewable energy (solar and wind power).

Table 5.14: Proposed Seventh Plan Electricity Generation by Fuel Type (MW)

Calendar Year	2015-2016 (MW)	2016-2017 (MW)	2017-2018 (MW)	2018-2019 (MW)	2019-2020 (MW)	Total (MW)
Gas	973	2401	657			4031
Gas/LNG					1750	1750
Duel Fuel	75	395	512			982
HFO	55	511				566
Coal			274	3036	1247	4557
Import	100		500			600
Renewable	68	30				98
Total	1271	3337	1943	3036	2997	12584

Source: Power Division, Ministry of Power, Energy and Mineral Resources

Mobilizing IPPs: Achieving this massive expansion in power generation will require substantial investments, amounting to an estimated \$ 24 billion for power generation alone (excluding 600 MW of imported power). Finding these resources from the national budget will not be possible. So, further reliance on IPPs will be necessary. Bangladesh already has a good experience with IPPs. The Seventh Plan assumes a further expansion in the contribution of the private sector in power generation. One major difference is that the IPP programme for the Seventh Plan is based on large and efficient power supply rather than reliance on a multitude of small-scale rental plants. It is expected that no new rental plant contracts will be needed during the Seventh Plan and the share of rental plants will fall progressively. Based on these considerations, the distribution of new generation by public and private sources is shown in Table 5.15.

Table 5.15: Seventh Plan Power Generation Programme by Ownership

FY	Public sector (MW)	Private Sector (MW)	Total (MW)
2016	937	334	1271
2017	2599	738	3337
2018	1076	867	1943
2019	1320	1716	3036
2020	1750	1247	2997
Total	7682	4902	12584

Source: Power Division, Ministry of Power, Energy and Mineral Resources

Electricity through Renewable Energy: In view of the considerable challenge of primary fuel, the Seventh Plan recognizes that continued efforts will be needed to accelerate the implementation of scalable power generation through renewable energy. This will be especially important to meet the demand in areas where grid supply is not possible during the Seventh Plan. The establishment

of SREDA provides a strong dedicated institution to promote renewable energy. The Seventh plan will focus on two main areas of renewable energy: solar and wind power.

As previously noted, there is already significant success in the area of solar energy in home lighting. The roof top solar PV systems are also being introduced in the country with the current installed capacity estimated at 32 MW. For the Seventh Plan the Government has adopted the 500MW Solar Programme broken down into 340MW of commercial purpose and 160MW of social sector. Commercial projects will be implemented by the private sector while social projects will be implemented by the different ministries and agencies as a part of social responsibility of the Government. Commercial projects are: (a) Solar Park (grid connected); (b) Solar Irrigation; (c) Solar Mini-grid/micro-grid; and (d) Solar rooftop. The social projects are: (a) Rural health centres; (b) Remote educational institutes; (c) Union e-Centres; (d) Remote Religious Establishment; (e) Off-grid Railway Stations; and (f) Government & Semi-Government Offices in the off-grid areas.

Bangladesh has enormous potential for wind energy, mainly in the coastal areas, haors and offshore islands. Government has a plan to generate electricity from wind power under public & private initiatives. As a first step, a wind resource mapping project has been taken up by the Government to prepare bankable wind data. Some of the development partners and companies have come forward for wind mapping in different parts of the country. Government has initiated process to carry out Wind Resource Assessment (WRA) at Feni, Chittagong, Cox's Bazar, Barguna and Kurigram. In addition to the wind assessment study, a 15 MW Wind Power Plant will be installed at the most suitable site. A Technical Assistance Renewable Energy Development Project has been taken for Wind Resource Assessment (WRA) at Anowara, Chittagong. Another Technical Assistance Project for Wind Resources Mapping project has been taken at Inani, Anowara, Sitakundo, Chandpur, Rajshahi, Gaibandha & Kuakata. Keeping the wind resource mapping pending two IPPs (100 MW & 60 MW) have been taken for implementation.

Power Trade: Use of power trade will continue to be a major element of the electricity generation strategy for the Seventh Plan. As noted above, the average cost at present makes this very attractive option, especially in the face of a serious primary energy constraint. The potential for power trade between Bangladesh and its North-Eastern neighbours is large. Bangladesh has made an encouraging beginning with power trade with India. Building on this experience, the Seventh Plan will further expand trade with India and also explore hydro-power import opportunities with Nepal and Bhutan. The hydro-power potential is also considerable through India's North-eastern state of Tripura. The Seventh Plan power generation programme plans to obtain at least 600MW of electricity through power trade.

Coordinating Transmission and Distribution Programmes with Generation: As during the Sixth Plan, the Government will maintain proper coordination of investment in transmission and distribution is essential to ensure that the benefits of generation investments reach the people. Efforts will also continue to further reduce T&D losses from 13.03 percent in FY2015 to 12 percent by FY2020. Even so, massive transmission and distribution development programmes are to

ensure uninterrupted power distribution and achieve the target of power supply for all. Specifically, up to 2020 about 8000 km of new transmission lines and 120,000 kilometres distribution lines need to be constructed. Required projects have been taken by the concerned utilities.

Electricity Transmission Plan: In context of Generation & Distribution plan Power Grid Company of Bangladesh (PGCB) took number of developments project throughout the country. Transmission infrastructure will be added in the tenure of 7th FYP (2016-2020) are given below:

- 800kV DC Transmission Line : 200 ckt. km
- 400kV Transmission Line : 3204 ckt. km
- 230kV Transmission Line : 1755 ckt. km
- 132kV Transmission Line : 3284 ckt. Km
- 400kV HVDC Station : 3000 MW
- Substations Capacity 400/230kV : 11780 MVA
- Substations Capacity 230/132kV : 18300 MVA
- Substations Capacity 132/33kV : 17314 MVA
- Capacitor Banks installation at Grid substation at 33 level: 1000 MVAR

Rural Electrification (distribution) Expansion Plan: Through the Bangladesh Rural Electrification Board (BREB), the Government is committed to providing rural electrification and also to reduce regional disparity. Accordingly, the Government has taken massive rural electrification expansion plan across the country through BREB and has been chalked out additional 90,000 km distribution line construction target under 7th Five Year Plan (Table 5.16). It is expected that more than 90 percent population will come under rural electrification Programme after implementation of 7th Five Year Plan.

Table 5.16: Seventh Plan Rural Electrification Distribution Plan (BREB)

SL No.	Activities	Targets
1	Expansion/up-gradation of electric distribution line (Km)	1,50,000
2	Construction/Up-gradation of sub-station (No.)	480
3	New consumer connection (No.)	70,00,000
4	Village electrification (No.)	30,000
5	Switching station construction (No.)	40
6	River crossing tower construction (Set)	40
7	Replacement of Overloaded Distribution transformer (No.)	1,90,000
8	Replacement of electromechanical/digital meter by pre-paid meter (No.)	75,00,000
9	Rehabilitation and Intensification of Distribution System (Km)	25,000
10	Installation of Solar Irrigation Pump (No.)	15,000

Source: Power Division, Ministry of Power, Energy and Mineral Resources

Urban Distribution Targets: The power distribution companies serving urban centres have also adopted major programmes to ensure smooth distribution of power in the urban areas, especially

to the major cities of Dhaka, Chittagong, Khulna, Rajshahi, Sylhet and Barisal. The Bangladesh Power Development Board, the Dhaka Power Distribution Company, Dhaka Electric Supply Company and the West Zone Power Distribution Company have all adopted substantial distribution plans. The Plans of BPDB, DPDC, DESCO and WZPDCL are shown in (Table 5.17). Emphasis is also placed on reducing T&D losses and to improve customer service.

Table 5.17: Power Distribution Targets for Urban Centres for the 7th Plan (FY16-20)

Distribution Activity	Bangladesh Power Development Board	Dhaka Power Distribution Company	Dhaka Electric Supply Company	West Zone Power Distribution Company
Expansion/Construction of electric distribution line (Km)	14200	1750	1050	2301(new); 2317(renovation)
Construction/ Modernization of sub-station (No.)	115	60	37	34
New consumer connection (No.)	14,00,000	4,26,000	4,26,000	6,00,000
Pre-paid meter (No.)	39,00,000	12,00,000	10,50,000	11,31,000
System Loss (%)	9.8	9.00	8.00	9.5
Customer service (call Centre) (No.)	57	1	1	446

Source: Power Division, Ministry of Power, Energy and Mineral Resources

Improving Operational Efficiency of Generation Plants: Efficient operation and maintenance (O&M) of the running power plants have been a long-standing critical challenge. Power Division and BPDB have emphasized the development of new power plants to quickly respond to the growing demand for electricity, but not paid adequate attention to O&M. As a result, Bangladesh now sees as large as 22 percent (or equivalent to 2,200MW) capacity loss from the installed capacity of 10,000 MW. With appropriate O&M, the loss rate could have been much lower, say 5% or 500MW. Adoption and implementation of a proper O&M is of highest priority.

Related to this, there is a huge potential for re-powering the “dead simple-cycle gas power plants” through upgrading them as combined-cycle gas turbine (CCGT). Re-powering and replacement of existing simple cycle gas turbines can free up enough gas to run an additional 600-700MW based-load CCGT that would eliminate the substantial supply shortfall in the short term. This option has been known for years now and efforts are currently underway for repowering some of the Ghorasal units. There are several similar projects that could be pursued more aggressively. Needless to say, there are short-term pains in the process including more power cuts than would be experienced otherwise especially if there are forced outages of other generators in the system. However, the longer term view of limited gas and hence the need to conserve gas is paramount – it requires taking hard decision in the short-term to conserve as much gas as possible.

A yet another operational challenge is the need to improve the quality of power system: the system enabling stable frequency and voltage with no unplanned outage. Quality power supply is prerequisite for private companies to rely on the grid electricity instead of their own costly oil-based generators. The disastrous incidence of Black Out in October 2014 underscores the

importance of upgrading the institutional and technical capacity of the National Load Dispatch Centre (NLDC). Also, the incident suggests that the NLDC's autonomy is a key for the coherent power system planning and operation. The revised Electricity Act 2014 clearly stipulates the role of NLDC as an independent system operator. The detailed legal framework such as rules, regulations or operational manual of the power system operation to realize the aim should be completed quickly and implemented.

Improving Procurement: Unlike procuring small rental plants, commissioning of large size power plants will face immense procurement challenges. So, efficient procurement decisions will be critical to ensure timely implementation of new electricity investments. The procurement issue is a particularly sensitive issue with multilateral donor sources. Their involvement will be important to quickly build up power generation capacity based on efficiency and least cost considerations. The Government may want to consider turn-key type investments that will reduce procurement problems and ease project implementation.

Pricing Policies and Cost Recovery: The establishment and functioning of the BERC has been a major positive institutional reform that has tended to depoliticize electricity pricing. This has been helpful in regular price adjustments based on cost. In the absence of competition, cost-based pricing is not always efficient. However, as Bangladesh moves away from expensive rental plants and relies more on efficient generation options, cost will become a more appropriate basis for power pricing. Even so, the average cost is projected to rise owing to shortage of gas and reliance on more expensive primary fuel. Indicative estimates show that the average cost of generation will likely grow from an average of Taka 6/kWh in 2013 to Taka 8-9/kWh during 2014-2020. Along with transmission and distribution costs, the average real cost of power distribution will increase significantly during the Seventh Plan. Even under current pricing there is a large operational deficit and subsidies in the power sector. So, the challenge for proper pricing of electricity will be substantial. The investment requirements in the power sector are huge. If on top the power sector continues to run operational deficits, the burden on the budget may not be sustainable. So, the pricing strategy for the Seventh Plan should be that along with efficient power generation, pricing will be adjusted to eliminate all operational deficit and generate a surplus such that the sector is able to finance 10-15 percent of its annual investment through own resources.

Demand Side Management: The Government will continue its emphasis on energy conservation by working on both supply and demand sides. In the area of demand management, proper pricing of electricity will help conserve power. More broadly, a well-articulated demand side management (DSM) policy can also be an extremely cost effective way of curtailing peak demand. For example, if a targeted DSM Programme is developed to better manage air-conditioning and other loads, the cost savings in terms of investment in new capacity would be much higher than the cost of implementing the DSM. Some of the energy efficiency options that were identified under a study in 2009 are shown in Table 5.18. It suggests that with DSM applied even basic appliances/motors can reduce peak capacity use by about 440 MW. It would indeed be useful to reassess DSM potential to lower electricity peak load demand.

Table 5.18: Demand Side Management Potential

	Energy/Peak Reduction Potential per year	
	Energy (GWh)	Peak (MW)
Lights	253	116
Reflectors	400	183
Fans	140	32
Cooling	175	33
VSD Motors	540	77
TOTAL	1,508	440

Source: World Bank and GTZ 2009.

In recognition of the importance of energy conservation, the sustainable component of SREDA is entrusted with three main pillars: (1) energy management Programme, (2) energy efficiency labelling Programme, and (3) energy efficiency building Programme. SREDA will be empowered to offer financial incentive schemes for promoting the programmes to conserve power system in the range of 1,000MW during the Seventh Plan. The Energy management Programme includes (i) certification mechanism of Energy Manager and Energy Auditor, and (ii) designation of large energy consumers in industry and building sectors that have obligations to nominate energy managers, implement the energy management for energy saving, prepare and submit annual energy reports and improvement plan to SREDA, and implement the energy audit periodically.

The energy efficiency labelling Programme intends to promote sales of high efficiency products in the market, mainly home appliances such as room air-conditioner, refrigerator/freezer, TV, motors, lighting, and fan, through officially certified five star rating labels on them. Due to lack of full provision of testing facilities and services, the Programme will initially start on a voluntary basis, where manufacturers and importers can join the Programme if they have in-house laboratories or they can outsource EE test to some 3rd party laboratories. The energy efficiency building Programme is designed to introduce energy efficiency building equipment and appliances in accordance with the New National Building Code requirement and upcoming energy efficiency building guidelines in next five years. In long run, the Green Building Code, a voluntary Programme under development to be used as a guideline for the design and construction of upper-grade energy efficiency and conservation and low environment impact buildings, will be adopted for the implementation.

Although some of these options have already started in small scale, full implementation requires clear incentive mechanisms. A range of incentives has been proposed including preferential taxation, subsidy and low-interest financing. Concerted efforts will be needed to make SERDA fully functional with a clear mandate to implement the Government's power conservation strategy.

5.3.4 Financing Strategy for Power and Primary Energy

The investment requirements for power generation alone are overwhelming; when the costs of transmission and distribution are added, they present a major financing challenge (Table 5.19).

Total required power sector investments add up to 2.3 percent of GDP per year. Even after allowing for a substantial contribution of private power investment and power imports, the public power sector investment requirements are about 1.5 percent of GDP per year on average. Investments in primary energy will be relatively modest. Total public investment in energy (power plus primary energy) will be about 1.7 percent of GDP per year on average.

Table 5.19: Power Sector Financing Requirements (Taka billion FY2016 Prices)

	Generation (Public)	Generation (Private)	Total Generation	Trans- mission	Distribution	Primary Energy	Total Public	Percent of GDP
FY2016	108	40	148	81	42	23	254	1.6
FY2017	259	106	365	81	42	28	382	2.4
FY2018	103	30	133	81	42	30	226	1.4
FY2019	195	347	542	81	42	32	318	1.7
FY2020	183	284	467	81	42	34	306	1.6
Total	848	807	1655	404	209	147	1461	8.7

Source: Seventh Plan Projections

Given these large financing requirements and the multiple claims on the budget, a sound financing strategy for the energy sector is essential. This will be a combination of PPP financing for power generation plus measures to contain energy subsidies. The Seventh Plan assumes that the subsidy on power will be brought down to zero in FY2016 and kept at that level. For primary energy, the Seventh Plan assumes that the level of subsidy will be capped at around 1 percent of GDP. The subsidy will be targeted to the poor and for supporting the expansion of renewable energy programmes. This will require energy prices are managed properly in line with long term trends in primary fuel oil. In power the Government will ensure that the average price of electricity must be at least equal to the average cost of production.

5.3.5 Institutional Reforms in the Power Sector

Past reforms have yielded good dividends. Nevertheless, there are several areas where further efforts are needed. These include: continue unbundling along the functional line, carry out corporatization of generation and distribution, strengthen generation and distribution companies already in place to improve operating performance and customer satisfaction, implement the power sector restructuring plan; upgrade electricity price gradually to cost level and strengthen BERC to be able to perform its agenda on licensing, energy pricing, quality of utility performance including energy efficiency, and consumer satisfaction/dispute resolution. The challenge is particularly serious in the area of planning and implementing new generation capacities

In the area of generation, although there is a power generation expansion strategy (PSMP2010), which is under implementation since 2011, there is a need to revisit that plan to check for relevance in light of implementation experience of the past 4 years and the realism of the generation plan in the context of realities in the primary energy sector. A revised plan has been prepared but this needs constant monitoring and revisions as necessary. Given the uncertainties in the supply side

of primary energy, contingent planning is necessary to have back-up power generation plans that respond to these uncertainties.

Power utilities also need to acquire the capability to timely and efficiently implement large power plant contracts. Rapid conclusion of procurement/contracting can improve power sector and can help bring in large investments in the power sector especially in generation. This will provide impetus to achieving the massive generation expansion strategy now under implementation. Capacities need to be strengthened to negotiate and monitor implementation of energy trade contracts with neighbours. Regional opportunities should be explored intensely to secure the energy requirement of the economy. Hydro-electricity of Bhutan and Nepal can be imported by Bangladesh. Bangladesh can invest in the power sectors of Nepal and Bhutan and arrange trans-border electricity trade.

Several new policies have been adopted to conserve power and improve the operational efficiency of the power sector. In this regard, the proper implementation of SREDA will be a major institutional challenge.

Financial management capabilities also need to improve. The power sector needs to be run and managed as a commercial enterprise and not as a typical state-owned enterprise. The corporatization of the power sector and the associated improvements in billing, collection and arrears has already created a positive impact on power sector finances. As reliance on inefficient high-cost rental power plants fall, the finances of power sector will further improve. Yet, the challenge of generating a surplus in the power sector will require substantial improvement in financial management capabilities of the power sector.

Over time the cost of electricity will go up. There is a lot of effort that is needed in the area of public interface and consumer service. Ensuring uninterrupted power service and responding to consumer issues with service quality, billing and payments requires substantial additional effort.

5.4 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

The ADP allocations for the Power and Energy sector in constant (2015/16 prices) and current prices are shown in Tables 5.20 and Table 5.21 respectively. Commensurate with the priority and in line with the proposed development strategy, the ADP allocations for the energy sector are proposed to increase by 10% in real terms for the Seventh Plan as compared with the actual utilization during the Sixth Plan. The bulk of the ADP goes to power sector to finance the necessary public investment in electricity generation, transmission and distribution. ADP allocation for power sector is projected to grow by 20% over actual use during the Sixth Plan. The allocations for petroleum and mineral also increase in real term. The high priority to energy sector is reflected by fact that it is projected to absorb almost 15% of total ADP in constant prices.

Table 5.20: Seventh Plan ADP Allocations for Power and Energy Sector

Taka billion, FY2015/16 prices						
Ministry	FY2016	FY2017	FY2018	FY2019	FY2020	Total
Energy & Mineral Resources Division	19.9	32.6	36.7	40.8	45.7	175.7
Power Division	164.9	159.0	153.2	170.2	190.4	837.7
Total	184.8	191.5	189.9	211.1	236.1	1013.4

Source: Seventh Plan projections

Table 5.21: Seventh Plan ADP Allocations for Power and Energy Sector

Taka billion, current prices						
Ministry	FY2016	FY2017	FY2018	FY2019	FY2020	Total
Energy & Mineral Resources Division	19.9	34.5	41.1	48.2	56.6	200.3
Power Division	164.9	168.5	171.5	201.0	235.9	941.8
Total	184.8	203.0	212.6	249.2	292.5	1142.1

Source: Seventh Plan projections

CHAPTER 5: ANNEX TABLES

Annex Table 5.1: List of Power Generation Projects in the Seventh Plan

Generation Projects

Sl. No	Name of the Power Plant	Capacity (MW)	Ownership	Type of Fuel	Expected Commissioning Date	Remarks
Projects Completion by FY 2015-2016						
Public Sector						
1	Ashuganj (South) 450 MW CCPP	373	APSCL	Gas	Sept, 2015	• Achieved: 86 %
2	Siddirganj 335 MW CCPP: SC GT Unit	200	EGCB	Gas	Sept, 2015	• Achieved: 82 %
3	Ashugonj 225 CCPP: ST Unit	81	APSCL	Gas	September, 2015	• Achieved: 96 %
4	Bhola 225 MW CCPP: ST Unit	65	BPDB	Gas	October, 2015	• Achieved: 90 %
5	Up gradation of Khulna 150 MW to 225 MW	75	NWPGC	Gas/ HSD	November, 2015	• Achieved: 47 %
6	Siddirganj 335 MW CCPP : ST Unit	135	EGCB	Gas	March, 2016	• Achieved: 82 %
7	Kaptai Solar	8	BPDB	Solar	June, 2016	• Tender Evaluation Under
	Sub-Total (Public)	937				
Private Sector						
1	Bibiana-II 341 MW CCPP (Summit): ST Unit	119	IPP	Gas	December, 2015	• Achieved: 83 %
2	Cox'sbazar 60 MW PP	60	IPP	Wind	December, 2015	• Achieved: 20 %
3	Tripura Power Import	100	IPP	Import	January, 2016	• Work in progress
4	Manikganj 55 MW PP	55	IPP	FO	March, 2016	• Achieved: 22%
	Sub-Total (Private)	334				
	Total (FY 2015-2016)	1271				

Sl. No	Name of the Power Plant	Capacity (MW)	Ownership	Type of Fuel	Expected Commissioning Date	Remarks
Projects Completion by FY 2016-2017						
Public Sector						
1	Shajibazar CCPP : SC GT Unit	216	BPDB	Gas	July, 2016	•Achieved: 19 %
2	Shikalbaha 225 MW CCPP: SC GT Unit	150	BPDB	Gas/ FO	October, 2016	•Achieved: 2 %
3	Sirajgonj 225 MW CCPP (2 nd Unit):SC GT Unit	150	NWPGCL	Gas/ HSD	October, 2016	• Contract Signed
4	Chapai Nababganj 104 MW PP	104	BPDB	FO	October, 2016	• Contract signed
5	Hatiya Hybrid	7	BPDB	FO/ Solar	Dec, 2016	•Tender Under Evaluation
6	Ashugonj (North) CCPP	381	APSCL	Gas	January, 2017	•Achieved: 28 %
7	Sylhet 150 MW PP Conversion	75	BPDB	Gas	January, 2017	•Tender Under Evaluation
8	Bibiana South 383 MW CCPP : GT Unit	252	BPDB	Gas	February, 2017	• Contract signed
9	Ghorasal 3 rd Unit Repowering (Capacity Addition)	206	BPDB	Gas	February, 2017	•Contract Signed
10	Bibiana #3 CCPP: SC GT Unit	274	BPDB	Gas	March, 2017	• Contract signed
11	Ghorasal 363 MW CCPP: SC GT Unit	254	BPDB	Gas	March, 2017	• Contract signed
12	Bheramara 414 MW CCPP	414	NWPGC	Gas	March, 2017	•Achieved: 30 %
13	Shajibazar CCPP: ST Unit	116	BPDB	Gas	March, 2017	•Achieved: 19 %
	Sub-Total (Public)	2599				
Private Sector						
1	Keranigonj 100 MW Power Plant (Relocate from Khulna)	100	IPP	FO	July, 2016	• Contract signed
2	Kusiara 163 MW CCPP	163	IPP	Gas	July, 2016	• PPA Signed
3	Jamalpur 100 MW Power Plant	95	IPP	Gas/ FO	August, 2016	•Achieved: 70 %

Sl. No	Name of the Power Plant	Capacity (MW)	Ownership	Type of Fuel	Expected Commissioning Date	Remarks
4	Fenchugonj 50 MW Power Plant	50	IPP/NRB	Gas	July, 2016	• Approved by purchase committee.
5	Barisal 100 MW PP (Re. from Syedpur)	100	IPP	FO	July, 2016	• Contract signed
6	Madangonj 50 MW Peaking Plant(Re. from Shantahar)	50	IPP	FO	August, 2016	• Contract signed
7	Kamalaghat 50 MW PP	50	IPP	FO	Dec, 2016	• LOI Issued on 04.06.2011.
8	Bhairab 50 MW PP	50	IPP	FO	Dec, 2016	• LOI issued on 20.03.2012
9	Dhorola 30 MW Solar Park	30	IPP	Solar	Dec, 2016	• LOI issued.
10	Satkhira 50 MW PP	50	IPP	FO	Jan, 2017	• Approved by Purchase Committee.
	Sub-Total (Private)	738				
	Total (FY 2016-2017)	3337				
Projects Completion by FY 2017-2018						
Public Sector						
1	Shikalbaha 225 MW CCPP: ST Unit	75	BPDB	Gas/ FO	July, 2017	• Achieved: 2 %
2	Sirajgonj 225 MW CCPP (2 nd Unit):ST Unit	70	NWPGCL	Gas/ HSD	July, 2017	• Contract Signed
3	Bagabari 100 MW PP Conversion	50	BPDB	Gas	August, 2017	• Approved by ECNEC
4	Shajibazar 70 MW PP Conversion	35	BPDB	Gas	August, 2017	• Approved by ECNEC
5	Bibiana South 383 MW CCPP:ST Unit	131	BPDB	Gas	January, 2018	• Contract signed
6	Ghorasal 363 MW (7th Unit) CCPP : ST Unit	109	BPDB	Gas	January, 2018	• Contract signed
7	Bibiana #3 CCPP: ST Unit	126	BPDB	Gas	January, 2018	• Contract signed

Sl. No	Name of the Power Plant	Capacity (MW)	Ownership	Type of Fuel	Expected Commissioning Date	Remarks
8	Ghorasal 6 th Unit Repowering (Capacity Addition)	206	BPDB	Gas	Feb, 2018	•Tender Received & under Evaluation
9	Barapukuria 275 MW (3rd Unit)	274	BPDB	Coal	March, 2018	• Contract signed
	Sub-Total (Public)	1076				
Private Sector						
1	Power import	500	IPP	Import	July, 2017	
2	Sirajganj 367 MW CCPP: SC GT Unit	249	IPP	Gas/ HSD	July, 2017	• LOI Issued on 23.09.2012
3	Sirajganj 367 MW CCPP:ST Unit	118	IPP	Gas/ HSD	January, 2018	• LOI Issued
	Sub-Total (Private)	867				
	Total (FY 2017-2018)	1943				
Projects Completion by FY 2018-2019						
Public Sector						
1	BIFPCL, Rampal, Coal Fired Power Plant	1320	BIFPCL	Imp. Coal	June, 2019	•Tender Invited: 12.02.15 •Tender Sub.: 18.05.2015
	Sub-Total (Public)	1320				
Private Sector						
1	Khulna 630 MW Coal Fired PP (Orion)	630	IPP	Imp. Coal	July, 2018	• Contract signed
2	Maowa, Munshiganj 522 MW Coal Fired Power Project (Orion)	522	IPP	Imp. Coal	July, 2018	• Contract signed
3	Dhaka 282 MW Coal Fired Power Project (Orion Group)	282	IPP	Imp. Coal	June, 2019	• LOI Issued
4	Chittagong 282 MW Coal Fired Power Project (Orion Group)	282	IPP	Imp. Coal	June, 2019	• LOI Issued
	Sub-Total (Private)	1716				
	Total (FY 2018-19)	3036				
Projects Completion by FY 2019-2020						

Sl. No	Name of the Power Plant	Capacity (MW)	Ownership	Type of Fuel	Expected Commissioning Date	Remarks
Public Sector						
1	Keranigonj 750 MW CCPP (Gas/LNG)	750	BPDB	GAS/LNG	December, 2019	
2	LNG based 1000 MW CCPP	1000	BPDB	LNG	June, 2020	• Preliminary works
	Sub-Total (Public)	1750				
Private Sector						
1	Chittagong 612 MW Coal Fired Power Project(S.Alam Group)	612	IPP	Imp. Coal	March, 2020	· LOI Issued
2	Dhaka 635MW Coal Fired Power Project (Orion Group)	635	IPP	Imp. Coal	March, 2020	• LOI Issued
	Sub-Total (Private)	1247				
	Total (FY 2019-20)	2997				

SECTOR 6: TRANSPORT AND COMMUNICATION

CHAPTER 6

TRANSPORT AND COMMUNICATION DEVELOPMENT STRATEGY

6.1 INTRODUCTION

Development of infrastructure, especially transport and communication, is a precondition for achieving sustained and accelerated growth with immense distributional impact, especially for achieving regional balanced growth. This is more important for Bangladesh as the country is poised to take off to a new growth path, envisioning to achieve more than 7% growth for the next five years. Therefore, long term strategic planning for the development of transport and communication sector is essential to match with the projected growth path. The transport system of Bangladesh consists of roads, railways, inland waterways, ports, maritime shipping, and air transport. Among the different modes of transport, road transportation has become the dominant mode, carrying over 70 percent of passenger and 60 percent of freight traffic.

According to The World Economic Forum's updates on competitiveness ranking, Bangladesh is still lagging behind its comparators in case of roads, railroads and port. Though progress has been made in case of port, performance on roads and railroads has not been impressive (Table 6.1).

Table 6.1: Comparison of Infrastructure Quality 2014-2015

Country/ Region	Country Ranking*	Overall Infrastructure Score	Roads	Railroads	Port
Bangladesh	130	2.8	2.9	2.4	3.7
India	87	3.6	3.8	4.2	4.0
China	46	4.7	4.6	4.8	4.6
Cambodia	107	3.1	3.4	1.6	3.6
Myanmar	137	2.1	2.4	1.8	2.6
Pakistan	119	2.7	3.8	2.5	4.4
Sri Lanka	75	4.0	5.1	3.7	4.2
Thailand	48	4.6	4.5	2.4	4.5

Source: World Economic Forum, the Global Competitiveness Report 2014-2015; ranking out of 144 countries

A little Progress has been made in ports. There is a marginal improvement in the scores for railways but a slight decline in the score for road transport. While these are indicative performance ratings, the low scores in most areas of infrastructure quality and the overall country ratings are suggestive of the existing challenges ahead notwithstanding the important progress during the Sixth Plan. Indeed, overall infrastructure development is a long-term challenge that will need to be pursued through successive medium-term plans. The Sixth Plan made a major start that needs to be further pushed ahead in the Seventh Plan and then beyond over the longer term.

Table 6.2: GCI Comparison between the 2009-2010 and 2014-2015 for Bangladesh

Year	Country Ranking	Overall Infrastructure Score	Roads	Railroads	Port
2014-2015	130*	2.8	2.9	2.4	3.7
2009-2010	126**	2.4	2.9	2.3	3.0

Source: World Economic Forum, the Global Competitiveness Reports 2009-10 and 2014-2015.

* Ranking out of 144 countries; ** Ranking out of 133 countries

6.2 TRANSPORT SECTOR PROGRESS DURING THE SIXTH PLAN

The 6th FYP recognized the importance of transport sector and has provided the strategic framework for a more efficient and balanced multimodal transport system along with regional connectivity that helps improve the competitive environment of the country.

Given the importance of transport sector in improving competitiveness and growth the Government has been allocating significant resources through the ADP. The transport sector strategy in SFYP was built around achieving an overall target of 7.5 percent annual GDP growth in the transport sector to help achieve the Plan’s desired average growth target. On average the transport sector value-added has grown by 6.2 percent during the Sixth Plan, which is lower than projected. More broadly, in terms of service to the formal economy, there has been significant improvement through some visible addition of new infrastructure in Dhaka and Chittagong. Even so, the overall performance is lagging behind demand. Table 6.3 below provides a summary of the progress so far in the achieving the transport sector against the objectives and targets of the SFYP. The sub-sector details are reviewed below.

Table 6.3: Transport Sector Performance Indicators and Targets for the Sixth Plan

Objectives/Performance indicators	FY2010 (baseline)	FY2015 (estimate)	FY2015 (target)
--Achieve a transport sector growth rate of 7.5% per annum	--6.62%	--6.2% (average FY11-FY15)	--7.5% (average FY11-15)
--Develop and manage strategic road corridors	--NHW 3478 kms; RHW 4222kms; Total (RHD) 20948kms Total 289334 kms (includes Rural Roads)	--NHW 3570 kms; RHW 4323kms; Total (RHD) 21462kms 290026 kms (Includes Rural Roads)	--26,134kms
--Construction of Padma Multipurpose Bridge at Mawa-Janjira	--0	--10%	--30%
--Leverage private investments through PPPs for Expressways (Bangladesh Bridge Authority)	--0	--1 contract signed	-- 40%
--Construct Dhaka Elevated Expressway on PPP basis;	--2835 kms	2877 kms	--1210 km of new
--Expand and improve the railway system to provide safer, better, environment friendly and less expensive and reliable transport system.	770064 ton-km; 7305000 pas-km	611489 ton-km; 8638829 pas-km	track
--Ensure deficit free operation of BR	--Operating Loss of Tk. 584 crore --0	--Operating Loss Tk. 841 crore --Jatrabari –Gulistan Flyover)	--Deficit Free
--PPP participation in transport sector by other agency			
Percent of road network in good and fair condition	66%	62% on average and 76% for National Highways (2014)	95%
Construction of new roads	349kms	628 kms (cumulative FY11-FY14)	4672 km
Improvement/ Rehabilitation of roads	849 km	4335 km (Cumulative FY11-FY14)	8433 km
Construction of bridges/	7251 meters	26,799 meters new;10362 reconstruct	10362 meters
Construction of Tunnel	0	0	20%
GDP Share of Transport (% of GDP)	0.55%	0.78%	1.3%

Source: *Bangladesh Economic Review 2013, Ministry of Finance*

6.2.1 Roads and Bridges

During the first 4 years of the Sixth Plan, construction of 628 kilometres of new roads was completed, 4335 kilometre road was improved/rehabilitated, 26,799 meter bridge/culvert/flyover/

overpass was constructed and 16,876 meter bridge/ culvert were reconstructed under Roads and Highways Department (RHD). A total of 80 RHD projects have been completed under Annual Development Programmes during the period. Bangladesh Road Transport Corporation (BRTC) and Bangladesh Road Transport Authority (BRTA) have been shifted partially from traditional to digital system. BRTC has introduced e-ticketing, SPASS card and Wi-Fi in buses partially. BRTC has also contributed in increasing passenger mobility throughout the country. BRTA has introduced collection of motor vehicle tax and fee through on-line banking system, retro-reflective vehicle registration number plate, radio-frequency identification (RFID) tag along with 12 RFID reader stations in Dhaka Metropolitan Areas. Digital registration certificate, high security smart card driving license, modern taxicab services etc.

In achieving the physical targets, the RHD sought to achieve included a well-maintained, cost effective and safe road network. As part of this, a major focus to develop, maintain, and manage strategic road corridors, linking rural areas with National and District roads, improve Dhaka-Chittagong highway to six lanes, and other National Highways and corridors to 4/6 lanes, construct bridges tunnels, overpasses, flyovers, reduce road accidents. The initial work for connectivity to the Asian Highway network has also started.

Despite progress, the physical targets achieved during the Sixth Plan are far below the target. The RHD had a target of constructing 4,672 kms of new roads by FY2015, a total of only 628 kms of new roads have been completed so far, which is only 13 percent of the FY2015 target. Similarly as compared with improvement/rehabilitation target of 8433 kms, only 4335 kms has been achieved so far, which is 51 percent of the FY2015 target.

Both the construction of new roads and widening and road rehabilitation/ improvements are important inputs towards achieving a key RF target of increasing the percentage of road network to “good and fair condition”. As per the RF a target of 95 percent of roads were expected to be in “good and fair” condition by FY2015. As of 2014, the percentage of good and fair condition of roads was 62% on average and was 76% in the case of National Highways.

A major challenge has been capacity constraint that has delayed the completion of many projects. Regarding maintenance, a major, challenge is road damage from vehicle overloading, monsoon weather, climate change impacts and natural calamities. Attempts have been made to control overload by means of installing weigh-bridges at each important traffic origination point in different National Highways. This needs considerable strengthening. Another important aspect of road transport in Bangladesh is the presence of traffic mix on road network. Mechanized and non-mechanized vehicles ply together on the road network creating problem for economic and efficient operation of mechanized vehicles, and is to a large extent responsible for traffic accidents on roads. This particular aspect needs to have a special attention while planning and designing for construction of a road. A third concern is that road widening requires attention to address the needs of the gradual increase in socio-economic activities of the growing population. Umbrella projects will be better in regard to approval and implementation instead of single road projects, especially

in case of construction and rehabilitation of Zila roads and that of small and medium length bridges.

Bridges: Except for the slippage in the construction of the Padma Bridge, the progress here has been substantial and ahead of the Sixth Plan targets. Construction of the Padma Bridge at the Mawa-Janjira point has been a major infrastructure project under the Sixth Plan. There is now a revised schedule for the project and work is ongoing. The delay in implementing this project has adversely affected the size of public investment in transport and the associated growth target of the transport sector.

Railways: The performance of the railway sector is also lagging with respect to Sixth Plan targets (Table 6.4). The RF specific sectoral target for railways is expressed as “kilometres of railway in usable condition”. As of FY2015 there was 2877 kms of railway track, which is only 42 kms more than the benchmark figure of FY2010. Some 2765 kms are in usable condition.

Table 6.4: Railway Freight and Passenger Carriage

Fiscal Year	Kilometres	Freight Carried (’000 Tons)	Ton-KM (’000)	Passenger number(’000)	Passenger- KM
FY2010	2835	2714	770064	65627	7305000
FY2011	2791	2558	692640	63536	8051920
FY2012	2877	2192	582107	66139	8787234
FY2013	2877	2304	611489	65022	8638829
FY2014	2877	2192	677359	64958	8134696
FY2015	2877	2138	589260	67342	9091170

*Estimated figure.

Source: Ministry of Railways

Looking at the performance of railway in carrying goods and passengers in FY2015, a mixed picture emerges. The best measure for passenger traffic is “passenger-kilometres” and that for freight carried is “tons-kilometre”. There has been an increase in “passengers-kilometre” carried from 7,305,000 in the benchmark year of FY2010 to 9,091,170 in FY2015.

On the other hand there was a sharp decline in freight carried from the benchmark year of FY2010 to FY2015. It declined from 7,70,064 ton-km in FY2010 to 5,89,260 ton-km in FY2015, a 24 percent decline. This is a matter of concern because an important element in improving the efficiency of the Chittagong Port hinges on increased ability of the railway, road, and river transport system to move the containers to and from the hinterland more efficiently.

On the whole, while some progress has been made, there are major capacity and institutional constraints that need to be addressed if the full development potential of the railways is to be realized. The Bangladesh Railway suffers from major operational constraints including rail network shortage, mismatch of broad and meter gauge systems, shortage of rolling stock and safety equipment and financial deficits. The railway modernization challenge is a long-term challenge

that will require considerable new investments, pricing and institutional reforms. Renewed focus on modernizing railways will be necessary for the Seventh Plan.

Urban transport: The quality of urban life and economic activities in urban areas largely depends on the provision of infrastructure and basic services. Efficient delivery of essential services such as water supply, sanitation, health, education, transportation, power, and telecommunication is critical for reducing poverty and improving welfare. Investments in improving the delivery of services (whether infrastructure related, social or regulatory) can make significant contribution towards raising productivity and accelerating the pace of economic growth. The quality of infrastructure and service provision in a city has also become increasingly important in attracting new investments.

The Sixth Plan recognized the urban challenges to growth particularly those linked to the Dhaka city transport system. The goal and vision for Dhaka is to take short, medium and long-term measures to develop a multi-modal integrated and safe transportation system for the city. Better traffic management measures and increased public transport including metro-rail are part of that strategy.

A number of measures have been undertaken to improve on multimodal and integrated urban transport system. Some of the associated infrastructure has been completed. These include flyover/overpasses that have been completed on the airport road helping avoid two railway level crossings and connecting Mirpur and the Bashundhara and the Purbachal new town. Besides, a major flyover connecting Gulistan with Jatrabari has been completed under PPP easing up entry and exit to the city from Narayanganj area. There is also a PPP contract for building the Dhaka Expressway connecting Uttara and Kamlapur. However, implementation has been extremely slow and way behind original time frame of completion. As part of the multi modal transport system commuter DEMU (Diesel Electric Multiple Unit) train service has been introduced. A project to introduce metro rail system has been taken up with support from Government of Japan. Another notable addition has been new east-west connecting roads as part of the Hatirjheel project.

While these new infrastructure additions are most welcome, Dhaka continues to face increasing traffic congestions. Addressing the broader governance and institutional challenges associated with efficient city management and improved traffic management along with timely completion of the different projects will be key issues for the Seventh Plan urban transport strategy.

Rural transport: Rural transport is critical to socio-economic development and poverty reduction. An improved road communication system reduces road user costs and costs of production and thus facilitates socio-economic development of the country. It contributes to the reduction of poverty by creating employment opportunities for all, including women, increasing the mobility of working people and facilitating the distribution of capital and consumption goods. Moreover, it contributes to the expansion of markets, augmentation of regional balance and creation of investment opportunities, all of which are conducive to economic growth and poverty reduction.

Furthermore, it supports human resource development through improved access to health and education services.

The Sixth Plan placed considerable emphasis on the development of the rural roads network. This has played a major role in poverty reduction as well as integration rural production centres to urban markets. Nevertheless, many challenges remain. These include:

- local conflict in prioritizing roads for development
- inadequate flow of funds
- overloaded trucks causing early damage to the pavement
- Climate change impacts such as floods, cyclones and river erosion over the rural infrastructures.
- Inadequate fund for maintenance
- Lack of land use planning
- Capacity building of LGIs for road maintenance and road safety.
- Land acquisition for up-gradation of Roads
- Capacity building of LGIs to develop a framework of planned development beside roads to resist drainage congestion.

The 7th Plan will need to address these concerns in developing an adequate rural transport strategy.

Inland waterways play a limited role: The river transport provides a low-cost means of passenger and cargo transit. It is widely regarded that the inland waterway system is not used to its full potential, due in part to inadequate dredging and shortage of berthing facilities. Besides lack of resources as the main cause, the quality of sector management and services provided by the operators has also been identified as contributing to IWT's (Inland Water transport) overall decline. Tariffs regulated by the Government have also been found insufficient to generate a reasonable profit, and as a result boats are overloaded, the cause for more than half of the accidents on waterways. In recognition of these constraints, the Sixth Plan adopted a number of programmes to improve the performance of inland water transport, focused on improving river navigability (Table 6.5). Importantly, a River Protection Commission has been formed under the River Protection Commission Act, 2013 to prevent illegal encroachment, river pollution, illegal construction and other unlawful activities.

Specifically, under the sixth five year plan the main focus was to revive the navigability of all dead and dying rivers. Accordingly, the Bangladesh Inland Water Transport Authority (BIWTA) has been trying to implement more dredging related projects under this plan. To revive the dead and dying waterways, BIWTA undertook several projects with varying time duration (short, medium and long term). Among them one project, to develop the navigability of “Madaripur-Charmuguria-Tekerhat-Gopalganj” river routes, has already been undertaken which is scheduled to be completed

within the plan period. Whereas a midterm project entitled, “Development of navigability of 12 important river routes” is under implementation and a long term project captioned, “Capital dredging of 53 river routes (1st Phase: 23 river routes)” has been started recently.

Table 6.5: Inland Water Physical Achievement against Targets during the Sixth Plan

Specific sectoral performance indicators	Baseline data	Sixth Plan target	Performance
Improvement of waterways through dredging	2500 km (all season)	3120 km	3000 km
Procurement and installation of aids to navigation	5250 km (monsoon)	6000 km	5824 km
Establishment of river based container port	0	3 Nos.	1 No
Establishment of port infrastructure and installation of modern facilities	12 Nos.	22 Nos.	16 Nos.
Procurement and installation of pontoons	475 Nos.	575 Nos.	480 Nos.

Source: Ministry of Shipping

These are important achievements. Given the long lead time for results, the Government will explore the possibility of working with private sector in speeding up dredging. There are several other challenges that will need to be addressed in the Seventh Plan. In spite of having several advantageous aspects inland water transport has persistently received comparatively less fund and less attention in allocation of resources in development and non-development budgets. The provision is low and thinly spread out and covers only emergency maintenance works. Until now network maintenance has been given a low priority with resources only allocated to maintenance dredging. This has caused cumulative damage and deterioration to the waterways. BIWTA has capacity constraints due to inadequate resources, inability to recruit quality staff and inadequate training. The absence of a long-term dredging strategy is another problem. Lack of financial & management information system in BIWTA hinders planning and monitoring capacity as well.

Ports: Ports are lifelines for international trade and the Chittagong Port handles 95% of the country’s sea borne export and import trade. The performance of the Chittagong port during the Sixth Plan is indicated in Table 6.6. The ports’ cargo handling increased from 44.11 million tons in FY2010 to 48.13 million tons in FY2015. Commensurate with this, the container handling increased from 1.34 million TEUs in FY2010 to 1.67 million TEUs in FY2015. The cargo volume exceeds the Sixth Plan’s target, although there is a small shortfall in container handling. There has been improvement in the turnaround time of vessels, which is 5.15 days in FY2010 to 4.45 days in FY2015. Throughout per ship day for both container and bulk cargo also increased significantly.

Table 6.6: Chittagong Port Performance in the Sixth Plan

Indicators	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Cargo handled (million tonnes)	44.11	44.89	40.90	44.37	47.30	48.13
Turn Around Time of Vessels (days)	5.15	6.90	4.88	4.91	4.68	4.45
Throughput per ship day Container (tons)	417	373	442	490	515	542
Throughput per ship day Cargo (tons)	1598	1615	1636	1667	1690	1714
Number of Containers (TEUs)	1343408	1468914	1343408	1468713	1625509	1679151

Source: CPA website- Port Performance Indicators

Civil aviation: With growing domestic income, exports of worker services and expanding tourism, the demand for air services has grown substantially, while growth has been particularly rapid for international travel, the domestic air services is also growing. This expanding demand has created pressure on the civil aviation for airport network and air traffic management services. During the Sixth Plan, the main efforts focused on:

- Strengthening of existing runway, taxi-way and apron for safe and secured operation of modern aircraft;
- Construction of new airports for better communication with remote area.
- Expansion of parking area to accommodate new aircrafts of domestic and international airports of Bangladesh.
- Enhancement of operational facilities at airports.
- Enhance the operational facilities of Control Tower at HSIA
- Installation of modern Navigational equipment.
- Initiatives to strengthen the operational performance of Bangladesh Biman.

These investments and reform efforts are helping to improve traffic flows and quality of passenger service. Nevertheless, there are significant capacity constraints to handling smoothly the growing demand for air services. Additional investments will be particularly important to attract a greater inflow of tourism during the Seventh Plan.

6.2.2 Progress with Financing Strategy and Resource Allocation for Transport

Given that the role of transport investments are critical for increasing private investments and overall growth, the Government responded positively to the SFYP targets by making relatively large allocations for infrastructure sector, as well as policies to leverage private investments in infrastructure sector through PPPs.

ADP Allocations: The ADP allocations for transport increased progressively (Table 6.7). Much of the investment went to roads and railways. Allocations for the Bridges sub-sector were initially small in the first three years of the Plan owing to the delay with the implementation of the Padma Bridge. But once the issues were resolved, the allocation increased substantially. In the area of seaports, a significant part of development spending came from own resources from budget surplus of the Chittagong Port Authority (CPA). As such, CPA was able to finance its development needs

without any financing constraint. Spending on other transport areas (river transport, shipping, and aviation) has been relatively modest.

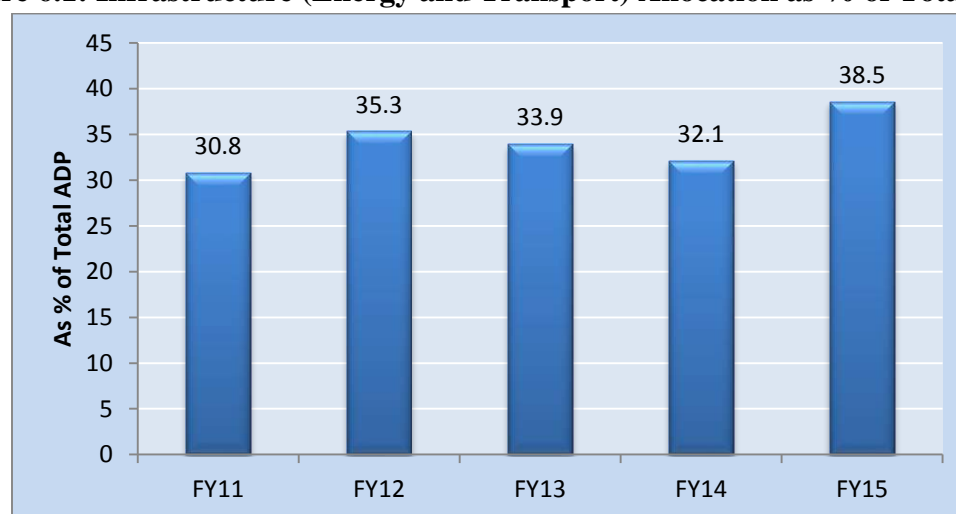
Table 6.7: ADP Allocation for Transport during the Sixth Plan (Taka billion)

Entity	FY2011			FY20 12			FY20 13			FY20 14			FY20 15		
	Allocation		ADP Expenditure	Allocation		ADP Expenditure	Allocation		ADP Expenditure	Allocation		ADP Expenditure	Allocation		ADP Expenditure
	ADP	SFY		ADP	SFY		ADP	SFY		ADP	SFY		ADP	SFY	
RTH Division				28.5		26.2	36.3		36	36.5		36.3	46.08		43.81
Ministry of Railway				22.7		19.1	30.2		28.7	36.7		35.5	44.85		34.32
Road and Railway Division*	35	34	29.7	51.2	51.4	45.3	66.5	59.1	64.7	73.2	86.6	71.8	90.93	106.8	78.13
Bridge Division	11.1	12.8	3.8	6.9	15.5	4.2	8.2	17.5	17.5	20.9	25.1	20.1	87.35	30.57	48.19
Total Transport	46.1	46.8	33.5	58.1	66.9	49.5	74.7	74.7	82.2	94.1	112	91.9	178.28	137.4	126.32

*Combined. Roads and Railways were one Division till FY2011.

Source: Ministry of Finance and SFYP.

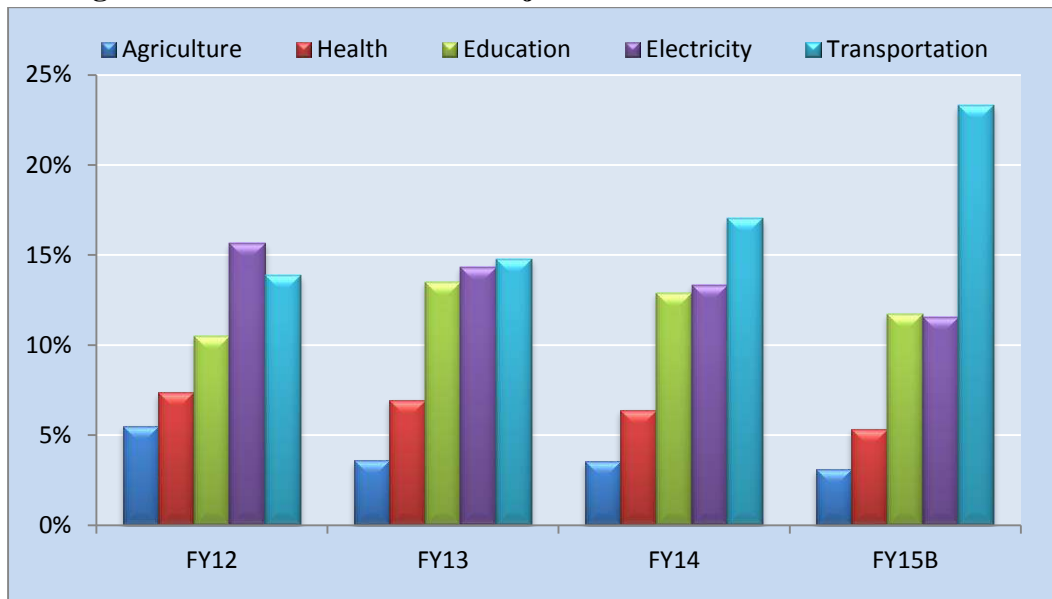
Figure 6.1: Infrastructure (Energy and Transport) Allocation as % of Total ADP



Source: Ministry of Finance

The Road and Railway sector together have been receiving allocation of resources through ADP which are in line with SFYP expectations. Yet the main challenge facing the Road and Railway sectors are implementation capacity and too many projects in the pipeline compared to resource availability. As a result, actual spending has been lower than allocation.

Figure 6.2: ADP Allocation of Major Sectors as Percent of Total ADP



Source: Ministry of Finance

The Road and Railway sectors are critical for ensuring the growth targets and a project like “4 Laning of the Dhaka-Chittagong Highway” should be considered as one of the transformational investments for taking Bangladesh to a higher growth trajectory. Yet the slow pace of implementation of such a transformational project is pulling back the SYFP growth expectations. As reported in the IMED evaluation this high priority project which started in January 2006 was originally supposed to be completed by December 2013. However, as per IMED report, until end of FY2012 only 18.38% physical progress was achieved while 27.18% of the total project cost was spent.

Progress with public-private partnership (PPP) in transport: While preparing the SFYP the infrastructure resource constraints compared to the need of the country was recognized. The Government made an effort in expanding the role of PPP investments by putting in place a regulatory and institutional framework. A PPP office was set up to provide the institutional support and identify potential projects. The PPP office identified 15 road, rail, and port related projects for implementation (Table 6.8 below).

The inability to effectively launch the PPP initiative in transport has been a major set-back for the Government’s effort to improve and upgrade the transport network. The projects on the PPP list are needed to effectively address the shortage on the transport network. Urgent policy attention is needed to do a full diagnostics of the constraints that are hindering the implementation of this high-priority initiative and suggest remedial measures based on this diagnostics.

Table 6.8: Status of PPP Financed Projects in Transport

SL.	Sectors	Name of the Project	Estimated Project Cost (\$ Million)	Negotiation	Contract Signed
1	Road	Dhaka-Elevated Expressway	\$1,088	•	•
2	Port	2 Jetties at Mongla Port through PPP	\$50		
3	Road	Dhaka-Ashulia Elevated Expressway	\$1,471		
4	Road	Flyover from Santinagar to Mawa Road (New) Bridge over Buriganga River	\$313		
5	Road	Upgrading of Dhaka Bypass to 4 Lane (Joydevpur-Debogram-Bhulta-Madanpur)	\$117		
6	Road	Hemayetpur-Singair-Manikganj PPP Road	\$86		
7	Road	Jatrabari-Sultana Kamal Bridge-Tarabo PPP Road	\$45		
8	Road	Dhaka-Chittagong Access Controlled Highway	\$1,625		
9	Port	Construction of Laldia Bulk Terminal	\$60		
10	Rail Depot	Construction of a New Inland Container Depot (ICD) near Dhirasram Railway Station	\$205		
11	Rail Bridge	Fulchhari-Bahadurabad MG Railway Bridge	\$1,435		
12	Rail Bridge	Dual gauge Double line Bangabandhu Bridge	\$1,025		
13	Port	Construction & Operation of Inland Container Terminal (ICT) at Khanpur	\$32		
14	Bridge	2nd Padma Multipurpose Bridge at Paturia-Goalundo	\$1,640		
15	Port	3rd Sea Port	\$1,200		
Total			\$10,422	1	1

Source: PPP Office

6.2.3 Progress with Institutional and Policy Reforms in Transport

There were a number of important policy and institutional reforms that happened during the Sixth Plan in the area of transport. The main policy and institutional reforms were:

- To help improve connectivity and also achieve a more balance transport sector, the “National Integrated Multimodal Transport Policy 2013”, covering all modes of transport, was approved on August 26, 2013.
- The Government has established a dedicated fund for this named “Road Fund”. It has also provided the institutional support for its implementation by approving the “Road Fund Board Law 2013”.
- To help improve road safety the Government has adopted the “Vehicle Axle Load Control Station Operation Policy 2012”.
- A River Protection Commission has been formed under the River Protection Commission Act, 2013 to prevent illegal encroachment, river pollution, illegal construction and other unlawful activities.

These reforms are fairly broad ranging and their proper implementation will bring in significant improvements in the performance of the transport sector. The challenge during the Seventh Plan would be to ensure that these policies are well implemented.

6.3 TRANSPORT INFRASTRUCTURE STRATEGY FOR THE SEVENTH PLAN

The transport infrastructure strategy for the Seventh Plan will need to build on the lessons of experience of the implementation of the Sixth Plan. An important priority will be to address the implementation gaps of the Sixth Plan. A second priority will be to address the new strategic considerations regarding the Government's commitment to promote regional connectivity and support for the Trans-Asian Highway Project; and to address the anticipated Chittagong port capacity constraints owing to growing income and international trade. A fourth priority is the reform the PPP strategy with a view to achieving stronger progress with this under the Seventh Plan. Finally, one of the important lessons of the Sixth Plan is that Bangladesh needs to be more strategic about identifying transport infrastructure projects and then allocating resources accordingly. The priority should be to focus on timely completion of *transformational infrastructure investment*.

The key elements of the transport sector strategy for the Seventh Plan are as follows:

6.3.1 Investment Priorities: focus on transformational project and timely completion

A major strategic challenge for the Seventh Plan is to set investment priorities in a way that Bangladesh gets best results from its limited resources. The lack of an integrated transport policy and transparent planning framework for prioritizing investments, limits Bangladesh's ability to allocate resources well among competing sub-sectors, or to deliver their intended development impact. Any planning for transport infrastructure requires a good understanding of demand: where people and goods go or want to go (origins and destinations) and how often (traffic per day). Such traffic information as is available is inadequate, and so a challenge to objectively prioritize investment needs. This is an issue not only for optimally prioritizing public investment needs but also in picking right PPP friendly projects.

The Government has already identified the following high-priority projects for the transport sector:

- Continue to repair, maintain, improve and expand existing roads on a priority basis
- Construction of Padma Multipurpose Bridge to be completed by 2018
- Construction of a multi-lane tunnel underneath the river Karnaphuli in Chittagong
- Conversion of nationally important highways into four lanes gradually
- Connect important economic activity hubs such as Payra Port and Economic Zones to National Highways.
- Continuation of investment to reform and modernise railways.
- Construction of circular rail road track around Dhaka city.

- Construction of the 3rd Sea port at *Payra* in Patuakhali.
- Construction of a sea port and an LNG terminal at Moheshkhali
- Construction of third terminal at Hazrat Shah Jalal International Airport (HSIA)
- Construction of a new airport named Khan Jahan Ali Airport
- Feasibility study for construction of Bangabandhu Sheikh Mujib International Airport.
- Feasibility study for construction of a road-rail tunnel underneath the river Jamuna.
- Feasibility study for construction of Sub-way (underground railway) in Dhaka city
- Strengthen Fleet capacity while making Biman a profitable organisation by improving its management and enhancing the capacity of passenger transport.

While the Government has already identified the above high priority projects and initiated implementation, the following priorities are also considered as transformational investments for taking Bangladesh to a higher growth trajectory:

- The development of a balanced 3R (Rail, River & Road) based multimodal transport infrastructure system.
- Timely completion of critical transport links (roads, bridges, railways and river waterways) related to regional and multi-regional connectivity.
- For an investment friendly infrastructure, like Indian access controlled ‘Golden Quadrilateral National Multilane Expressway’ roadway system, there needs to be an access controlled ‘Backbone Network’ considering strategically important national highways. In tandem, combining inland water transport with the existing road transport system as well as ensuring a healthy road alignment.
- Give priority to regional transport connectivity
- Improving on transport safety standards to reduce incidence of accidents by implementing safety audit periodically.
- To promote and revitalize tourism industries, an integrated land use and transport planning for all the potential water front sites viz. Cox’s Bazar, Jaflong, Kuakata etc. should be adopted in an urgent basis.
- To reduce maintenance frequency and thereby recurring cost of roadways, utmost attention should be given to make road infrastructure durable. In this regard experts recommend adoption of the following strategic measures:
 - Controlled land use-planning policy integrating with the drainage infrastructure for the road adjacent areas.
 - Concrete pavement in place of traditional bituminous pavement, which is inherently water sensitive.
 - Strict axle load control policy to reduce road damages caused by overloading. In this respect, besides installation of weighing stations, another good strategy could be immediate stopping of vehicle size increasing or modification practice that is

commonly followed by the truck owners, and is recognized as one of the main sources of overloading problem. The overloading and drainage issues should be addressed seriously to prevent quick erosion of costly road investments.

- Develop middle-income enabled quality infrastructures with high-speed mobility facilities. Target should be 80-110 kmph for a few important highway corridors, which is now operating merely at 25-35 kmph, and 150-200 kmph for railways against presently 25-30km speed. To enable this, emphasis should be given to build necessary access control infrastructures as well as to enforce different conflicting usages of right of way (r.o.w.) throughout the transport corridor.
- For integrated planned development of national multimodal infrastructures, the Planning Commission could play a vital role by strengthening its sectoral institutional capacity with strong planning wings in key infrastructure Ministries having highly qualified professional planners. To ensure sustainable development, its present major role of approving budgetary allocation of different ministries initiated projects, which are often proposed without proper integration, should be re-casted appropriately.

Roads, Highways and Bridges: The Road Transport and Highways Division has a vision to build sustainable, safe & quality road infrastructure and integrated modern mass transport system for achieving desired socio-economic development in the country. An efficient and modern road transport system can play a unique role to achieve the targets set for Vision 2021. With a view to increasing the share of road transport sector (mechanized and non-mechanized) to Gross Domestic Product at the end of the Seventh Five Year Plan period, RHD has set the following physical targets (Table 6.9).

Table 6.9: Roads and Highways Targets for the Seventh Plan

Physical Activities	7 th FYP Targets (FY2016-FY2020)
Construction of 4 lane roads	300 km
Construction of roads other than 4 lane	340 km
Improvement/ Rehabilitation of roads	2,500 km
Construction of Flyover/Overpass	7,000 meter
Construction of bridges/culverts	14,800 meter
Reconstruction of bridges/culverts	6,800 meter

Source: Ministry of Road Transport and Bridges

The Government accords the highest priority to the completion of the Padma Bridge project by 2018. Work is underway and adequate budget resources are being allocated. As a corridor improvement approach, the construction of Padma Bridge would be integrated with the development of interface connectivity with the capital city of Dhaka using ring road system as has been stipulated in the DHUTS-2010 and thereby to reduce overall journey time. The Government is also giving priority to the construction of a multi-lane tunnel underneath the Karnaphuli River to lower congestion and improve roads transport movement. Regarding highways, the topmost

priority is to convert important national highways into four lanes. The initial effort will focus on completing the ongoing highway projects; especially the upgrading of the Dhaka-Chittagong Highway is of utmost importance. The Dhaka–Chittagong corridor is central to Bangladesh’s economy, since it generates almost 50 percent of its GDP and handles about 85 percent of its international maritime trade. Early completion of the Dhaka-Chittagong 4-lane highway (along with the double tracking of the railway connection) could raise productivity of the Chittagong port, which could provide dividend of generating substantial extra value added along the supply chains. Furthermore, feasibility study to construct a road-rail tunnel under the river Jamuna would be completed during the 7th plan period.

Strengthen road transport quality and safety: Notwithstanding the massive expansion of the transport infrastructure since independence, albeit mostly in the road sector, the services provided to users have not kept up with the demand in terms of quality and safety. For the 7th FY plan, in addition to the physical targets for expansion of the road network, a major objective is to have well-maintained, cost effective, durable and safer quality road network by:

- Improve road safety situation in the country by achieving 50 per cent reduction in road traffic accident fatalities by 2020 in line with the UN Decade of Action for Road Safety
- Gradually developing the existing interrupted highways to uninterrupted arterial roads by adopting two-tiered access controlled layout configuration for segregating mobility and accessibility functions of highways.
- As at-grade junctions’ dictates constructing interchange facility that should increase overall capacity of the highways, besides highway widening at the major-major junctions.
- Towards achieving arterial roadway configuration by reducing carriageway side-frictions and conflicting usages of highway, strict roadside land use development and right of way (r.o.w) control policies should be adopted.
- Moreover, to reduce maintenance frequency of highways, focus could be shifted from bituminous pavement which is inherently water sensitive to maintenance insensitive ‘fit and forget’ and perpetual in nature type concrete pavement. Concrete pavement is deemed to have a life cycle cost advantage over traditionally build bituminous flexible pavement. This can be implemented after proper cost benefit analysis of the two is undertaken.
- Instead of raising the height of road network in coastal districts against sea level rise (SLR), better strategy would be developing coastal embankment/polder infrastructures as “Climate resilient” to save all sorts of assets within the protection area.
- To address the issue of road damage from overloading, the implementation of road damage monitoring system will be strengthened with enforcement of penalties for violation.

Urban Transport: A top priority is to lower urban road network congestion through appropriate investments as well as transport management. In this context the Government has taken initiatives to implement the MRT Line-6 project from *Uttara* to *Motijheel* under the supervision of Dhaka Transport Coordination Authority (DTCA). The Metro Rail Act, 2015 was enacted in February

2015. A contract has been signed with the investment partner to construct the 46.73 km. long Dhaka elevated express way from Hazrat Shah Jalal International Airport to Kutubkhali of Dhaka-Chittagong highway. Besides, pre-feasibility study for 42 km long Dhaka-Ashulia elevated express way from Hazrat Shah Jalal (Ra) International Airport to Chandra under PPP has been completed. During 7th Plan period, along with Dhaka-Ashulia elevated expressway, feasibility study of Dhaka East-West expressway will be carried. The Government plans to construct an international convention centre on the other side of the Buriganga and a fly-over starting from Shantinagar, crossing over the Buriganga to ensure faster communication with the convention centre. The timely implementation of these priority investments will be very important.

The Bus rapid transit (BRT) is recognized as being able to provide mass transit within a shorter time frame. BRT is a hybrid solution, which is found to have been successful in carrying flows almost as large (10,000-40,000 per hour per direction in peak hours). The infrastructure can cost one-half that of the rail option because it is standard road technology and greater use can be made of roads at grade, while the vehicles are cheaper because there is wide international competition for their supply. They can be owned and operated profitably by private companies under route or area licenses awarded by the city on the basis of competitive bids.

The STP for Dhaka had identified three such BRT corridors and three metro corridors. The BRT and metro options are not mutually exclusive in the long run. BRT can be brought into operation in half the time of metro-rail, and indeed can also serve as a transitional option, attracting new businesses and housing to a corridor later to be served by the Metro. However, the STP is under revision and it will be completed in June'2016. In the revised STP, two BRT and 5 MRT lines have been recommended instead of three BRT and three MRT lines in the existing STP.

More specifically, that for the planned transport infrastructural development of Dhaka and other major cities, thereby making these more liveable, the following additional strategies would be undertaken:

- Like other successful metropolitan mega cities of the world, infrastructural development, maintenance, traffic enforcement, public transport operation, public utilities etc. there needs to be active consideration for bringing those under a strong unitary metropolitan authority.
- For coordinated development of metropolitan cities and urban areas, like other countries consideration could be given to establishing an autonomous urban development authority (UDA). In the absence of this type of development authority, major cities and urban areas of Bangladesh are growing unsustainably and haphazardly without any planned mass-transit infrastructure and mainly based on smaller sized vehicles.
- Developing a balanced multimodal system as has been stipulated in the STP and DHUTS studies.

- Adopting decentralization policy; it can be started with the gradual shifting of Garment Industries from the core areas.
- Emphasis should be placed on efficient traffic management to ease congestion.
- Adhering mass transit oriented land use and transport development policies; main focus needs to be on the development of signal free road network and public transport infrastructures (viz. dedicated bus lanes, passenger transfer facilities, bus bays, turnaround facilities, stopover terminals etc. which are now grossly missing)
- Besides reclaiming footpath, adequate pedestrian friendly walking and crossing infrastructures should be developed.
- Consider the fact that in the core areas, only flyovers development initiatives would eventually not only invite more smaller sizes traffic but also would –
 - diminish the potential of developing more space efficient organized public transport facilities;
 - conflict with the STP recommended bus and mass rapid transit oriented projects.
- For core areas, the optimum infrastructural development strategies would involve early implementation of all the STP recommended public transport oriented projects and improvement initiatives like introduction of bus route franchising (BRF) scheme.
- To enhance supply, it would be better to undertake road network expansion projects as has been recommended in the STP and DHUTS studies for the Eastern and Western fringe including 3-ring roads.

Railways: The Government places special emphasis on railway communication, as it is cheaper, safer and fuel-efficient and this will continue in future. In consideration of the fact that among waterways, railways and highways, if properly planned and developed the railway would have the highest operational speed and capacity and would provide demand responsive sustainable development without taking much of land area, and so rationally the railway should get the maximum investment attention. To achieve this, substantial investment in infrastructure, equipment and technical modernization will be required, as is adoption of a more commercial approach to management. It is likely that in the absence of such investment in railways, more costly investments would be required in the road sector to add the required capacity.

The core objectives and targets for the railway sector for the Seventh Plan are summarized in Table 6.10. The Ministry of Railways has adopted railway expansion and modernization Programme during the Seventh Plan that will substantially strengthen the performance of the railway.

Table 6.10: Seventh Plan Railway Objectives and Targets

Goal/Objectives	Actions	Specific targets
Expand and improve railway system to provide safer, better, environment friendly & less expensive transport facilities to the national and international traffic to increase its market share. Increase its market share from 4% to 15% in freight transport, 10% to 15% in container transport between Dhaka-Chittagong Port and 4% to 10% in passenger transport.	.Expansion of railway network to expand rail operations	Undertake construction of 856 kilometre of new rail track.
	Double tracking of important sections and gauge unification to overcome operational bottlenecks	undertake dual gauge double tracking of 1110 kilometre
	Rehabilitate/upgrade existing rails for improved speed and safety	Undertake rehabilitation of 725 km of existing rail track
	Construction of railway bridges and other infrastructure for operational improvement.	Undertake construction of rail bridges, improvement of level crossing gates and improvement of other infrastructure.
	Procure new locomotives to improve service quality	Purchase 100 new locomotives, 1 locomotive simulator and 4 relief cranes.
	Procure new coaches for passenger comfort.	Purchase 1120 passenger coaches and rehabilitate 624 coaches.
	Upgrade railway workshops and maintenance	Procure modern maintenance equipment
	Improve rail speed and safety	Upgrade rail signal for 81 stations
	Improve rail efficiency	Strengthen railway management
	Improve railway finances	Eliminate operational deficit through price increases and operational efficiency gains.

Source: Ministry of Railways

The railway expansion Programme is based on the following strategic considerations:

- Shortening the Dhaka –Chittagong rail distance. Due to orientation problem, Dhaka has detoured connection with Chittagong and has only one gateway for trains from all directions and thereby causing undesirable bottleneck and operational problems. To solve these, priority will be given to construct Dhaka-Laksham elevated cord line via Fatullah in Narayanganj (new gateway). This strategic investment would also act as a catalyst in improving port operational efficiency as well as can cater Padma Bridge induced train movements and will establish a missing link for establishing transshipment/regional connectivity.
- Address the biggest capacity constraint found on the single line sections in major railway corridors like Dhaka-Chittagong, Dhaka-Sylhet, Dhaka-Khulna, and Dhaka-Parbatipur. Bangladesh Railways needs to undertake double tracking of all major railway corridors by phases.
- Developing a full access controlled right of way as well as capital intensive grade separated measure to make level crossing free allowing segregated rail corridor and thereby ensuring operation of commuter trains in urban areas, particularly for Dhaka city. Emphasis would be given to higher frequency and speed without affecting the roadway capacity.
- Strengthening South Asia regional and Trans-Asian railway connectivity.

- Taking into cognizance that the railway freight transportation cost in Bangladesh is one of the highest in the world and presently it takes about 18 days to bring a container to Dhaka from Chittagong Port mainly due to acute shortage of freight trains, and most importantly very low average travelling speed (15-20 kmph), besides augmenting rolling stock, development of dedicated high speed freight corridor capable of carrying double layer container is a must. Present ground condition is not friendly for modernization of train (Electric Traction System). This is a matter of urgency because an important element in improving the efficiency of the Chittagong Port hinges on developing a balanced multimodal freight transport system, which is now overwhelmingly and unsustainably road biased, to move the containers to and from the hinterland more efficiently and thereby to make the railway profitable.
- Priority would be given to connect large EPZ/SEZ mouth ICDs and thereby to develop market oriented container transport friendly new railway infrastructures.
- In the long run for even distribution of traffic load, urban contribution of railway in terms of carrying commuter traffic (which is now less than 1 percent of the total daily trips of Dhaka city) needs to be increased by adopting two-tier railway system i.e. sub-urban and urban rail. Urban rail network need to be developed by including the circular rail and by integrating fully with the long distance sub-urban rail (may start from Tongi & Narayanganj) as well as STP (Strategic Transport Plan 2004-2024) and DHUTS (Dhaka Urban Transport Studies 2010-2050) recommended BRT and MRT based urban mass transit network systems.

Along with routine and regular activities/projects/programmes, the following major/remarkable projects are underway to be implemented during Seventh Five Year Plan;

1. Construction of Single Line Dual Gauge Railway Track from Dohazari to Cox's Bazar via Ramu and Ramu to Gundhum near Myanmar Border.
2. Padma Bridge Rail Link Project (Dhaka-Mawa-Bhanga- Jessore)
3. Construction of Double Track Standard Gauge Railway Line from Dhaka to Chittagong via Comilla/Laksam (expressway)
4. Construction Modern Railway Workshop at Rajbari.
5. Construction of Double Line (Dual Gauge) Railway Track between Joydebpur-Iswardi sections;
6. Construction of Bangabandhu Railway Bridge (2nd) over the River Jamuna;
7. Construction of Railway line from Khulna to Mongla Port with feasibility Study; and
8. Construction of Dual Gauge Double Rail Line and Conversion of Existing Rail Line into Dual Gauge between Akhaura and Laksam.

As part of the above strategy, the construction and reconstruction of 441 km rail line is already under way. In order to make railway communication between Dhaka and Chittagong more efficient, the Government has taken initiatives to upgrade Dhaka-Chittagong corridor into double lines. Side by side, the construction of 2nd Bhairab and 2nd Titas Rail Bridge is in progress. The Dhaka-Sylhet railway communication is extremely delicate and the Government has taken up a plan to revamp it. Conducting a survey will assess the feasibility of establishing a container terminal either at Shayestagonj or Srimangal. In this respect, the prospect of growing trading activities with Tripura and Karimgonj will be taken into consideration. The Government also intends to construct in phases the Dhaka-Mongla and Chittagong-Cox's Bazar rail lines. Additionally, in view of growing coal import requirements, the rail capacities will be strengthened to allow the transfer of coal from the proposed new port at Matarbari to the required coal-fire based power stations.

Inland Water Transportation: For the Seventh Plan, the Government is committed to supporting the development of a safe and low-cost inland transport alternative based on use of the Bangladesh's vast inland waterways. The main priorities are:

- a) development of navigability of inland waterways by dredging and resuscitation of dead and dying river routes;
- b) maintenance of navigable waterways by regular dredging;
- c) facilitating flow of passenger and cargo by development of inland river ports, and by providing navigational aids for smooth and safe movement of cargo and passenger vessels;
- d) develop inland container river port for transportation of containers by waterways to/from two sea-ports;
- e) develop river port handling facilities as well as storage facilities and introduce mechanical equipment for handling cargo in order to save waiting time for berthing of vessels;
- f) develop rural launch landing stations by providing pontoon facilities for smooth embarkation/ disembarkation of passenger and loading/ unloading of cargo;
- g) digitize all the services provided by BIWTA introducing web based data base application;
- h) protect the main channel of the river by clearing & removing garbage & unauthorized encroachment; and
- i) restoration of the Buriganga and waterways around Dhaka city for making it pollution free navigable and wider.

To implement these priorities and strategy, a comprehensive development plan has been prepared by BIWTA for implementation during the Seventh Plan (Table 6.11). The sound implementation of this Programme will allow significant improvement in this lagging segment of the transport sector. Special attention will be given to ensuring that resources are adequate to implement this Programme.

Table 6.11: Inland Water Development Programme in the Seventh Plan

	Goals	Targets
i.	Development of new waterways and maintaining navigability of existing channels.	- Hydrographic Survey in 6000 km of inland waterways & in 1000sq km of coastal waters; -Dredging of 3600 lakh m ³ - Procurement of 30 nos. dredger; - Several lots of Navigational Aids; - Procurement of different no. of service vessels.
ii.	Operation, maintenance and establishment of landing stations and river ports for bulk cargo and container.	- Construction of 10 nos. River Port - Modernization of 9 nos. River Port; - Construction of 2 nos. Container Terminal (ICT) - Procurement of different size such as 5 nos. (large), 45 nos. (medium), 50 nos. (small), 35 nos. (special type) of Pontoon - Several lots of Civil Structure.
iii.	Digitization of services related to IWT system	- Introduction of e-governance - Institutional Reform & Restructuring
iv.	Facilitating Maritime Education & Training	- Establishment of Training Institution

Source: Ministry of Shipping

Port Infrastructure: While there has been improvement in Chittagong Port container handling efficiency, further efforts are needed to increase efficiency in line with good international practice. To this end, during the Seventh Plan, priority would be given to:

- Reducing port induced semi-trailer truck traffic by developing wider intermodal rail and river connectivity.
- Enhancing already saturated container storage port yard facilities by developing existing dilapidated 2.3km general cargo berthing (GCB) facilities at Karnaphuli into a modern gateway-terminal of international standard that can play a key role in boosting the nation's trade and commerce and the regional connectivity.
- Developing the Chittagong Port as "Climate resilient" against sea level rise (SLR) and land subsidence potential.
- Maintaining and improving the navigability of the channel through capital dredging and regular maintenance dredging ;
- Increasing container handling capacity through expansion of terminal/yard facilities, acquisition of modern container handling equipment and procurement of harbour crafts and vessels to ensure improved operating system.
- Setting up ICDs/CFS by the Public/Private sector at all potential cargo distribution centres across the country to decongest the port.
- Involving private sector in port management and port development infrastructure on BOO/BOT/PPP model for which a clear, reliable and transparent policy guideline is to be approved by the Government
- Improving institutional capability in training, planning, safety and environmental management control in the port.

While the Chittagong Port will continue to be the leading seaport of Bangladesh, in anticipation of the growing demand for port services emerging from growing income and international trade, including from neighbouring countries related to the implementation of the Government's regional connectivity agenda, and the specific needs of the power sector emerging from the substitution of imported coal for domestic gas, substantial new port capacity will be needed during the Seventh Plan and beyond. The under-utilised Mongla Port provides one major option. The Government will take all necessary steps to step up the use of Mongla Port facility. Yet, it is clear that a new deep sea port is necessary for Bangladesh. In the past the Government pursued an initiative to construct a deep seaport in Sonadia of Cox's Bazar under PPP. Due to lack of response from the private sector, steps have been taken to implement the project under Government to Government (G2G) arrangement. Besides, the Payra Port Authority Act, 2013 was enacted to establish a port at Payra in Patuakhali District. The development of port facilities for coal imports will be given top priority in order to support the power generation plan. The 1200 MW Matarbari Ultra Super Critical Coal-fired Power Plant project funded by Government of Japan contains the important component: the deep sea port for the coal import, which will provide the opportunity for generation companies planning to develop the coal-fired power plants to procure the international coal in relatively cheaper price compare to the individual purchased coal from foreign countries. JICA is also examining the possibility to set up the large coal transshipment terminal at the Matarbari port to cater the demand of nearly 3,500MW of power generation by 2020. The Matarbari deep sea port and the associated transshipment terminal are critically linked to the Government's successful implementation of the power generation plan and would have the highest priority in the public investment Programme for transport infrastructure during the Seventh Plan. Alongside, the Government is also taking steps to strengthen the land ports to facilitate trade with neighbours. This will be an important priority for the Seventh Plan.

Civil Aviation: To address the capacity constraints to the expansion of international and domestic air services, the Government has adopted a phased implementation plan for adding air service infrastructure support. The Programme for the Seventh Plan is summarized in Table 6.12. As development of an efficient gateway airport with seamless transfer and access facilities is one of the important prerequisites to ensure FDI friendly climate, the planned investment is necessary to upgrade airport services and to improve terminal accessibility by establishing multi-modal transfer facilities by integrating HSIA with the nearby Airport railway station, on-going three Bus Rapid Transport (BRT) and Dhaka elevated expressway projects. The Government also intends to upgrade the airport at Cox's Bazar to an international level to promote tourism. The growing demand for travel to Cox's Bazar suggests that this is a viable investment. While upgrading the airport at Cox's Bazar to an international level, it will also be important that to harness the dividend of this capital intensive infrastructure there is a strong need for adopting an integrated sea beach front land use and transport development approach.

Table 6.12: Programme for Development of Airport Infrastructure in the Seventh Plan

Goals	Targets	Activities (Programme/project)
To enhance/strengthen operational facilities of existing airports and development of new airports.	<p>The main target of seventh five year plan is as follows :</p> <ol style="list-style-type: none"> 1. Expansion of operational and passenger facilities of Hazrat Shahjalal International Airport (HSIA). 2. Development of Cox’s Bazar Airport into international airport for operation of wide-body airport. 3. Enhancement of Cargo aircraft parking facilities at Shah Amanat International airport (SAIA). 4. Strengthen existing runway at SAIA. 5. Strengthen existing runway at Osmani International airport, Sylhet. 6. Construction a new airport at Southern region of the country. 7. Improvement of quick communication system between the reverie and costal belt of southern zone of the country and capital city especially in the time of natural disaster. 8. Detail feasibility study for construction of Bangabandhu Sheikh Mujib International Airport (BSMIA). 	<p>Supply, Installation and Commissioning of a Multi-Mode Surveillance System (Radar, ADS-B, Wide Area Multilateration-WAM along with ATC and Communication system at Hazrat Shahjalal International Airport (HSIA), Dhaka under PPP</p> <hr/> <p>Construction of 3rd Terminal Building and other infrastructure at HSIA</p> <hr/> <p>Extension of Runway at 32 end of HSIA.</p> <hr/> <p>Development of Saidpur Airport</p> <hr/> <p>Extension of apron towards North of existing cargo apron at HSIA.</p> <hr/> <p>Construction Cargo village (Phase-II) at HSIA.</p> <hr/> <p>Construction of parking Bay and 2 Nos. Hanger for National Airline and Private Airlines at HSIA.</p> <hr/> <p>Construction of CAAB Headquarters Complex</p> <hr/> <p>Development of Cox’s bazar airport(Phase-I)</p> <hr/> <p>Construction of Terminal Building, Cargo Village, Apron and allied Infrastructure at Cox’s Bazar Airport.</p> <hr/> <p>Airport Safety and Security System Improvement in Bangladesh</p> <hr/> <p>Construction of Cargo Apron in front of Cargo Terminal Building at Shah Amanat International Airport (SAIA), Chittagong.</p> <hr/> <p>Asphalt concrete overly over the existing runway at SAIA, Chittagong.</p> <hr/> <p>Asphalt concrete overly over the existing runway at SAIA, Sylhet.</p> <hr/> <p>Construction of Khanjahan Ali Airport.</p> <hr/> <p>Development of Barisal Airport.</p> <hr/> <p>Feasibility Study for BSMIA</p>

6.3.2 Reinvigorating the Public-Private Partnership (PPP) Initiative

The Sixth Plan assumed that a substantial part of investment requirements in transport will come from the PPP initiative. The review of experience with the PPP initiative (Table 6.8) showed that the primary reason this did not take off is the absence of adequate legal and institutional arrangements. International experience with the implementation of infrastructure PPPs suggests that this policy has worked best when the legal framework is well-thought out and when and the management of the initiative involves internationally competent professional staff. In both regards, the Bangladesh PPP initiative is deficient. The legal framework needs to lay down clear rules of engagement, the incentive framework and dispute resolution mechanism that compares favourably with international good practice. As a developing country with a challenging governance environment, the perceived country risks of both domestic and foreign investors to invest in long-term infrastructure projects are large. Consequently, these risks will have to be

obviated with an attractive legal framework that is commensurate with international good practice and reassures these investors that Bangladesh is an attractive destination for these long-term projects.

While the above are important pointers as to why PPP initiatives have not been successful so far in Bangladesh, it also reflects the institutional inadequacies, including those in procurement process and broad lack of understanding of PPPs. It needs to be clearly understood that PPPs are about risk sharing, with commercial risks more on the private party. It works when calling for PPP bids, there are good projects backed up by quality feasibility studies, which will also allow Government to better evaluate the commitment of providing viability gap fund; upfront concession contracts with clearly laid out parameters and selection criteria; financial obligations that are clearly spelt out; and there is a well understood transparent regulatory systems and dispute resolution mechanism in place. Besides, there has to be efficiency in completing evaluations, negotiating contracts, award of bids, and then monitoring implementation of contractual obligations by the private party. But the core implementation challenge will continue to be the lack of PPP related capacity in most Ministries, including the Ministry of Road Transport and Bridges and its concerned Departments. This has to be addressed in the different transport sector Ministries and Departments if PPP initiatives are to gain the desired momentum. For the Ministry of Road Transport and Bridges it is recommended that a separate PPP Unit set up to prepare, evaluate, negotiate and implement PPP projects.

6.3.3 Procurement Reforms

A major constraint on the implementation of the infrastructure investments is procurement. Foreign-funded infrastructure projects are particularly vulnerable to this challenge. The delay with the implementation of the high-priority Padma Bridge project is an excellent example of the procurement complications associated with large donor funded projects. There are similar examples of delays and or postponement of project implementation in the power sector. A particularly pertinent solution will be to arrange for turn-key type procurement for all large foreign-funded projects, either donor funded or arranged through suppliers credit. The government can also procure independent supervision technical assistance internationally to serve as government supervision contractors to monitor the implementation of these turnkey projects.

6.3.4 Operational Efficiency

Along with better investment priority that focuses on timely completion of major high impact transformative projects, it is important to improve the efficient use of existing infrastructure. The emphasis on operations and maintenance (O&M) spending is essential. Both rural and urban roads need proper maintenance to provide better quality service. The balance between O&M and new investments is particularly critical for the roads network. The usual tendency is to initiate a new road project. Indeed, the fact that some 156 road projects are underway is an example of this spending bias in favour of new projects. A major priority for the road sector is to do a comprehensive assessment of the entire roads network, both urban and rural and including highways, review the status of each network, estimate the O&M requirements on an annual basis

and develop an annual O&M expenditure plan. This plan then needs to be the basis for allocation of O&M resources for the roads sector in the annual budget.

Efforts are underway to develop this comprehensive database for road maintenance. The Government is also planning to approve a Road Maintenance Fund (RMF). A draft Road Fund Act has been developed that will establish a Road Fund Board that will be responsible for managing the road maintenance Programme on the basis of funds allocated to the RMF. The RMF will be funded from a variety of road user charges. An Axle Load Control Policy has also been developed to reduce road damages caused by overloading. These are important institutional reforms that need to be quickly implemented,

For the urban transport sector, a major priority is to improve traffic management. While the ongoing and new investments for easing urban traffic congestion including the proposed light rail for Dhaka are all good ideas, without instituting proper road management policies these investments alone will not be able to solve the urban traffic problem. There is considerable international experience with good practice urban traffic management that the government can draw upon. This will be a combination of land use zoning laws, parking regulations, time of day traffic flow regulations, efficient functioning of traffic signals and solid monitoring and implementation of all traffic laws and regulations. It is now high time that the government pays solid attention to this enormous traffic management challenge and develops a long term plan starting with the two major cities of Dhaka and Chittagong.

The operational efficiency of railways also needs considerable attention. While some progress has been made in recent years to improve the quality and timeliness of service, there is still a major challenge. In the area of passenger traffic, over-crowding remains a serious concern raising both safety and passenger convenience issues. Railways are a critical link for the international trade flows and connectivity of cargoes to and from the Chittagong Port. Long delays in transportation to and from local origin/destination to the Port are not common owing to the rail service constraint. So, along with upgrading of rail network, the availability of rail locomotives and wagons, the adequacy of frequency of service, maintenance of rail terminals, signals and service centres all require improvement.

The operational performance of Chittagong Port has seen substantial improvement over the years and is reflected in lower turnover time in loading/unloading and port clearances. An important challenge moving forward will be to maintain and further improve service quality standards as the cargo volume expands. Efforts are also needed to make the Mongla Port more useful in terms of capacity to handle a larger volume of cargo as well as improved service standards.

The river transport provides a low-cost means of passenger and cargo transit. The government's initiatives to improve river navigability through dredging and other investments along with the River Protection Commission Act are very welcome. Enforcement will be critical and presents a management challenge that needs strong effort in terms of staffing and monitoring capacities.

River transport services suffer from serious problems of congestion and frequency of accidents that need much better management and enforcement of safety standards. Renewed attention is needed during the Seventh Plan.

In air transport, the international air traffic services have vastly improved over time as international air carriers compete with each other to provide efficient and cost effective services to the lucrative and growing Bangladesh international travel market. The opening up of air traffic to private domestic carriers has also paid dividends in terms of quality and frequency of air services. With growing income, the demand for international and domestic air services continues to grow. The strategy to rely on private international and domestic carriers is appropriate. The planned investments to upgrade airport services are also welcome. However, the main management challenge is the transformation of the national carrier into a competitive, reliable and profit-making enterprise. Despite efforts, Biman continues to face management and operational challenges.

6.3.5 Pricing Policies

Most transport services except rail are mostly privately provided in a competitive environment. In air, the national carrier Biman functions in a competitive environment. The challenge with Biman is operational efficiency through improved management and not pricing. So, the main pricing policy issues relate to pricing of railway services and cost recovery of transport infrastructure network.

In railways, a combination of service inefficiency and pricing has constrained the financial performance of the railways that has constrained the ability to achieve the railway operational deficit reduction targets set in the Sixth Plan. The Railway Ministry should prepare an action plan to ensure the elimination of the railway operational plan by the end of the second year of the Seventh Plan.

Regarding cost recovery of road network, there is considerable scope for progress here. This cost recovery is especially important for international transit arrangements involving use of Bangladesh road network. Cost recovery issues were examined in substantial detail in the context of the analysis done for The Ministry of Commerce to support negotiations relating to transit arrangements between Bangladesh and India. The study was done in 2012 and can be updated and adopted for policy making by the Ministry of Road Transport and Bridges. The sustainable use of road infrastructure will depend substantially upon the adoption of proper cost recovery policies (road user charges) and should be emphasized for implementation in the Seventh Plan.

6.3.6 Transport Infrastructure Financing Strategy

Indicative transport infrastructure investment requirements and suggested financing are shown in Table 6.13. Increasing the transport investment effort from 1.6 percent of GDP in the base year of the Seventh Plan (FY2015) to 3 percent of GDP on average during the Seventh Plan is a tall order. A substantial part of additional financing would have come from the re-invigoration of the PPP initiative. The Seventh Plan would aim to increase the amount of PPP transport investment from

an average of about 0.2 percent of GDP in FY2015 to at least 1 percent of GDP per year during the Seventh Plan. The remaining 2 percent of GDP per year of financing will need to come from the budget.

Table 6.13: Indicative Financing Plan for Transport Infrastructure (% of GDP)

Financing Source	Sixth Plan (Budget FY2015)	Seventh Plan (annual average)
ADP	1.4	2.0
PPP	0.2	1.0
Total	1.6	3.0

Source: Seventh Plan Projections

6.3.7 Institutional Reforms in Transport

The proper implementation of the proposed transport infrastructure strategy will require significant institutional reforms in the transport sector. Institutional arrangements are reasonably good in sea and air ports, but reforms are needed in other areas. The reforms are particularly critical for improving urban transport. The main challenge is the need for establishing accountable urban institutions. The responsibility for this reform lies primarily with the Ministry of Local Government, Rural Development and Cooperatives (MoLGRD&C). Additionally, capacity enhancement of Dhaka Transport Coordination Authority (DTCA), Bangladesh Road Transport Authority (BRTA), Traffic Division of Metropolitan Police and related organizations are essential to improve traffic transport management, especially in Dhaka. The LGD is also responsible for rural roads, where several reform efforts are underway to strengthen investment planning, adopt a proper O&M strategy, improve procurement and ensure timely completion of ongoing investments.

Regarding roads and bridges, this is the responsibility of the Ministry of Road Transport and Bridges. The challenges here concern developing better capacities for planning and implementation of roads and bridges investment and maintenance, institution of proper cost recovery policies and better coordination with urban transport management institutions. ICT is used to computerize road network progress and assess O&M needs. Emphasis is being placed on road cost recovery and road load management. Other ideas on the table include setting up research funds for development of policies and strategies, setting up a proper M&E system, setting up a Centre of excellence and staff training.

In inland water the main challenge is to strengthen the capacity to monitor the service worthiness of river transport fleet and manage overloading in order to prevent accidents and ensure better service and comfort for passengers. Ensuring proper regulations for safety and enforcing them adequately in river transport is the responsibility of the Bangladesh Inland Water Transport Authority (BIWTA) under the Ministry of Shipping.

Railway institutional reforms are the responsibility of the Ministry of Railways. The main challenge is to convert the management of the rail system from a bureaucracy to a commercial

enterprise. A detailed railway reform Programme was developed in 2005 that also contained substantial institutional reforms. The rail ministry should revisit the reform agenda and prepare an actionable Programme for government approval and implementation during the Seventh Plan.

Regarding Bangladesh Biman, it is managed by the Ministry of Civil Aviation and Tourism. As noted earlier, several reforms are underway to strengthen the performance of Bangladesh Biman. Additional reforms that will be pursued during the Seventh Plan include: development of infrastructure facilities like construction of Second Hangar Complex to enhance aircraft maintenance capability and achieve international standard in aircraft maintenance through achieving EASA certification; enter into full automation with implementation of different software and enrich IT facilities; arrange training at all levels to enhance manpower skills and develop human capital; provide policy support in favour of national airlines to protect from unhealthy competition of aggressive foreign airlines in aviation business; and infusion of sufficient working capital for running as a commercial airline.

Institutional capacity constraint is a challenge in the transport ministries. While better investment prioritization along with turnkey procurement for major projects will lower the capacity constraint, long-term efforts to strengthen planning and implementation capacities are essential. A particular challenge is to build a quality staff that combines civil servants with special technical skills and strategic professional staff. Other possibilities include setting up research funds for development of policies and strategies, setting up a proper M&E system, setting up a Centre of excellence for transport planning, strategy and learning.

6.4 POSTAL AND TELECOMMUNICATION SERVICES STRATEGY FOR THE SEVENTH PLAN

The Government of Bangladesh is pledged to transform the country into ‘Digital Bangladesh’, which implies the broad use of computers, and embodies the modern philosophy of effective use of technology in terms of implementing Government’s commitment for development in education, health, job placement and poverty reduction. However, developed communication system, specifically telecommunication is an eminent part to materialize the vision envisaged in Digital Bangladesh. Although ICT is the primary focus of Digital Bangladesh effort, but making of Digital Bangladesh will depend on universal post and telecommunication services to the door-steps of the citizens, and the government is committed to ensure this.

In order to bring the ‘Digital Bangladesh’ into reality the Posts and Telecommunications Division (PTD) is engaged with its highest effort to ensure the necessary infrastructure and deliver pro-people services. PTD identified the affordable telecommunication and postal services as citizen’s right and working towards the establishment of that right. Market Players in Telecommunication Sectors are Cellular Mobile Operators, The Gateway Operators and International Voice Termination, Optical Fibre Transmission Network, Internet Service Provider. During the sixth plan

period PTD was involved with the most essential citizen services and guardian of the highest non-tax revenue earning sector and a key enabler of the economic development.

PTD achieved its goal and enforces Government's policy through the seven organizations under it. The Postal Services are taken care through its attached department Bangladesh Post Office (BPO). In the Telecommunication Sector, the most important role is played by the Bangladesh Telecommunication Regulatory Commission (BTRC). There are five Government owned public limited companies who plays certain roles in the development of telecommunication services in Bangladesh. The progresses achieved in 6th FYP by these companies are showed in Box 6.1.

Box 6.1: Past Progress and future programmes for the companies under Posts and Telecommunications Division (PTD)

Bangladesh Telecommunication Company Limited (BTCL)

BTCL (Former Bangladesh Telegraph and Telephone Board) has been serving as the first PSTN operator in the country. BTCL is mandated to provide basic telecommunication services throughout the country. It is now providing telephone service to about 1 million subscribers down to upazila and growth-center level. BTCL has the largest telecom infrastructure comprising of TDM and IP switches copper cables, microwave links, satellite earth stations, optical fibre networks, ICX, IGW, IIG etc. The organization has ISP operation also which is the largest in the country. BTCL is going to install fiber optic network up to the root level of the country i.e. union level to give last mile solution to its subscribers and install Next Generation Network based telephone system through which triple play i.e. Voice, Video and Data connectivity can be provided to the subscribers using a single line.

Teletalk Bangladesh Limited

Teletalk Bangladesh Limited (TBL), which is a public limited company under PTD, is playing a vital role to provide universal services and market stabilization. In 2012 the government allowed Teletalk to launch 3G Services for commercial testing.

Bangladesh Submarine Cable Company Limited (BSCCL)

Bangladesh Submarine Cable Company Limited (BSCCL) is the sole International Submarine Cable provider in Bangladesh. BSCCL has become a member of the newly formed SMW-5 Consortium to join in the newly planned Submarine Cable which will provide more capacity i.e 1400 Gbps and redundancy for Bangladesh. Recently BSCCL has started operation as IIG (International Internet Gateway) which will help the people to get broadband Internet with cheaper rate and better quality of service. BSCCL is a leading company for implementing National ILDTS and ICT policies to develop modern telecommunication network and to provide high speed Broadband Internet in Bangladesh. BSCCL has the opportunity to provide international connectivity to part of India, Nepal and Bhutan who is eager to get the bandwidth.

Telephone Shilpa Sangstha Ltd. (TSS)

Telephone Shilpa Sangstha Ltd. (TSS) is a state owned public limited company. TSS management took initiatives for diversification of the activities of TSS and established four Manufacturing/Assembling units for PSTN land telephone sets, Mobile Phone Battery, Mobile Phone Battery Charger and Digital Electric Meter. To provide Laptop/Notebook at an affordable price, TSS assembles Laptop/Notebook so that the people can buy them at a competitively lower price. It also has a proposal for manufacturing Maintenance Free VLRA Battery and other types of Battery which can be used in mobile industry. TSS is a well-known and long reputed supplier of Digital

PABX of different brands. Beside these, TSS is going to supply and install Optical Network Unit (ONU) and related equipment to different exchanges of BTCL.

Bangladesh Cable Shilpa Limited (BCSL)

Bangladesh Cable Shilpa Limited (BCSL) can produce different types of telephone copper cables, wires and different types of optical fiber cable. BCSL can maintain the quality of products as per Customer demand and satisfaction having many high speed and sophisticated computerized machineries including cable testing equipment. The only Optical Fiber Cable Manufacturing Plant of Bangladesh has been set up in BCSL, Khulna. It has been started production commercially from July-2011. BCSL is maintaining high and world standard quality with imported high quality raw materials.

In the latest amendment of the Bangladesh Telecommunication Regulatory Act -2001, the division is empowered with a greater responsibility to create an enabling environment in telecommunication. At present most of the critical decisions are being made in consultation with the stakeholders and citizen representatives. The Telecom Policy-1998 opened up a new era for the sector. Through liberalization of the market and establishment of the Bangladesh Telecommunication Regulatory Commission (BTRC) the policy achieved much more than that of the targets. With the help of the International Telecommunication Union (ITU), stakeholders and Policy think tanks - PTD will propose a new Telecom Policy to the Government during 7th Plan. In telecommunication sector, providing affordable telecommunication services to empower the citizens will be primary strategic goal for PTD in the plan period.

- Installation and development of the telecommunication network
- Production of telecommunication commodities and equipment
- Expansion of mobile network
- Expansion of value added services
- Supply of high frequency voice and Data Bandwidth.

6.3.8 Postal Service in Bangladesh

Bangladesh Post Office has adopted several steps for implementation of Vision 2021. With a view to establishing a world standard postal system by 2020, Bangladesh Post Office adopted different programmes in the sixth plan and its benefits are already approaching to people. It would be possible to deliver benefits of this system at a cheap, speedy and reliable means to each and every person. During 6th Plan period achievements of the postal services were as follows,

- Automation of 134 post offices.
- Introduction of Post e-centre in 132 post offices.
- Track & Tracing for International postal items, Internet Based Inquiry system (IBIS), Global Monitoring System (GMS) and Mobile Money Order system, Postal Cash Card and 5 Postal ATM Booths and Post e-pay (Mobile Banking) has been introduced.

Goals of Postal Service for 7th Plan

- Providing information technology based developed postal services for each and every person;
- Ensuring E-commerce and M-commerce services to be reached through post offices in rural localities;
- Transforming each post office as e-commerce centre of concerned area;
- Making international commercial service available to rural people through post offices;
- Establishing a strong postal transportation system for quick handover of goods of rural people to consumers.
- Ensuring financial inclusion through E-banking banking facilities of Bangladesh Post Office;
- Ensuring modern ZIP code based digitized address for every person as well as household;
- Transforming every post office into a centre of economic activities.

Targets of Postal Service for 7th Plan

- Transformation of all post offices into ICT based post offices;
- Automation of all activities of post offices;
- Introduction of modern mail transport in every mail line;
- Establishment of one ATM machine and POS in each of important commercial centres;
- Establishment of E-commerce & M-commerce booth and logistic mail management centre in every post office;
- Introduction of Domestic and International commercial postal services;
- Expansion of Post office savings bank and postal life insurance activities;
- Introduction of Business mail, Ad mail, logistic mail and Hybrid mail service;
- Generation of rural IT based entrepreneurs.

Strategies to achieve the Goals of Postal Service during 7th Plan

- Introducing ICT based postal services along with traditional postal services.
- Commercializing postal services;
- Introducing Domestic and International Financial Services;
- Bringing Mail transportation, collection and distribution under ICT based strict supervision;
- Ensuring imparting of high quality ICT based training;
- Following international standard in providing customer service and introducing zero tolerance policy;
- Giving importance to rural people in case of providing improved postal services;
- Adopting activities for making at least one IT based entrepreneur in each of rural post offices.

6.3.8 The Bangabandhu Satellite Project

The dream of launch “Bangabandhu Satellite” comes from the streaming of almost all the modern and enlightened nations have their own satellite in the orbit. A sovereign country, in a pursuit of sustainable development, needs its own satellite in order to reduce its dependency on other nations. A country like Bangladesh is highly exposed to natural disaster because of its unique geographical location. Telecommunication system in Bangladesh has always been suffering from interruptions and problems as erratic disasters hit the country. Satellite network can play an important role in ensuring uninterrupted telecommunication services in Bangladesh. It has significant advantages over terrestrial network because of a number of reasons. One of the important reasons is that satellite network is more effective in ensuring high-level of communication redundancy than the terrestrial network. Besides, by having its own satellite network, Bangladesh can save a significant amount of foreign currency paid as the transponder rental charge. Bangladesh looks forward to a successful launch of the country's first satellite which will ensure improved connectivity with the rest of the world. Bangladesh has already filed its claim to ITU for its own orbit. At the same time work is going on to rent out other's orbit in case any complexity arise for own orbit. It is expected that in the first year of 7th plan Bangladesh will have its own satellite.

6.5 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

The transport sector was accorded high priority by the government in investment funding and budget allocation during the Sixth Plan. The Government also sought to attract private financing in transport infrastructure through the PPP initiative. As noted earlier, progress on this count was limited. Transport will continue to be a high priority sector for the Seventh Plan. Since investment needs are large and budget resources alone will not be enough, the Government will put renewed emphasis on PPP based transport infrastructure financing while providing appropriate resources from the budget. In line with the proposed development and financing strategy, the proposed ADP allocations for Transport and Communication sector in constant and current prices are shown in Tables 6.14 and 6.15 respectively.

Table 6.14: Seventh Plan ADP Allocations for Transport and Communication

Taka billion, 2015/16 prices

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020	Total
Road Transport and Highways Division	56.8	65.3	73.5	81.7	91.4	368.6
Bridges Division	89.2	120.4	135.3	150.3	168.1	663.4
<i>Total Ministry of Road Transport and Bridges</i>	<i>146.0</i>	<i>185.7</i>	<i>208.8</i>	<i>232.0</i>	<i>259.5</i>	<i>1032.0</i>
Ministry of Railways	56.5	60.2	67.9	75.4	84.4	344.3
Ministry of Shipping	10.8	10.7	12.0	13.4	15.0	61.9
Ministry of Civil Aviation and Tourism	3.3	4.0	4.8	5.4	6.2	23.7
Posts and Telecommunications Division	17.7	17.6	17.1	17.1	20.4	89.9
Total Sector	234.3	278.2	310.5	343.3	385.5	1551.8

*Source: Seventh Plan Projections, GED***Table 6.15: Seventh Plan ADP Allocations for Transport and Communication**

Taka billion, current prices

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020	Total
Road Transport and Highways Division (RTHD)	56.8	69.2	82.3	96.5	113.2	417.9
Bridges Division	89.2	127.7	151.4	177.5	208.3	754.1
<i>Total Ministry of Road Transport and Bridges</i>	<i>146.0</i>	<i>196.9</i>	<i>233.7</i>	<i>274.0</i>	<i>321.5</i>	<i>1172.0</i>
Ministry of Railways	56.5	63.8	76.0	89.1	104.5	389.8
Ministry of Shipping	10.8	11.3	13.5	15.8	18.5	69.9
Ministry of Civil Aviation and Tourism	3.3	4.2	5.3	6.4	7.7	27.0
Posts and Telecommunications Division	17.7	18.7	19.1	20.2	25.3	101.0
Total Transport	234.3	294.9	347.6	405.4	477.5	1759.7

Source: Seventh Plan Projections, GED

SECTOR 7: LOCAL GOVERNMENT AND RURAL DEVELOPMENT

CHAPTER 7

STRATEGY FOR LOCAL GOVERNMENT AND RURAL DEVELOPMENT

7.1 INTRODUCTION

The quest for a grass-root institutional strategy that combines the dual goals of strengthening participatory development at the local level and building local governments as key vehicles of local democracy and service-delivery has been a recurring theme in the development philosophies of Bangladesh. The constitution of the People's Republic of Bangladesh underscores the importance of local governance and there has been a rich body of reform initiatives that has kept the issue in continual focus even if gaps and weaknesses remain significant. Article 11, 59 & 60 of Bangladesh Constitution have an outline of a local govt. system with elected representatives facilitating effective participation of the people for each unit of administration. In compliance with the Constitution and to institutionalize the democratic aspirations in all walks of life it is obligatory to ensure the operation of effective local government organizations. There is a general agreement today that a devolved and effective local government system is crucial for making development agenda pro-poor, widening participation in decision making and ensuring that resources are directed to where they are most needed through increased allocative efficiency.

The government is committed to establish strong local government institutions at various level through active participation of the elected representatives in the administration as well as development activities. Local Government Division is implementing various development and service-oriented activities for poverty alleviation and to make the rural people's life more comfortable, sound and meaningful. Activities of LGD are extended up to the grass- root level of the country.

Another important aim of strengthening the local government is rural Development to move upward with new ambitions such as Middle Income Status that are as resonant at the grass-root level as at national level. Consequent to such changes, new agendas such as local economic development are entering the purview of the local government mission. The overall rural development can contribute to the economic development of the country. This chapter of the plan document has reviewed and analysed the Local Government and rural Development sector of Bangladesh during last Five Year Plan, discussed the strengths and challenges for the next Five Year Plan, suggested strategies accordingly and investment requirement to implement those strategies.

7.2 LOCAL GOVERNMENT

7.2.1 Sixth Plan's Achievements

Empowering Local Government Institutions (LGIs): Good progress has been made in instituting Local Governments. For enhanced good governance both technical and investment projects have been taken through which capacity of the LGIs elected representatives and staffs are enhanced through training. Training manuals for LGI staff have been developed and some training is underway. The service delivery mechanism also developed. For example, One Stop Service Centre has been introduced in few City Corporations and Paurashavas. Through this, the timing of service delivery and number of visits by the beneficiaries reduced. But still some constraints like resource, sufficient and skilled manpower which needs to be addressed.

Improving Local Government Performance: An effective local Government is essential for addressing the multifarious needs of the people. Effective Local Government system is also decisive for conceptualizing a pro-poor development agenda, widening participation in decision making and ensuring that resources are targeted to constituents where they are most needed. Strengthening Local Govt. institutions is an important mandate for Local govt. Division. For this purpose block allocation and ADP/RADP budgets provision were kept in the different financial years.

There is a vision of the Prime Minister Sheikh Hasina to transform some of the big Divisions into smaller Divisions and transform the new Divisions and big districts Headquarters into City corporations (Dhaka Division will be divided into 3 Divisions: Dhaka, Faridpur, Mymensingh). Govt. has transformed the Narayangonj, Comilla Municipalities into City Corporations in 2011, Rangpur and Gazipur Municipalities in 2012 and 2013 to make local govt. management effective, efficient and accountable. In addition, the Dhaka City Corporation is parted into two to provide better service to the citizens.

The Government, in turn, through the ADP broadly spent resources in line with the SFYP allocations, though ADP expenditures were below the SFYP allocations (Table 7.1).

Table 7.1: ADP Expenditure Compared to SFYP Allocations

Year		Local Government Division (Billion Takas)
FY2011	ADP Expenditures	75.75
	SFYP Allocations	77.20
FY2012	ADP Expenditures	82.64
	SFYP Allocations	87.30
FY2013	ADP Expenditure	104.50
	SFYP Allocations	112.00
FY2014	ADP Expenditure	108.02
	SFYP Allocations	114.25
FY2015	ADP Allocation*	142.50
	SFYP Allocations	148.39

* Budgeted figure

Capacity enhancement

- Some measures have been taken to increase the transparency and accountability of local Governments. For instance, union digital centres have improved transparency at the local level.
- Training and technical assistance programmes have been undertaken which has helped improve the capacity of local Governments.
- Some efforts to improve planning and budgeting capacity at the local level have been initiated.
- The a2i initiative has brought progress in the state of e-governance at the local level through the implementation of a well-designed Programme of ICT, hardware and software, technical assistance and training programmes.

7.2.2 Local Government Management

Local government system in Bangladesh

The history of local government in Bangladesh shows that local bodies have been established at different levels in different periods. Laws /Ordinances have been made to form local bodies at village, Thana, District and Divisional level from time to time. Since inception the local government institutions have undergone frequent changes in their functions and responsibilities. The present structure of local government in Bangladesh originated from 1870 when Chowkidary Act was enacted. The structure, functions and financial management of local government institutions have undergone many changes. At present the Union Parishad, Upazila Parishad, Zila Parishad, Paurashavas and City Corporations are the Local Government Institutions under Local Government Division.

A major step was marked by the passing of the Bengal Local Self Government Act in 1885. Under this Act District Boards was established. Before that, four municipalities were established 1884. Dhaka City Corporation was established in 1976 under an ordinance. In 1985, Upazila Parishad started working under Upazila Parishad Ordinance. Hon'ble Prime Minister enacted Upazila Parishad Act 1998, Zila Parishad Act 2000, Local Government (Union Parishad) 2009, Local Government (Paurashava) Act 2009 and Local Government (City corporation) Act 2009. At present there are 4553 Union Parishad, 489 Upazila, 61 Zila Parishad (except 3 Hill Districts, which are under MOCHTA), 324 Paurashavas and 11 City Corporations.

Through these Institutions, LGD is working to mobilize local resources, establish good governance at the local level, providing civic/utility services to the citizen of Paurashavas and City corporations, rural and urban infrastructures development, supplying of safe drinking water in rural and urban areas, gradually shifting from underground source to surface water sources. solid waste disposal and sanitation all over the country. LGD is also responsible for planning and implementation of development projects in the local level, conducting survey/ research regarding local government and arranging training programme for enhancing knowledge and efficiency of the elected representatives. These activities are directly and indirectly contributing in the national goal of socio-economic development through poverty reduction, human resource development and creating employment opportunities. To

strengthen the governance at the local level, National Institute of Local Government (NILG) under LGD is imparting training to elected public representatives and related officers and staff and doing research on local government matters.

Local Government Engineering Department (LGED) under LGD has been contributing enormously towards people's socio-economic uplift by building rural and urban infrastructures like constructions of roads, culverts, bridges, growth centre for expansion of market facilities, development of small scale water resources, construction of Union and Upazila Parishad building, construction of cyclone/flood shelter, construction of bus terminal, landing ghats, construction of rural and municipal markets, slum improvements, etc. Side by side successfully implementing tree plantation programme, livelihood improvement projects to contribute towards biodiversity and ecological balance in the environment. LGED is the largest public development entity in Bangladesh under the Local Government Division of the Ministry of Local Government, Rural Development & Cooperatives.

Department of Public Health Engineering (DPHE) under LGD is providing safe water supply and sanitation facilities to rural and urban areas. The main function includes construction of safe water sources and infrastructure, construction of environment-friendly toilets e.g. eco-toilet and create awareness about the supply and use of safe water and mineral contamination of water issues. There are 4 Water Supply and Sewerage Authority (WASA) under LGD, responsible for planning, infrastructure development and maintenance of water supply, sewerage and drainage facilities in Dhaka, Chittagong, Khulna and Rajshahi Cities.

7.2.3 Tiers of Local Government

Local Government is divided into rural and urban Local Government. Urban local government includes city corporations and Paurashavas. Rural local government includes Zila Parishads, Upazila Parishads and Union Parishads. At present, there are 4553 Union Parishads (UP), 489 Upazila Parishads (UZP), 61 Zila Parishads, 324 pourashavas and 11 City Corporations. The vision of the local Government Division is "Effective Local Government." The mission is 'Improving the standard of living of the people by strengthening local government systems, development of rural and urban infrastructure and implementation of socio-economic activities'.

The main function of LGD includes a) Matters relating to local government and local government institutions; b) Construct, maintain and manage upazila, union and village roads including bridges/culverts in the rural and urban areas; c) Develop, maintain and manage growth centres and hats-bazaars connected via upazila, union and village roads ; d) Matters relating to drinking water, sanitation, drainage and waste management; e) Manage matters relating to village police; f) Develop water supply, sanitation and sewerage facilities in rural and urban areas; g) Establish accountable and results based implementation process and i) Develop, maintain and manage small scale water resource infrastructures within the limit determined by the government.

Composition and Functions of Zila Parishads

The Zila Parishad consist of the members, namely (a) representative members; (b) nominated members; (c) women members; (d) official members. The most important functions of Zila

Parishadis planning, promotion and execution of development and welfare programmes within the district. The important compulsory functions included the scrutiny of development efforts, undertaking of socio-economic and infrastructure projects, and rendering assistance to the Zila Parishads.

Composition and Functions of Upazila Parishads

The Upazila Parishad is headed by a chairman and composed of different categories of members: two vice chairpersons - one male and one female, union parishad members, mayor of pourashava (if any) and women members. The most important function of the Upazila Parishad is planning, promotion and execution of development programmes within the Upazila. The Parishads are assigned with the responsibility of promotion of the local economy; fostering industrial and agricultural growth; and creation of employment opportunities. Besides, integrated socio-economic and cultural development emerged as the responsibility of the Upazila Parishads. The development fund of the Upazilas came mostly from block allocation of the central government under its Annual Development Programme (ADP). Elaborate guidelines and functional instructions are issued for preparation of five year and annual development plans. Every Upazila was required to prepare a multi-sectoral Annual Upazila Development Plan (AUDP) to ensure proper planning and effective implementation of Upazila development programmes.

Composition and Functions of Union Parishads

The UP is thus currently made up of 13 members –1 Chairman, 9 general members – 1 from each of the 9 wards, and 3 women members elected to reserved seats each covering 3 wards. The main functions include (a) Preparation of a comprehensive Union Plan and inclusion of inter-ward development projects after identification and prioritization, (b) Ensure provision of health services (c) Arrange for supply of safe drinking water and promote sanitation programme, (d) Construction of inter-ward roads, maintenance of the same, management of small scale irrigation and water resources, (e) Implementation of afforestation programme along the Union Parishad roads and all earthen embankments, (f) Peaceful resolution and amicable settlement of inter ward disputes, (g) Promote social resistance over violence against women, terrorism, all types of crimes and cooperate with administration for maintenance of law and order and (h) Up-to-date registration of birth, death and marriages.

Composition and Functions of City Corporations

City Corporation shall be formed with composition of (a) Mayor, (b) Councilors, same number as government defined ward numbers through gazette notification and (c) Female councilors, as defined number reserved for female. The main functions of the City corporations includes to manage and maintain (a) public health, (b) water supply and drainage, (c) food and beverage, (d) animals, (e) town planning, (f) building control, (g) streets, (h) public safety, (i) trees, park, gardens and forest, (j) education and culture, (k) social welfare and (l) development plan.

Composition and Functions of Paurashava

Paurashavas shall be formed with composition of (a) Mayor, (b) Councilors, same number as government defined ward numbers through gazette notification and (c) Female councilors, as

defined number reserved for female. The main functions of the City corporations includes to manage and maintain (a) public health, (b) water supply and drainage, (c) food and beverage, (d) animals, (e) town planning, (f) building control, (g) streets, (h) public safety, (i) trees, park, gardens and forest, (j) education and culture, (k) social welfare and (l) development plan.

In 2008, all Pourashava Chairmen came to be termed as Mayors like City Corporation Mayors and Ward Commissioners as Councilors. There has also been some change in the structure of Pourashavas as incorporated in the Pourashava Act of 2009 (GOB, 2009). This has allowed for the formation of the Ward Committees each comprising 10 members of which 40 percent are to be women. The committee would be chaired by the Councilor of the Ward. This has created a potential for greater participation of citizens in municipal management.

Paurashava Development Plan (PDP)

In the absence of Master Plan, LGED prepared Paurashava Development Plan under UGIIP following a participatory approach to find the development priorities of the many Pourashavas. The PDP constitutes long-term vision and a short-term to medium-term development plan proposals. Paurashava Development Plans were formulated in a participatory manner that includes vision exercise, situation assessment, priority investments and activities for infrastructural improvement of the concern Paurashava. However, these plans are yet to be aligned with the national plans and hence link with the development budget has not been established adequately.

Lessons Learnt from Past Development Initiatives & Key Constraints facing the Pourashavas

Pourashavas in Bangladesh have witnessed nearly two decades of urban infrastructure initiatives with STIDP-I and II, Municipal Services Project (MSP) and the on-going UGIIP-1 and UGIIP-2 since 2003. The MSP and its successor institution, Bangladesh Municipal Development Fund, presented a model of supporting decentralization especially by opening up access to infrastructure funding based on objective financial and institutional criteria outside the government's inter-governmental fiscal transfer frame. UGIIP-1 and UGIIP-2 made a radical departure from earlier initiatives in linking performance of Pourashavas in achieving action based governance improvements to access infrastructure funding in phases.

UGIIP model of Governance Improvement has brought some positive impact in Paurashava. Performance indicators of UGIIP helped to improve project implementation. Indicators were; (1) Citizen awareness and participation, (2) Urban Planning (3) Equity and inclusiveness of women an urban poor, (4) Increasing local resource mobilization, (5) Financial management accountability and sustainability, (6) Administrative transparency and (7) Keeping essential Paurashava services functional.

LGED is continuing its Governance Improvement Programme through 4 major projects in 80 Paurashvas and City Corporations; Municipal Government Support Project (MGSP) financed by World Bank in 26, Northern Bangladesh Integrated Development Project (NOBIDEP) by JICA in 18 Paurashavas, Urban Governance Improvement and Infrastructure Project (UGIIP)-3 by ADB in 31 and City Governance Project (CGP) by JICA in 5 Paurashvas and City Corporations. However, local level planning in Bangladesh is underway to link with the Five

Year Plans and Annual Development Programming process. A reform in the national development planning process need to shift it towards a bottom-up participatory approach.

Focusing on governance improvements and a performance based approach urban infrastructure improvements have proved very successful; (i) it addresses a wide range of areas simultaneously from improved participation of various stakeholder groups in service delivery to increased financial accountability and improved administrative procedures; (ii) local governments feel full ownership in improving governance reforms, considering these reforms as an opportunity to improve their financial and administrative shortcomings, they have been able to adopt to the new governance practices within a short period of time. The following lessons learned (i) The performance of the Pourashavas has been particularly good in areas where the identified governance indicators are concise and output oriented; (ii) Pourashavas took greater ownership and interests in areas where their legitimacy and performance in the local public eye improved immediately and turned out to be credible; (iii) adopting governance improvements require substantive and timely capacity building inputs.

Based on an extensive review of previous projects focusing on governance improvement and a performance based approach, the following opportunities for improving this approach have been identified; (i) ensure that mechanisms are in place to deepen participatory planning ensuring prioritization of the needs of the poor; (ii) refine the governance improvement action plan to include more qualitative achievements and ensure that the achievements will sustain beyond project implementation; (iii) inculcating the practice of responsible financial decisions and discipline through financing and repayment mechanisms; (iv) strengthening citizen's interface and accountability of the Pourashavas; (v) greater focus on capacity building of institutions at the Pourashavas level in particular and (vi) improvements in O&M management.

MSP and UGIIP are providing support in capacity development of Municipalities in different phases covering 183 Paurashavas and City Corporations out of 335 Paurashavas and City Corporations through Municipal Support Unit (MSU) of LGED. Performance based allocation of these projects improved the implementation process.

One of the most significant lessons is the criticality of national level support to Pourashavas in terms of sector wide policy support, legislative and executive actions to enable more effective functioning of Pourashavas and a slew of supportive measures to improve their finance and financial management. In this regard the Pourashavas Bill 2009 and City Corporations Bill 2009 have shown clear political commitment. Apart from governance, inadequate planning staff in the municipalities, lead to inefficient implementation of plans and hence affect the planned development of the cities. Issues related to city corporations including development planning have been discussed in chapter nine in detail.

7th FYP Objectives and Strategies for the Pourashavas and City Corporations

With its goal of develop cities and towns for ensuring better services and living standards the objectives for the Pourashavas and City Corporations in the Seventh Five Year Plan are:

1. Sustainable urban development (infrastructures like road connectivity, water supply, sanitation, drainage, waste management) that supports increased productivity, employment and investment;
2. Better quality of life with emphasis on providing basic living standards for poor;
3. Ensure land use Planning and Development Control of cities and towns;
4. Urban governance and management with greater accountability, transparency and improved public participation; and
5. Institutionally and financially capable city corporations and municipalities.

The targets for the sub-sector will be to create better living environment in urban centres, develop Pourashavas capacities to provide better services, including providing safe water, sanitation and drainage for people living in slums and fringes, and in the process generate employment for urban dwellers. The key issues that will be focused on during the 7th Plan period include the regulatory environment that will be able to operate within a strengthened and decentralized local government, with scope for adequate public participation in local government decision making and overcoming the poor institutional and financial capacities of the urban local bodies. The concept of inclusive development will be initiated among the local level Govt. Agencies and Private sector with the Local Govt. Institutions for dynamic development in different sectors. The other issues include employment, better provision of basic services by overcoming deficient infrastructure and low level of urban services (transport, water supply, sanitation, solid and liquid waste management, drainage, municipal facility etc.); and overcoming growing spatial dimension of Urbanization with faster growth of urban population and rural-urban migration with increase in number of urban slum and squatters, effectively shifting of poverty from rural to urban areas. To address the issues and to help achieve those targets LGED, DPHE, and WASAs are working. Guidance from the Planning Commission and coordination with the UDD in preparing any sort of local level plan by LGED will be ensured. LGED will assist to prepare the local level planning as per the functions assigned by the Local Government Division for the local level planning. There will be mutual coordination between UDD and LGED under the umbrella of the Planning Commission to avoid the overlapping and ensure coordination.

7.2.4 Non-state actors at the local level

Non-state actors have gradually made significant role into the sphere of local governance in both rural and urban contexts. The resources they bring to bear on addressing local needs in terms of human, technical, financial and need based assistance are not negligible. There are many state and non-state agencies active in education sector. The same is equally applicable about health, hygiene, population and several other departmental domains. The social safety net programme (SSNP) is a classic case of engagement with about 23 ministries/divisions.

7.2.5 Local government finance and inter-governmental transfers

The LG finance in Bangladesh has three aspects: i) local resources mobilization (LRM) perspective ii) national government's grant iii) transfer through projects and project financing.

Local resource mobilization

Local governments collect local taxes, fees, and miscellaneous receipts. The sources of tax items of LGs are very general in nature. LGIs levy taxes in the prescribed manner. The Government may frame model tax schedules and where such schedule have been framed, the LGIs shall be guided by them in levying tax, rate, toll or fees.

Grant from central government

In each year's national budget, central government allocates money as 'block grant' for LGIs. Direct transfer from national government to LGIs is around 2% of the Annual Development Programme (ADP). The proportion may be increased gradually commensurate with capacity development and assessment of results.

Project finance

Local development activities are financed through different projects undertaken by central government. Project funds are an inevitable aspect of LG finance but there is an issue about rationalization and integration of such funds with the priorities and plans of the LGIs. Participation of LGIs in national projects needs to be ensured during the formulation of the projects.

Planning for local economic development

Effective local planning based on a strategic aim of promoting the local economy needs to emerge as a key priority for the 7th Five Year Plan. An earlier section has elaborated the rationale for such a priority. There has been some programmatic experience on the ground which can be reviewed here and built upon. About seventy UZPs attempted "Annual Development Plan" under a five year vision and projection with the support from a UNDP supported project called "Upazila Governance Project (UZGP)". The departments at upazila do not have any sector vision and plan of their own. Technical and advisory support need to be extended from the Planning Commission to ensure the alignment of those plans with the national priorities. Pourashavas and City Corporations can also undertake such initiatives and indeed innovate further.

Human Resource Shortage in LGIs

Human resource deficits are one of the major problems hindering the efficacy of LGIs. The LGIs from the UPs to the CCs desperately need professionally committed manpower for efficient discharge their assigned duties. It is an accepted fact that the LGIs from CCs to UPs suffer from lack of adequate and efficient staff support for carrying out their technical, financial, service management and administrative responsibilities. To address the issue with renewed commitment, a long pending proposal to create a 'Local Government Service' may be reviewed afresh with a long-term vision of sustained professionalism at the LGI levels. The members of LG Service will have mobility within all the LGI units such as UP, UZP, ZP Municipality and CCs.

Capacity Development

There are about 70,000 local government representatives and their associated staff as well other local-level actors with whom LGIs are linked in horizontal and vertical networks. There are only a few training institutions and those that exist such as the National Institute of Local Government (NILG) suffer significant gaps in specialization, vision, mission and professional manpower. The LGI capacity development needs an updated policy framework and an independent resource pool. There is also a need for specialized institutions to address the needs of urban local governments. Besides standard training modules, the updated capacity development approach should include new focus such as:

- Legal environment and inter-organizational cooperation framework with LGIs,
- Financial solvency of LGIs and legal and social provision for resources mobilization,
- Institutional and individual capacity and skills
- Incentive structure for LGI volunteers
- Interfacing and interrelations with local service providers.

Gender mainstreaming in LGIs

LGIs provide an important space for women's political and social empowerment and it has been effectively utilized for last two decades with limited successes. So far, reserved seats for women in LGIs have provided an entry point for women to contribute and get involved in the mainstream politics and decision making.

7.2.6 Proposed Activities for the 7th Five-Year Plan:

Strengthening Local Government

The Government acknowledges that strengthening the local Government is pivotal for improving public service delivery. In particular, a strong local Government allows citizens across the country to articulate their diverse needs and issues and pinpoint policies that can function under heterogeneous local conditions. Thus the Government is committed in undertaking a comprehensive set of actions, which are:

1. At present, there exist 9 different basic acts and few hundred rules for Local Government Institutions (LGIs) in Bangladesh. Under the existing system, there is no common and general legal framework to qualify the term "LG system" except separate LGI laws. A Local Government Legal Framework (LGLF) will be created so that Bangladesh can create a strong enough LGI system. The LGLF in different neighbouring countries will be studied carefully and a LGLF for Bangladesh will be drafted. The single legal instrument (LGLF) will cover all units and tiers irrespective of urban and rural, regarding their formation, function, jurisdiction, taxation, finance, budget account, electoral process, and central-local and local-local relationship.
2. Increasing the transparency and improving the accountability of local Governments by establishing indicators and standards for measuring performance in service delivery at local level, broadening the role of oversight institutions which would perform financial and service delivery audits, and investigating irregularities and make the reports

available to public.

3. Building the capacity of local Governments through assignment of proper officials, technical assistance and training programmes. So far, training and technical assistance programmes have been undertaken, though assignment of proper officials is still incomplete. More measures must be taken to address this objective
4. Developing planning and budgeting capacities at the local level to help design and implement local level programmes. Under the 6th FYP, the Government has given some effort to improve the planning and budgeting capacity, but not yet to the extent that they can design and implement local level programmes.
5. The Local Government will be charged to expand the role of citizen committees and strengthening participation of citizens from different groups, including women and the poor, ensuring community based participation in prioritizing, implementing and monitoring of development Programme and other functions of the local Government to ensure that local level development programmes are appropriate and that these are well implemented. Furthermore, while some initiatives has focused on this, citizen committees still remain weak vis a vis planning processes at the local level. Thus, the noted issue will receive more attention under the 7th FYP.
6. The Government will facilitate e-governance at the local level through a well-designed Programme of ICT, which involves providing adequate hardware and software, technical assistance and training programmes. While the a2i initiative has brought progress towards e-governance, more initiatives will be taken to integrate it further with the activities of the local Governments.
7. A comprehensive tax sharing formula will be adopted in the National Tax Policy for sharing national tax revenue between national and local Governments. It will enhance the direct accountability of Government at both the levels to the tax payers.
8. The LGIs will not be allowed to spend resources without having their annual and five year plan aligned with the national planning goals and strategies. The Planning Commission will be empowered to issue guidelines for local level plan, extend necessary support to prepare the plan and an appropriate order need to be issued to all ministries and departments to comply the Planning Commission Guidelines. All national level socio- economic development Projects implemented locally will be integrated with the local plan. Participation of LGIs in local components of the national projects will be ensured during the formulation of the projects at national level. Concept of Inclusive development will be initiated at local level among the Govt. agencies, Private Sector with the help of Local Govt. Institutions.
9. The Government of Bangladesh has a plan to prepare a guideline to prepare and integrate the Local Level Plans into the National Plan during the seventh plan period to fulfil the constitutional obligation of Bangladesh.
10. Current initiatives to provide technical assistance to the local government institutes to prepare five year plan should be further intensified so that the next National Plan can take into consideration the development requirements of the local level. Planning Commission is rightly placed to facilitate the process in consultation with the planning wings and branches of line ministries for necessary actions in this regard.

Strengthening Urban Local Government

Special attention is needed for urban local government development. The detail strategies and objectives of 7th Plan for urban areas, focused on the large cities and city corporations are discussed in the Urbanization chapter of this plan document.

Regulatory Environment

- Review, consolidate and simplify existing laws, regulations, etc. and introduce appropriate regulatory framework to suit the present need.
- Institutionalize citizen participation (civil society, NGOs, CBOs) in municipal business through appropriate changes in legal framework.
- Introduce improved administrative and management practices and procedures; impart training to municipal staff; change prevailing culture and perception;
- Augment revenue raising, improve municipal financial system and capital budget planning
- Introduce comprehensive development plan, master plan, Infrastructure investment plan and development control
- Expedite ICT intervention

Basic Service

- Integrated urban development (mainly in smaller/ medium/rural towns) covering various sub-sectors.
- Alternate service delivery mechanisms (public-private partnerships, community-based and self-help project).
- More emphasis on O&M issues.
- Incremental upgrading of low-income areas.
- Reduction/loan for service connections with users' charge recovery.
- Community based faecal and solid waste management.
- Provision for loans for incremental house improvements.
- Preparation and execution of community Action Plan by Community Base Organization (CBO)

Spatial Dimension of Urbanization

- Develop a pro-poor national urbanization development taking into account carefully projected urban migration.
- Develop low cost housing and construction material industry. Develop small towns based on rural industrialization or create new towns around export-oriented private SMEs.
- Encourage compact development with all basic services and facilities.

7.3 RURAL DEVELOPMENT

All the programmes undertaken during different Five Year Plans brought positive changes in rural life to some extent. Most of the previous Five Year Plans made important achievements

involving women in development activities. Some of the programmes, however, could not reach the desired goals due to a number of limitations in terms of covering target groups, and covering areas through specific programmes for generation of employment, and reduction of poverty. The Sixth Five Year Plan (2011-2015) also aimed at poverty reduction, productive employment generation, and opportunities for self-employment and rural infrastructure development. Major investment in the area is for reducing poverty, to make rural people self-dependent through income generating activities, contributory micro-savings, micro-credit activities, raising agricultural production, self-employment and human resource development. During the period January 2009 to June 2013 more than 2 (two) crore poor people have been benefited directly under various programmes of RDC division. The following are some of the successes during the SFYP that had been achieved by different agencies under the Rural Development and Cooperatives Division (RDCD):-

- BARD, RDA, BRDB, PDBF, DoC, BAPARD, SFDF, Milk-VITA under the Rural Development and Cooperatives Division (RDCD) have trained up and also provided direct or indirect assets and/or cash to a large number of hard core rural people. Developments of physical infrastructure facilitated better transportation, availability of inputs, and marketing of agricultural output and generation of employment.
- RDCD has been implementing directly an exclusive project *Ektee Bari Ektee Khamar* (One house one Farm), a poverty reduction programme which is the brain child of Honourable Prime Minister Sheikh Hasina for the last five years. It's rather a micro savings program instead of traditional micro credit. The project covers nearly 22 lacs households (i.e. 1.10 crore poor) in 40,527 Wards of 4,503 Union Parishad of the country. Government is providing welfare grant of Tk. 200 per poor against their savings Tk. 200 per month. In addition, Government is giving Tk.150,000 to the Village Organization as revolving fund. In the last five years the 22 lacs poor households saved Tk. 830 crore and the government provided Tk. 1693 crore as grant to them. Thus, with government support a cumulative fund of Tk. 2570 crore has already been developed for the poor. Out of Tk. 2570 crore, Tk. 2150 crore has been invested by the poor in 18.72 lacs small household farms. As a result of which per capita income of those poor increased by Tk. 10,921 leading to rapid reduction of poor people in the project area. The government is planning to expand the programmes in all the villages of the country.
- Char Livelihood Programme (CLP) has improved the livelihoods security of char people living within the riverine areas of the Jamuna-Brammaputra River in the north west of Bangladesh, and lifted 700,000 char peoples out of the extreme poverty and protected from vulnerability of yearly flooding.
- “Economic Empowerment of the Poorest in Bangladesh (EEP)” project aims at livelihood improvement of 10 lac hard core poor people who are unable to meet their daily income needs and suffer from food insecurity particularly in vulnerable environment and remote areas of Bangladesh including flood prone river island (chars) and basins (haors), water-logged areas, cyclone prone coastal regions, river erosion and other areas.
- Comprehensive Village Development Programme (CVDP) is being implemented to promote overall development of all segments of population of a village under a single

co-operative organization. A total number of at least 641,250 co-operators have been directly benefited. Employment opportunities created as a result of continuous training and operation of societies own credit Programme.

- As the largest public sector organization, Bangladesh Rural Development Board (BRDB) is engaged in rural development and poverty alleviation programmes; and has so far formed 79,335 cooperatives and 73,762 informal groups helped capital formation of about Tk. 572 crores, provided training to about 50 lacs beneficiaries, provided micro-credit facilities of about Tk. 9,627 crore. Over all beneficiaries of the social safety net Programme is about 38 lacs.
- The Rural Development Academy (RDA), Bogra as a specialized rural development institution for training, research and action research has been implementing some projects to integrate water management projects, poverty alleviation through livestock management and bio-gas bottling project and command area development using surface water for rural livelihood improvement. Under these projects 31,000 people throughout the country have been benefited through installation of community bio-gas plants.
- The project “Making Markets Works for the Jamuna, Padma and Teesta Chars (M4C)” being implemented from May, 2013 is facilitating better access of char people’s agricultural products to markets, improved business services and job opportunities in the selected market systems relevant to the active Char dwellers at 10 northern districts of Bangladesh. M4C is assisting to create major opportunities to achieve technical improvement in productivity, reduction in wastage and transaction/ transportation cost in the selected products benefitting 60,000 marginal and small-scale farming households in its agricultural sectors (e.g. chili, maize, jute, ground nut, mustard etc.) and reducing vulnerability of the entire char population by increasing income by 15% to 20% in a sustainable manner.
- The Department of Co-operatives has been expanding cooperative based milk production in Greater Faridpur, Barisal and Khulna District for Reduction of Poverty and Socio-economic Development. These projects provided support to 4,250 specially selected unemployed youth and women through providing training on cross breed cow management and provided credit support for buying two heifers for each family.

7.3.1 Constraint to Rural Development

The poor group of the population is disadvantaged in terms of ownership of assets and has inadequate access to institutional finance as well as to basic services including quality education, healthcare, water and sanitation. Land erosion and use of land for building house and industries without proper planning is another major threat for rural development. Some other challenges are migration of rural people toward urban area for employment, transfer of resources from rural to urban.¹⁹ Despite improvement, the publicly supported mitigating measures in the form of social protection programmes are still inadequate and under resourced.

¹⁹ Migration to urban areas discussed in more detail in Chapter 5 (Part 2) of the Plan Document

7.3.2 Goals and Objectives of the Rural Development

Issues related to development of rural areas of Bangladesh and identification of priority areas, such as increasing local production; solving energy problems; improving health and nutrition, reducing poverty through undertaking programmes on agriculture, water supply and sanitation, rural development and employment generation has been expressed through Governments' vision statements. While the rapid pace of technological change and fast moving globalized and open markets are creating new challenges; this also opens new opportunities and prospect for the rural peoples. So, as part of this vision appropriate technology based production programme in the rural areas will be pursued. The rural development strategy will encompass activities that have poverty alleviation at its core through employment and income generating activities, use of cooperatives, and increasing access to finance for the rural poor, particularly women.

7.3.3 Rural development strategies

The aim of rural development is to bring widespread and extensive improvement in the quality of life, in terms of material, social, cultural and psychological. Appropriate technology facilitated production Programme in the rural areas for generating employment and increasing income will have to be pursued. Provision of skill development training for generating self-employment in non-farm sector, particularly those for disadvantaged women and other socially backward/ excluded groups, will be an important strategic goal. Besides, cooperatives will continue to be pursued for greater market access. The strategy to be followed includes:

Rural Employment Generation and Poverty Reduction

- Rural employment generation and poverty reduction through setting up organizational institutions at divisional headquarters/larger districts, capital formation, training and post training support.
- Breed development and increase in milk production through Cooperatives in all over the country including fallow land in char areas, thereby reducing dependency on imported milk.
- Livelihood improvement of the ethnic people of plain land through cooperatives by increasing income of ethnic community located in various districts of the country; socio-economic development of the poverty stricken area by generating employment among the people who live in the poverty stricken area.
- Livelihood development for disadvantaged women reducing vulnerability of women through building awareness, through skill development and employment generation among the disadvantaged women living in south-west area of the country; increasing income of the targeted people; forming capital through savings will pursued.
- Alleviate rural poverty and strengthening rural economy by increasing agricultural production and through transfer of modern and sustainable relevant technologies to the poor people.

Alleviate Rural Poverty and Strengthening Rural Economy

- Socio-economic development of both men and women of the small farmer families including marginal and landless people in rural areas through providing micro-credit and training for undertaking production, self-employment and income generating activities.
- Promotion of rural economy by mobilizing rural capital and facilitating income generation activities with guidance, supervision and capital.
- Increase access to safe water supply and sanitation to all rural people. Availability of clean water and improved sanitation is essential for human well-being. Access to potable water and improved sanitation linked with health, labour productivity and economic growth.

Agriculture value chain development through cooperatives:

- Direct marketing of agricultural products through cooperatives and awareness building and motivational activities for cooperative members on different aspects of production including quality and hygiene will be encouraged. The target is for producing quality goods and ensuring fair price of the producer through cooperatives; branding goods under the name of cooperatives; developing marketing infrastructure; and supplying quality goods to the consumer at fair price.

Institutional Development and Capacity Building:

Strengthening cooperative financial institutes by:

- Reforming Bangladesh Cooperative Bank and Central Cooperative Banks; rebuilding central cooperative banks for its optimum use, and making necessary amendment in cooperative act and law.

Strengthening of Cooperative Movement:

- Revamping and strengthening of Bangladesh Cooperative Union, and development of effective tools for monitoring Credit Cooperative Societies, ensuring effective service to cooperative societies by reducing inactive cooperative societies, promoting cooperative entrepreneurship, establishing a cell to provide necessary advice to the cooperatives.
- Infrastructure development and modernization of Cooperative Training Institutions and modernization of cooperative offices at field level; and expansion, renovation and modernization of BAPARD.

Improving Service delivery system through ICT:

- In order to alleviate poverty, modern agricultural, livestock and fisheries technologies will be disseminated to the stakeholders as a strategy. ICT & E-citizen Service and e-

parishad services will be provided to ensure online services and dissemination of information to the people by strengthening ICT infrastructure in rural areas, by providing necessary access to the database of cooperative societies and human resource development.

7.3.4 Rural Transport

Road development is critical to socio-economic development and poverty reduction. An improved road communication system reduces road user costs and costs of production and thus facilitates socio-economic development of the country. It contributes to the reduction of poverty by creating employment opportunities for all, including women, increasing the mobility of working people and facilitating the distribution of capital and consumption of goods. Moreover, it contributes to the expansion of markets, augmentation of regional balance and creation of investment opportunities, all of which are conducive to economic growth and poverty reduction. Furthermore, it supports human resource development through improved access to health and education services. During the Sixth FYP, 28697 Km rural roads were constructed and 125856 meter bridges/structures were built throughout the country to extend the rural road network. The major lessons learnt from past development interventions and key constraints are as follows:

- The development of rural road network of the country in the last decades helped the country to reduce the intensity of rural poverty.
- The progress in achievement of MDGs and improvement in Human Development Index (HDI) also speaks for rural road network as a major catalyst.
- Land is the scarcest resource of Bangladesh. In the existing development practices, we are wasting land resources because of unplanned road development the rural and urban areas of the country. This practice has also been constraining our future development perspective. Therefore, development planning supported by proper land use planning is one of the top priorities of the country.
- Most of the Upazila/Union roads of LGED were constructed during 1990-2010 with an objective to rapid development of rural infrastructure for economic growth. These roads were built over old earthen embankment owned by Union Parishads or ZillaParishads and they do not have adequate geometric standards. In course of time, these roads are being used by more vehicles than estimated during design and therefore needed to upgrade the width and other geometric standards. It is not easy to extend the width or improve the geometric standard without land acquisition. It will cause a huge administrative hassle with a large involvement of cost.
- Another major constraint is plying of overloaded vehicles in rural roads that damage the roads very quickly increasing the cost of maintenance.
- Road Safety has become another challenge in rural roads. There are lots of reasons behind the road accidents in rural roads that involve awareness, enforcement and road safety engineering aspects. LGED should focus on road safety engineering during the construction and maintenance of rural roads. Road safety will be costly but not

costlier if we consider the economic costs of road accidents. At the same time, the LGIs should take the leading role in awareness building and enforcement.

- Rural roads are being developed keeping the provision of drainage and cross drainages. Soon after development of rural roads, the road side areas become built up areas for homesteads and markets and subsequently obstructing drainage of the roads. As a result, the roads are being damaged very quickly. Union Parishads and Upazila Parishads should have approval authority for roadside infrastructures so that they can play a role regarding drainage.
- The “Rural Road & Structure Maintenance Policy-2013” has made lot of directives to arrange adequate funds for maintenance by Public Private Partnership, involvement of LGIs etc. The implementation of the policy is still a challenge as it requires significant capacity building of LGIs and other stakeholders.
- LGED has so far constructed more than 2600 Union Parishad Complexes. There are about 1950 UPCs that need to be constructed for capacity building of this lowest tier of local government. Most of these UPCs do not have adequate land for construction of new UPC. Therefore, acquisition of new land will be required increasing the cost of UPC construction.
- In addition to above, Climate change impact, floods, cyclone and river erosion are other severe challenges of development of rural infrastructures of Bangladesh. LGED should focus on mainstreaming climate change in all its infrastructure design, implementation and maintenance program so that changing climate does not jeopardize our continued economic growth.

The current status of progress with rural roads is summarized in Table 7.2. Notwithstanding past progress, there is a considerable investment need to upgrade the rural road network during the 7th Plan.

Table 7.2: Status of Rural Road Network (June 2014)

Road Type	Number of Roads	Total Length (Km)	Length of Developed Road (BC/HBB/RCC)	Earthen Road ; Yet to develop	Existing Structure		Existing Gap	
					Number	Span(m)	Number	Span(m)
UZR	4512	37,259	31,878	5381	59,953	399793	3115	91437
UNR	8012	44,005	25,729	18,276	63,219	333923	6149	117466
Village	100,459	221,996	39,737	182,259	78,871	356879	27770	239905
Total	112,983	303,260	97,344	212,480	249,339	1266453	71408	661322

Source: Ministry of Local Government and Rural Development

The strategies for the development of the road system include updating of a Road Master Plan, adoption of a Rural Roads & Structures Maintenance Strategy, maintenance plan and according higher priority to maintenance over new construction, exploring technological options to construct quality roads with available construction materials, introduction of measures to stop overloading, adoption of procedures to maximize generation of employment for the poor, ensuring quality of construction, more involvement of Local Government Institutions (LGI) and ensuring utilization and maintenance of constructed facilities.

7.3.5 Strategic Priorities of LGED for Rural Transport Development and Management

The first priority will be to Double lane/Upgrade and maintain selected busier Upazila Roads, Union Roads that are being used by a large number of commercial vehicles including maintenance/rehabilitation of bridges/culverts in these roads. At the same time, connection with rural roads with railway and waterways will be given priority in order to promote and integrate multimodal transport system. Proper maintenance of the existing paved rural network will also be included in first priority.

The second priority will be to improve Upazila Roads, Union Roads and prioritized Village Roads including culverts/bridges which have strategic importance to connect road network, railway and waterway. Preparation of a Land Use Map to initiate planned development will also be included in the second priority.

The third priority will be to improve Growth Centres and construction of ‘ghat’ facilities at Growth Centres located on the bank of inland waterways to ensure better integration of road and water ways and thereby stimulating the rural transport and trading system. Also, development of rural waterways will be included in the third priority.

The strategies for the development of the road system of LGED include updating of a Road Master Plan, adoption of a Rural Roads & Structures Maintenance Strategy, maintenance plan and according higher priority to maintenance over new construction, exploring technological options to construct quality roads with available construction materials, introduction of measures to stop overloading, adoption of procedures to maximize generation of employment for the poor, ensuring quality of construction, more involvement of Local Government Institutions (LGI) and ensuring utilization and maintenance of constructed facilities. At the same time, development of the rural waterways to reach the remotest places at minimum users cost. The major strategies are as follows:

- The rural infrastructure development/improvement will be planned and implemented based on the findings of Effect/Benefit/Impact/feasibility studies carried out in respect of rural infrastructure development projects of LGED.
- A simpler and quicker way for feasibility study and deriving the ERR will be developed for the rural roads. There are competing needs for various types of rural infrastructure, such as, Upazila Roads, Union Roads, Markets, Ghat facilities etc. and even for roads alone, there is need for improvement maintenance and bridging gaps. At the spatial level, there are competing needs for different geographical regions. A guideline for investment prioritization and selectivity will be developed and calculation of economic rate of return will be adopted to guide the major investment decisions.
- Rural Road Master Plan of LGED will be updated. The updated Master Plan will be followed for infrastructure development projects covering Upazila and Union roads including bridges/culverts, bridges/culverts on village roads and development of growth centres/markets, ghats and Union Parishad HQ etc.

- For sustainability of rural infrastructure, adequate maintenance system and a viable funding mechanism based on local resources and emphasizing local participation and ownership will be arranged.
- Since the requirements for maintenance are increasing, the Government and the local bodies will make special efforts to fully fund these needs and LGED will make continuous efforts to improve maintenance efficiency and ensure local participation.

The main targeted priorities for rural road development and maintenance during the 7th Plan will include the following:

- Improvement of the Upazila Road (5000 Km).
- Double lane/Widening/ Up gradation/Rehabilitation of selected Upazila /Union Roads that needs up-gradation being used by a large number of commercial vehicles (10000 Km)
- Improvement of road safety engineering at junctions of LGED roads with National Highways
- Improvement of the selected Union Road. (8000 Km)
- Improvement of prioritized Village Road (12000 Km)
- Re-construction/Double lane of Bridges and Culverts on Upazila Road, Union Roads (12000 Meter) being used by a large number of commercial vehicles
- Construction of Bridges and Culverts on Upazila Road, Union Roads (140000 Meter)
- Construction of Bridges and Culverts on prioritized Village Road (50000 M)
- Development of Growth Centres and Rural Markets -1200 Nos
- Construction of all remaining Union Parishad Complexes (1900 Nos)
- Extension of Upazila Complexes (400 Nos)
- Construction and rehabilitation of Cyclone Shelters and killas (1238 Nos)
- Land Use Planning and Management Project in the Upazillas of Bangladesh
- Development of Growth Centre centric Urban centres in selected Upazillas of Bangladesh-300 Nos
- Improvement of road safety engineering in rural roads to minimize road accidents.
- Periodic and Routine maintenance of Paved and Herring Bone Bond (HBB) roads & structures on rural roads

7.3.6 Strategies for Improvement in Rural Transport

The strategies to meet the above priorities include the following:

- The development strategy for the rural transport will be reoriented for efficient external access through optimal integration of road and inland water transport and off-road internal accesses;
- Improvement in resource mobilization will be made through introduction of user charges and fees by the agencies in all areas of transport and for all use of transport network;

- Provision of required incentive packages for the private sector for greater participation will be ensured, not only in transport services, but also for infrastructure building;
- Identification and implementation of preventive, emergency and post-disaster mitigation measures will be made;
- Adequate care will be taken while developing transport network and service so that these do not cause environmental pollution and affect ecological balance;
- Attention will be given to improve transport safety standards including specific attention to women safety in all means of transportation with a view to substantially reducing the incidence of accidents.
- National standard for road design, geometry and loading capacity will be set, especially for the rural roads connecting the upazilas with zila.

Ministry of Local Government, Rural Development and Cooperatives – Performance, Issues, and Lessons Learnt

Past urban sector LGED interventions mostly tried to address the long neglected infrastructure maintenance and rehabilitation needs and to develop the capacity of the Pourashavas especially to raise income, improve financial management capacity and design municipal services in a planned way. DPHE and WASAs have done satisfactory progress in water supply and sanitation. Yet much has been done to meet the future service demand of the projected increased population. But not much has been done to meet the future service demand of the projected increased population. Besides, the functions of Dhaka City Corporation are made limited by the presence earlier mentioned agencies, which perform the same nature of civic services to the inhabitants of the city. Hence the question of coordination arises. Similar situation exists in the case of Chittagong and other City Corporations.

Despite many constraints Bangladesh has made considerable progress in poverty reduction during the last decade. During the period the national poverty declined from 59% to 42% while urban poverty reduced from 45% to 30%. However, the non-income manifestations of urban poverty are glaring. While an estimated 82% of the residents have access to safe drinking water more than 6 million people in urban areas remain without access to safe water. According to National Sanitation Strategy, about 40% of the households have to resort to open defecation or use unsanitary hanging latrines. Only 25% of urban households live in dwellings with a permanent structure. Inadequacy of urban services is a severe hindrance to the continued development of urban areas as well as to efforts to reduce poverty. The environmental condition in urban areas is deteriorating due to the stress on services arising out of high urban growth including migration into urban centres. Shortage of infrastructure services is neutralizing the benefits of urban sector economic growth. There has been substantial progress in building some of the necessary infrastructure, and the Expenditure and achievements are listed in Tables 7.3 and 7.4 below.

Table 7.3: Allocation and Expenditure under PPWS&H Sector for LGED Projects

Financial Year	No. of Projects	Total ADP Allocation (Tk. crore)	Total Expenditure (Tk. crore)
2010-11	11	426.44	422.78
2011-12	16	704.25	613.93
2012-13	15	748.07	737.09
2013-14	24	873.74	854.28
2014-15	20	1553.61	1553.61
Total		4306.11	4181.69

Source: Local Government Division data

Table 7.4: Targets and Achievements during 2009-14 of PPWS&H Sector

Item of work	Unit	Target	Achievement
• Development of Road	km		2439
• Construction of Bridge/Culvert	m		4209
• Construction of Drains	km		1276
• River Re-excavation	m		75000
• River/Canal maintenance	km		3.58
• Construction of Community Latrine	Nos.		30547
• Construction of Bathroom	Nos.		338
• Installation of Tube-wells	Nos.		8292
• Construction of Bus Terminal	Nos.		15
• Construction of Community Centre	Nos.		168
• Slum Improvement & Rehabilitation	Nos.		2588 CDC 144502 Family
• Road maintenance	km		2431
• Kitchen Market Building	Nos.		17
• Construction of Park Recreation Centre	Nos.		3
• Grave yard/Crematoria development	Nos.		12
• Construction of Flyover	m		8870 (25%)
• Street light	Nos.		1020
• Master Plan	Nos.		92
• Garbage rickshaw van	Nos.		100
• Construction of boat landing ghat	Nos.		59
• Canal bank protection	km		2.33
• Garbage dump truck	Nos.		16
• Sewerage maintenance	km		12

Source: Local Government Division data

7.4 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

The allocation from national budget for LGIs under development and Non-development heads has to be enhanced to strengthen the Local Government and Rural Development. The formula to allocate budget can follow a specific framework to avoid overlap and to address central

unmet needs. During the 7th FYP the allocation for Local Government and Rural development shall be increased gradually. Taking into consideration the resource constraint and based on the projected overall resource envelope and a careful assessment of relative expenditure priorities, development resources for Local Government and Rural Development are given in Table 7.5 and 7.6 below. These are only indicative figures to broadly support achieving of the 7th Five Year Plan strategic goals and vision regarding development of Local Government and Rural Development sector in Bangladesh.

Table 7.5: 7th Plan ADP Allocations for Local Government and Rural Development

(Taka billion, 2015/16 prices)

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Local Government Division	166.5	191.9	216.2	240.3	268.8
Rural Development and Co-operatives Division	10.2	13.7	15.5	17.2	19.2
Ministry of Chittagong Hill Tracts Affairs	5.1	7.0	7.9	8.7	9.8
Total Sector	181.8	212.6	239.6	266.2	297.8

Source: Seventh Plan Projections, GED

Table 7.6: 7th Plan ADP Allocations for Local Government and Rural Development

(Taka billion, current prices)

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Local Government Division	166.5	203.4	242.1	283.8	333.0
Rural Development and Co-operatives Division	10.2	14.5	17.3	20.3	23.8
Ministry of Chittagong Hill Tracts Affairs	5.1	7.4	8.8	10.3	12.1
Total Sector	181.8	225.3	268.2	314.4	368.9

Source: Seventh Plan Projections, GED

SECTOR 8: ENVIRONMENT AND CLIMATE CHANGE

CHAPTER 8

SUSTAINABLE DEVELOPMENT: ENVIRONMENT AND CLIMATE CHANGE

8.1 OVERVIEW

A sustainable development strategy, at its core, is concerned with how human society as a whole balances the need of the present generation without compromising the prospects of future generation. Hence, it has been identified²⁰ that climate change as a serious global threat, policymakers have increasingly acknowledged the noted warnings with sincere interest. Furthermore, recent estimates from NASA indicate that 2014 was the warmest year on record since 1880 and according to the UN, 13 of the 14 warmest years on record occurred during the current century.

Under the leadership of the Hon'ble Prime Minister Sheikh Hasina the present Government has taken a deep interest in various manifestation of climate change, since Intergovernmental Panel on Climate Change (IPCC) has already noted that Bangladesh will be among the worst victims due to climate change. A rise in both sea level and frequency of cyclone-storms due to the escalating atmospheric temperature is likely to have grave food and energy security consequences, which will also facilitate different types of diseases and frequency of other natural calamities. Needless to mention, the prevailing high density of population will only make it difficult to identify effective coping strategies. Bangladesh is also experiencing environmental woos which is a manifestation of unplanned management, Sprawling urbanization, land use changes haphazard waste management, and noise, air and water pollution due to poorly regulated industrialization has meant that environmental quality has been less than satisfactory in Bangladesh.

During recent times, the Government of Bangladesh (GoB) has taken substantial initiatives on the environmental front. On climate change, Bangladesh Climate Change Strategy and Action Plan (BCCSAP) was formulated for adaptation and low carbon development (LCD) through the engagement of various stakeholders. With support from the United Nations Environment Programme (UNEP), the National Sustainable Development Strategy (NSDS) has been prepared to meet the formidable environmental challenges that Bangladesh faces on the path to development. It identifies Environment, Natural Resource and Disaster Management as one of the Strategic Priority Areas and articulates a wide variety of actions needed for sustainable development.

However, despite these measures, the state of environmental quality is quite alarming. Unwise use of agro-ecosystems, wetlands and water resources in general and salinity intrusion in

²⁰Stern, N. (2006). "Stern Review on the Economics of Climate Change: Executive Summary". HM Treasury, London.

particular is posing a serious threat towards country's agricultural productivity as well as its food security. Degraded lands, wetlands, forest areas and other common pool resources have put extra pressure on the situation of poverty, undermining the poverty reduction measures. Poorly planned development interventions as well as economic activities are making cities and towns unliveable and limiting the carrying capacities of ecosystems and hinterlands. With the current growth rate, the population could nearly double by 2050, reaching some 270 million. The adverse effects of a burgeoning population coupled with economic activity and improper management will exacerbate the impact on the environment unless appropriate measures are taken.

The environmental management from a strategic perspective requires a move towards sustainable development. The UN and the global development community have enunciated Sustainable Development Goals (SDGs) for the post-2015 development agenda. The Rio+20 Conference on Sustainable Development, inter alia, reaffirmed the principles of the Rio Declaration on Environment and Development. In light of the global commitment towards Sustainable Development, Bangladesh too is focused on ensuring sustainable production and consumption, as well as ensuring environmental sustainability.

In the above context, appropriate policy and institutional capacity building for sustainable land water management, biodiversity conservation, forest ecosystem restoration, climate resilient development and disaster management are crucial at all levels of government, especially with a greater emphasis at the local government level where most of the programmes are to be implemented. Seventh Plan will also incorporate a Green Growth strategy to harmonize economic growth for better environmental sustainability. Therefore, the present Seventh Plan's articulation of a sustainable development strategy involves a large array of actions under three key themes: (i) Climate Change Management and Resilience (comprised of adaptation and mitigation) (ii) Environmental Management; and (iii) Disaster Management. These actions are aligned with the overall framework and strategies of NSDS, and are broadly consistent with the scope of the post-2015 SDGs. Some of the objectives and activities that were considered under the Sixth Plan but were not addressed or implemented have also found consideration under Seventh Plan, provided they have an instrumental role in aiding the key objectives of the Plan. This chapter is focused on Climate Change Management and Resilience and Environmental Management mostly. The detail of Disaster Management is discussed in Chapter 14 of Part 2 as the Ministry of Disaster Management and Relief is within the purview of Social Welfare and Security sector.

8.2 OVERALL PROGRESS UNDER THE 6TH FYP

Bangladesh is one of the countries in the world that are most vulnerable to the impacts of climate change. To address this challenge, Present Government of Bangladesh launched its first Climate Change Strategy and Action Plan (BCCSAP) in 2008 and revised it in 2009. The plan seeks to build a medium - to long-term program for enhancing resilience to climate shocks and facilitating low-carbon, sustainable growth. To implement 44 programs specified under the six thematic areas of BCCSAP 2009, Climate Change Trust Fund (CCTF) was created in the fiscal year of 2009-10. Subsequently, Climate Change Trust Act, 2010 was enacted; and as per the

Act, Bangladesh Climate Change Trust (BCCT) was established in 2013. Since inception of the Fund Government allocated 3,000 crore taka in CCTF till FY15. The Government of Bangladesh (GOB) established the Bangladesh Climate Change Resilience Fund (BCCRF) to support the implementation of the BCCSAP in 2010 with several Development Partners (DPs). The total amount pledged under BCCRF as of the end of 2014 was approximately US\$187 million. The BCCRF is managed by the Ministry of Environment and Forests (MoEF) on behalf of the GoB.

The Sixth Plan envisioned the goal of sustainable development, and accordingly focused on integrating poverty, environment and climate change into the process of planning and budgeting.

8.2.1 Strategies for Environmental Sustainability and Disaster Management

In the Sixth Plan, the Government developed and implemented various policy and strategy instruments to attain a sustainable environment and to address the fallout of climate change. The progress in carrying out the strategies in the 6th Plan are elucidated in Table 8.1

Table 8.1: Progress with of Strategies during 6th Plan

Sub Sector	Strategies
Environment	National Environment Council headed by the Hon'ble Prime Minister has been activated.
	Environment committees at Division, District and Upazila levels have been activated.
	Existing environment laws and regulations have been amended to address new issues.
	The Department of Environment has enhanced its institutional capacity. The Department discharges its responsibilities through a head office, six Divisional offices located in Dhaka, Chittagong, Khulna, Rajshahi, Barisal, Sylhet and two Metropolitan offices like Dhaka Metropolitan and Chittagong Metropolitan. Of late, the Government has set up 21 new offices at district level and with the creation of 468 new positions. As a result, the manpower of DOE has been increased to 735.
	Drafting of EIA guidelines for almost all sectors under the Conservation Act (ECA) 1995 have been formulated
	Sectoral legislations have been reviewed and redrafted in light of Bangladesh's commitments expressed through signing and ratifying of a number of International Conventions and Protocols on environment.
	'Polluters Pay Principle' has been adopted in order to ensure compliance of environment legislation.
	Incentives, in the form of tax-rebate, tax-holiday and subsidies are being considered for implementation.
	Environmental Impact Assessment (EIA) has been made mandatory for Red Category projects to address adverse impact.
	Efforts are underway to strengthen the Government's capacity to mainstream poverty-environment-climate nexus in the development project design, budgetary process, project implementation and monitoring process.
	Market initiatives were taken to expand Improve Cook Stoves(ICS) in all over Bangladesh especially Bondhu Chula, to reduce Green House Gas Emission as well as to get health benefit.
	To conserve biodiversity in the Ecological Critical Area (ECAs), Community-based Adaptation approach has been implemented.
	3R Strategy has been formulated to streamline waste management system.
Development projects were taken on Implementation of National Bio safety Framework.	

Sub Sector	Strategies
Climate Change	A pro-poor Climate Change Management strategy has been adopted which prioritizes adaptation and disaster risk reduction and also addresses low carbon development, mitigation, technology transfer and mobilization and international provision of adequate finance.
	A National Action Plan for Short-Lived Climate Pollutants (NAP-SLCP) has been prepared and some of the actions identified are under implementation. A roadmap for introducing low-sulphur diesel has also been developed and some activities are underway.

Source: Mid-Implementation Review of the Sixth FYP of Bangladesh

8.2.2 Implementation status and results

The main objectives of the Sixth Five Year Plan were to expand forest resources, make forests productive, develop institutional capacities, and to encourage peoples' participation. Against these objectives and the aforementioned targets, the results have been mixed.

The target of achieving 20% forest coverage has not been reached. The latest available data puts forest coverage at only 13.14%, suggesting the need for major improvements during the implementation period of the Seventh Plan. Against the set target of 302,000 hectares, about 65,814 hectares of plantations were raised in the last four years. Additional 8,628 hectares will be raised during current financial year, which will yield a 21.80% achievement. In terms of coastal afforestation, 30,466 hectares plantations were raised during the last four years and another 3,420 hectares will be raised in this year. To establish Green belt along the coasts about 978 kilometre has been completed of estimated 2,280 kilometres of coast line of main lands and different islands considering the area exposed to sea to save the life and properties of coastal people against the cyclone and tidal surges.

Under the dynamic leadership of the Prime Minister Sheikh Hasina the Government has declared its first Marine Protected Area of 1738 sq. km including Swatch of no Ground in the Bay of Bengal. The number of terrestrial Protected Area has been increased from 19 to 37 for the conservation of biodiversity. However, the areas protected is 2.29 percent which is less than the target of 5 percent. Initiatives have been taken to establish wildlife division and national park, botanical garden and eco-park in selected areas. In accord with biodiversity conservation, 3 Wildlife and Nature Conservation Divisions, 2 National parks, 7 Wildlife Sanctuaries and 1 Botanical Garden have been established in the last plan period. The Protected Area (PA) coverage was increased to 10.72% from 10% of the total forest area of the country. All possible interventions were undertaken to conserve biodiversity of the Sundarbans Mangrove Forests. To protect the Royal Bengal Tiger, Tiger Action Plan has been prepared for 2009-2017 period and consequently different conservation activities have been implemented. The Social Forestry Programme has also gained momentum in recent years, with about 500,000 poor people being involved in it.

The Department of Environment (DoE) has taken a number of initiatives to address climate change. Through Climate Change Cell, DoE has already developed DPP based Climate Proofing guideline (final draft) for fisheries and livestock sectors, and developed a comprehensive Training Manual on climate change. Sea level rise and risk analysis have been assessed. DoE has also established a Climate Change Knowledge Network (CCKN) including forty Departmental Focal Points (mainly government departments and research institutes) and

established a rich web-based Climate Change Database. DoE is acting as Secretariat of Bilateral Offset Credit Mechanism (BOCM), a joint initiative of the Government of Bangladesh and Japan to facilitate transfer of world leading low carbon energy efficient technologies, products, services and infrastructure to Bangladesh. DoE is acting as National Designated Entity (NDE) of International Climate Technology Centre and Network (CTCN) in order to facilitate transfer of climate and environment friendly technologies and know how to Bangladesh through CTCN. Designated National Authority (DNA) has approved 17 Clean Development Mechanism (CDM) projects, and DoE is acting as secretariat of DNA. Moreover, two video documentaries on climate change induced migration and climate change education have been prepared. There has been solid progress in combating air pollution. Clean Air and Sustainable Environment (CASE) project of the DoE has addressed a number of issues. Traditional brick kilns are being phased out, and continuous air quality monitoring stations have been set up in various districts. In order to control water pollution, the DoE has made it mandatory for industries to set up Effluent Treatment Plants to treat their waste before discharging to water bodies. Enforcement is going on to bring the industries that are generating waste water under compliance. Proposed industries are required to obtain Environmental Clearance Certificates (ECCs) to ensure that the anticipated pollution load will be within acceptable limits. It also mandatory for them to install effluent treatment plants.

To include all level of mass people in environmental conservation activity, DoE arranges Public Hearing in each month. To control environmental pollution from industries government imposes penalty against polluter as per section 7 of Bangladesh Environment Conservation Act, 1995. Department of Environment has taken various programmes toward conservation of the biological diversity of Cox's Bazar-Teknaf Peninsula, Sonadia Island, St. Martin's Island and Hakaluki Haor ECAs with a view to ensuring conservation, management and sustainable use of the biological and other resources of the ECAs. Bangladesh has been among the few countries which have earned remarkable successes in her efforts related to relevant aspects of global action towards protection of the ozone layer. After accession of the Montreal Protocol on 'Substances that Deplete the Ozone Layer' Bangladesh has ratified all of its amendments viz., London amendment, Montreal amendment, Copenhagen amendment and Beijing amendment. Bangladesh has completely phased out CFCs (Chlorofluorocarbons) from aerosol sector, refrigeration and air-conditioning sector and other commercial sector since 1 January 2010. CFCs have been phased-out in the manufacturing of metered dose inhalers (MDIs) from pharmaceutical sectors in December 2012. In the urban areas, domestic and other forms of wastes have increased both in dimension and in quantities along with the rise in population. Waste management programmes are being implemented through the reduction of volumes and quantities of wastes, waste re-use and waste recycling.

8.3 KEY OBJECTIVES UNDER THE 7THFYP

The main objectives relating to climate change, environment and disaster management under the 7th FYP can be summarized under the following categories:

To attain good governance in environmental sustainability.

1. Ensure appropriate environment management system for sustainable development
2. Enhance enforcement for pollution control
3. Enhance, preserve, conservation of natural resources

To eradicate extreme poverty and achieve national food security.

1. Promote sustainable environment management in pursuit of quality livelihood
2. Develop ‘climate-smart food systems’, ensuring that climate threats to other elements of food systems beyond agriculture, such as storage, distribution and access are taken into consideration.
3. Ensure effective environmental management activities by allowing inclusive bottom-up participation in adaptation decision making, especially at the community level
4. Mainstream poverty-environment-climate-disaster nexus in the project design phase, budgetary process, project implementation and monitoring processes.
5. Promote multiple land use technology like agro-forestry to ensure increased productivity and supplement agricultural production;
6. Continue and expand people-oriented afforestation Programme for poverty alleviation and increased employment opportunities including women;
7. Promote participatory, community-based environmental resource management and environmental protection (considering the access for the poor, equity, as well as gender issues) along with community based adaptation.
8. Design skill-focused training for resilient agriculture, industry, infrastructure, trade and other fields on principles of practical resilience
9. Initiate research to understand how resilience principles could be used to improve education at different levels in Bangladesh. Systems thinking allows for inter –and trans-disciplinary learning around multi-dimensional societal issues like environmental hazards, climate change mitigation and adaptation, poverty, gender, equity and resilience-based learning can help lead to a more resilient country to multiple drivers (economic, climate and others).

To address environmental health

1. Build capacity in the area of environmental health through both public and private sectors.
2. Ensure Proper waste management system in place for good environmental health.

To ensure cities are sustainable and more efficient, with development following appropriately structured plans.

1. Promote activities for cleaner and greener cities
2. Promote environment friendly activities in development of interventions.
3. Strengthen the capability of public and private sectors to manage environmental concerns.

4. Improve major cities through monitoring and prevention of environmental hazards
5. Ensure restoration of natural water bodies and other environmental resources
6. Explore the opportunities for environmental friendly artificial groundwater recharge in major cities.
7. Promote low emissions mass transport options and establish Environmentally Sustainable Transport (EST) in the country.
8. Implement of Roadmap to introduce low Sulphur diesel.
9. Institutionalize of National Action Plan of Short-Lived Climate Pollutants (SNAP)
10. Incorporate and introduce Green Building Code in our National Building Code to have energy efficient building/green building to address climate change.

To establish the quality of life for the rural people of all regions.

1. Preserve, protect and develop the natural resource base and biodiversity.
2. Create public awareness, in order to participate in environmental activities.
3. Conservation and manage watershed and soil

To preserve agricultural land and to ensure production growth for food security with minimum environmental degradation.

1. Undertake research and development for innovating technology in national perspective and application of modern technology
2. Promote environmental friendly alternative technology for fertilizer and pesticides use and grain and food preservation
3. Ensure conservation of biodiversity and its sustainable utilization
4. Preserve, protect and develop the natural resource base
5. Develop coastal green belt with mangrove species

To hold water of wetlands including jalmohals and rivers in dry season.

1. Preserve, protect and develop the natural wetlands and water bodies
2. Conserve and protect the eco-system for bio-diversity of wetlands
3. Half/reduce rate of salinity intrusion and mitigate impacts of salinity on human health and agro-ecosystem production.
4. Ensure that dry season groundwater levels do not fall below 2005 levels.

To meet national air and water quality standards.

1. Monitor, control and prevent environmental pollution and degradation related to air, water and soil
2. Undertake environmental assessment
3. Implementation of emission, effluent and waste management strategy
4. Introduce low-sulphur diesel and compatible standards vehicles.
5. Introduce energy efficient affordable technology.

To achieve tree cover over 20% of the land surface (with tree density > 70%) and ecologically healthy native forests are restored and protected in all public forest lands (about 16% of land)

1. Ensure greater contribution of the forestry sector in the economic development
2. Strengthen forestry extension activities to transfer improved technology and research information to end-users, e.g., local people and private homesteads
3. Expand forest resources, make the forests adequately productive
4. Conserve Sundarbans mangrove forest without any further deforestation and forest degradation.
5. Develop institutional capabilities including human resource and involve local people as much as possible in forestry activities
6. Develop capacity of national government and regional/local offices to map and analyse land use through data-driven approaches/GIS
7. Further promote the people oriented programmes covering forestry on marginal lands, char lands, road sides, etc.
8. Ensure no forest land shall be converted for non-forest use.
9. Ensure no commercial plantation in protected forest area where only native species for enrichment and restoration purposes can be undertaken.
10. Ensure all PA management shall be inclusive of and respectful to the rights of the forest dwellers.
11. Consider out-sourcing forest protection measures, utilizing community members on the ground as forest stewards.

To ensure no new extinctions of globally and nationally threatened species.

1. Conserve and protect the eco-system for bio-diversity and overall environmental stability
2. Initiate actions with regard to obligations under international treaties and conventions regarding conservation of biodiversity
3. Promote cooperation with regional and international institutions/organizations to address local, regional, and global biodiversity problems.

To meet energy demands of development through a low carbon strategy.

1. Conserve non-renewable resources and sustaining auto and eco-generation of renewable resources
2. Mass initiative to be taken under Clean Development Mechanism and REDD;

To reduce potential economic losses due to Climate Change (particularly from floods, drought and salinity).

1. Increase facilities for education, need-oriented co-oriented research and experimental works
2. Promote appropriate environment management system for mitigation and adaptation to climate change and climate vulnerability

3. Promote implementation of Bangladesh Delta Plan 2100 strategies and investment plans.
4. Introduce climate proofing of structures for the areas of climate risk.

8.4 INSTITUTIONS FOR SUPPORTING SUSTAINABLE DEVELOPMENT AGENDA

The following institutions are crucial for supporting policies and plans in Bangladesh:

The Ministry of Environment and Forests (MoEF)

The MoEF ensures acknowledgment of environmental matters in their development Programme. The Ministry has a critical role in policy and coordination of the implementation of action plans in various sectors. MoEF is also required to review and monitor the result of development initiatives on the environment across all sectors (Ministry). Prior to MoEF, no ministry was present for tackling environmental concerns in Bangladesh. The MoEF formal functions are:

- Define overall Government policy regarding forests and the environment;
- Implement and evaluate such policies through its departments;
- Manage forest resources, and conserve and develop forest land, forest resources and wildlife;
- Maintain natural and environmental stability;
- Increase the country's forest resources in a planned manner and arrange to meet the demands for these resources; and
- Effect environmental improvement and pollution control.
- Manage Climate Change Trust Fund addressing the Climate Change impact.

Six institutions administer the actions of the MoEF: The Forest Department (FD), Department of Environment (DoE), Bangladesh Forest Industries Development Corporation (BFIDC), Bangladesh Forest Research Institute (BFRI) the Bangladesh National Herbarium and Bangladesh Climate Change Trust (BCCT). The MoEF has an annual budget of both development and revenue of BDT 2 billion (nearly US\$34 million). This constitutes less than 0.5% of the government's total revenue and development budget. From this budget, 80% is distributed to the FD while the DoE receives less than 1 percent. The MoEF resources focus on forestry, institutional capacity for environmental planning, and monitoring.

The Department of Environment (DoE)

The DOE is the technical arm of the Ministry engaged in implementation of Environment Conservation Act and Environment Conservation Rules to ensure sustainable environmental governance for achieving high quality of life for the benefit of present and future generation. The mandate of the DOE lies with the enforcement of Environment Conservation Act through controlling and monitoring of industrial pollution; environmental impact assessment, and in formulating guidelines for industrial sectors affecting air, soil and water quality, wildlife, critical habitats, fisheries and other natural resources issues. The DoE also has the legal

authority to recognize and manage any ecosystem as an Ecologically Critical Area (ECA). Thus far, the DoE has declared 13 ECAs, however poor management has risen due to lack of field resources. DoE has enforced an institutional assessment and strategic plan with five focuses: 1) enforce the Environment Conservation Act and international obligations; 2) administer the clearance process competently and transparently; 3) Address major air and water quality management problems; 4) Expand public awareness efforts; 5) Build DOE's capacity.

Forest Department (FD)

Forest Department (FD) ensures management of government owned forests of Bangladesh. The organization holds 8,681 positions under the Chief Conservator of Forest (CCF): there are four deputy chiefs, eleven conservators of forests, forty four divisional forest officers, and other staff members. Regardless, there is insufficient amount of staff and manpower with various crucial positions remaining vacant. The FD controls: 1) management of all the government forests to foster a steady supply of the forest products such as wood, fuel-wood, bamboo and other forest produces towards the demands of the members of the public; 2) protect and conserve the protected areas to meet the mandate of conserving the gene pool and biodiversity, including those of the wildlife, for the nation at large; 3) enhance the tree cover of the country; 4) undertake the social forestry activities towards the awareness raising and encourage the tree planting among the members of the public; 5) involve the members of public as participants in the conservation of protected areas; 6) identify and implement scientifically sound, economically viable and ecologically sustainable forestry management programmes; 7) implement the forestry policy through acts, rules and regulations.

Bangladesh Forest Industries Development Corporation (BFIDC)

The Bangladesh Forest Industries Development Corporation (BFIDC) is a state owned organization, which came into being in 1959. BFIDC is responsible for industrial development of the forest resources of the country and as such the activities of the corporation are categorized into two sectors - Industrial sector and Agricultural sector (Rubber production, processing and commercialization). There are seven industrial units for extraction of timber from reserved forest of Chittagong Hill Tracts and the rubber gardens (the trees which have lost their economic life cycle) of BFIDC, seasoning and treatment of timber and for manufacturing of modern furniture, including wooden doors, windows, chowkats, chairs, tables, benches, dunnage and executive furniture as required by the clients. Since 1962, BFIDC has been playing a pivotal role not only producing rubber but also in the carbon sequestration, reducing degradation and erosion of land as well as creating employment opportunity, saving foreign currency as an import substitution and generating economic activities in the remote rural areas.

Bangladesh Climate Change Trust (BCCT)

BCCT was established on 24 January 2013 with effect from 13 October 2010 as a statutory body of Ministry of Environment and Forests. Reflecting the strong commitment to United Nations Framework Convention on Climate Change (UNFCCC), the Government of Bangladesh attaches highest importance to the necessity of enhancing national capacity to cope

with the risks induced by climate change. To achieve this end, Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009 was formulated. To implement the BCCSAP 2009, CCTF was created in the fiscal year of 2009-10. The Government allocated BDT 3000 crore (US\$ 390 million approximately) to CCTF during the last seven fiscal years. As per Climate Change Trust Act, 2010, a maximum of 66% of the allocated amount as well as the interests accrued on the remaining 34% kept as fixed deposit can be allocated to CCTF projects. So far, 360 projects have been undertaken and 297 projects are being implemented by government, semi-government and autonomous agencies, while 63 projects are being implemented by NGOs which is managed by PKSf.

Bangladesh Forest Research Institute (BFRI)

Bangladesh Forest Research Institute (BFRI) is the only national Institute in the country conducting research in forestry sector under the ministry of MoEF. The institute was established as a Forest Products Research Laboratory in 1955 in Chittagong with the objective of proper utilization of wood and wood products. Subsequently, considering the need of increasing forest resources, forest management research was initiated in 1968 and BFRI was transformed into a full-fledged research institute. Bangladesh Forest Research Institute conducts research for developing technologies to increase the productivity of forest resources and rational utilization of forest products, Biodiversity conservation and environmental amelioration.

Furthermore, the following will be given the emphasis on the research priority during 7th Plan:

- BFRI will emphasize on further research activities to improve the forest productivity through technological backup including non-timber forest products.
- Special attention will be given to conserve biodiversity Sundarbans and coastal areas through research and technological innovation.
- Research will be conducted on Sal forest and hill forest for eco-system restoration and maximizing carbon sequestration by suitable indigenous species.
- Research will be conducted on existing coastal afforestation and enrichment plantation to assess the biodiversity change in the context of climate change and salinity intrusion and enhancing livelihood improvement of coastal people.
- Research will be conducted on better and sustainable utilization of forest resources.

The Bangladesh National Herbarium

Bangladesh National Herbarium (BNH), a research organization as well as a store house of dried plant, established in 1970. As a research organization, BNH deals with the exploration, collection, identification, preservation of plant specimens and floristic publication of the country. It collects plant specimens through regular botanical survey in forest ecosystems, wetland ecosystems, Agro ecosystems etc. of the country. The updated basic information on plants related topic generates through botanical survey can be utilized in forest resource management. BNH has preserved more than one hundred thousand plant specimens including all sorts of associated information *viz.* taxonomy, phenology, diversity, abundance,

distribution, potential uses etc. These specimens are national property and used as reference materials in plant taxonomic research through generations. So far, the scientists of BNH have discovered 20 new plant species and 178 new plant records Bangladesh through plant taxonomic research. The plant diversity of the country is largely affected by different anthropogenic activities, natural calamities and adverse effects of climate change. BNH plays an important role in the conservation of biodiversity and environment.

Water Resources Planning Organization (WARPO)

The Water Resources Planning Organization (WARPO) is the institution, which authorizes all water resource management. Established as a secretariat to the National Water Resources Council (NWRC) and is chaired by the Prime Minister. WARPO maintains inter-agency cooperation and the formulation of water policy.

The Department of Fisheries (DoF)

The Department of Fisheries (DoF) caters to the support of fisheries. The work of the organization is as the primary institute engaged in managing fisheries resources. DoF was created with strong focus on enhancing the production. DoF has been steadily following its mandate mostly through aquaculture extension. The National Fisheries Policy, 1998 address all aspect of fisheries. The focus lies on production, culture and enhancement, ecological balance, and maintenance of biodiversity.

Ministry of Water Resources (MoWR)

Ministry of Water Resources is in charge of regulating and developing rivers and river valleys. MoWR governs all matters relating to irrigation, flood forecasting and warning, and flood control. It also conducts basic, fundamental and applied research on river valley projects and flood control works. MoWR is responsible for construction and maintenance of canals and water control structures. The Ministry also oversees matters pertaining to treaties and agreements with other countries and world bodies.

Ministry of Industries (MoI)

MoI has sought to accelerate industrialization through formulating appropriate industrial policy, reforming and renovating state owned enterprises, developing SMEs, micro and cottage industries, protecting standards of products and intellectual property rights and enhancing productivity. MoI is also entrusted with establishing, developing, and regulating eco-friendly and safe industrial infrastructure.

Local Government Division (LGD)

The Local Government Division is entrusted with the following: managing all matters related to drinking water; developing water supply, sanitation and sewerage facilities in rural and urban areas; manage matters related to waste management, slum development and urban health. Department of Public Health Engineering (DPHE), 4 WASAs, 11 city corporations and 324 Paurashavas administer these functions.

8.5 ADDRESSING CLIMATE CHANGE UNDER THE SEVENTH PLAN

Given its geographic location and features, Bangladesh is extremely vulnerable to the effects of climate change. About 88% of the landmass consists of floodplains, sitting in a delta. The topography is flat and majority of the landmass lies within 10 meters above mean sea level. The geographic location at the convergence of the three great rivers – the Ganges, Brahmaputra and Meghna – and near the Eastern Himalayas makes Bangladesh vulnerable to natural hazards like floods, cyclones and occasional earthquakes. Due to the rise in the average sea level, an additional 14% of the country may be extremely vulnerable to floods by 2030. Furthermore, recent evidence is indicating that rising temperature has severe consequences for economic growth, since some results point out two key issues: first, higher temperature substantially reduces economic growth in poor countries; and second, higher temperature has wide-ranging effects, reducing agricultural output, industrial output, and political stability. In addition, internal development factors also worsen the possible climate change impact. These include population density, high poverty and inequality, weak infrastructure, limited integration of disaster into planning and low human development progress.

The primary challenge for Bangladesh is to scale up investments to create a suitable environment for the economic and social development of the country and to secure the well-being of people, especially the poorest and most vulnerable groups, including women and children. The Government of Bangladesh's Vision is to eradicate poverty and achieve economic and social prosperity for all people. This will be achieved through a pro-poor Climate Change Management Strategy, which prioritizes adaptation and disaster risk reduction, and also follow the path of low carbon development, mitigation, technology transfer and the mobilization and international provision for investments in coping mechanisms and green technology.

As in the Sixth Plan, Climate Change Management under the Seventh Plan will be addressed on two fronts: Adaptation and Mitigation. The Adaptation strategy will encompass various measures we can take to adequately prepare for the inevitable consequences of climate change, whereas mitigation efforts will cover activities aimed at reducing our carbon footprint.

8.5.1 Climate Change Adaptation (CCA)

Climate Change Adaptation Context for Bangladesh

Climate change leads to environmental impacts such as sea surface warming, natural disasters and disruptions in rain pattern. Food security is threatened along with the livelihood of people affected by climate change. The consequences of climate change are elaborated below:

Food insecurity: Changes in rainfall patterns increase the likelihood of a drought, and an increase in peak monsoon may lead to frequent floods as well. Greater tidal interaction can also cause frequent embankment failures, which will increase salinity in coastal areas. This will create significant difficulties in maintenance of food security amongst poor smallholders and women. Production potential, despite advancement of new varieties and other inputs, will tend to be diminished with increasing temperature, particularly beyond a threshold of 2° C.

Human health: Higher temperature might cause propagation of new pests and disease vectors, while common diseases such as dengue, malaria and water borne diseases (such as cholera) will take significant toll on human health conditions. Children and elderly people are also likely to be affected by heat stress.

Damage to infrastructure: Climate induced outcomes like cyclonic storm surges and high intensity floods damage coastal infrastructure including homes, road networks, water supply and sanitation systems. Coastal erosion damages agricultural potential and further worsens the condition of the affected people.

Stress to urbanization: Climate change outcomes such as increased flood will aggravate the existing problems and complicate urban based livelihoods. Highly congested areas and slums, where the urban poor tend to concentrate, will be the worst sufferers. Increased migration to urban areas for economic opportunities put more strain on limited services and facilities. For Bangladesh, tackling the growing and unplanned urbanization pressure is even more complicated, given already more than one-fourth the population currently resides in urban areas.

Damage to Industries: Maintaining industrial activities in regions of climate change hot spots will be an added challenge. Unless proper designing is followed, many of these industries will not be viable. This will result in people losing their jobs as well as hampering productivity.

Economic Impacts: In addition to damages to infrastructure and industries, there are other economic impacts of climate change. In order to recover from climate induced hazards, investments may be drawn away from development, which would hinder the growth and development process of the country. A lack of proper adaptation means an increase in the likelihood of a significant national economic downturn.

Loss of livelihoods leading to migration: In many remote areas affected by climate change, the inhabitants, especially the poor and the marginalized will find it extremely difficult to maintain livelihoods, especially those based on fragile natural ecosystems. This may lead to migration into dense urban regions, worsening living conditions in the process.

Poverty and Inequity: The extreme poor and women will be faced with the most serious challenges due to adverse impacts of climate change. Poverty eradication for the poor will be hindered as they are disproportionately affected by events of climate change.

Gender sensitivity to disasters and climate change: Climate change affects women more than men. Following natural disasters, women more than men are often subject to excruciating circumstances. For instance, girls are discriminated and marginalized by forcing them to drop out of school to help with household chores. They also have to cope with less food and water intake in the event of a disaster. Patriarchal norms and practices put women and girls in a vulnerable state, which intensifies during climate induced disasters.

Activities under Implementation

The government has considerably strengthened its efforts to address climate change issues aimed at protecting the population from the adverse consequences of climate change and building climate change resilience of the development strategy. Apart from setting aside a budgetary allocation of BDT 700 crore for climate change purposes, the government has adopted a comprehensive Bangladesh climate change strategy and action plan (BCCSAP), focusing on implementing programmes on both adaptation and low carbon development. The government has set up the Bangladesh Climate Change Trust Fund (BCCTF) supported through domestic resources. 60% of funds was provided for over 200 projects, which include food security, social protection and health, disaster management, infrastructure, knowledge management, climate change mitigation, and capacity building and institutional strengthening. The government and its bilateral partners have jointly set up the Bangladesh Climate Change Resilience Fund (BCCRF) to support the implementation of BCCSAP. 10% of the fund goes towards NGOs conducting small-scale community based projects to build local level adaptive capacity. BCCRF has allocated US \$10 million to fund subprojects in the three most climate-vulnerable zones in Bangladesh, as shown in Table 8.2. The roadmap for a National Adaptation Plan (NAP) is already developed by MoEF, which will set priorities of projects in the medium and short run.

Table 8.2: Most Climate-Vulnerable Zones and Corresponding Districts

Types of Zones	Districts
Saline-affected coastal zones	Satkhira, Khulna, Jessore, Bagerhat, Patuakhali, Barguna
Flood-affected areas and charlands	Barisal, Cox's Bazar, Jamalpur, Mymensingh, Bagerhat, Jessore, Khulna, Kurigram, Nilphamari
Drought-affected or rain-scarce areas in north western Bangladesh	Chuadanga, Jessore, Naogaon, Rajshahi, Satkhira, Natore

Source: BCCRF Annual Report 2013

One of the key initiatives of the Ministry of Environment and Forests is the implementation of a project entitled ‘‘Strengthening the Environment, Forestry and Climate Change Capacities of the MoEF and its Agencies’’ funded by the USAID and with technical assistance from Food and Agriculture Organization of the United Nations. The main focus of this project is to develop a Country Investment Plan (CIP) for Environment, Forestry and Climate Change sector. GoB, with the involvement of UNDP, has been implementing the top priority project of NAPA. This project has successfully promoted agricultural adaptation in coastal zone through community level horticulture, livestock and forestry related activities. The project has a strong community orientation.

Institutional coordination is a serious hindrance towards effective CCA measures. To that end, focal points have been designated in each ministry and a few specialized and relevant agencies. MoEF has trained them to ensure proper integration of climate change issues at the national level. The Planning Commission has undertaken efforts to integrate climate change in national development processes through a coordinated manner.

GoB has highlighted gender sensitivity as an important issue in climate change adaptation and supported the Ministry of Women and Children Affairs (MoWCA) to take initiative under the BCCTF to integrate gender sensitivity in their respective project designs.

Implementation Challenges of Existing Activities

There are a number of limitations faced by GoB institutions regarding implementation of CCA.

Weak capacity: Government officials, especially at local institutions (Upazila, Union Parishads, Municipal corporations, etc.) do not have adequate management skills in order to respond to various impacts of climate change. GoB institutions are not adequate to improve performance of officials or to hold them accountable for delivery of results.

Understanding, Knowledge and Capacity: Even at the central Government level, understanding and knowledge is limited to few officials working in technical institutions. Most of the officials need immediate capacity enhancement trainings in order to equip themselves to act as per mandate of the BCCSAP and project designing under ADP.

Priorities are not set: So far, no effort has been made to elaborate financial requirements for each of the prioritized programmes/projects. Without proper prioritization, concerned authorities will find it difficult to identify projects that might be more useful towards CCA.

Weakness in implementation, monitoring and shared learning: CCA is a process that requires participation from all stakeholders. CCA sensitive projects should be designed through a proper participatory process, where the concerns of local people, especially women and the marginalized population, will be duly addressed. There should also be a project monitoring system which allows people's voice to be incorporated and evaluated.

Lack of Financing: The BCCSAP requires an outlay of \$10 billion for the 10 year period. Lack of financing has been a crippling factor for the government in implementing BCCSAP, especially its priority projects and programmes. Furthermore, release of funding, especially by development partners and lack of fund management capacity are additional limitations.

Institutional Coordination: To ensure an effective multi-dimensional response system, proper coordination among relevant institutions is a must. A whole of government approach is best suited to achieve this objective. The Government acknowledges that the MoEF, serves as the focal point on climate change, has not been fully able to coordinate with other institutions. This was observed in the monitoring and evaluation of already financed projects under the BCCSAP. Lack of coordination is a huge blow to CCA as it prevents synergy and counteracts expected benefits from any given project.

Expenditure Management: GED revealed that on an average about 6 to 7% of all development and non-development expenditure, an equivalent of US\$ 1 billion per annum, has been spent in climate sensitive activities. The GoB has taken a simultaneous strategy to safeguard its current spending on projects under Annual Development Programme (ADP) from climate induced hazards and use such development practices to ensure adaptation co-benefits. The UNDP provided assistance to the GoB to mainstream CCA along with DRR, poverty

alleviation and gender inclusion in all projects under ADP. There is still a lot to be done in order to mainstream climate change into planning, programming and budgetary process.

Although CCA is a process where a wide variety of organizations and institutions are involved, no organization or institution is currently charged with coordinating financial performance among this array of entities.

Activities under the 7th FYP for Climate Change Adaptation

The following activities will be implemented under the Seventh Plan.

Issue 1: Promote a whole-of government approach for climate change readiness - In order to design an effective CCA strategy, developing a national institutional framework for allocating roles and responsibilities for different ministries is paramount.

Issue 2: Enhance understanding, knowledge, capacity and coordination -Having a proper knowledge base is highly important. Curricula will be revised accordingly to prepare citizens for climate change adaptation in the future by integrating knowledge at all educational levels. Implement training programmes and capacity development of civil servants and other stakeholders. Institutional capacity of units within different ministries and departments should be strengthened so that climate change may be integrated into development projects and initiatives. Steps will be taken to develop resilience-based technical skills through improved technical training and education in multiple dimensions. Investment in the up-gradation of current institutional setup to utilize the whole-of government approach is also required. The development of expertise of the local government in the areas of environment and climate change is a challenge for all ministries. This needs to be enhanced by implementing training and awareness programme at the ground level.

Issue 3: Prioritize programmes and projects - Project prioritized actions in annual, three years, five years and long term budget framework to demonstrate demands of climate budget.

Issue 4: Improved Implementation, Monitoring and Shared learning -The Government will ensure shared learning with all stakeholders. IMED and MoEF will develop a system to encourage community participation to provide a platform for their voices.

Issue 5: Enhance CCA financing -In order to ensure continuous funding, the Government will offer more effort to seek international financial support, in addition to allocating funds towards CCA. A new financial mechanism in the form of Green Climate Fund (GCF) is about to be made functional. Bangladesh's readiness to harness available international support is below par, which needs to be addressed on an urgent basis. The NIE (National Implementation Entity) for both Adaptation Fund and Green Climate Fund (GCF) will be identified, their capacities enhanced significantly so that these are duly accredited with respective funds. Support from development partners may be sought to analyse potential NIEs and to enhance their respective capacities including fiduciary capacities and practices. The Climate Fiscal Framework recommends an increase in allocation of funds to BCCTF. The CFF further suggests a merger between BCCTF and BCCRF to avoid project duplication.

Issue 6: Integrate Gender Sensitivity in project design: Revise modalities and criteria for ensuring incorporation of gender concerns in project design.

Issue 7: Food security, social protection and Health- Climate smart agricultural practices and technologies focusing on climate resilient crop varieties will also be developed to ensure food security. Climate change resilient cropping systems will also be developed to ensure food security. Other aspects of food systems, such as storage, distribution, and access will be ensured.

Issue 8: Managing hazards and disasters - GoB will further mainstream DRR and CCA in policy and planning frameworks of all relevant ministries and departments. Funding from national budget will be obtained for CCA and DRR, in addition to contributions from development partners. GoB will also strengthen national early warning systems regarding cyclones, storm surge and floods to enable more accurate forecasts. It is necessary to conduct micro-climatic zone specific assessments necessary for more effective planning. Institutional collaboration regarding weather forecasts will be further enhanced.

Issue 9: Infrastructural functioning and maintenance -GoB will repair and rehabilitate existing infrastructure, including river embankments and drainage systems, and ensure proper operation and maintenance. Steps will be taken to plan, design, and construct urgently needed new infrastructure.

Issue 10: Curbing internal migration and displacement – Major rivers like Brahmaputra, Jamuna and Meghna use up huge lands which can be effectively managed through channelization using morphological prediction information. The introduction of Integrated River Management Plan, River Management Improvement and Land development projects on right Bank of Jamuna at Sirajgonj – Belkuchi will stabilize the river plan form and make room for efficient river channelization. Reclamation of land and enhancing the navigability of the river by reducing the width is possible by river training works to create conditions for sustainable development and poverty alleviation of the northern districts of Bangladesh. Besides, this will also act as a natural means of erosion protection along the river banks, Around 6 million people living in the 550,000 ha of project area will be benefitted by the result of these projects. Migration of people due to unstable river morphology will be controlled to some extent; hence, the security of lives will be ensured.

Adaptation to climate change in the context of migration and displacement

A key challenge for Bangladesh is to identify and adopt climate-adaptive and resilient measures suitable to the local contexts and needs. This entails aiming at achieving “transformative adaptation” rather than just “climate resilience”, which implies a transformation at societal, community and national level from the current state of vulnerability to an improved state of development. An example of such adaptation is the Local Adaptation Plans of Action (LAPA) and the Community Based Adaptation (CBA), which involve the empowerment of vulnerable communities with knowledge and support to become more adaptive. A first step is to assess and understand the vulnerability, which could be done through partnerships between local authorities, technical experts and the civil society (local communities, residents). This would

lead to adequate public and community-based responses to address the vulnerabilities identified. Urban climate change resilience planning should be linked to urban development processes. This should be accompanied with strong social protection mechanisms, and measures to diversify the local economies and facilitate community level work on improving housing, drainage, and setting up effective early warning, disaster prevention and recovery systems.

Due to extreme and slow-onset climate events, protection measures for the displaced people need to be framed in keeping with the relevant national and international policies/ initiatives.

8.5.2 Implementation Strategy Regarding Climate Change Resilience

To ensure a nation resilient to climate change and to facilitate the process of CCA, the following necessary steps will be implemented during the Seventh Plan period:

Revising BCCSAP: After the expiration of the Action Plan in 2018, BCCSAP should be revised.

Complete NAP: NAP will be initiated within the 7th Plan.

Consider a planned development approach, integrating CCA into development: Establish a culture of integrating CCA into all development projects so that adaptation co-benefits may be accrued from development spending.

Revitalize and strengthen institutional leadership for improved coordination: Sluggish institutional arrangement towards implementing BCCSAP and the prevailing bottleneck in inter-agency coordination has been hindering integration of CCA with development projects, an institutional revitalization and strengthening is an immediate necessity. The current institutional arrangement requires a thorough examination, the prevailing capacity involving technical know-how of officials, financial and coordination strength will be built to make the arrangement more functional.

Develop Community Based Adaptation: Efforts must be made to develop mechanisms how institution-led macro- and meso-scale adaptations may integrate CBA, especially making rooms for incorporating local level people-centric participatory CBA planning.

Establishing a Climate Fiscal Cell: GoB will consider establishing a climate fiscal cell in the Finance Division of the MoF. It can generate updated reports on climate change related expenditures and disseminate these to assist policymaking.

Disseminating and Implementing GAP: The GAP has been developed for MoEF, who will play in initiating and facilitating efforts internally, as well as with strategic partners at the national, regional and international levels. It seeks to mainstream gender in climate change action as outlined in the BCCSAP and the NAPA.

Addressing Knowledge Gap to Improve Climate Change Adaptation

Government will give attention to knowledge generation concerning climate change in the Seventh Plan:

Gender sensitivity to disasters and climate change: Seventh Plan will promote studies looking into violence against women in programmes and policies.

Food Security: As existing crop varieties are not resilient to climate change, Government will take initiative to promote more academic research into this issue.

Health Care: More work is needed to find out which type of diseases is more likely to spread as a result of climate change within Bangladesh. There should also be a comprehensive study regarding the detrimental impacts on human health as a whole.

8.5.3 Climate Change Mitigation (CCM)

Climate Change Mitigation Context for Bangladesh

Mitigation activities and policies need to be consistent with the country's energy security. This requires increased energy and cost efficiency in the development of traditional energy.

The Government also realizes that there should be more awareness about the importance of climate change mitigation. Since Bangladesh's contribution to the generation of greenhouse gases is quite low, policy makers acknowledges that steps should be taken to ensure that it stays that way even with growth and development. Due emphasis should be given to the promotion of renewable energy, particularly solar homes and biogas plants. A major nationwide Programme of social forestry has also been implemented and coastal 'greenbelts' has been planted as a key adaptation-mitigation strategy. As Bangladesh industrializes and develops coal reserves, the country will seek the transfer of state-of-the-art technologies from developed countries to in order to follow a low-carbon growth path. Bangladesh is committed to reducing greenhouse emissions from agriculture and urban waste management. The country is further committed to the development of forestry resources and in this regard is exploring all avenues including mechanisms under REDD (Reducing Emission from Deforestation and Forest Degradation).

A successful mitigation strategy will incorporate the concerns of all stakeholders without imposing harsh restrictions on carbon emissions. Mainstreaming climate change issues like mitigation into planning and implementation will make it easier to achieve the desired results.

Activities under Implementation

Having stated mitigation and LCD as a priority, the BCCSAP highlighted areas where LCD objectives may be achieved in the future. The social forestry programme on government and community land throughout the country will be expanded. Expansion of the 'greenbelt' coastal afforestation programme with mangrove planting along the shoreline is also suggested. Under the BCCSAP, efforts will be made to transfer new and efficient technologies from developed countries, and energy and technology policies along with incentives will be revised.

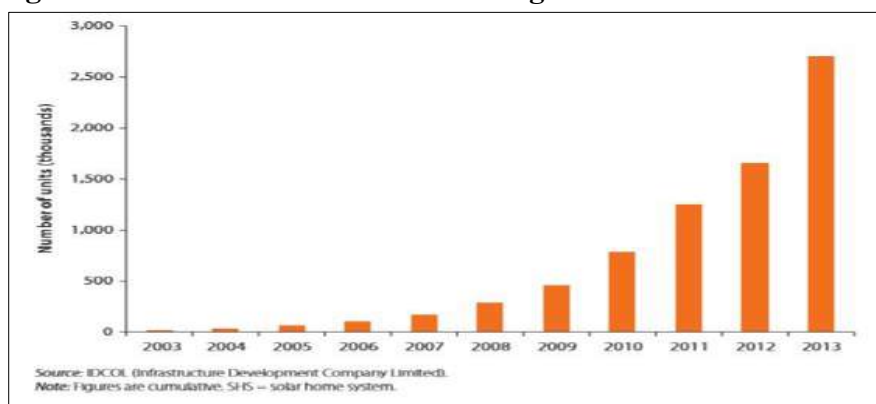
In order to achieve energy efficiency, GoB has taken a number of steps. The most widespread of these have been the popularization of energy saving technologies such as compact fluorescent light bulbs, light emitting diode (LED) electric bulbs and solar energy trapping technologies. Compact fluorescent light bulbs have become extremely popular in both rural

and urban areas despite their relatively high prices. These light bulbs use about 70% less energy than incandescent bulbs, and when used on a mass scale, bring about significant reduction in national energy usage. In addition, 1.5 million improved cook stoves have been distributed, and combined cycled power plants have been installed.

Solar energy trapping devices have also become popular. Solar home system (SHS) installations have crossed 4 million. Figure 8.1 shows the accelerate growth of SHS installations in Bangladesh, who has the world's fastest growing, off-grid SHS coverage. Urban power authorities in major cities have mandated new electricity consumers to install solar-based renewable units to cover 3% of estimated power demand for the particular house or building.

GoB also plans to replace conventional street lights with LED and solar lights. Energy efficient appliances will be certified through BSTI, and their use will be highly encouraged. Energy Efficiency and Conservation Master Plan is also in the preparation stage. Sustainable and Renewable Energy Development Authority (SREDA) has already been set up to serve as a nodal agency for the promotion and development of sustainable energy, comprising of renewable energy, energy efficiency and energy conservation. Steps have been taken to revise the 'Building Code', inserting energy efficiency and solar energy issues. Other existing policies and strategies include Energy Efficient and Energy Conservation Master Plan and National Road Map for Improved Cook Stoves.

Figure 8.1: Accelerated Growth in Bangladesh's SHS Installations



GoB has banned the import of passenger cars which are more than three years old. The GoB has proposed a significant tax remission for imported cars having upgraded and energy saving technologies. Higher efficiency in terms of transport which translates to lower emissions will also be achieved.

Heavy usage and reliance on gas has led to the possibility of a shortfall in natural gas in the coming years. This caused the GoB to focus on developing new power generation units which are based on coal as primary fuel. However, improved technologies are required for enhanced energy efficiency. The Government has also allocated about BDT 400 crore to promote renewable technologies in Bangladesh.

GoB has been promoting electrified irrigating pumps in place of diesel based pumps for greater efficiency in agriculture. To conserve water in paddy production, the Department of Agricultural Extension has been promoting ‘alternate wet and dry’ method for irrigation in paddy fields. This will be further emphasized in the 7th FYP. Infrastructure Development Company Limited (IDCOL) has already been facilitating solar based irrigation systems, for environment friendly agro-based economy. The Programme is intended to provide irrigation facility to off-grid areas and thereby reduce dependency on fossil fuel. IDCOL has approved 114 solar irrigation pumps of which 38 are already in operation. The remaining pumps are expected to come into operation shortly. IDCOL also has a target to finance 1,550 solar irrigation pumps by 2017.²¹

GoB has also prioritized coastal afforestation strip plantation to capture atmospheric carbon within vegetation. International financing will be sought for participatory afforestation programme, with an aim to involve women and restore the already degraded forest areas. GoB is committed to developing a pathway for addressing gender friendly energy efficiency with special emphasis on LCD.

Carbon emission challenges from existing activities

With a population of about 160 million, Bangladesh is currently contributing 0.14²² percent to the world’s total carbon emission. The total carbon emission in Bangladesh was 0.21 tonnes in 2000, 0.26 tonnes in 2005, and 0.37 tonnes in 2010.²³ Due to increased economic growth and related increase in energy consumption, Bangladesh’s share in global carbon emissions is expected to rise sharply, as evident between 2005 and 2010. Having highlighted mitigation as a priority in the BCCSAP, GoB has initiated the Clean Development Mechanism (CDM) projects. Currently there are twelve CDM projects concerned with solar energy and waste management. The third project is expected to begin soon. GoB has established Designated National Authority (DNA) to support CDM-related activities. Despite GoB’s commitment towards low carbon development, its attempts are offset by some challenges. These challenges are mainly institutional and must be addressed to ensure an effective mitigation strategy.

Weakness in analysing and seizing available opportunities: This directly stems from a lack of technical knowledge and understanding regarding LCD and related technologies. For instance, light emitting diode (LED) devices are viewed as luxury items, and their tax structures cause consumers to use appliances that have poor efficiency.

Lack of ability of Energy Saving Sectors: There is limited capacity within energy saving industries to coordinate with National Board of Revenue to periodically review and reset conducive tax and tariff structures. Non-pecuniary incentives are hardly applied, while conservation attempts are not up to the mark. More work is needed in this sector.

²¹The World Bank, KfW, GPOBA, JICA, USAID, ADB and Bangladesh Climate Change Resilience Fund (BCCRF) are supporting this initiative.

²² Gunter and Rahman (2012). Bangladesh and the Copenhagen Accord: how much carbon dioxide might Bangladesh emit in 2050? Environmental Economics

²³ CO2 Emissions, World Development Indicators

Weakness in coordination and communication among institutions: This is a common issue for all climate change response mechanisms. Different institutions working towards the same goal fail to coordinate and communicate with others regarding ideas, methods and learning.

Inadequate investment in research: In order to promote LCD, research and innovation is fundamental. There is a lack of investment in research regarding identification of thrust areas to achieve LCD goals. Climate change adaptation receives more attention while mitigation and LCD is overlooked.

Activities under the 7th Five Year Plan for Climate Change Mitigation

To ensure an effective strategy on mitigation and LCD, Government will undertake the following activities under the Seventh Plan.

Issue 1: Enhance understanding on LCD -Government officials and other stakeholders will be trained so that they have a comprehensive knowledge regarding LCD. Training programmes and workshops have to be implemented that will target officials at both national and local level.

Issue 2: Improve capacity in analysing available opportunities -The Government will facilitate institutional capacity through training. The process of analysing opportunities from technological advancements will be formalized and implemented.

Issue 3: Enhance capacity of energy saving sectors- Building capacity of energy saving sectors is crucial for LCD. The existing tax and tariff structures will be reviewed to better manage energy demand. GOB will also seek to employ non-pecuniary means to encourage energy saving, and interact with targeted programmes involving private sector institutions. The emergence of clean tech funds necessitates identifying specific investment opportunities. There is a lot of potential in this context. Large RMG and textile manufacturers can tap into multilateral expertise and funding to switch to cost-effective production that reduces energy costs. The Building sector can be motivated to construct more eco-friendly buildings that require less energy. Potential opportunities for investments like these will be reviewed and pursued accordingly.

Issue 4: Improvement in Coordination and Communication among Institutions -The GoB will identify an anchor institution, and it will be empowered on LCD. The anchor institution will facilitate sharing of ideas and learning among different institutions working towards mitigation.

Issue 5: Ensuring investment in research and innovation - The public sector should collaborate with development partners to conduct research on new technologies, taxation and tariff structure.

Issue 6: Other Activities - GoB will increase efforts to reduce greenhouse gases from manufacturing industries such as cement and steel rerolling. Further incentives will be given to reduce emissions in the dairy sector. GoB will also take initiative to prepare a roadmap for Nationally Appropriate Mitigation Actions (NAMA). It will outline the efforts taken by the country to reduce emissions in the context of sustainable development. LCD strategy will be

developed in collaboration with relevant ministries and agencies along with mainstreaming the National Action Plan on Short-lived Climate Pollutants in all the relevant mitigation sectors.

Addressing Knowledge Gap for Improving Climate Change Mitigation

Despite initiatives taken by GoB, mitigation activities still need a lot of improvement. Ensuring investment in research and innovation is a first step towards bridging the knowledge gap. Although not exhaustive, the following are some of the issues worth considering.

Impact of climate change affects men and women differently: Studies indicate that women tend to be more concerned with the impacts of climate change relative to men. Regardless of age and income, the sources and levels of emissions of women differ substantially from those of men.²⁴ Women are also the major consumers of energy in rural areas as they are responsible for gathering fuel for domestic purposes such as cooking and heating. Full introduction of improved cook stove all over the country will be the best option in this respect. Mitigation policies need to address gender issues in order to promote renewable energy and reduce emissions.

Articulating non-price interventions: Traditional methods of regulating energy demand has been through pricing policies such as implementing carbon taxes or a ‘command and control’ approach. Government subsidies promoting energy efficiency is also common in many countries. These approaches are not always feasible, due to political pressure and/or limited finances. Non-price interventions regulating energy demand can be a suitable and cost-effective alternative. Adequate research needs to be conducted in a local context exploring the types of norms and how they can best be implemented to meet the objective of reduced emissions and conservation.

Examining changes in energy efficiency: There is considerable uncertainty about Bangladesh’s future carbon emissions due to highly uncertain changes in future energy efficiency.²⁵ Setting a target of a feasible energy efficiency level based on the research is required as well.

8.6 INTERNAL ENVIRONMENT MANAGEMENT

To bring the issue of green growth to focus, this section will conclude with a brief discussion on the various facets of green growth and what can be done to facilitate the process. Bangladesh faces a growing number of diverse environmental problems. These problems severely affect not only the economy and ecosystem, but also the well-being of people, especially the poor. The following are several environmental issues and challenges that hinder progress in this sector.

²⁴ Gender cc, 2013. <http://www.gendercc.net/policy/topics/mitigation.html>

²⁵ For more information, please see: Gunter and Rahman (2012). “Bangladesh and the Copenhagen Accord: how much carbon dioxide might Bangladesh emit in 2050?” Environmental Economics

Pollution

Pollution issues are most critical in urban and industrial areas. Urban growth centres increase the concentration of domestic and industrial activities that lead to pollution problems. The major pollutant concern for rural areas is the runoff of agrochemicals from agricultural fields impacting the fisheries sector.

Air pollution: Air pollution, especially from particulate matter, is a growing concern. According to the 2014 Environment Performance Index, Bangladesh has the worst air quality among all the countries that were evaluated. Air pollution in urban areas is mainly caused by emissions from vehicles, brick kilns, industrial sectors, construction and open dumping of garbage. With railways constituting only 4% of passenger and freight traffic and water transport accounting for 8-16%, road traffic makes up the majority. Emissions resulting from old and poorly maintained vehicles play a big role in worsening air quality. Industrial development is another major source of urban air pollution. Urban air pollution and its health consequences will continue to worsen unless strong action is taken.

Water pollution: Water quality of Bangladesh is also not at a satisfactory level in environment performance indicators. Due to lack of compliance and inadequate regulation, pollutants from municipal, industrial and agricultural waste enter into the inland water systems. Industrial effluents, agrochemicals, faecal pollution, spillage and low water flow in the dry season are the major factors behind the degradation of water quality. The quality of surface water in Dhaka is especially poor. Inadequate sewerage system add to the problem. Waste from humans, tanneries, other industries, along with tonnes of pesticide and fertilizers enter Dhaka's surface water untreated. This causes the water in the city to be unsuitable for any human use. The water quality is exacerbated the high level of ammonia in the raw water used by the Saidabad Water Treatment Plant. Again, the most vulnerable to deteriorating water quality are the poor. They have limited access to clean water and are often unable to relocate from offending locations.²⁶

Industrial pollution: Many industries do not operate effluent treatment plants (ETP). Garments, textile and dyeing sectors have been developed without proper attention to their environmental consequences. Key polluting sectors also include tanneries, brick kilns, chemical and pharmaceutical industries and ship-breaking yards. Biodegradable organic pollutants reduce the dissolved oxygen in water, while non-biodegradable organic pollutants survive in the environment for a prolonged period and pass into the food chain. Inorganic pollutants like metallic substances seriously deteriorate water quality. The use of fertilizers and agrochemicals cause bioaccumulation of toxic elements in the food chain and directly affect aquatic ecosystems.

²⁶For a more precise discussion on water safety and management issues, see Box 8.1 in Chapter 8 of Part 2

Box 8.1: Impact of the liquid waste from Textile Sector on Water Resources²⁷

There are about 1700 textile wet processing units operating in Bangladesh, mainly in Dhaka and Chittagong. Textile wet processing firms use a considerable amount of water in washing and dyeing processes, such as pre-treatment, dyeing, printing and finishing. In Bangladesh, wet processing is a major part of the pre-treatment, and thus acquisition of steady water supply is paramount for textile firms and factories. This segment of the textile and dyeing sector is expected to grow in line with the overall speedy growth of the RMG sector in the coming years and more than doubling its capacity by 2030. However, without adequate water supply, textile processing and production would be stunted. This would, in turn, negatively affect Bangladesh's international trade since it is heavily reliant on textiles and RMG.

Heavy water usage is contributing to groundwater over-exploitation, with yields falling and the water table declining by 3 meters a year. Initial estimates suggest the textile industry may be consuming almost as much groundwater as the capital city's 12 million inhabitants. Over 95 percent of washing, dyeing WDF units in Bangladesh are concentrated near rivers, canals, and water bodies in Bangladesh's two major cities, Dhaka and Chittagong, primarily to dispose of large volumes of wastewater daily. Aside from a few dozen WDF units in the eight export-processing zones, most firms tend to be concentrated in informal, heterogeneous, underserved industrial clusters.

These impacts include the over-exploitation of fresh groundwater resources and the pollution of water bodies, and, to a lesser extent, pressures on energy supplies and associated emissions.

Noise Pollution: Noise pollution is a major health risk, especially in cities and particularly in Dhaka. In Dhaka, noise pollution often exceeds the maximum allowable level of noise set by the DoE. Incessant use of hydraulic horns in vehicles is the primary sources of noise pollution, along with brick-crushing machines and loudspeakers. Noise not only damages hearing, but also increases stress and blood pressure among other health impacts.

Solid Waste: Solid waste comes from households, commercial and industrial establishments. In Dhaka city, the municipal authorities are unable to collect and dispose 100% of solid waste. Disposal of solid waste causes serious environmental hazards – uncontrolled open dumping clog the urban drainage system causing frequent congestion and contamination of water. Solution could be practice of 3R (Reduce, Reuse & Recycle), following the National 3R Strategy for Waste Management and also enforcement of Solid Waste Management Rules.

Hospital Waste: Most of the medical waste are toxic and hazardous. There are some hospitals and clinics those are separating medical waste using separate bins in their hospitals and clinics. But, at the end it is going to the waste-bin with other waste, which poses a serious threat to public health. Strict compliance of Medical Waste Management Rules along with a good management of in-house and off-the-house practice is badly needed to solve the problem. Moreover, there is a need of strong role from local government agencies for off-the-house management of medical waste.

Hazardous and Toxic Waste: Toxic chemical polluters are mainly tanneries and industries like cement, pulp and paper, textiles and pharmaceuticals. The use of fertilizers/pesticides and

²⁷ Mansur, A and Ifty Islam (2014), "Environmental Sustainability of the RMG Sector – A Review of Legal Provisions" Policy Research Institute and AT Capital Working Paper

other industrial chemicals also lead to toxic waste. Even though effluent treatment plants have been installed by some industries, the used up chemicals are disposed on land as solid waste.

Pollution from faeces: Improper sanitation system and untreated sewage mixes with water to deteriorate its quality. Inadequately sealed latrines in rural areas are unable to cope with annual flooding and prevent faecal pollution.

Persistent Organic Pollutants (POPs): POPs are a group of hazardous chemicals that persist in the environment for a long period and cause harmful effects to human health and the environment. POPs result from chemicals used in agriculture, disease control, manufacturing, and industrial processes. POPs adversely affect biodiversity as well. Execution of development programmes/projects on National Implementation Plan for the Phase out of POPs will be able to solve this problem.

E-waste: Electronic waste, or e-waste, comprises of discarded electric and electronic devices. The increasing use of such devices has led to growing waste. Primitive recycling techniques such as burning cables for retaining valuable elements like copper expose workers to a range of hazardous substances. E-waste connected health risks may result from direct contact with harmful materials such as lead and chromium, from inhalation of toxic fumes, as well as from accumulation of chemicals in soil, water, and food. There is an urgent need to enact e-waste rules and prepare guidelines based on a baseline survey.

Rapid Urbanization

Huge migration from rural to urban puts pressure on infrastructure, particularly housing and sanitation. The rapid increase of urban population necessitated planned growth of cities keeping the environment in mind. Among those include poor ambient air and water quality, development of squatter settlements, substandard housing conditions resulting from high land prices, lack of access to piped water in more than 80 percent of households.. Policies that reinforce the concentration of population in major cities, and lack of focus on the development of small towns are issues requiring acknowledgment. Municipalities are not adequately prepared to tackle these problems due to a lack of sufficient resources and technical know-how.

Environmental risk to health

According to a study, respiratory infections and disease caused by poor air quality may contribute up to 10% of the total burden of disease. Inadequate access to safe water, lack of sanitation and poor hygiene cause diarrheal diseases, which also makes up around 10% of the total burden of disease. Inhaling smoke from burning biomass can have both temporary and permanent consequences on health. This is significant as poor households heavily depend on wood, dung and other traditional fuels for domestic purposes.

Natural Resource Management

Proper ecosystem management is required to ensure the sustainability of natural resources without hampering the livelihood of people dependent on the goods and services. The quality of resources such as soil and water require monitoring for policy support and preparation of

conservation management plan. There are also pollution problems in coastal areas from oil spillage. Land, water and natural resources face constant threats from unauthorized grabbing. Land degradation due to industrial pollution and loss of soil quality is another concern. Apart from erosion, factors damaging soil quality include salinity intrusion, fertility decline and nutrient imbalance are of regional concern. Cropping intensity, loss of organic matter and imbalanced use of fertilizer have degraded soil quality. It is important to conduct assessment of ecosystem degradation in terms of heavy metal contamination and nutrient loss.

Environmental Governance

Policies to combat pollution are largely ineffective because of loose regulatory practices. Governance elements such as information access, transparency, accountable decision-making, management tools all need improvement. The GoB realizes that environmental policies need to instil market-based incentives to firms to encourage good environmental performance. Access to information and knowledge about risks could greatly reduce the harmful impacts of environmental factors.

Extent of Forest and Biodiversity Problems

Forestry is undoubtedly an important economic and environmental resource, reflected in its 2.93% share of GDP with annual growth rate of approximately 5%. The forestry sector faces serious issues because of clearing of forest land for cultivation and other purposes. The overall structure of forests is 'below average.' The Forest Department (FD), with a manpower shortage, is not fully equipped to protect forest resources or undertake national awareness campaigns. Afforestation programmes are seriously undermined by the inability of a meagre amount of FD staff to prevent pilferage and illegal chopping. Shortage of funds is a major concern that constrains the fulfilment of long term visions and commitments. The current setup does not have provisions for regular and systematic monitoring of FD's activities. Human interventions have vastly reduced diversity of plants, and it is estimated that around 14% of plant species in Bangladesh are threatened. Wetlands, which support the fishery sector, are in danger too. Open water fisheries production is declining in Bangladesh. Degradation of wetlands has led to serious reduction in fish habitat, population, and diversity. Most large fauna are threatened with extinction or are already extinct on a national level.

Gender Sensitivity

Pollution and environmental degradation affect women disproportionately due to their lack of economic and other ability to cope. Rural women are especially vulnerable as their livelihoods directly depend on natural resources. Failure to properly integrate women's concerns and issues into decision making has added to women's vulnerability.

Activities under implementation

Recognizing Sustainable Development as the way forward, MoEF, along with active participation from the private sector, has formulated the National Environment Management Action Plan (NEMAP) in 2005. The Bangladesh Environment Conservation Act of 1995 has been amended in 2010 to reflect the current scenario. The Government has taken several

initiatives to combat the problem of pollution. Vehicular emission standards have been introduced, and Continuous Air Quality Monitoring Stations (CAMs) have been set up. The Government has also enacted the Brick Manufacture and Brick Kiln Installation Act in 2013.

The rivers surrounding Dhaka has been declared as Ecologically Critical Areas (ECA) to restore riverine ecosystems. Liquid waste generating industries are now required to install effluent treatment plants which are subject to strict enforcement measures. The monitoring team of DOE is vigorously implementing Polluter's Pay Principle (PPP) in assessing the damage occurred by the polluters to the environment. Compensation for the damage to environment is also realized from the polluters. The tannery industries operating in Hazaribagh are going to be relocated to the tannery industrial estate at Horindhora of Savar which will dispose the liquid wastes through a common ETP. The Government has also taken a number of policies, strategies, regulations and projects on waste management. A collaborative effort enhancing public-private partnerships, involving the community and establishing segregation techniques at sources, education and awareness towards waste management is a pressing need.

To improve the state of forests and biodiversity, the FD has carried out concerted efforts to increase area under tree cover. Mangrove plantation needs to be enhanced. GoB has already declared 13 ECAs, with 1 awaiting declaration. There are currently 37 forest protected areas including dolphin sanctuaries, and 10 other conservation sites including botanical gardens and eco-parks. To further counter loss of biodiversity, the government has implemented the Coastal and Wetland Biodiversity Management Project.

The goal of sustainable development requires reversing the trend of degradation and promoting conservation while reducing poverty simultaneously.

Box 8.2: Building the Tannery Estate – Relocation and Cleaner Technology

Over the past decade, the lucrative leather industry of Bangladesh has seen exports grow by an average of \$41 million per year. However, leather exports come at a heavy cost – environmental impacts and health hazards. Outdated and inefficient tanneries in Hazaribagh, which houses 90-95 percent of all tanneries in Bangladesh, are among the worst polluters. It is estimated that 22000 cubic meters of untreated effluent, including chromium, is dumped daily into the Buriganga River. The pollution from the tanneries not only leads to poor water quality but also directly impact the health of 8000-12000 workers. Locals of surrounding areas are also victims of this industry, with skin and respiratory ailments being common.

In an attempt to mitigate this problem, the Government has decided to relocate existing tanneries from Hazaribagh to Savar, building a Tannery Estate in the process. The Tannery Estate will include modern tanneries on 200 acres that will be less taxing on the environment, with a view to attract more foreign investment. It also includes a common Effluent Treatment Plant and Waste Dumping Yard, which will be completed next year. The Government intends to shut down tanneries in Hazaribagh if they do not relocate in time. During the 7th FYP period, the Government will ensure that all tanneries have an environmental clearance certificate for industrial units. Tanneries that discharge a comparatively large amount of effluent, or discharge effluent with high concentration of comparatively hazardous will be monitored, and fined if their pollution levels surpass national standards. Stronger penalties for hazardous working conditions will be implemented. Through the Government's active role in regulating tanneries, it is expected that the damages to the environment will be substantially diminished.

Activities proposed under 7th Five Year Plan for Environment Management

Under the 7th FYP, the government aims to attain a number of broad goals, including good governance in environmental sustainability, addressing population growth, ensuring the sustainability of cities with improved infrastructure, production and economic activity with minimal degradation, meeting national air and water quality standards, protecting endangered species, sustainable conservation of the Sundarbans Mangrove Forest and reducing potential economic losses from natural disasters. The following section summarizes the array of activities that will be implemented under 7th FYP.

Pollution Control

Issues 1: A New Approach to Industrial waste management

Despite continuing efforts from DoE towards curbing industrial pollution, there still remains a number of polluting industries lacking proper facilities for treatment of their wastes. Promotion of waste minimization at the source would reduce pollution substantially. Since enforcement agencies are weak – a new approach of community, local institutions, news media, law enforcing agencies and relevant stakeholders will be engaged to play role in cutting pollution.

Programme:

- Introduction of Community based pollution control enforcement mechanism to be operated. Pilot demonstration in 7 sites, one in each Division will be considered. There will be mid-term review by the competent authority in collaboration with research / academic institutions.
- Promotion of ISO 14000 environmental management principles, plant audits; promotion of waste minimization through demonstration projects.
- The GoB will ensure stricter enforcement of environment clearance conditions and effluent standards and establish local area committees to monitor environment compliance by the industries.
- Promotion of “Green Labelling” for environmental friendly products.

Issues 2: Management of toxic & hazardous wastes

Bangladesh has signed a number of international conventions, protocols on chemical management. These includes convention on Persistent Organic Pollutants (POPs), Minamata Convention on Mercury, Basel Conventions etc. To meet the country’s obligation under these conventions and to treat sludge generated in different waste treatment plants operating in the country, certain interventions are necessary. For instance, ship breaking generates a lot of hazardous wastes. There are laws and guidelines for the operation of ship-breaking industries, but these are not properly taken care of by the owners, which results in numerous accidents every year.

Programme:

- Establishment of a Centralized Treatment Plant for spent toxic, hazardous chemicals and sludge generated in industrial treatment plants under Public Private Partnership programme.
- Establishment of Division wise Lead Recovery & Recycling Plants for used out lead acid batteries.
- Undertaking projects for Recovery and Destruction of PCB's & redundant pesticides (including DDT).
- Initiate assessment / studies to understand the magnitude of the mercury pollution in the country and develop an Action Plan.
- Strict compliance to ensure that all ships imported for breaking are decontaminated prior to entering Bangladesh waters and that breaking only takes place in authorized zones after passing environmental checks.

Issues 3: Medical waste management

Although medical waste accounts for only 1 percent of the total solid wastes generated in the country, these are not managed properly.

Programme:

- GoB will take measures to improve medical waste management in the country by delivering specific disposal training and with strict enforcement of separate collection & disposal systems.
- GoB will establish environmentally acceptable treatment centres for infectious wastes in each divisional city.
- Strict compliance of Medical Waste Rules along with in-house and off-the-house management should be established.

Issues 4: Solid and liquid waste management

There has been some progress in solid waste management in the country in terms recycling and recovery as well as in collection systems. As the volume of solid wastes is increasing in the cities, adoption of measures including discarding polythene, producing energy from wastes will be helpful.

Programme:

- Design and implement plans on solid waste management in accordance with the 4R policy (reduce, reuse, recycle, reclaim)
- Removal of neighbourhood dumping sites and introducing of private/community waste collectors to carry the segregated waste to central dumping sites or transfer stations.
- Exploring possibilities for producing bio-fertilizer and energy from waste.

- Exploring and using new ideas or technologies, like bio-remediation, innovative and eco-friendly strategy, involving microbial agent (i.e. protozoa, bacteria, fungi etc.) as successful alternative of traditional (physical and chemical) treatment to clean up waste
- Judicious selection of land filling sites through undertaking of EIA
- Continue to enforce the ban on polythene, encourage the use of cotton and jute bags through economic investment.

Issues 5: Agrochemicals management

Agrochemicals causes pollution of water bodies. Due to this, open water fishes are the key victims. The following alternate measures will be taken.

Programme:

- The GoB will expand network of integrated pest management (IPM) with environmental awareness, education and behaviour change.
- Authorities will support programmes for organic food producers. Eco-labelling of organic foods will be an option.
- The GoB will undertake programmes on vermi post, composting and organic farming through piloting and promotional activities.

Issues 6: Improving air quality

The following programmes will be initiated by the GoB under the 7th FYP to overcome air pollution:

Programme:

- Expanding air quality management activities, focusing on gross diesel polluters, and the extension of air quality monitoring to major cities.
- Strict enforcement to control dust and other emissions at the construction site
- Strict enforcement of Brick Kiln Act 2013 for phasing out of traditional brick Kiln.
- Introduce cleaner fuel & transport standards to achieve environmental sustainability.
- Facilitate greater investment in public, mass transit options for cities

Box 8.3: Promoting 'GREEN' Brick

Brick making is one of the largest sources of greenhouse gas emissions in Bangladesh. It is estimated that the brick sector burns 6 million tons of carbon dioxide annually. Traditional brick kilns are not only less efficient in terms of coal usage but also pose health threats to workers and the neighbouring population. With more than 6356 kilns in the country, brick making is part of the informal small enterprise sector with little incentive to go green. In 2010, UNDP launched the Brick Kiln Efficiency Improvement Project to incorporate eco-friendly means of production. Known as Hybrid Hoffman Kiln (HHK), these kilns are more efficient. An HHK requires only 13-14 tons of coal to produce a hundred thousand bricks as opposed to between 22 and 24 tons used by traditional kilns. As of December 2012, five HHKs were commercially operational with a total reduction of 16 kilotons of carbon dioxide emission and six thousand tons of coal. The ADB also provided \$50 million loan to install more energy efficient kilns. The Government's commitment to combating pollution from brick kilns is portrayed in the Brick Making and Kiln Establishment Act 2013. The Department of Environment has banned traditional kilns and ordered their shutdown by June 2014. However, it has been observed that most brick kilns are yet to be converted to efficient technologies, mostly due to a lack of skilled manpower. Brick makers have said that they need at least one more year to train adequate manpower for the improved technology. The Department of Environment has decided to extend the timeframe to adopt efficient technology for those with valid environment clearance certificates. The 2013 Act also prohibits establishment of brick fields in residential, protected, commercial and agricultural areas, and also in forests, sanctuaries, wetlands and Ecological Critical Areas (ECAs), and imposes heavy fines and prison sentences for violators. Under the Seventh Plan, the Government will continue to strictly enforce this Act to ensure that brick makers switch to eco-friendly technologies that is less taxing on the environment.

Issues 7: E-waste

To understand the nature and magnitude of the problem in the country, the following actions are considered to be necessary.

Programme:

- Initiating assessment / studies to understand the nature and magnitude of E-waste nationwide and developing an Action Plan.
- Undertaking measures to implement the Action Plan.
- Establish efficient collection system for selected electronic waste.

Issues 8: Noise pollution control

The following activities will be carried out to control noise pollution.

Programme:

- Implement and enforce the 'Noise Pollution Control Regulation-2006'
- Raise awareness among drivers on noise pollution
- Collect information/data on noise level in different divisional cities and report publication on it.

Issues 9: Environmental risk to health

Important efforts are underway to address a range of environmental health concerns in Bangladesh, in particular through the Total Sanitation Campaign and a variety of water supply initiatives. Indoor Air Pollution (IAP) remains almost entirely ignored, however. Inhaling smoke from burning biomass can have both temporary and permanent consequences for health,

and recognition of the health impacts of IAP is growing worldwide. Poor households in Bangladesh depend heavily on wood, dung and other traditional fuels for cooking. As a result, the health impacts of IAP are significant. In addition, environmental and health risks due to arsenic contamination and health due to use and abuse of formalin, pesticides, and other preservatives (chemicals) in foods, fruits, fishes deserve focusing.

Programme:

- Sustaining & replication of Total Sanitation Campaign with a variety of water supply initiatives.
- Continuing massive campaign & programme on improved cooking stove.
- Monitoring water quality of the tube wells in arsenic prone areas on a routine basis & suggesting for remedial actions.
- Establishment of Toxicological Lab with facilities for testing adulteration on fruits, fishes etc. in each regional laboratory of DoE.
- Support the roll out of solar lanterns or other renewable energy options, to prevent use of kerosene lamps and other polluting technologies.

Issues 10: Faecal Sludge Management

While the success of reducing open defecation to 1% in Bangladesh is impressive, the progress has created a new challenge of faecal sludge management, which in the absence of a planned system is likely to undermine the achievements made, and give rise to significant public health and environmental risks. The recently approved Sanitation Strategy has laid down the broad direction for managing faecal sludge, to be worked out in greater details during the 7th Five Year Plan period.

Solving Urban Environmental Problems

Air pollution, inadequate solid waste management and contamination of surface water are among the problems caused by rapid urbanization. Efforts under the 7th are given below:

Issue 1: Improving surface water quality of worst polluting rivers vis a vis improving environmental quality of greater Dhaka

An environmentally sustainable greater Dhaka will be founded on coordinated planning and enforcement of plans for the Dhaka region as a whole (the districts of Dhaka, Gazipur, and Narayanganj).

Programme:

- Protecting surface water resource base of greater Dhaka (Dhaka, Tongi, Gazipur, and Narayanganj) by taking appropriate actions for cleaning the river(s) Buriganga, Balu, and Turag & Sitalakhya. Actions include:
 - a) Relocating Hazaribagh Tanneries (to be completed)
 - b) Increase the capacity of sewerage treatment plant of Dhaka city to cover 80 to 90% household. Installing 3 additional Sewage Treatment Plants for Tongi, Gazipur, Narayanganj

- c) Installing common effluent treatment plants in around 10 spots in textile zones of the greater Dhaka region.
- d) Encouraging turn-key waste management facilities provided by the private sector; determine appropriate sites for common effluent treatment plants for industry clusters.
- e) Zero Discharge Policy at industrial level will be encouraged.
- f) Sludge Management System will be developed.
- Encouraging future industrial development only in designated industrial development zones in Dhaka, Gazipur, and outlying districts, with appropriate waste treatment facilities, sufficient surface water supplies, and adequate infrastructure.
- Shifting the dependence on water supply from groundwater to surface water, with improvement in surface water quality and increasing supply to the Saidabad water treatment plant (from the Meghna River) with the possibility to explore the opportunity of artificial and natural ground water recharge.
- Drainage rehabilitation of Dhaka city through excavation of canals, if necessary to protect the city from urban flooding.

Issues 2: Protection of wetlands including flood flow zone and low lying areas capable of water retention in and around greater Dhaka in line with the existing structure plan

Greater Dhaka environment is under severe stress from land grabbing for real estate projects. There has to be a stop form these encroachments.

Programme:

- Enacting of an appropriate legislation for protecting flood flow zone and low lying wetlands in and around Dhaka.
- Forming an Inter-ministerial Steering Committee to oversee the processing and implementation of greater Dhaka environment programmes.
- Implementing relevant strategies and investment plans of Bangladesh Delta Plan 2100.

Issues 3: Improving environmental services in Divisional cities, City Corporations, District town and Pourashavas (phase wise)

Following programmes will be taken for District town and Pourashavas in gradual process.

Programme:

- Design & implement appropriate drainage plan or rehabilitation of existing drainage system with excavation of canals, if necessary, especially for Chittagong.
- Establishing criteria for land filling sites
- Design & implement environmentally sound sewerage collection & treatment systems.
- Design & implement environmentally acceptable collection & disposal system of solid wastes.
- Improving living condition of the slum dwellers.
- Waste to energy using CDM or other appropriate programmes.

Natural Resource Management

With a burgeoning population, the pressure on limited natural resources is very high. As a result, an effective strategy for sustainable environment critically depends on how Bangladesh manages its natural resources. To address that objective, the following activities are considered under the 7th FYP to ensure better management of natural resources.

Issues 1: Protection of rural landscape and improving environment

The pressure of an increasing population on scarce land is seldom positive. In fact, the experienced demographic changes has resulted in several problems such as, growing need of homestead areas for settlement, continuous intensive use of the land and decrease in the productivity of land, land ownership conflict and migration of people from the rural to the urban areas. The other important environmental issues of rural areas include, making provisions for water conservation in the water stressed/drought prone areas and making required interventions to address persistent water logging problems in some other areas including encroaching salinity. Against that context, the GoB has considered the following programmes under the 7th FYP to address such concerns.

Programme:

- Prohibiting of filling up of water body / ponds
- Encouraging homestead forestry with horticulture.
- Regulating conversion of lands & introducing binding land use plans.
- Establishing integrated framework to protect common property resources (ponds, beels etc.) in rural areas and ensuring access of poor community to those resources.
- Expanding solar supply and supporting programmes on composting & biogas production from cow dung poultry droppings and organic wastes through piloting and promotional activities.

Issues 2: Reducing groundwater dependence

The unrestricted withdrawal of ground water for all kinds of uses including industrial use and irrigation has also been considered a severe problem. There are aquifers in some areas, experiencing a down trend. On the basis of an objective and transparent survey on the availability of ground water, dependence of the water supplies on ground water requires to be lessened. The following programmes will be implemented to address this problem.

Programme:

- Although the Water Act 2013 promoted rain water as an important source of safe potable water, it is yet to be elaborated in different policies, strategies and action plans. Rainwater harvesting and conservation may be made mandatory for all government buildings including school, cyclone shelters, and local government institution during 7th Five Year Plan, which will be beneficial not only to the population in coastal regions, but also for the sake of ensuring a secure level of groundwater in the urban areas.

- Reducing industry dependence on groundwater through strict licensing and fee collection for use of groundwater; banning the drilling of new tube wells by private operators; rationalizing water supply to new development areas and new consumers through a long-term strategy.
- Conducting a national wide survey on availability of ground water.
- Sustainable management of aquifer.
- Exploring options for rainwater harvesting
- Introduce zero discharge policy
- Implement programmes of BDP 2100

Issue 3: Reducing the Water Footprint of the Textile Sector

The Seventh Plan will implement the following specific measures to mitigate the water footprint of the textile sector

Programme:

- The Ministry of Water Resources will strengthen regulatory provisions for groundwater monitoring, licensing, and charging as part of the rules supporting the Bangladesh Water Act.
- In addition to variation of fees, meter cost and price by types of water usages, differential fees, costs and price structures will be introduced for different locations as well such as for metropolis, urban and semi-urban areas. These recommendations will be incorporated in the rules supporting the Bangladesh Water Act.
- Municipal water utilities (Dhaka and Chittagong WASA) will review licensing arrangements for large commercial and industrial customers, including scope for redrawing jurisdictional boundaries to include major industrial clusters outside Dhaka city limits; revising volumetric tariffs to reflect environmental externalities; rolling out metering; and developing effective bill collection systems.
- Installing of ETP within the WDF textile factory premises or connection to a combined ETP for all WDF firms is mandatory under the ECR 97 since these firms belong to Orange-B and Red categories. Ministry of Industries MOI and MOE will conduct a comprehensive survey to determine compliance with this provision by WDF firms. Based on the survey, a plan will be formulated for achieving 100% compliance by a specified target date.
- Cost of adopting best practices for cleaner production appears affordable. WDF textile factories will be encouraged to adopt low cost cleaner production practices with appropriate monetary policy measures or fiscal incentives. Cluster level stakeholder consultations would be the best way to motivate the wet processing units.
- Observed anomalies regarding duty rates for environment merit items in the CD/SD rate structures will corrected and thereafter overseen regularly by a committee comprised of representatives from Government; private sector; and civil society organizations.

- For effective monitoring and environmental compliance, a comprehensive public database will be developed for all firms. Initially an interim database will be set up with readily available information. In this context, DOE will take up the responsibility for setting up a more comprehensive public database on industry environmental compliance, which in addition to information internally generated could draw information in from third parties, including from civil society, industry peers (such as voluntary benchmarking schemes), and multinational brands.
- Implementation of relevant programmes of BDP 2100.

Issues 4: Ecologically Critical Areas (ECAs) & Wetlands management

The following programmes will be initiated to support the effectiveness of Ecologically Critical Areas (ECAs) and Wetland management.

Programme:

- Finalize demarcation of the declared ECAs
- Sustaining & replication of ECA & wetland management project(s) in other areas with the ultimate objective of restoration and damage prevention.
- Develop ECA specific protection/ restoration management plan in consultation with local community and implement the plan in a time bound manner.
- Sustaining and replication of ECA co-management projects.
- Sustaining and replication of community based adaptation of ECAs through biodiversity conservation and social protections.
- Creating a knowledge Centre for ECA & Wetland management.
- Identification of wetland ecosystems significant for biodiversity to be declared and managed as ECAs.

Issues 5: Protection of river & river banks

Majority of the rivers are now under threat from encroaching and illegal dredging. Remedial measures are necessary. Actions that will be implemented under the 7th FYP include:

Programme:

- Developing guidelines for environmentally safe dredging that include appropriate distance from river banks and structures; spoil dewatering; disposal of contaminated sediments in appropriate locations; illegal dredging by developers without licenses (sand mining) to be stopped.
- BIWTA to enforce the 50-metre buffer zone along rivers and canals; flood flow zones to be clearly marked and encroachment prevented (continue the programme to remove illegal structures in the waterways); protection of wetlands and beels from encroachment.
- Oil recovery programmes to be established at all ship repair yards, with waste oil stored, collected, and re-processed at refineries.

- Categorise rivers on the basis of pollution-load and taking-up programmes to restore the lifelines.
- Implementation of relevant programmes for river protection under BDP 2100.

Issues 6: Land zoning & land use plan

Land is a scarce resource in the country and there are conflicts from sectoral use and demand apart from unauthorized grabbing. Land zoning and proper land use plan is considered an utmost necessity. The following activity will be implemented under the 7thFYP to address the problem.

Programme:

- Undertaking an action plan to complete the land zoning & land use plan for the entire country and DoE to consult the above stated plan(s) prior to making decisions on the award of Site clearance & Environment Clearance.

Issues 7: Coastal pollution & marine resource management

Bangladesh coast and the marine zone are especially rich in many natural resources. The challenge is that natural resources in the coastal zone will have to be managed in a manner that will not only ensure their sustainability but will also secure access of the poor to these resources of untapped blue economy for meeting their livelihood needs. There are pollution problems in coastal areas from oil spillage and inadequate reception facilities in our ports apart from land based sources of pollution. They all deserve attention for proper management.

Programme:

- Coastal zone policy & coastal zone strategy to be put to use.
- Establishing proper Waste Reception Facilities at port(s) and a Contingency Plan to fight against oil spillage.
- Inventory of Marine Biological Resources and development of management plan for resources.
- Declaration of Marine Ecologically Critical Areas.

Issues 8: Management of dry land ecosystem

Bangladesh is a land hungry country with high population pressure on land resources. Bangladesh is also severely affected by drought.

Programme:

- Establish national drought monitoring system
- Assessment of ecosystem degradation and mitigate impacts of drought in dry land Barind ecosystem

Poverty Eradication and Capacity Building

In many parts of the world people's participation in resource management have achieved sustainable outcome. In this regard, there are many tools to provide appropriate benefits to beneficiaries. The notable ones are Payment for Environmental Services (PES). This needs to be initiated from the bottom. This also needs to enhance community and other stakeholders' capacity.

Issue 1. Building poverty environment nexus

Poverty environment nexus can be achieve though ensuring environmental sustainability, community resilience and conservation of natural resources. Hence, following programmes are suggested in this regard:

Programme:

- Practice tools and methods of PES with appropriate strategies and policies under 7th FYP
- Enhance capacity of the relevant stakeholders along with vertical and horizontal extension of local and central level institutions.
- Utilise BBS to develop baseline data on key environment and forest indicators for future interventions.
- Provide capacity building training on "Mainstreaming Environment, Climate Change and Disaster Risk Management into Development Planning" at local and central level.

Governance – Environment

There is a need to improve overall environmental governance in every level of operations.

Issues 1: Sectoral Coordination on Environment and Natural Resource Management

Programme:

- Establish cross-sectoral coordination, collaboration with water, land, fisheries and Planning Ministries to adopt common but differentiated responsibility on policy, planning and budgeting process for investment in integrated programme towards creating green, clean, healthy livelihood opportunities linking to economic transformation.
- Pilot demonstration on action research for the protection, conservation and expansion of Common Property Resources (CPR) and its management by the vulnerable poor community should be undertaken in Ecologically Critical Area Sites.
- Identify silted up canals and rivers, newly accreted land and bring under CPR for sustainable forest or aquatic resource management by the vulnerable people and establish institutional arrangement. Since traditionally recognized CPRs are shrinking due to land grabbers and elite's encroachment which needs legal support to restore such resources.

Issue 2: Institutional strengthening

Rigorous environmental monitoring is still the weaker part in DoE operation. Strengthening its capacity for and industrial and vehicular enforcement monitoring are necessary.

Programme:

- Strengthening of all sectoral ministries and agencies to integrate environmental management and issues into their core operations.
- Professionalizing the recruitment of DoE officers through establishment of a cadre service on environmental conservation.
- Establishing Biodiversity cell, Chemical Management cell and 3R cell in DoE in addition to Climate cell & Ozone cell already created.
- Implementation of the DoE Strategic Plan prepared under BEISP project.
- Capacity development on resource accounting and natural resource management.
- Comprehensive training programmes on rules & regulations, standards, monitoring, ETP & ATP for both public & private agencies through setting up environmental training institute.
- Strengthening enforcement and monitoring capacity of DoE.
- Strengthening DoE capacity on EIA review with trained human resources.
- Establishing criteria / methodology for assessment of loss & damage of the environment by various factors including effluent discharge and / or air pollution.
- Revision of standards and development of protocol for sampling & monitoring.
- Strengthening industrial enforcement monitoring with increase of frequency of inspection from regulatory agencies.
- Strengthening vehicular emission enforcement programme with increase of frequency of campaign.
- Governance issues of BDP 2100 will be implemented.
- Strengthening noise level control enforcement programme with promotion and awareness campaign involving.

Issue 3: Strengthening EIA system as environment management tool

Under ECA '95, EIA has been accepted as a mandatory tool to identify and predict impacts and undertake proper mitigation measures in a project scale. There is another concern that, most of the developing Ministries and agencies escape the process. There is also a need for introducing strategic EIA as a planning tool for sectoral level planning.

Programme:

- Strengthening the EIA processing & implementation through institutional capacity building.
- Issuance of location clearance after approval of EIA report for Red category projects.
- No land development activity to take place prior to environment clearance.
- Gazetting and publicizing EIA guidance manual & sectoral EIA guideline prepared.

- Enlistment of competent EIA consulting firms by the DoE for conducting EIA.
- Immediate framing of detailed rules on EIA as mandated in section 12 of BECA
- Strategic EIA/SEA for all sectoral planning including for exclusive economic zones.
- Achieving compliance to EIA practices by all development Ministries & agencies.
- Public consultation on EIA report of Red category projects

Issue 4: Establishing accountability

Transparency and consultation for accountability are essential elements in environmental decision making. Strengthening the process of accountability for environmental institutions would make them credible.

Programme:

- Detailed provisions are to be made for holding public consultations in according with the provisions of section 8(2) of the BECA.
- Continue to sustain the current programme.
- Organizing public consultations in different environment hot spot areas
- Strengthen the website of MoEF/DoE to conform to the requirement of Right to Information Act (RTI) that requires all government agencies to proactively disclose information.
- Facilitate effective functioning of National Environmental Committee (NEC).
- Facilitating effective accountability to Parliamentary Committee on Environment & Forests
- Organize public hearings in different locations around the country to allow a more inclusive and transparent process.

Issue 5: Update of Environment Policy 1992 and National Environmental Management Action Plan (NEMAP)

The following programmes will be implemented to improve environmental policy and aid environmental management.

Programme:

- Updating the Environment Policy 1992 taking care of all emerging issues (national, regional & international) with an aim to guide the country's development, economic growth with environmental sustainability involving all relevant stakeholders.
- Developing an Action Plan to transform updated policy into actions.
- Updating National Environmental Management Action Plan (NEMAP) through participatory planning process and devising as new Action Plan taking care of all the emerging issues.
- Implementation of revised NEMAP through GoB/NGO partnership.

Issue 6: Environmental education, awareness and environment watch

New environmental issues, research and science are emerging all the time. Hence, a partnership between regulatory institutions and academic institutions could strengthen the environmental watch programme for monitoring the nationwide environment quality.

Programme:

- Publication of a quarterly newsletter with environment education & awareness material.
- Organizing debates, art competitions, essay writing, cleaning campaign involving students, Scouts and Guides.
- Organizing seminar, symposia on different environmental issues and publish proceeding
- Publishing Environment Outlook every year with trends of progress.
- Strengthening ambient environment monitoring network and establishing a strong environmental data base.
- Involving academic institutions in the environmental watch programme.
- Conduct behaviour change campaigns on key environmental issues

Issue 7: Revamping functions of Environment Court

Bangladesh is one of the first countries to have set up special courts for adjudication of environmental offenses. To make the courts more effective the following programme can be adopted.

Programme:

A review of the performance of our courts may be undertaken to revamp them. If necessary, changes in structure and jurisdiction should be made and procedural rules eased so that these courts become accessible to the victims and are equipped to do complete their function effectively.

Issue 8: Policy for compliance by industries

Industries are the large polluters in the country. They mostly are also inefficient in energy use & water consumption. Both are associated with poor environmental management and Environmental Management System (EMS). They should be given some targets for improving environmental performance in their industries. These include:

Programme:

- Achieving energy efficiency by 25% from the current level in the operation of the plant(s).
- Reduce water use and consumption by 25% and reduce waste water generation in processing activity by 25% of the current levels.
- Establishing in-house environmental unit in each infrastructure project executing agency with staff and personnel of relevant multidisciplinary expertise.
- Establish regulations to control the discharge of cooling water from power stations.

- Establish Environmental Management System (EMS) in industrial units.
- Establish zero discharge policy with implementation plan for industry

Issue 9: Financial incentives

Undertaking environmental pollution control measure cost money. There is a need for financial incentives to promote the procurement & installation of waste treatment facilities.

Programme:

- Provide financial incentives for procurement & installation of waste treatment facilities.
- Tax rebates for production of environmentally friendly products, including energy efficient appliances, recycled materials, sustainable paper products etc.
- Investigate the use of low cost loans for the procurement and installation of environmental upgrades to manufacturing, industry, waste and energy efficiency measures.

Issue 10: Involvement of women in Environment

The need for active participation of women in the environment conservation activity is very vital because of their socio-economic role in day-to-day life.

Programme:

- Designing environmental protection and management actions to protect and improve women's access to resources and create scope for their employment and income generation activities.
- .Women participation is to be ensured at the implementation design and monitoring level and through decision making processes.

Issue 11: GO – NGO collaboration

Programme:

- Developing partnerships with NGOs/CBOs to create a wider awareness on environmental issues.
- Involving NGOs/CBOs in the national environment committee and other national and local committees for the flow of diverse ideas in decision making processes.
- Involving NGOs/CBOs and facilitate their effective participation in environmental decision making and community mobilization

Issue 12: Nationwide Hygiene Promotion

A hygiene survey will be conducted during the 7th Five Year Plan, and the government will encourage relevant ministries and donor agencies to keep special budgetary provision for dissemination of the survey findings up to district level, as well as designing a nationwide hygiene promotion campaign for awareness building.

Forestry and Biodiversity

Greater efforts will be geared up towards afforestation and reforestation activities as well as, biodiversity conservation during the plan period. The following activities will be pursued under the 7th Five Year Plan to improve the quality of forestry and biodiversity.

Issue 1: Afforestation /reforestation / plantation

Programme:

- Greater efforts (which should exceed 6FYP period achievements) shall be taken for afforestation and reforestation activities during the plan period. Productivity of plantations will have to be increased manifold, so that by 2021 ninety percent of those designated for forests (1.6% of land) comprises of regenerating native trees. Multi-purpose trees will receive special attention to increase the productivity of land under forest.
- The 20 thousand acres of the denuded Chokoria-Sunderbans Reserve Forest shall be restored with time bound action and monitoring plan
- People's meaningful & informed participation will be incorporated in all forest development activities. Integration of tree plantation and crop cultivation will be practiced.

Issue 2: Moratorium on felling

Programme:

Moratorium on felling in the natural forest will continue. Existing scattered and denuded hill forests will be replanted to increase productivity. Scientific management principles will be strictly followed to restore productivity of these lands.

Issue 3: Protection of Sundarbans and coastal afforestation

Programme:

- Greater efforts shall be taken for sustainable conservation of Sundarbans and its resources during the plan period.
- Measures will be taken to involve local community with allocating appropriate property rights in the management of the Sundarbans
- Creation of alternative livelihood opportunities for the people, depending on the Sundarbans mangrove forest, to lessen anthropogenic pressure on the Sundarbans mangrove forest.
- Rivers and canals will not be used for transporting goods and materials and other business purposes.
- Special attention will be given to the Sundarbans Reserve Forest (SRF) for its biodiversity conservation. All sorts of protective measures will be taken to keep the Sundarbans' bio-physical characteristics intact.

- The existing afforestation and enrichment plantation will continue in the Coastal areas. The existing mature coastal plantations will remain as green belt.
- To prevent the extent of damage by cyclones and tidal surges, Coastal Green Belt will be created and seedling will be raised to distribute or sell in the coastal zone.

Issue 4: Restoration of Sal Forest

Programme:

Immediate steps will be taken for restoration of the Sal Forest aiming specific targets. Considering its wildlife and dwelling place of the Garo tribal community, necessary programmes will be implemented.

Issue 5: Reed lands of Sylhet

Programme:

- Existing programme on reed land planting to continue.
- Extending the programme to new areas.

Issue 6: Eco-park/ botanical garden

Programme:

- Development and establishment of five new initiatives such as eco-parks, recreational garden along river or bay and botanical gardens, safari park, national park have already been initiated during the Fifth & Sixth Five Year Plan. Such activities will be continued under this Seventh Five Year Plan.
- Regional botanical garden will also be setup for uniform biodiversity conservation in the country.

Issue 7: Social forestry

Programme:

- Social forestry Programme to continue for expansion and strengthening of Upazila nurseries, union level nurseries, and strengthening of forest extension and nursery training centres.
- Short/medium rotation of fast growing tree species will be planted along the roads and embankments, and on marginal and follow lands with active participation of local people.
- The amended provision for social forestry on application of local people to be utilized to bring new areas under tree coverage.

Issue 8: Non-wood forest:**Programme:**

More emphasis shall be given to non-wood forest products: bamboo, cane, murta, medicinal plants, honey, wax, golpata, during the Seventh Five Year Plan.

Issue 9: Survey and land records**Programme:**

Efforts shall be taken to complete the forest land survey and updating the land record during the plan period. Forest cover shall also be monitored. Entire forest area will be demarcated to avoid unlawful encroachments.

Issue 10: Protected areas**Programme:**

- Presently, only 2700 sq. km land area falls under protected land area category which is about 1.82% of the country. The protected area will be increased to 5 percent of the country during the Seventh Five Year Plan period. Effective management for all the protected areas will be established.

Issue 11: Watershed management**Programme:**

Watershed management and wetland conservation will be initiated in the haor regions and hills districts and also will be intensified in the old areas for better conservation of nature during the plan period.

Issue 12: Private forests

Village forest has been meeting most of the demand for forest products like timber, firewood.. However, during the earlier plan periods, supports were preceded from the government mainly in terms of technical back-up and extension services and will be continued.

Programme:

Credit facilities will be provided in the 7th FYP to encourage the private sector to undertake rubber, teak, jackfruit and other high value crop plantation on a commercial basis.

Issue 13: Carbon Credit and REDD Mechanism**Programme:**

The mechanisms for certifying and approving reforestation and forest protection under carbon credit and REDD mechanisms will be rationalized and streamlined and be used to enable

substantial forest restoration and coastal afforestation through partnerships with local communities, civil society and private sector.

Issue 14: Mainstreaming National Biodiversity Strategy and Action Plan (NBSAP)

Programme:

- Initiative will be undertaken to update NBSAP in line with the Aichi Biodiversity Targets and implement the NBSAP as global commitments as a party to the United Nations Convention on Biological Diversity and the Cartagena Protocol on Bio safety to CBD
- Biodiversity considerations will be integrated into related ~~legislation~~, plans, programmes and policies ~~for~~ toward mainstreaming.
- Bangladesh Biological Diversity Act will be enacted as well as necessary rules will be framed.
- Valuation of goods and services provided by ecosystem and biodiversity will be accomplished towards integration of the values into the national accounting system.
- Awareness and education on biodiversity will be enhanced through taking up development initiatives.
- Polluting the ecosystems from all sources will, wherever possible, be stopped or minimized.
- Indigenous and Traditional Knowledge on Biodiversity will be documented.

Issue 15: Synergies between Biodiversity and Multilateral Environmental Agreements (MEAs)

Article 22 of CBD calls for synergy between the NBSAP and other ICTPs. Agenda 21 has provided the basic guidelines of integrating biodiversity in sustainable development.

Programme:

- Ensure integration of biodiversity into National Adaptation Plan (NAP) and nationally appropriate mitigation action (NAMA).

Issue 16: Equitable Sharing benefits of biodiversity

National policies will be developed to provide a guiding framework for ensuring equitable sharing of benefits of biodiversity.

Programme:

- National capacities shall be built up to address the research and development issues on identification of products and processes as well as access to genetic resources and sharing of benefits arising out of the use.
- Access and Benefit sharing mechanisms will be established as well as Nagoya Protocol on ABS will be ratified with enactment of Bangladesh Biological Biodiversity Act.

Issue 17: The Bangladesh National Herbarium

As a research organization, Bangladesh National Herbarium (BNH) deals with the exploration, collection, identification and preservation of plant resources of the country. It plays an important role in the conservation of biodiversity and environment

Programme:

Strengthening the capacity of the Herbarium shall be undertaken to make it capable of discharging its responsibilities.

Governance – Forestry and Biodiversity

Improving governance within institutions supporting and overlooking the state of forestry and biodiversity in the country.

Issue 1: Enactment of laws & regulation

There is a need to enact a law on conservation and sustainable use of biodiversity

Programme:

- Enactment of a law on conservation and sustainable use of biodiversity
- Review of Forest Policy, 1994 and the Forest Act, 1927 and Environment Policy 1992, Policies on Agriculture Fisheries and water resources

Issue 2: Institutional Strengthening

Programme:

- Fresh recruitment of cadres officer and other necessary staff
- Establishing Conservation Cell & Protected Area Management Cell
- Capacity development on resource accounting and natural resource management.
- Strengthening enforcement & surveillance capacity of FD.
- Strengthening enforcement and surveillance capacity of DoE

Issue 3: Establishing accountability

Programme:

- Impartial assessment of all programme of the FD to monitor progress in restoration of forests, protection of biodiversity and impacts on forest dependent communities.
- Strengthening website of MoEF/FD to conform to the requirement of Right to Information Act (RTI) that requires all government agencies to proactively disclose information.
- Facilitating effective accountability to Parliamentary Committee on Environment & Forests

Issue 4: Land litigation

Programme:

- Identification of all areas under encroachments and developing a time bound action plan for eviction.

Issue 5: Protection and restoration of endangered and threatened species

Programme:

- Review IUCN Red list and other documents on the state of endangered and threatened species and to identify the risks specific to them and also geographic areas demanding special protective measures
- Undertaking special protection measures to minimize the existing threats
- Involving experts and communities concerned in the design and implementation of the action plan and continually assess the effectiveness.

Addressing Knowledge Gap for Better Environmental Management

In order to devise effective environmental policies, a thorough understanding of the issues is paramount. Technical and expert research on relevant issues has been largely absent.

Untreated wastes make their way to water bodies which leads to serious deterioration of water quality. Harmful gaseous emissions from brick making industries are among the main sources of air pollution. There is a paucity of analytical work, at least in a local context to identify the actual health impacts. Tannery workers' poor health conditions are attributed to the exposure to harmful chemicals like chromium during regular work. Gaseous emissions from the tanneries affect the lungs, causing respiratory problems. Thus, GoB will promote more work to identify the higher limit of certain toxic substances that humans are able to withstand..

GoB will also facilitate research that looks into effective management of wastes in landfills, which can be used by concerned authorities for policymaking.

Sound environmental policies regarding industrial pollution involves providing incentives to firms that will encourage cleaner actions. This requires moving away from a command and control approach which prescribes emission standards, equipment specifications, audits, etc. Market based incentives allows room for innovation and offers greater flexibility to polluting firms. Devising an optimal level of taxation for pollution is difficult due to limited information and inability to correctly translate environmental and other costs into monetary terms. Experts thus need to focus on alternative means that would be highly effective in reducing pollution and environmental degradation. This, however, demands more in depth research which the GoB will support under the 7th Five Year Plan.

8.7 GREEN GROWTH STRATEGY

Economic growth can often result in environmental degradation through various means. Low income developing countries have the tendency to follow a 'grow dirty, clean up later' outlook.

Proponents of such an approach argue that satisfying human needs and development should be the first priority, since their environmental footprint is relatively small anyway. Worrying about issues such as climate change and environmental sustainability are viewed as luxuries only the developed world can afford. However, this is misleading and something that policymakers and experts within Bangladesh accept. In particular, increased use of natural resources to pursue economic production will understandably have its adverse implication for the environment. Consequently, a sustainable development plan, which aims to meet the needs of the current generation without jeopardizing the ability of future generations, is incomplete without articulating a comprehensive green growth strategy. More specifically, a green growth approach seeks to improve the eco-efficiency of economic growth and enhance the synergies between environment and economy. By adopting a green growth strategy, Bangladesh will pave a sustainable pathway towards a prosperous, inclusive, and climate resilient future as it can unlock substantial economic, social and environmental benefits.²⁸ Furthermore, in recent times, there has been a move to harmonize economic growth with environmental sustainability. Inclusive green growth is seen as ‘the pathway to sustainable development’.²⁹ While the developing world continues to experience economic growth, their growth patterns are not fully sustainable. They are also deeply inefficient, blocking progress towards sustainable development including social and economic sustainability.

8.7.1 Key Challenges to Adopting a Green Growth Strategy

While green growth is necessary, efficient and affordable, GoB accepts that there are a number of challenges impeding proper implementation of a green growth strategy. These are:

Planning and coordination: A green growth strategy will cut across many different sectors and institutions. Coordination among institutions is rather weak, as seen in the case of climate change, mitigation and environment management.

Limited capacity of officials: Opportunities for synergies between development outcomes have to be maximized, while managing the costs, trade-offs and uncertainties. However, the capacity of officials is certainly limited, preventing robust analysis of benefits and opportunities.

Existing Market Inefficiencies: A large part of a good green growth strategy involves addressing issues like market failures, setting the right price through environmental taxation and pricing mechanisms, creating tradable property rights, and reducing inappropriate subsidies. Policy recommendations must be applied with insights into behaviour, political economy, and governance and market failures.

Lack of mutually reinforcing actions across local and national levels of government: There exist a gap both in terms of capacity and implementation between local and national levels of government. Top-down approaches to green growth analysis and planning need to be supported

²⁸ Green Growth in Practice – Lessons from Country Experiences (2014). Global Green Growth Institute

²⁹ Inclusive Green Growth (2012). The World Bank

by bottom-up analysis of concrete options and actions. The local levels of the government must be empowered with mandates, manpower, capacity, financial and technical support.

Inadequate financing: Most green growth projects require significant up-front costs. High risks and insufficient rates of returns for green technologies will deter investment towards green growth. Private investment is held back due to a scarcity of resources to prepare projects to bring them to a lucrative stage. The challenge of cost recovery is also a deterrent. Allocation of public budgets and investment through dedicated funds is difficult to achieve with limited finances.

Green Accounting: Most companies in Bangladesh fail to disclose any financial information on environmental issues. Although the Institute of Chartered Accountants of Bangladesh has enunciated how to deal with the environmental impact of business activities, the concept of green accounting has not yet been fully established or practiced. This is a drawback as useful information that can be used for decision-making on the level and structure of production, value of investment, energy and environment costs is lost out.

8.7.2 Activities under implementation

Renewable Energy Policy in 2009: The government has enacted the Renewable Energy Policy in 2009, which aims to meet 5% of total energy demand through renewable sources by 2015, and 10% of total demand by 2020. At present, renewable energy is derived from a number of sources, including solar, wind, biomass and biogas. Solar energy is the primary source of renewable energy. There are currently 2.8 million solar powered homes in the country, increasing from just 25,000 within the last decade. Urban power authorities in major cities have also made it mandatory for new electricity consumers to install solar-based renewable units to cover 3% of estimated power demand for the particular building. Bangladesh has also achieved immense success in creating substantial employment in the renewable energy sector. 114,000 jobs were created as a result of the industry which has grown in the manufacturing, installation and repair of solar panels and related equipment.³⁰ Bangladesh currently has the 6th largest renewable energy workforce.

Cleaner Coal: To counter the effects of a possible shortfall in natural gas, the Government has planned to switch to coal as the primary fuel source. The Power System Master Plan (PSMP) 2010 projected the share of coal in power generation to rise from 3 percent at the end of the Sixth Plan to 23 percent by the end of the Seventh Plan, and subsequently to 44 percent by FY2030. Due to feasibility issues with domestic coal, the PSMP projections have since been revised. However, coal will continue to be among the major sources of power, with imported coal and liquefied natural gas (LNG) driving electricity production beyond FY2019.

In a bid to compensate for reduced efficiency in coal based power generation (compared to natural gas as fuel), GoB has decided to pay extra amounts for high efficiency super-critical gasifier technology involving coal as the primary fuel. In doing so, GoB has decided to spend US\$2 billion equivalent of additional capital investment for a 1,320 megawatt coal fired thermal power generation unit, to be set up in Matarbari, Cox's Bazaar. Of course, given that

³⁰Renewable Energy and Jobs- Annual Review 2014, International Renewable Energy Agency, May 2014

the Government intends to generate more than 20000 MW from coal by 2030, it accepts that greater attention must be provided to the choice of technology by ensuring that high efficiency options are adopted for energy generation.

500 MW Solar Programme: The government is also committed to generating 500 MW solar power by 2016. The ‘500 MW Solar Programme’, started in 2012, outlines the government’s plan to make the best possible use of solar energy. The private sector will also be actively involved in the programme, generating 340 MW out of 500. To enhance public-private partnership in this sector, the government set up the Infrastructure Development Company Limited (IDCOL). IDCOL, a non-bank financial institution has played a major role in distributing the benefits of solar energy under the Solar Energy Programme.

Other Activities: With a 700 km coastline, Bangladesh has immense potential for harnessing the power of wind. Wind energy currently generates 2 MW. To further utilize wind potential, Bangladesh Power Development Board (BPDB) has signed a contract for a 60 MW wind power project with a consortium. BPDB has also initiated steps to commission a wind map for Cox’s Bazaar, Kutubdia, Khepupara, Feni and Chittagong to identify the right geographical regions for maximizing wind potential.³¹The government is also utilizing hybrid energy, where solar and wind power is combined to generate electricity. One such ongoing project is a 7.5 MW off Grid wind-solar hybrid system at Hatiya Island, Noakhali. Biogas and biomass are other sources of renewable energy. They are mainly used in rural areas to meet cost-effective energy needs. Presently 2 MW of power is generated from biogas and biomass technologies.

Bangladesh has thus made immense progress in renewable energy. The Renewable Energy Policy has been revised to provide subsidies to renewable energy sectors. The government is considering waiving of income taxes for foreign and local investors for 15 years, and waiving of licenses for installation and operation of renewable power plants with less than 5 MW capacity. The Sustainable and Renewable Energy Authority has been established. It will serve as a focal point for sustainable energy development and promotion. Government agencies and departments like Bangladesh Power Development Board (BPDB), Rural Electrification Board (REB), Local Government Engineering Directorate (LGED) and others are involved in renewable energy development in Bangladesh. To encourage investment and green financing, Bangladesh Bank has formulated policy guidelines for banks and non-financial institutions. The central bank will develop a new Export Development Fund worth about \$500 million to support textile industries in adopting eco-friendly technologies and practices.³²

Activities under the 7th Five Year Plan

Having already initiated several initiatives that are environment-friendly and promote sustainability, the government intends to work on further schemes to propel the green growth process forward. The following are areas which should be addressed:

³¹<http://cri.org.bd/2014/05/28/bangladesh-excels-in-green-energy/>

³² A Citizen’s Guide to Energy Subsidies in Bangladesh (2012). The International Institute for Sustainable Development

Issue 1: Establish clear vision, targets and baselines - To properly initiate an effective green growth strategy, GoB will establish a vision. This will constitute both long and short-term economy wide goals, and sector-specific targets. Targets will also be linked to budget and policy designs and it will be compared with appropriate benchmark and baselines.

Issue 2: Employ well-designed planning and coordination processes - The GoB acknowledges that well-governed institutions can manage long-term planning, implementation, and review, and can align green growth policies with national development. Thus, it will be able to coordinate in a more efficient manner across institutions and sectors.

Issue 3: Employ tailored strategies to mitigate market driven externalities -Managing market driven externalities is a crucial role of the government towards green growth. . Thus, the authorities will design policies that can mitigate such market driven externalities. To carry out such policies, extensive analyses are key to understanding the market imperfections. As a result, the GoB will support robust analysis exploring green opportunities and effectively communicating the benefits of such green initiatives is another good practice.

Issue 4: Engage the private sector in various facets of green growth -. Active involvement of all stakeholders and the private sector is not only encouraged but a necessity. Industries have a major role to play in providing solutions to green growth. They have the capacity to innovate and adjust their production processes to make the vision a green growth a reality. The potential of public-private cooperation will also be utilized. This will drive innovation, build new skills, achieve more sustainable management of resources and create pathways for economic development.

To encourage firms whose production process heavily impacts the surrounding environment, such as textile industries, to adopt cleaner technology, GoB will consider placing certain tax incentives. After the Rana Plaza tragedy, the Commerce Ministry worked with the National Board of Revenue (NBR) to ensure that new safety machinery and equipment can be imported with zero customs duty. This precedent allows similar approaches to be adopted in industries, particularly textiles and leather. Studies have shown that reductions in tax duties will have a negligible impact on revenues, but will significantly reduce prices, which will encourage entrepreneurs and enterprises to import and adopt eco-friendly equipment. Thus, under the 7th FYP, the Government will mobilize private investment in green machinery through such tax incentives.

Issue 5: Innovate financial tools that mobilize private investment in green growth sectors -Access to existing Climate Change Funds, such as BCCTF, will be ensured for projects that advocate sustainability issues. GoB recognizes that green growth initiatives are connected to climate change adaptation and mitigation. As such, steps will be taken to accommodate quality green growth projects in these funds.

Issue 6: Green Banking- GoB will undertake measures so that Bangladesh Bank can implement effectively the newly conceptualized green banking options for some key sectors in the economy. This, in particular, will focus on areas which bears the most adverse environmental consequences.

Issue 7: Promote Green Accounting- In the area of green accounting; efforts need to be scaled up on both macro and micro levels. Green accounting on a macro level is hampered by lack of available data. To facilitate this process, data for a number of indicators related to environmental performance will be ensured. Bangladesh Bureau of Statistics (BBS) has stated the need to strengthen and deepen environmental statistics as a priority in its strategic plan³³. To facilitate the inclusion of environmental performance in national accounts, the following will be ensured during the Seventh Plan:

- (i) Natural Resource Accounts: Efforts will be made to generate physical statistics about stocks of natural resources and their changes over time. This also entails calculating the monetary cost of losing a particular resource.
- (ii) Emissions Accounts: Maintaining a proper emissions accounts is particularly important for green accounting in Bangladesh.
- (iii) Using these and other relevant figures, a Green GDP will be calculated. Green GDP will show the environmental consequences of growth by factoring resource depletion, environmental degradation and restorative environmental initiative.

Addressing Knowledge Gap for Green Growth Strategy

Green growth is an area that requires extensive research, analysis, and innovation. GoB will explore more opportunities for greening of existing activities and technologies. In addition, effective monitoring and evaluation systems will enhance learning, decision making and management, strengthen government accountability, improve public trust and enable stakeholder participation.

An in-depth analysis of individual cases in both local and national levels would generate a lot of valuable information. For instance, measuring benefits to consumers from the Solar Energy Programme will provide justification to pursue these programmes from the demand side. If properly conveyed, it will attract more individuals and raise awareness about efficiency gains from greening activities. As a result, the GoB will support research activities that aim to study the usefulness of such initiatives.

GoB will support researchers on efficient means to harness the power of wind, biomass and biogas, along with other sources, that will not only be cost-effective and accessible, but will also generate employment and drive growth.

Policymakers, with technical expertise, need to devise proper governmental tools and policies keeping in mind the market, region and other demographics in context. The efficacy of any particular policy or tool will not be known unless robust analysis is undertaken that will take into account the cost and benefits to all stakeholders. Consequently, the GoB will support research activities that helps identify policies and instruments that can facilitate green growth within Bangladesh.

³³ 2012 Statistical Yearbook of Bangladesh, BBS

Sustainable development through green growth will undoubtedly be beneficial for the country in the long run. Bangladesh will continue to experience economic growth and development, without degrading the environment and ensuring access to valuable resources for future generations. Once the highlighted challenges and issues are addressed, Bangladesh will be fully set on the path of sustainable development.

8.8 TARGETS UNDER THE DELTA PLAN

In order to achieve the national vision and given the socio-economic diversification of Bangladesh and the expected impacts of climate change, an integrated, comprehensive and long term Delta Vision has been formulated as:

“Ensure long term water and food security, economic growth and environmental sustainability while effectively coping with natural disasters, climate change and other delta issues through robust, adaptive and integrated strategies, and equitable water governance.”

The Delta Vision builds on key strategic documents such as Vision 2021, Perspective Plan 2011-2021, National Sustainable Development Plan and Social Protection Plan and many other strategic and sectoral plans. This is being developed while Vision 2041 is still being formulated. Within the framework of the national vision, the Delta Vision is essential by indicating opportunities and choices to make regarding its human, land and water resources.

Given its position in the downstream of the largest delta in the world, Bangladesh faces considerable challenges which the Delta Plan seeks to address. The Delta Plan is an adaptive, holistic, and long-term strategic plan to steer the country’s sustainable development agenda. It envisions a safe, prosperous and resilient delta, the backbone of which is formed by a robust water system. In addition, in view of the major uncertainties that the future will bring, Bangladesh aims to develop its capacity to adapt flexibly and productively to future climate and socio-economic changes as well as international developments in the basins.

Along with providing a long-term strategic planning, the Delta Plan also specifies short term (2015-2021) Programme with a portfolio of projects formulated in conjunction with the 7th FYP objectives. This short term Programme goes beyond the scope of the 7th Plan by a year, but the indicators and targets set for 2020 will provide a quantitative approach to monitoring progress during the 7th FYP period. The following are the relevant short-term targets under the Delta Plan that are consistent with the sustainable development strategy in the 7th FYP.

Programmes from Bangladesh Delta Plan 2100 for 7th Five Year Plan

Bangladesh Delta Plan 2100 Formulation Project (BDP2100) has initially identified several hotspot wise programmes for the 7th Five Year Plan (2016-2020) to meet up the goals and to deal with the challenges of BDP 2100 as a short term measure. For Coastal Zones BDP2100 has suggested programmes like Construction of Ganges Barrage, Coastal Embankment Improvement Programme, Char Development and Settlement Project-V, Integrated Management of Drainage Congestion for greater Noakhali, Tidal River Management (30 yrs.

duration), Estuary Land Development Programme (Hatiya-Dhamar Char-Nijhum Dwip and Urir Char Cross Dam projects). For Barind and Drought Prone Areas, Barind Water Management Programme (North Rajshahi Irrigation Project), Revitalization and Restoration of Chalan Beel has been proposed. River Management Programme, (Integrated River Management Plan, River Bank Improvement Project, Jamuna Land Development Programme), Sustainable Restoration of Connectivity of Major Navigation Route are proposed for the hotspot named Major Rivers and Adjoining Areas. Integrated Haor Management Programme for Haor Region and Integrated Eastern Hills Management programme for CHT has suggested by BDP2100. Integrated Water and Sewage Management Programme (Dhaka City), Improvement of Drainage Congestion and Flood Control for Chittagong City Corporation, Protection of River System around Dhaka city and Dhaka Integrated Flood Control Embankment cum Eastern Bypass projects has proposed for Urban Areas. BDP2100 has also proposed some projects around the Bangladesh i.e. Rationalization of existing FCD/FCDI projects and Development of Small-scale Water Reservoir and Revitalization of water bodies, khals etc. A total amount of 1,000,000 Million BDT (approximately) will be needed to implement these programmes. The programmes will be further fine-tuned in the investment plan under the BDP 2100.

Table 8.3: Identified Indicators and Targets for 2020 in Delta Plan

No.	Indicators	Sub-Indicators	Quantity	Present	Target for 2020
Goal 1: Ensure safety from floods and climate change related disasters					
1A	Risk zone susceptible to natural hazards	Average flood extent	% of total area of Bangladesh	30	25
		Extreme flood extent	"	50	35
		Cyclone damage extent	"	10	4
		Average drought extent	"	9	9
		Extreme Drought Extent	"	47	25
		Dry season saltwater intrusion	% of total coastal area	40	35
		Water logging extent	"	2.5	0.5
		Length of bank line erosion	% of total river length	15	11
1B	Population vulnerable to natural disasters	Flood vulnerable people	Nos. in million	88	60
		Cyclone vulnerable people	"	8	7
		Erosion vulnerable people	"	1	0.7
		Water logging vulnerable people	"	0.9	0.2
Goal 2: Ensure water security and efficiency of water usages					
2A	Dry season water availability	-	% of total flow	15	25
2B	Dry season irrigation coverage	-	million ha	6	6.2
2C	Irrigation water efficiency	-	% of supplied water	30	35
2D	Urban domestic water efficiency	-	% of supplied water	67	70
2E	Internal Renewable Water Resources	-	cumec/ person	714	1,000
2F	Surface water sources polluted by industrial wastes	-	% of total river areas	11	9
2G	Surface water sources polluted by other wastes	-	% of total river areas	10	7
Goal 3: Ensure sustainable and integrated river systems and estuaries management					
3A	Erosion along major rivers	Area eroded along Jamuna	ha/ year	1,750	1,250
3B	Area of reclaimed lands	-	Ha	N/A	31,500

No.	Indicators	Sub-Indicators	Quantity	Present	Target for 2020
Goal 4: Conserve and preserve wetlands and ecosystems and promote their wise use					
4	Habitat protection	Area of perennial aquatic habitat	Ha	13,200	13,200
		Area of seasonal aquatic habitat	"	30,880	30,880
		Area of marine habitat	"	32,300	32,300
Goal 5: Develop effective institutions and equitable governance for in country and trans-boundary water resources management					
5A	Rural people with adequate capacity for WRM	-	% of rural population	20	35
5B	Equitable share of water among users	-	qualitative judgment	Poor	Moderate
Goal 6: Achieve optimal and integrated use of land and water resources					
6A	Flood control, drainage and irrigation capacity	Area under irrigation schemes	Ha	672	800
6B	Sectoral use of water	Surface water used for irrigation	km ³	6.62	11
		Groundwater used for irrigation	"	24.88	24
6C	Navigation capacity	wet season navigation course	Km	5,968	5,968
		dry season navigation course	"	3,865	5,000

Source: Bangladesh Delta Plan Formulation Project 2100

8.9 SUSTAINABLE DEVELOPMENT – THE WAY FORWARD

The Government acknowledges that under changing socio-economic and environmental conditions, a sustainable development agenda is imperative for ensuring the quality of life of its citizens. Bangladesh is expected to grow considerably in the years to come, and with increased industrialization, the state of the environment will be further jeopardized without a sustainable development approach. In that context, the Government has used the Seventh Plan to place the building blocks for a strategy to promote economic progress while keeping in sight issues that are important for climate change adaptation and mitigation, harnessing a strong environmental and disaster management capacity and paying attention to green growth dynamics. Furthermore, given that the Plan aims to be a living document, changes in economic, political and environmental conditions in the near future can influence prioritization of identified activities in subsequent years, but the GoB will remain committed to a sustainable development agenda from a holistic perspective so that both short-run and long-run socio-economic and environmental challenges are adequately addressed.

As the global community sets development goals for the next 15 years, issues such as the environment, climate change and resilience have rightfully taken precedence. Of the 17 proposed SDGs, at least 4 goals are related to climate change and environment.

The Government's proposal to the UN on Post-2015 Development Agenda calls for more attention towards environmental issues. While Bangladesh shares the view that the mobilization of internal resources plays an important role in addressing the emerging challenges, it strongly believes that building a solid partnership through galvanizing support from the developed countries holds the key to the successful implementation of any Post 2015 Development Agenda.

The Government's proposal contained three goals related to Sustainable Development. On 'Promote sustainable production and consumption' goal, sustainable use of resources for production and consumption pattern has been proposed along with measures to ensure further efficiency. On the goal entitled 'Ensure environmental sustainability and disaster management' suggestion has been made to integrate DRR and climate change adaptation into the core component of sustainable development, and increase the resilience of communities, and encouraging regional and global cooperation for disaster forecasting and managing post disaster situation. On the environment side, a comprehensive perspective linked to use of land, water, agriculture, forest, urbanization and energy has been suggested. For 'Strengthen international cooperation and partnership for Sustainable Development', issues of resources sharing, fulfilling of ODA commitment and creating new opportunities for promoting collaboration among government, participation of private sector, civil society and philanthropic entities has been included as targets.

8.10 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

The financing strategy involved mobilization of international funding especially for climate change adaptation and mitigation. The Seventh Plan seeks to build on this progress working closely with NGOs and international development partners to strengthen sustainable development. Accordingly, the Seventh Plan proposes a significant increase in the ADP allocations for the three core ministries dealing with sustainable development programmes (Table 8.4)

Table 8.4: ADP Allocation for Environment and Climate Change during 7th Plan

Taka billion (Constant Prices FY16)					
Ministry /Sector	FY16	FY17	FY18	FY19	FY20
Ministry of Environment and Forests	4.8	6.8	7.7	8.6	9.6
Sector Total	4.8	6.8	7.7	8.6	9.6
Taka billion (Current Prices)					
Ministry /Sector	FY16	FY17	FY18	FY19	FY20
Ministry of Environment and Forests	4.8	7.3	8.6	10.1	11.9
Sector Total	4.8	7.3	8.6	10.1	11.9

Source: Seventh Plan Projections

SECTOR 9: HOUSING AND COMMUNITY AMENITIES

CHAPTER 9

URBANIZATION STRATEGY

9.1 INTRODUCTION

As Bangladesh became a lower middle income country, the associated production and employment structure of the economy are also substantially. The dependence on agriculture has fallen sharply with commensurate increases in manufacturing and services. These changing production and employment patterns have major implications for the spatial dimension of economic growth. Manufacturing and services are inherently more urban-based as compared with agriculture that is primarily rural based. The associated changes in population movements have shown a rapid growth in urbanization. The availability of urban land, urban infrastructure, and urban services has lagged behind substantially compared to the demand for these services thereby creating supply constraints and cost pressures. The ability to support a manufacturing growth rate of 10% plus in the Seventh Plan and the 7% plus growth in services sector based on modern export-oriented services in ICT, shipping, aviation and tourism require affordable urban land, easy access to power and energy, and efficient and uncongested traffic flow to connect production points with distribution points. Additionally, the labour force that will support the production transformation will be increasingly skill intensive and will demand housing, water and sanitation, efficient and low-cost transportation, schooling and health facilities. Unless this urbanization challenge is managed effectively, there will be a serious risk that the growth momentum will be constrained by the urban pressure.

Bangladesh has been experiencing quite rapid urbanization during the last few decades. Between 1961 and 2011, the country's total population increased from 55 million to about 150 million (about 273%) while the urban population increased from 2.6 million to about 43.43 million thus registering a growth of nearly 1600% (BBS). Out of the total population residing in urban areas, 60% of them live in City Corporations with reminder in Pourashavas and small towns. Various projections estimate the urban population in 2020 to be anywhere from 60 to 80 million, that is, one and half to nearly two times of its current number. Bangladesh is well aware of this challenge and over the last two decades it has tried to address it through multi-sectoral development along with policies on specific themes. Such policies include the national Draft Urban Sector Policy 2011, Draft National Housing Policy 2014 the national Policy for Safe Water Supply and Sanitation, Water Supply and sanitation Sector Development Plan, National Policy for Arsenic Mitigation, The National sanitation Strategy and the pro-poor water and sanitation and cost sharing strategies. Many of these policies have attempted to give coherent direction to developments in the urban sector including adoption of principles like devolution of powers, resources and responsibilities to local governments and community groups, treating resources as economic goods, using awareness generation and mobilization

and motivational tools for sanitation and solid waste management, tempering off subsidies on sanitation hardware and promoting private-public partnerships.

Despite the fact that majority of the country’s population live in rural areas, the importance of the traditional rural sector has been declining over the years. The share of the agricultural sector in GDP has come down from about 50 percent in 1972 to only 16 percent in 2015 (BBS, 2015).

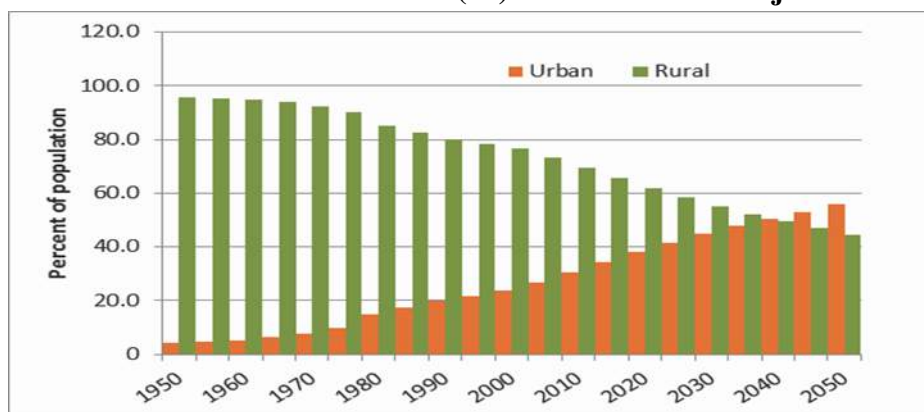
9.2 URBANIZATION IN BANGLADESH

From the 1950s and up until the mid-1970s Bangladesh was a predominantly rural society with less than 10 percent of the population living in urban areas (Figure 9.1). Urbanization increased rapidly in the decade 1970-80, with the rate of growth reaching 11 percent per year during the period 1975-80, a rate which has not been repeated since. The rate of urbanization during these years was sufficient to reduce the rural population growth rate by more than 50 percent.

Over the three decades 1980-2010, urban growth has averaged 4.4 percent per year compared with 1.3 percent in rural areas. These differential growth rates, caused by net rural-urban migration and lower rates of natural increase in urban centres, explain the increasing proportion of the population living in urban areas.

This proportion is projected to increase for the foreseeable future, although the urban population will not exceed the rural population until about 2040 (Figure 9.1). From that point onwards, the rural population will commence declining while the urban population will continue growing. These different patterns of growth and changing rural urban population structure are clear from Figure 9.1 and Table 9.1, which shows that the rural population reached a peak of 107.8 million in 2011 and is projected to decline to 89.5 million by 2050. Conversely the urban population, which in 2011 was 42.7 million in 2011 is projected to reach 112 million by 2050 and would still be growing.

Figure 9.1: Rural-Urban Distribution (%) 1950-2010 and Projected to 2050



Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision. New York: United Nations

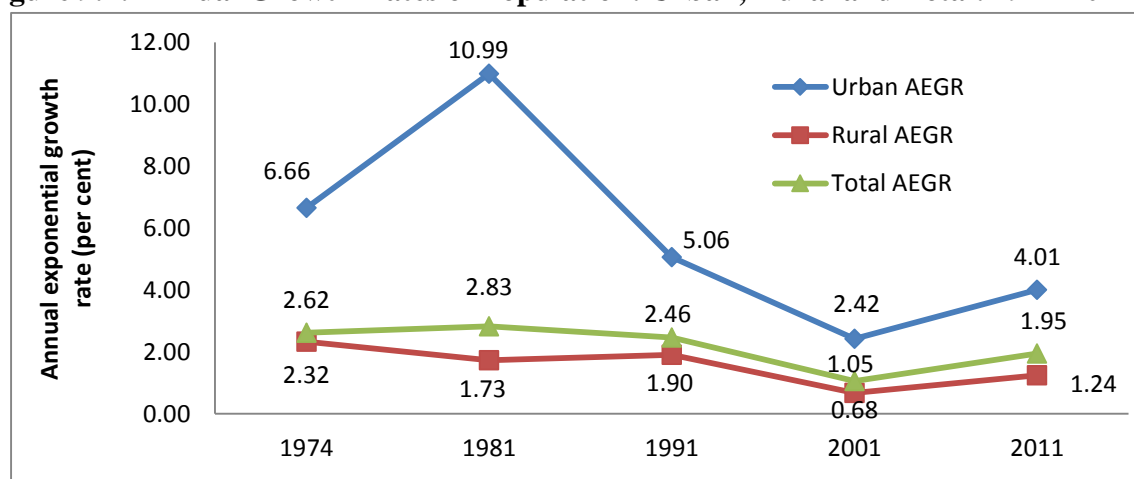
Table 9.1: Trends of Urbanization in Bangladesh (1901-2011)

Year	Urban Population (in million)	Rural Population (in million)	Percentage Urban	Urban annual exponential growth rate (per cent)	Rural annual exponential growth rate (per cent)	Urban Rural Growth Differential (AEGR)
1901	0.70	28.23	2.43	--	--	--
1911	0.81	30.75	2.56	1.39	0.86	0.54
1921	0.88	32.38	2.64	0.85	0.52	0.33
1931	1.07	34.53	3.02	2.00	0.64	1.36
1941	1.54	40.46	3.66	3.59	1.58	2.01
1951	1.82	40.24	4.33	1.69	-0.05	1.74
1961	2.64	48.20	5.19	3.72	1.80	1.92
1974	6.27	65.21	8.78	6.66	2.32	4.33
1981	13.54	73.58	15.54	10.99	1.73	9.26
1991	22.46	89.00	20.15	5.06	1.90	3.16
2001	28.61	95.25	23.10	2.42	0.68	1.74
2011	42.70	107.80	28.37	4.01	1.24	2.77

Source: Population Census and GED estimations

In fact, the annual exponential growth rates of population in the urban areas in Bangladesh have consistently outpaced the growth rate in the rural areas in each and every census conducted in the period 1974-2011 (Fig 5.2 below). The urban rural growth differential in terms of the annual exponential growth rates has averaged a sizeable 4.25 per cent in the last 37 years. In effect, all future population growth in Bangladesh will be urban. This implies that all natural increase in rural areas will be offset by net rural-urban migration, and in the longer run net rural-urban migration can be expected to exceed rural natural increase. Thus, Bangladesh, a small and predominantly rural country, is undergoing a transformation towards urbanization at a remarkable pace.

Figure 9.2: Annual Growth Rates of Population: Urban, Rural and Total: 1974-2011



Source: Population Census, BBS

Components of Urban Growth

Rapid growth of the urban population in Bangladesh has taken place during the last four decades. The components of such rapid urban growth are the following:

- A persistently high natural increase of native urban population
- The territorial extension of existing urban areas with conversion of rural centres to re-definition of urban areas.
- Rural to urban migration.

Migration, of course, has been the most dominant component of urban population growth. For large cities like Dhaka this share could be even higher, up to 60%. Urban pull, through massive growth of employment opportunities due to free market economy and globalization, rural push factors like, increased population pressure, surplus labour force in rural areas, rural poverty and environmental disasters, due largely to climate change have increased number of urban population.

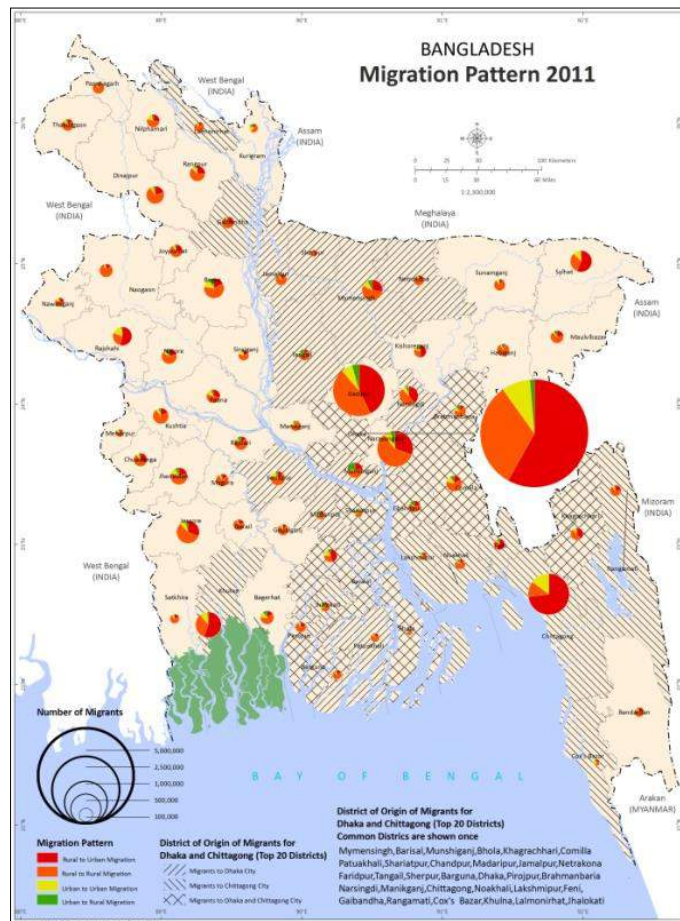
Rural-Urban Migration Flows

Rural-urban migration has profound effect on redistribution of population in Bangladesh. The subsequent result is that the urban areas have become overburdened with population with problem of unemployment, shortage of housing, sanitation facilities and creation of slums. Not only does rural-urban migration exceed the available opportunities for employment; it also concentrates impoverished people to unhealthy conditions. It results in a large scale shift of the rural poor to urban areas. It also increases political discontent and the probability of conflict. Large-scale migration to urban areas aggravates economic imbalance in the development process. Apart from migration for settlement, there are other types of rural-urban migration of them seasonal – during the rainy season and during the dry season. While the *pull and push* factors are operative Dhaka's agglomeration economy provides diverse opportunities and hence, attracts most of the rural out-migrants, both rich and poor.

Place of Origin of Migrants

Rural to urban migration takes place from all districts of Bangladesh, but some districts or areas are more prone to out-migration. The Bangladesh Urban Health Survey, 2013, offers useful information on source districts of both female and male migrants to Dhaka, Chittagong and other District Municipalities. Several factors may explain the migration pattern. These include distance, ease and cost of travel and economic development level of the district of origin.

Figure 9.3: Migration Pattern of Bangladesh



Scale and form of Urbanization

Spatial / Regional Pattern of Level of Urbanization

Despite the fact that Bangladesh has a low level of urbanization (defined as the proportion of urban population of total population of a region or a country) for the country as a whole, there is significant variation in the level by districts or other geographic or administrative regions. In fact, it varies from as low as 7.2 percent in Satkhira District to more than 90 percent in Dhaka District. Dhaka District is the most urbanized district region of the country. Dhaka has been dominating historically. Other than Dhaka, the three most urbanized districts were Narayanganj, Chittagong, and Khulna.

Spatial Pattern of Urban Centres

Bangladesh has some 570 urban centres, of which one (Dhaka) is a megacity, Chittagong, Khulna, Rajshahi and Sylhet are metropolitan areas, 25 urban centres are cities (with population of over 100,000) each and the rest are smaller towns. There are 11 City Corporations and over 322 Pourashavas (Municipalities). The other towns have the Union Parishad type of local government. *Bangladesh is fairly well balanced* in the sense that almost all divisional cities are metropolitan cities, all districts have a city or a town of reasonable size, and each of

the old 460 thanas/Upazilas have at least one small town. However, Primacy of Dhaka is very prominent with over 44% of the total urban population. The distribution of large and medium size cities and towns throughout the country offers reasonable access to urban services to most areas in the country.

Increasing Primacy

Urban primacy can either be measured as the share of the largest city to the total urban population, or as the share of the largest city to the second largest one (2-city index), or as the share of the largest city to the sum of the second, third and fourth largest cities (4-city index).

Urban primacy, by all counts, has been on the rise in Bangladesh, in the last 30 years. Dhaka enjoys a very distinctive and unique single city primacy, comprising 44.26 per cent of the urban population, and 12.56 per cent of the total population, in 2011. Dhaka's population with respect to the second largest city, Chittagong, has risen from 2.47 times in 1981 to 3.58 times in 2011. Also, Dhaka's population with respect to the sum of the second, third and fourth largest cities in Bangladesh, which are Chittagong, Khulna and Rajshahi respectively, has increased from 1.50 times in 1981 to 2.26 times in 2011. In fact, population of Dhaka has multiplied almost 6 times in this 30 year period. About 80 per cent of the garments industry in Bangladesh is located in and around Dhaka.

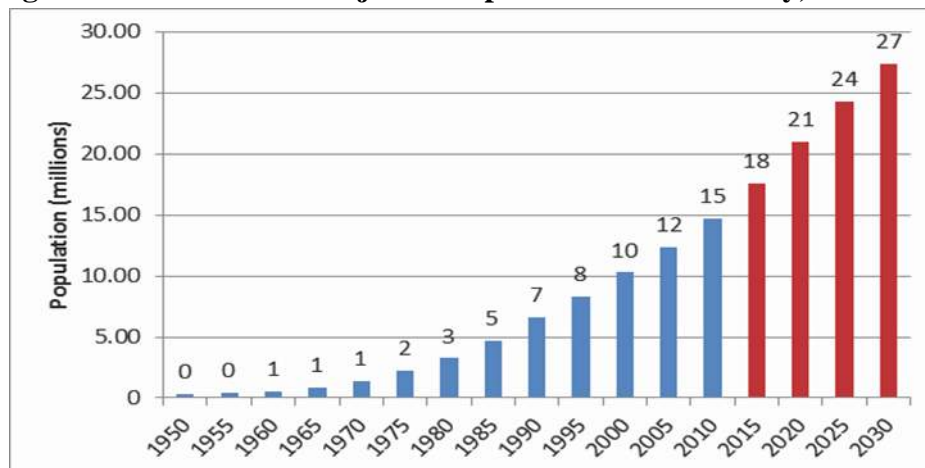
Table 9.2: Primacy of Dhaka City in Different Population Census

Year	Population (in million)	Per cent of urban population	Per cent of total population	Share with respect to the second largest city	Share with respect to the sum of the second, third and fourth largest cities
1981	3.44	25.41	3.95	2.47	1.50
1991	6.84	30.46	6.14	2.91	1.76
2001	10.71	37.44	8.65	3.16	1.97
2011	18.90	44.26	12.56	3.58	2.26

Source: Various Population Censuses, BBS.

In absolute numbers, Dhaka City is projected to reach 27.4 million by 2030, an increase of 86 percent over the population in 2010 (Figure 9.4). This implies an average annual growth rate of 4.3 percent. While other cities will also grow, their proportion of the total urban population is expected to decline or remain static. There is no indication in the time frame (up to 2030) of the UN Population Division's 2014 (Revised) that the growth of Dhaka's population will level-off or that the total population stabilize.

Figure 9.4: Actual and Projected Population of Dhaka City, 1950-2030

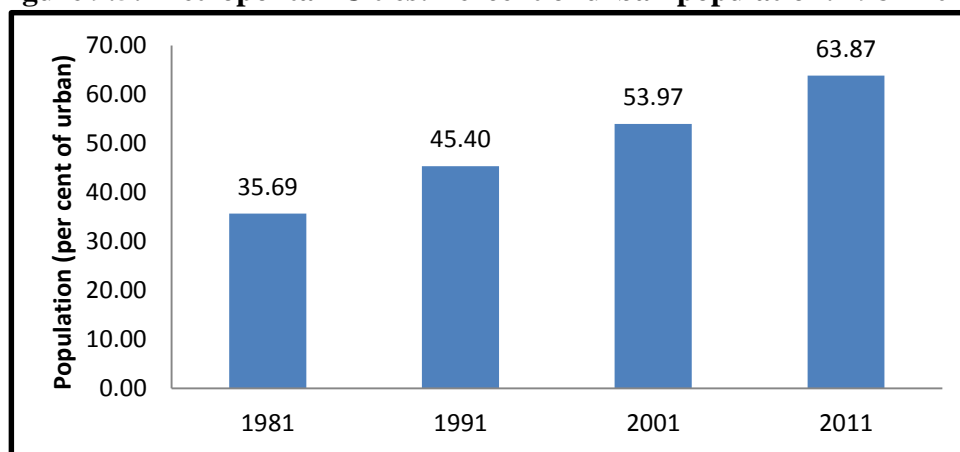


Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision. New York: United Nations.

Increasing Metropolization

Metropolitan cities (Classes IA and IB) are the cities with populations more than one million. There was only one metropolitan city, Dhaka, in Bangladesh in 1981; but in 2011, the number has increased to four, with Chittagong, Khulna and Rajshahi, joining the ranks. These four metros account for 63.87 percent of the total urban population in 2011, up from 35.69 per cent in 1981 (Figure 9.5). The domination of business services, particularly finance and real estate services is considerably higher in the four major cities relative to the rest of the country (Sixth Plan, 2011). Out of these four, Dhaka is 10 million plus, and Chittagong is 5 million plus.

Figure 9.5: Metropolitan Cities: Percent of urban population: 1981-2011



Source: Population Census, BBS

Rather than having been stagnated, all the four metros have experienced higher population growths in the most recent decade (2001-2011), than in the just previous one (1991-2001) (Table 9.3). The growth rates of the metropolitan cities also has been more than the urban population growth rates as a whole, underlining the fact that the scope of the processes of urbanization Bangladesh are as yet unsaturated, and it would be expected to experience rapid

urban growth in the coming decades, mainly fuelled by the growth in the metros of Bangladesh. This process is expected to be led by Dhaka – the financial, cultural, and business centre of the country, which has grown the fastest among the four metros, despite its large base.

Table 9.3: Annual Exponential Growth Rates of Metros: 1981-2011

	1981-1991	1991-2001	2001-2011
Dhaka	6.88	4.48	5.68
Chittagong	5.24	3.66	4.45
Khulna	4.30	2.91	3.60
Rajshahi	7.64	2.51	5.08

Source: Population Census, BBS

So it is apparent that urbanization in Bangladesh is characterized by predominance of a few metropolitan centres resulting in an uneven distribution of urban population and also development in the country. The sheer numbers of existing and incremental population strains these metropolitan areas to the breaking point and their combined needs and demands.

Household income in urban areas is also found to be much higher than in rural areas. Report of the household income and expenditure survey 2010 (BBS, 2011) indicated that monthly income per household in urban areas was Tk.16,475 compared to Tk. 9,648 in rural areas. The distribution of income in urban areas is however, more skewed than in rural areas. Thus Gini coefficient of income in 2010 was 0.452 in urban areas compared to 0.431 in rural areas. This is not unusual due to large-scale migration of poor people into urban areas from economically depressed areas of the country.

Although rising levels of urbanization and rapid population growth in urban areas have often been considered problematic, it is a fact that these areas generally have a significantly higher concentration of nation's economic output than their population. In Bangladesh urban dwellers constitute about 28 percent of the total population of the country, but their contribution to GDP is more than 45 percent. Thus economic growth is closely correlated with urbanization.

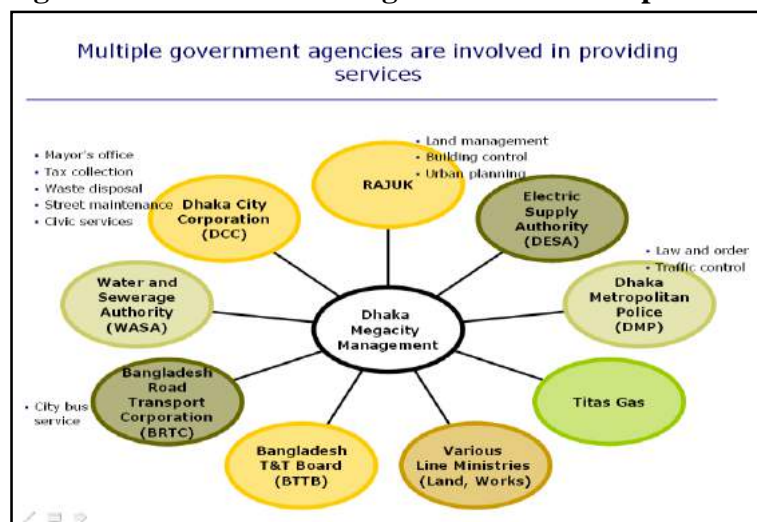
9.3 URBAN SECTOR AND THE LINGERING CHALLENGES

The attraction of employment in urban areas, and landlessness especially from river erosion and other natural calamities have over the years contributed to high rates of rural-urban migration. The sustained high rate of urban population growth implies that by 2015 about 30% of the country's population will live in urban areas. This poses considerable demand on Bangladesh's cities and towns to provide sufficient housing, infrastructure and urban services especially to the urban poor. During the last two decades urban poverty has reduced to 30%, but given the high urban growth rate, the actual numbers of urban poor is likely to increase in the coming days. Accordingly, income inequalities will also be more pronounced in urban areas. By 2015 some 12 million of the estimated 43 million total poor of Bangladesh are likely to be residing in the towns and cities. Providing improved living condition and better urban services to this increased population and generating employment for them would be a challenge.

Weakness in the urban policy environment and institutional capacities, inadequate infrastructure, absence of clearly articulated urban sector policies and strategies, lack of comprehensive development plan and their implementation and monitoring are the important challenges for planned urbanization.

Multiplicity of Organizations and Lack of Coordination: It is thus obvious that urban development activities in Bangladesh are dominated by national sectoral agencies. In the absence of proper institutional and legal framework to guide and control physical development in urban areas, urban development in most cases has been haphazard. The involvement of multiple organizations in the urban development process results in uncoordinated and overlapping activities. Major urban functions are divided among various ministries but their activities are not effectively coordinated at the local level. Several agencies are in charge of providing basic services in the Dhaka mega city (Figure 9.6). These include: the Dhaka City Corporation (DCC), the Capital City Development Authority (RAJUK); Dhaka Electric Supply Authority (DESA); Dhaka Metropolitan Police (DMP); Titas Gas; Various Line Ministries (e.g. Land Administration, Public Works, Education and Health); the Bangladesh Telephone Company Limited (BTCL)- formerly BTTB; Bangladesh Road Transport Corporation (BRTC); and the Dhaka Water and Sewerage Authority (D-WASA). Similar situation exists for all the City Corporations, and similar planning and development organizations were created for the cities of Chittagong, Khulna and Rajshahi, which are authorized to undertake local urban planning as well as utility services, infrastructure and site development activities for housing, commercial and industrial use. Effective coordination among all these agencies is a challenge.

Figure 9.6: Agencies Involved in Management and Development of Dhaka City



The stakeholder analysis for Dhaka city planning and governance provides a clearer understanding of the current status of the stakeholders, vis-à-vis the planning process while at the same time equip the analysis process with vital information about their capacity to facilitate or oppose reform in urban planning and bring about good governance through recommendations that emerge from this study.

Poor Resource Base and Lack of Autonomy: For financing development activities and resource mobilization, the local governments remain dependent on the central government. Resource base of urban local bodies is extremely weak although these are the most appropriate authorities to finance infrastructure investments. They have to depend on central government grant to pay for their infrastructure development. Table-9.4 presents the consolidated receipts and expenditures of City Corporations while Table-9.5 presents the consolidated receipts and expenditures of Pourashavas (Municipalities) over the 2008-2011 periods. On the basis of the data in the tables a few important observations can be made which are as follows:

- During FY2010-2011 total resources of the City Corporations were about Tk. 24 billion, which is only 2 percent of total government spending during that year. In case of Pourashavas had a total resource of about 28 billion, which is only 2.5 percent of total government spending.
- City Corporations obtained 52% of their resources from the Government as current and capital transfers and grants. Pourashavas, on the other hand, received 57% of their resources from the government as Government and Works Programme grants.
- For City Corporations, holding tax accounts for about 48% of their own resources but only 23% of their total resources (including government grant). Pourashavas, on the other hand, could generate only 23% of their own resources from taxes. Taxes contribute only about 10% when total resources of Pourashavas are considered.
- City Corporations spend about 65% of their resources on city development and the rest are spent on wages and salaries, commodities and services, and works programme. Pourashavas spend about 70% of their resources on infrastructure development while the rest go for wages and salaries, commodities and services, works programme and interest payment.

Table 9.4: Consolidated Receipts and Expenditures of City Corporations

RECEIPTS	2008-2009		2009-2010		2010-2011	
	Million Tk.	Percent	Million Tk.	Percent	Million Tk.	Percent
Taxes	4504	28.80%	5252	23.79%	5433	23.20%
Rates	160	1.02%	425	1.93%	750	3.20%
Fees & tolls	1001	6.40%	1338	6.06%	1425	6.09%
Property Income	683	4.37%	1297	5.88%	1550	6.62%
Miscellaneous Receipts	1830	11.70%	1892	8.57%	2050	8.76%
Government Grants	7460	47.70%	11868	53.77%	12207	52.13%
Total	15638	100%	22072	100%	23415	100%
EXPENDITURE						
Wages and Salaries	2330	14.71%	2835	12.84%	3361	14.35%
Commodities and Services	611	3.86%	807	3.66%	954	4.07%
Infrastructure Development	10308	65.08%	14997	67.95%	15050	64.28%
Interest Payment	0	0.00%	0	0.00%	0	0.00%
Works Programme	894	5.64%	1362	6.17%	1571	6.71%
Transfer	1495	9.44%	2071	9.38%	2479	10.59%
Total	15638	100%	22072	100%	23415	100%

(Source: BBS, 2012)

Table 9.5: Consolidated Receipts and Expenditures of Pourashavas (Municipalities)

RECEIPTS	2008-2009		2009-2010		2010-2011	
	Million	Percent	Million	Percent	Million	Percent
	Tk.		Tk.		Tk.	
Taxes	1845	9.84%	2177	9.84%	2721	9.84%
Rates	627	3.34%	740	3.35%	925	3.35%
Fees & tolls	509	2.72%	601	2.72%	751	2.72%
Property Income	260	1.39%	306	1.38%	382	1.38%
Miscellaneous Receipts	4930	26.30%	5817	26.30%	7270	26.30%
Government Grants	10574	56.41%	12475	56.41%	15595	56.41%
Total	18745	100%	22116	100%	27644	100%
EXPENDITURE						
Wages and Salaries	1822	9.72%	2150	9.72%	2687	9.72%
Commodities and Services	2642	14.09%	3117	14.09%	3896	14.09%
Infrastructure Development	13159	70.20%	15526	70.20%	19407	70.20%
Interest Payment	3	0.02%	3	0.01%	4	0.01%
Works Programme	433	2.31%	511	2.31%	639	2.31%
Transfer	686	3.66%	809	3.66%	1011	3.66%
Total	18745	100%	22116	100%	27644	100%

Source: BBS, 2012

It is quite obvious from the analysis above that urban local governments rely heavily on the national government for their resources. Weak financial capacity of Pourashavas contributes to poor service delivery and weak or non-existing operations and maintenance systems. Lack of adequate maintenance expenditures and inadequate user charges and cost recovery practices further exacerbate the problem. Poor resources mobilization efforts in many Pourashavas are caused by the lack of timely reassessment and under valuation of property. Thus Pourashavas are unable to realize the full financial potential of property taxes. As a consequence, there is over-dependency on intergovernmental transfer and grants, which paves the way for more central control of the local governments. It is only by increasing their revenues that the local government bodies can strengthen their resource base, reduce dependence on central government and thus enhance their autonomy.

Transparency and Accountability: Transparency and accountability are almost synonymous. Transparency assumes that the government's decision, whether routine or policy, and activities affecting citizens, must be transparent to them. There is effectively no devolution of decision making to the people. Accountability, on the other hand, means that public officials, elected or appointed, are held accountable to the citizens.

Lack of Manpower: Efficient urban governance by the municipal authorities is not possible without much more efficient and better trained manpower. The municipalities in Bangladesh lack organizational capabilities to undertake and successfully complete the massive task of urban development. One of the reasons for such a deficiency is the lack of trained manpower resources available to the local authorities. At the same time, municipalities do not have institutional set-up for urban planners who can help ensuring planned development at local level.

9.3.1 Urban Housing Challenge:

Lack of adequate housing for Bangladesh's large urban population is obviously a key problem in all of the cities and secondary towns in Bangladesh. Housing deficit in urban areas grew from 1.13 million units in 2001 to 4.6 million units in 2010 (Table-9.6). The deficit is projected to reach 8.5 million units in 2021 if investment in the housing sector does not keep pace with the growth of population.

Table 9.6: Urban Housing Deficit

Year	Housing Deficit in urban areas	Total Urban Population (Million)
1991	0.95 million units	20.87
2001	1.13 million units	28.81
2010	4.6 million units	43.43
2021	8.5 million deficit (projected)	60.00

Source: HIES, 2010; BBS, 2001; National Housing Authority, 2005;

Percentage distribution of urban households in terms of structural types is shown in the Table-9.7.

Table 9.7: Percent of Urban Households by Structure Type

Type of Structure	2001	2010
Jhuprie	7.58	1.56
Kutcha	47.15	41.85
Semi pucca	23.26	28.92
Pucca	22.01	27.67
Total	100	100

Source: 2010: Estimation from HIES Survey, 2010, BBS.

The Table 9.7 above shows that nearly 44% of the urban households live in purely temporary structures while those living in semi-permanent structures comprise about 29 percent of the urban households. Only about 28 percent of the households live in pucca structures. These data suggest that overwhelming majority of urban households live in poor quality houses. So, in terms of both quantity (housing deficit) and quality, urban housing presents a major policy challenge for Bangladesh.

9.3.2 Affordability and limitations in availability of Housing Finance:

The financial system of Bangladesh plays a limited role in the financing of housing investments and the cash economy remains a larger driver of real estate investment in the country. Housing loans outstanding reached Tk142.5 billion (2.6 percent of GDP) in June 2011, as against Tk61 billion (2.2 percent) in 2002. It now represents 7.5 percent of the private sector credit³⁴. The traditional lender, the state owned Bangladesh House Building Finance Corporation (BHBFC), is in a precarious financial situation and relies on recoveries to support its activity. Despite noticeable efforts, BHBFC's market share fell from 48 percent to 17 percent from 2001 to 2011. The HFBC, which is charged with provision of housing and financial assistance for the lower income population, is short of funding resources, exposed to an excessive level of non-performing loans, and crippled by improper procedures and systems. So restructuring of the

³⁴ Excluding micro finance

entity into a more sustainable vehicle for provision of housing to the poor, with better targeted subsidies and stronger fundamentals and efficiency / productivity will be an important strategy to follow.

The main challenge will be to expand access to the middle- and lower-income groups, and developing housing and housing finance markets that are both sound and accessible. The market needs balanced funding models and a diversified toolbox of instruments for different lenders. Private Developers are increasingly participating in housing supply in major towns and cities. A key stumbling block, however, for large-scale construction market development, especially for low-income housing, has been the dearth of developer financing. Funding for builders is limited because of the underlying risks involved. As a result, land acquisition for housing development is mostly funded by equity. That in turn confines development projects to an inefficiently small scale. Although construction loans are available, they have low loan-to-value ratios and carry such high rates of interest that developers consider them to have little value. Owing to the lack of robust construction financing, the ultimate buyer of the property usually finances the construction costs through instalment payments. Even if used, construction loans can run into titling transfer problems. These loans also transfer risk from the developer to the homebuyer because the latter pays significant advances to the developer before construction is completed. The advances are paid entirely in cash, from savings. This also reduces affordability and further limits the market for new construction to clients who can pay fully up front—the upper-income groups.

Besides, the housing and housing finance sectors are also faced with the inefficiency of the overall regulatory regime, including practically non-existence of any mortgage market, foreclosure and land administration frameworks. Land and titling procedures, registration procedures and costs, and a poor regulatory framework for housing and real estate stifle housing markets. Of course, in recent years, Government has taken steps to simplify the titling and registration of property through starting of computerization of land records management, but that effort needs to be accelerated.

The lack of long term funding remains a strong constraint: The degree of development of the bond market has not allowed the finance of long-term housing loans by matching resources. This is a strong constraint for the liquidity management of lenders, even those that mostly rely on deposits, and excludes fixed rate lending, thus exposing borrowers to interest rate risk.

Absence of a functioning mortgage market: However, the weakness of the financial sector in leveraging long-term finance and the absence of a functioning mortgage market is a major challenge and limits ability of the system in providing fund for the housing sector and so a major obstacle to sustainable housing development. It is observe that the formal mortgage finance system (1) is small relative to new housing construction, (2) only serves the highest income groups, (3) is restricted to selected high income housing markets in Dhaka, (4) has weak underwriting, loan administration and risk management practices and (5) has a segregated structure that provides advantages to the government-owned Bangladesh House Building Finance Corporation (BHBFC), which operates in the same higher income market.

The enforcement of mortgage rights is inefficient: Despite the creation of Money Loan Courts (1990), the judicial execution is very cumbersome and can take more than 10 years. The underdevelopment of the second hand property market also contributes to make mortgage collateral little more than a moral suasion tool. This has negative implications on the deepening of the market, as well as the raising of funding from the capital market.

Land Price Speculation and the Land Market: Sky-rocketing of land value in recent years due to the progressive decline in the availability of vacant land fuelling speculation in a less than efficient non-transparent land market has made it almost impossible for most of the city dwellers to buy land for building their own houses. For land markets to operate efficiently there needs to be a legal and institutional framework that clearly defines the rules for allocation of property rights and, by allowing cost-effective enforcement, encourages and facilitates land-related investment. Besides, there should also be reliable and complete information on land and property right, which should be made easily available to interested parties. Access to land information would then allow for low-cost verification of land-ownership status, which in turn would form the basis for low-cost land transfers to more productive use or users and may facilitate the use of property as collateral in financial markets. While Bangladesh has long had the legal and institutional framework with rules for allocation of property rights, it is the processes (which makes access to information difficult), and inadequate transparency in the enforcement and application of processes that are causing the different land related problems including price speculation, and land grab by the influential.

Rising cost of building material and challenge relating to trade and investment policies: Apart from land, the availability and cost of building materials also exert significant influence on the supply of housing. In Bangladesh, building materials is considered as the second most important factor influencing house construction. Building materials are in most cases expensive and the supply is erratic. While there is a growing industry producing different building related materials, the raw materials and inputs are imported. There are trade protection related issues, which may be affecting prices at the consumer level, and this needs to be looked into in the context broad trade policy. Besides, Bangladesh has investment climate related issues, which will have to be resolved to better address the rising material cost related challenge.

9.3.3 Urban Transportation Challenge

Poor transport inhibits growth of cities and makes them dysfunctional, with depressing effect on economic growth. Rapid urbanization in Bangladesh during the last few decades increased transport demand quite significantly leading to manifold increases in the number of motorized and non-motorized vehicles on city streets. Extreme traffic congestion is the main problem of urban road space of big cities in Bangladesh. This problem is acute in Dhaka, but it is also problem in other cities and urban centres. Inadequacies and lack of capacity in transport planning and inefficient traffic engineering result in low quality traffic management. Mass transit facilities are poorly organized and dominated by slower forms of vehicles such as rickshaws. Buses are in short supply and there is hardly any metro or rail system to handle day-to-day commuter traffic.

9.3.4 Problems of Urban Road Space and their Causes

The potential causes of ever increasing chaos and congestion of urban traffic in Bangladesh are mainly attributed to the following:

1. **The Varied Traffic Mix:** Heavy concentration of motorized and non-motorized smaller vehicles with almost 80 per cent of the available road space occupied by private passenger cars and rickshaws is expected to continue in the foreseeable future.
2. **The Absence of a Dependable Public Transport System:** It is unfortunate that despite being a megacity with about 14 million residents, Dhaka does not have a Mass Transit (MRT) in any form to move a huge number of people at high frequency. Public transport in Dhaka is road based and consists of non-motorized such as rickshaws and motorized transport such as buses, minibuses, human haulers, taxis and auto rickshaws. As the motorized vehicles are short in supply, rickshaws dominate about 500,000 rickshaws plying the streets of Dhaka. Buses are the only mode which can carry a large number of people at one time and has the potential to cater to all income groups. But the number of operational buses is not more than 20 to 25% of the number required to meet the demand. Moreover bus service in the city is characterized by overcrowding, lengthy waiting, difficulty in transferring from one route to another, long distance to and from bus stop. So many routes, few buses with frequent unauthorized stoppages hamper free movement of traffic all around the big cities and highways.
3. **Inadequate Road Infrastructure:** Urban road network should usually consist of primary roads, secondary roads, collector roads and access roads. As almost all the urban centres in the country are not planned, road networks, intersections and links have not been built on the basis of modern principles of road design. The problems are worse at intersections. The road space not only fails to meet the minimum requirement in most of the big cities, but also does not cater to the needs of the pedestrians, cyclists, disabled or the children.
4. **Inadequate Traffic Management Practices:** Substantial road space is unavailable to road users, slow and fast moving traffic and pedestrians are unsegregated, traffic signal timings are inappropriate, and there is inadequate enforcement of traffic regulations. Dhaka Urban transport network Development Study (2010) identified the following traffic management problems in Dhaka city:
 - Lack of traffic discipline
 - Lack of pedestrian facilities
 - Lack of traffic operation by traffic police
 - Lack of traffic management facilities
 - Lack of traffic signals/proper functioning of existing traffic signals
 - Lack of education for drivers
5. **Undue Encroachment of Road Space:** Encroachment of road space by vendors and traders is quite common and leads to chaotic situation on roads in busy areas. Also the lack of planning control has led to inappropriate roadside developments. In many busy areas informal kutchha bazaars (fish and vegetable market) springs up on roads leading to reduction of road width, which obstructs vehicle movement and clog the surface drains with garbage resulting in drainage congestion. Use of road space for keeping construction materials during construction

of buildings along the roads also leads to traffic congestion in many places. Pedestrians also walk on the roadway when sidewalks are used by hawkers or for car parking.

6. Poor Road User Behaviour: Lack of education and awareness on the part of road users, especially drivers and pedestrians, also results in accidents and indiscipline on the roads. Pedestrians are frequently found to cross wide and even busy streets everywhere and any time risking their life. Due to lack of any system of drivers' education rickshaw pullers and drivers of motorized vehicles do not understand traffic rules and often violate such rules leading to traffic congestion and even accidents.

Water Supply

Availability of clean water is essential for human well-being. Access to potable water is closely linked with health, nutrition levels, labour productivity and economic growth. The existing situation with respect to urban water supply is not satisfactory. Although there has been an increase in the percentage of people having access to piped water, 59.18% still have to depend on private hand tube wells. A small percentage of urban population, however, uses pond/river or other sources of drinking water.

On a disaggregated level, Dhaka Water Supply and Sewerage Authority (DWASA) provides water to about 12.5 million people within its service area. It can meet about 90% of the total requirements within its service area, which stands at 2250 millions of litres per day (MLD). In Chittagong, 50% of the population is served by piped water supply system while in Rajshahi and Khulna 40% and 20% of the population have access to public water supply system, respectively. The situation, however, is extremely bad in district towns where piped water supply covers only 19% of the population who lie mostly in the core areas.

The urban piped water supply could only marginally keep pace with the increased urban population through expansion works in existing piped supply systems but the reliability of these systems remained far from adequate due to a variety of reasons including inadequate power supply, non-payment of electricity bills and lack of competent staffs in municipalities. As a result most households have hand pump tube wells despite having connections to piped system. Besides, a large portion of urban population (about 40% according to DPHE) live outside piped water supply service areas and resort to hand-pump tube wells only. So, the huge numbers of hand-pump tube wells used in urban areas have not been screened for arsenic contamination and the risk of being exposed to arsenic contamination remains.

Sanitation

Most of the urban residents do not have any connection to a public sewerage system. The simple latrine connected to septic tank system is the most widely used form of sanitation for urban residents in Bangladesh. This needs to change to reduce health risks. However, the use of sanitary toilet facilities in urban areas increased during the last three decades, with increase from 32.4% of urban households using sanitary toilet in 1981 to 76.12% in 2010.

Solid Waste

The health and well-being of urban residents depend largely on proper management of solid waste. Municipal solid waste management efforts in Bangladesh often focus on collection and

disposal of solid waste while cost-effective opportunities involving waste reduction programmes and recycling strategies remain mostly unexplored. Even in case of collection and disposal of waste there is hardly any proper management methods in most of the urban centres. In Dhaka City, only 60% of the solid wastes generated daily is collected by the City Corporation, while for Rajshahi, Khulna and Barisal cities the figures are only about 57%, 48% and 44% respectively. However, better in Sylhet and Chittagong cities where about 76% and 70% respectively of the generated wastes are collected, though still a big challenge. The solid waste management situation in most of the secondary towns is also unsatisfactory due to the technical and financial capacity of the towns.

9.3.5 The Challenge of Urban Poverty

Poverty in Bangladesh, as in most other developing countries, has long been associated with rural areas. But with rapid urbanization during the last few decades, poverty has increasingly been urbanized by way of transfer of the rural poor to urban areas. Urban poverty can to some extent reflect active rural–urban migration. This is because cities offer better opportunities for individuals to earn a living and improve their welfare. Efficient urban development can play a major part in combating national poverty, mainly through ensuring better life for the poor migrants and creating opportunities for growth of industrial, commercial and service activities which can become the engine of growth for the national economy. However, realization of the potential gains of migration from rural to urban areas depends on how well cities and towns manage growth, provide good governance, and deliver services for households and private-sector enterprises.

9.3.6 Incidence of Urban Poverty in Bangladesh

The incidence of urban poverty over the years 1995 to 2010 as found on the basis of these definitions is presented in Table 9.8.

Table 9.8: Incidence of Poverty (head count rate) by Divisions, 1995-96 to 2010

	2010			2005			2000			1995-96		
	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
<i>Upper Poverty Line</i>												
National	31.5	35.2	21.3	40.0	43.8	28.4	48.9	52.3	35.2	53.1	56.7	35.0
Barisal	39.4	39.2	39.9	52.0	54.1	40.4	53.1	55.1	32.0	59.9	60.6	47.7
Chittagong	26.2	31.0	11.8	34.0	36.0	27.8	45.7	46.3	44.2	44.9	47.2	29.2
Dhaka	30.5	38.8	18.0	32.0	39.0	20.2	46.7	55.9	28.2	52.0	58.9	33.6
Khulna	32.1	31.0	35.8	45.7	46.5	43.2	45.1	46.4	38.5	51.7	51.5	53.3
Rajshahi	35.7	36.6	30.7	51.2	52.3	45.2	56.7	58.5	44.5	62.2	65.7	33.9
Sylhet	28.1	30.5	15.0	33.8	36.1	18.6	42.4	41.9	49.6	--	--	--
<i>Lower Poverty Line (Extreme Poverty)</i>												
National	17.6	21.1	7.7	25.1	28.6	14.6	34.3	37.9	20.0	35.6	39.8	14.3
Barisal	26.7	27.3	24.2	35.6	37.2	26.4	34.7	35.9	21.7	43.9	44.8	28.9
Chittagong	13.1	16.2	4.0	16.1	18.7	8.1	27.5	30.1	17.1	32.4	35.3	12.1
Dhaka	15.6	23.5	3.8	19.9	26.1	9.6	34.5	43.6	15.8	33.0	41.5	10.8
Khulna	15.4	15.2	16.4	31.6	32.7	27.8	32.3	34.0	23.0	32.2	33.2	25.8
Rajshahi	21.6	22.7	15.6	34.5	35.6	28.4	42.7	43.9	34.5	41.6	44.4	19.2
Sylhet	20.7	23.5	5.5	20.8	22.3	11.0	26.7	26.1	35.2	--	--	--

Source: HIES Reports of Various Years, Bangladesh Bureau of Statistics.

The data indicate that both urban and rural poverty decreased between 2005 and 2010 but the decrease was higher in urban areas than in rural areas. However, a large section of the urban

population which official statistics classify as not being among the 'poor' still face serious deprivations because of inadequate asset bases and inadequate access to basic services. Thus, a discussion of urban poverty in terms of income or calorie intake, does not give any idea about the extent to which the urban poor have access to urban infrastructure and basic services like shelter, water, sanitation, drainage, waste management, health, etc. This is a growing challenge that has to be recognized and brought to the forefront and will require designing of appropriate strategic interventions.

9.3.7 Challenge of Spatial Imbalance in Urbanization

As stated earlier, one feature of urbanization in Bangladesh is the regional or geographical imbalance in the level of urbanization. There is also increasing spatial variation of urban development and income even within large metropolitan areas, particularly in Dhaka. Regional imbalance of intra-city inequality may give rise to social dissatisfaction.

However, there is also an urban system in Bangladesh in terms of spacing of urban centres, with at least secondary city in each administrative division and a large town in each of the district towns other than the divisional headquarters. Each of the 490 Upazilas has a small town.

The challenge in this area is basically in creating a more balanced hierarchy of urban centres by size and function. District headquarters particularly need to be given more attention to make them capable of providing higher order services. Similarly Upazila level towns can be strengthened. Basically, there is need for functional decentralization. This demands local urban governments.

Challenges of environmental Management: Degradation and Pollution, Climate Change and Natural hazards.

The greatest challenge of rapid urbanization on a massive scale is in the form of degradation of the urban environment, of the kind which we now experience in Dhaka. Its air, water, and soil have already been polluted to a dangerous level. Many of our cities are also unfortunately vulnerable to major natural hazards like flood, riverbank erosion, cyclones, earthquakes etc. The frequency of occurrence and also the severity are likely to increase with the threat of climate change. With rapid urbanization urban physical expansion takes place fast and more areas in agriculture and forests get converted to built-up areas. Wet lands are encroached upon and hills cut down. Rivers are grabbed and polluted. Extreme dearth of open spaces, park and play ground, reducing scope of recreation for children, women and elderly. There is also a challenge in establishing a minimum standard of visual aesthetics in urban areas.

Challenge of Institutionalizing Urban Vision, Policymaking, Urban Planning and Planned Urban Development:

Sustainable urban future depends on a proper vision. Policy and long term and short term policy. The country is still lacking a comprehensive national physical plan or land use plan which was highlighted in the 1st FYP, though the Planning Commission had recognized the importance of the urban sector (as evident in the Sixth 5 Year Plan and the Perspective Plan). The Cabinet is yet to approve the Urban Sector Policy, the first complete draft was completed

in 2006 and the final draft forwarded for approval in 2014. Absence of an officially approved policy is a big hindrance to planned urban development. In this sector human resource shortage is a constraint.

9.4 POLICY AND REGULATORY FRAMEWORK IN THE URBAN SECTOR

9.4.1 Institutional Framework for Urban Governance and Management

Towns and cities have tremendous potential to stimulate economic and social development, especially by creating jobs and innovating ideas and technologies. Such potential, however, cannot be realized if cities and towns are badly managed. One of the main reasons why our urban centres are beset with problems is the inadequacy in the institutions and the institutional framework for their management and development. Currently too many agencies are involved in regulating the functioning and development of cities and towns and providing services to citizens. At present urban development activities in Bangladesh are carried out mostly by central government organizations. There are at least eighteen main ministries and 42 organizations, which are involved in the development of urban areas.

9.4.2 Central Government Agencies

National level agencies provide services to different urban areas including city corporations, pourashavas and other urban centres as part of their national responsibilities. Some of the important national agencies are Urban Development Directorate (UDD), National Housing Authority (NHA), RAJUK, CDA, RDA, KDA and the Public Works Department (PWD) under the Ministry of Works, the Department of public Health Engineering (DPHE) and the Local Government Engineering Department (LGED) under the Ministry of Local Government, Rural Development and Cooperatives, the Roads and Highways Department under the ministry of Communication, the Directorate of Environment under the Ministry of Environment and Forest and the power Development Board under the Ministry of Energy and Mineral Resources. Other Ministries such as the Ministries of Commerce, Education, Finance, Agriculture, Youth and Sports, and Water Resources Development are also actively involved in the process of urban development mainly through their regional and local level agencies.

9.4.3 Special Purpose Authorities

There are also some special purpose agencies that provide special services to the city dwellers. These are Water Supply and Sewerage Authority, Electricity Supply Authority, Road Transport Authority, etc. There are four water and sewerage authorities i.e. DWASA, CWASA, KWASA, RWASA are working in four metropolitan cities of Dhaka, Chittagong, Khulna, Rajshahi respectively. The main responsibilities of DWASA are: (i) construction, operation and maintenance of water treatment plants, water abstraction facilities and water distribution system for providing drinking water to public, industries and commercial organizations, (ii) Development, operation, and maintenance of sewerage systems and sewage treatment plants, (iii) Development, operation and maintenance of storm drainage system to remove water-logging, (iv) Collection and disposal of solid waste. CWASA, KWASA, RWASA have similar roles.

The main function of BRTA is to administer the Motor Vehicle Ordinance. It administers the regulation and licensing of motor vehicles and routes permits and is also responsible for traffic standards and accident analysis. The authority is responsible for developing new routes and services, licensing bus vehicles, and operating stations for testing vehicles.

There are separate public utilities companies responsible for distribution of power and gas supply to the residential, commercial and industrial areas in the urban centres. Though BTCL provides fixed telephone connection services to the residential, commercial and industrial areas, it is private sector driven highly efficient mobile telephone system which has substantially taken over this role. The functions of all these organizations are important in urban development. The different special purpose authorities provide some of the most critical services important for bringing efficiency in functioning of the urban sector but regulated through different Ministries and their agencies.

9.4.4 Urban Local Governments

Two types of local government institutions exist in Bangladesh e.g. urban and rural. The urban local governments are of two types. At the Divisional Level, the City Corporation functions whereas Pourashavas function in other towns. At present there are 11 City Corporations and 325 Pourashavas in the country. *Pourashavas* or Municipalities again are classified according to financial strength (Table 9.9). In addition, there are also some urban centres that are under Cantonment Boards.

Table 9.9: Hierarchy of Urban Local Governments

Mega City	For example: Dhaka Metropolitan Area
City Corporations at Divisional Level	For example: Dhaka, Chittagong, Khulna, Rajshahi and Barisal
<i>Pourashavas</i> (Municipalities)	Number of <i>Pourashavas</i> - 278 in 2001, 325 at present
Category determined on income level	Annual income level
Class I <i>Pourashavas</i>	Average Population (2001) - 88,907
Class II <i>Pourashavas</i>	Average Population (2001) - 41,275
Class III <i>Pourashavas</i>	Average Population (2001) - 25,466

Source: Bangladesh Bureau of Statistics

At the local Level, *Pourashavas* is the basic planning and development authority. Through the Local Government (*Pourashava*) Act 2009, the *Pourashavas* authorities were empowered to prepare Master Plan, implement development schemes and exercise building control. According to existing legislation, an urban area must fulfil three characteristics before its declaration as such. Firstly, three-fourths of the adult male population of the area must be employed mainly in non-agricultural occupations. Secondly, such an area must contain a population of not less than fifteen thousand and thirdly, its population density should not be less than two thousand inhabitants per square mile.

The government may declare any urban area, other than a cantonment, to be a Municipality (*Pourashavas*); extend, curtail or alter its limit; and can also withdraw the municipal status of any urban area. A *Pourashavas* has to be constituted for every Municipality. Every *Pourashava* is to be a body corporate, with perpetual succession and a common seal and power to acquire

and hold property, both movable and immovable. The government may notify (in the official gazette) the specific name by which any Paurashava is to be known and unless that is done, it is to be known by its location.

There are three classes of Pourashavas in Bangladesh. The government gazette notification of March, 1992 updated the East Pakistan Local Council Service Rules, 1968, reclassified Pourashavas into three categories. Class 'A' Pourashavas are those that have an average annual revenue income from their own sources of over Tk. 60,00,000.00 in a three year period. Class 'B' Pourashavas are those having average annual revenue income between Tk. 25,00,001.00 and Tk. 60,00,000.00 in a three-year period. Class 'C' Pourashavas are those having average annual revenue income between Tk.10,00,000.00 and Tk. 25,00,000.00, The government gazette regularly updates the list of different categories of Pourashavas in the country. The classification is significant for various purposes. For example, the size of government grants varies according to the class status of the Paurashava.

9.5 REVIEW OF PAST POLICIES AND PROGRAMMES FOR MANAGEMENT OF URBANIZATION

9.5.1 Performance under SFYP

The quality of urban life and economic activities in urban areas largely depends on the provision of infrastructure and basic services. Efficient delivery of essential services such as water supply, sanitation, health, education, transportation, power, and telecommunication is critical for reducing poverty and improving welfare. Investments in improving the delivery of services (whether infrastructure related, social or regulatory) can make significant contribution towards raising productivity and accelerating the pace of economic growth. The quality of infrastructure and service provision in a city has also become increasingly important in attracting new investments. The SFYP strategy while recognizing the importance of the urban sector and its challenges and had proposed allocation of resources to address them. The Government, in turn, through the ADP broadly spent resources in line with the SFYP allocations

Urban transport Performance in Dhaka: Poor transport inhibits growth of cities and makes them dysfunctional. This may have depressing effect on national economic growth. Rapid urbanization in Bangladesh during the last few decades increased transport demand quite significantly leading to manifold increases in the number of motorized and non-motorized vehicles on city streets. The increase in the number of vehicles without concomitant expansion of road facilities and improved traffic management has led to severe congestion on roads and deterioration in urban environment. Such trends are likely to continue as further urbanization takes place. Unless properly checked and controlled, the consequent growth in congestion and pollution will adversely affect the health and quality of life of the urban residents. The cost to economic growth from the loss of excessive time spent on commuting can also be enormous.

One of the urban challenges to growth that SFYP particularly addressed was improving the Dhaka city transport system. The goal and vision for Dhaka has been to take short, medium and long-term measures to develop a multi-modal integrated and safe transportation system for

the city. Better traffic management measures and increased public transport including metro-rail are part of that strategy.

A number of measures had been undertaken to improve on multimodal and integrated urban transport system. Some have been completed. These include flyover/overpasses that have been completed on the airport road helping avoid two railway level crossings and connecting Mirpur and the Bashundhara and the Purbachal new town. Besides, a major flyover connecting Gulistan with Jatrabari has been completed under PPP easing up entry and exit to the city from Narayanganj area. There is also a PPP contract for building the Dhaka Expressway connecting Uttara and Kamalapur. However, implementation has been extremely slow and way behind original time frame of completion. As part of the multi modal transport system commuter DEMU (Diesel Electric Multiple Unit) train service has been introduced. A project to introduce metro rail system has been taken up with support from JICA. Formal implementation of the project is yet to start. Another addition has been new east-west connecting roads as part of the Hatirjheel project.

While some new infrastructure addition has been made, Dhaka continues to face increasing traffic congestions. The broader governance, institutional challenges, and inadequacy in traffic management along with timely completion of the different projects stood in the way of fully achieving the SFYP urban transport goals.

Strategic Transport Plan of Dhaka: Dhaka Transport Coordination Authority (DTCA) prepared a comprehensive transport plan for greater Dhaka city which was approved in 2008. This project come up with some good proposals of “pedestrian priority”, Bus Rapid Transit routes, Metro lines, construction of link roads, underpass, elevated highway and construction and improvement of roads for supra-urban connectivity with adjacent urban areas of Dhaka city. Presently, DTCA has taken initiative to revise this plan under the title “Revision of Strategic Transport Plan”. All the departments working in the transport sector in greater Dhaka city will have to conceive their projects in accordance with the proposals of STP to avoid duplication and ensure planned development.

Ministry of Housing and Public Works – Performance, Issues, and Lessons Learnt

In the urban areas the public sector has probably contributed directly and indirectly to more than 10% of all urban housing activity during the last 40 years. The formal private sector has become visible recently but its activities are limited to one or two large cities. Apart from the limited number of sites and services projects developed by RAJUK, CDA, KDA, RDA, NHA, and private developers, core housing, flat for sale and slum upgrading and rehabilitation schemes for general public, public housing has primarily catered to the needs of the public servants. Due to the inability of the formal system to supply housing to the growing number of urban poor population, the informal sector has largely taken over the process of supply. Its contribution to the total supply is about 60% mainly in the form of self-built houses.

Review of past development policies (last five years), strategies, programmes/projects under RAJUK.

RAJUK, in order to have an updated scenario on the overall situation, has reviewed number of relevant plans and policies to help in framing of overall development strategy its territory in Dhaka. The most significant of these documents are Dhaka Metropolitan Development Plan (DMDP) 1995-2015, Detailed Area Plan (DAP) 2010-2015, Strategic Transport Plan (STP), 2006. Dhaka Urban Transport Network Development Study, 2010 (DHUTS), Revised Dhaka Structure Plan 2016-2035 under RDP (Regional Development Planning), Sixth Five Year Plans, Annual Development Programme (ADP), DWASA Drainage Master Plan. The challenge has been implementing the plans and enforcing regulations as discussed below.

○ Review of DMDP Structure Plan 1995-2015

Dhaka Metropolitan Development Plan (DMDP) was prepared in 1995 by RAJUK for its entire 1528 sq.km area. It was a package of three plans- Structure Plan, Urban Area Plan and Detailed Area Plans. The review of the status of implementation of the Structure Plan gives a frustrating picture. Most proposals were vastly ignored and remained unattended. DMDP Structure Plan Proposed 31 Policies under 4 Sectors like, Spatial and Environmental Sector, Urban Area Policies, Socio-Economic Sector, Infrastructure Sector etc. of which only 8 Policies were partly implemented and 23 policies were not implemented at all. It has also been found that three-fourth of all the policies remained fully unimplemented & remaining was partly implemented. The city failed to gain the benefits of the policies and recommendations of the DMDP Structure Plan.

○ Review of DAP 2010-2015

The major focus of DAP regulate the land development for which it prepared a land use zoning plan within RAJUK area, and second, to lay down the framework for development of future infrastructure and services. While the first objective has been partially achieved, the second focus has largely been ignored. But developments have been observed in many places where land uses are being cropped up ignoring the land use zoning plan. In such cases, either the developer violates his approved permission or totally ignores RAJUK by not seeking any permission. RAJUK has limited manpower to look into all such cases of violation. In many such cases it simply ignores and overlooks, as the rich and the powerful mostly responsible for these violations.

Regarding infrastructure development no step has been taken to implement any of the DAP proposed infrastructure. This has hampered planned spatial growth of the city and deprives the new developers, particularly in the city fringe. There are over two dozens of service giving agencies under different Ministries within RAJUK area with their own plans and programmes and this is a challenge for coordinated implementation of DAP or the other plans listed above.

Lessons learned from past development interventions and key constraints.

- Revision of plan documents such as DMDP, were not done timely

- Failure of disseminating the plan documents
- Plan implementation does not get proper attention.
- Absence of Leading Apex Body

A multiplicity of agencies, under different ministries is working for Dhaka's development and management. But there is hardly any coordination among them. Every agency follows the instructions of its parent ministry and if there is no prior understanding one agency hardly follows the plans and programmes of any other agency belonging to a different ministry. City development plan proposals often involve a variety of agencies to execute development proposals, but they are often thrown into uncertainty in absence of concerted effort by responsible agencies.

- Lack of coordination among public sector agencies
- Absence of interaction with the local governments
- Inter department relationship and coordination, enforcement of orders and laws, dissemination of plans, delivery of services, professional skill are all parts of governance.
- Lack of manpower for development activities.

The other urban development agencies under the Ministry of Housing and Works, viz. CDA, RDA, KDA, NHA face similar issues and similar implantation constraints.

Table 9.10: Project Allocation and Expenditure under PPWS&H Sector for DSCC

Financial Year	No. of Projects	Total Amount of ADP Allocation (Tk. crore)	Total Expenditure (Tk. crore)	No. of Completed project
2010-11	10	246.64	223.53 (90.63%)	2
2011-12	4	40.51	40.50 (99.98%)	-
2012-13	4	158.50	157.02 (99.06%)	-
2013-14	4	190.52	190.52 (100%)	2
2014-15	2	60.00	60.00 (Targeted)	1 (Targeted)
	Total	696.17	671.57	5

Table 9.11: Achievements of PPWS&H Sector in DSCC Projects in 2011-2015

Item of work	Unit	Achievement
Development of Road	Km	720.38
Construction of Drains	km	644.38
Construction / Development of Footpath	km	234.12
Construction of Flyover	no.	1
Construction of Road Median	km	20.30
Construction of Kitchen market	nos.	1 (on going)
Construction of Foot over bridge	nos.	11
Intersection Development	nos.	20
Installation of Solar Panel and Count-down timer	nos.	40

Item of work	Unit	Achievement
Installation of new signal and Solar Panel and Count-down timer	nos.	13
Improvement of Lake	no.	1
Construction of Mohila College building	no.	1
Construction of Community Centre	nos.	5
Construction of Cleaner Colony	nos.	10
Construction of Mondir	no.	1
Construction of cremation Centre.	no.	1

Master Plan of Urban Local Bodies (ULBs)

It is essential for the country to develop its urban areas in a planned manner. As per the population and housing census, -2011 the numbers of urban centres in Bangladesh is 506 among them 11 are City Corporations, 324 are Pourashavas and others are Upazila Headquarters. Local Government Act 2009 has given the mandate to the City Corporations and Pourashavas to prepare Master Plan for their jurisdiction areas. However, as those master plans prepared so far are physical/engineering in nature with weak link with the socio-economic and environmental plans of the same areas. Weak link with the national development plan like Five Year Plan also seriously hampers the implementation of such plans.

- At Present, all the City Corporation areas have their Master Plan. Among these, RAJUK has covered 4 city corporations within its jurisdiction area, CCC is within the CDA plan, KCC is within the KDA plan and RCC is within the master plan of RDA. Master Plans of Rangpur and Comilla city corporations have been prepared by the technical assistance of LGED and Sylhet and Barisal City Corporation areas' master plan were prepared by UDD.
- Besides, 3 tier (Structure Plan, Urban Area Plan and Ward Action Plan) Master Plans of 242 Pourashavas have been prepared by the Technical assistance of LGED and 14 Upazila Master Plans have been prepared by the National level planning organization UDD.
- Recently, LGED has started preparing Action Area Plans for Narayanganj and Gazipur City Corporation areas with an intention of immediate project implementation.

9.6 URBANIZATION STRATEGY UNDER THE 7TH PLAN

Creating an urban vision for the country is important. Bangladesh will pursue towards compact, networked, resilient, competitive, inclusive and smart urban development. The following objectives will be the guiding principles for the overall development of the urban sector:

1. Ensuring regionally balanced urbanization through polycentric decentralized development and hierarchically structured urban system;
2. Ensuring legitimate comprehensive development plans for future development of urban areas of Bangladesh;

3. Facilitating economic development, employment generation, reduction of inequality and poverty eradication through appropriate interventions preferably through public-private partnerships;
4. Ensuring better utilization of land resources and mitigating increased demand for housing and urban services;
5. Protecting, preserving and improving the urban environment, particularly those of the water bodies;
6. Devolving authority at the local urban level and strengthening local governments through transfer of appropriate powers, governance improvement programme, capacity development activities, so that these can improve on resource mobilization, provide better service delivery and regulatory functions, and undertake responsibility for planning and implementing a wide range of , infrastructure provision;
7. Involve as much as possible the community, including women and the poor, in participatory decision-making and implementation processes;
8. Involving public and private agencies with the urban local government institutions and ensure inclusiveness in planning and implementation of service delivery.
9. Strengthen coordination among urban service providers.

9.6.1 Urban Governance Strategies

In order to strengthen the beneficial aspects of urbanization and at the same time to achieve sustainable urbanization, policies and strategies are proposed keeping in view the multi-dimensional nature of urbanization process. In this respect good governance need to be ensured through accountability, responsiveness, equity and inclusiveness in the urban bodies. Urban governance, therefore, will be based on a holistic and comprehensive view of urban development and should encompass institutional strengthening and capacity building, governance improvement, decentralization, community participation, and involvement of the public and private sector in the development of the urban sector. More specifically the strategy will include:

1. Decentralization: A prudent decentralization programme would be followed and will include the following;

- The simultaneous decentralization of responsibilities, resources, and autonomy;
- Strengthening of local government capabilities, powers, and responsibilities;

2. Institutional Reform at the Local Level: Reforming the urban local government institutions is a pre-requisite to any meaningful attempt to evolve an efficient urban system. This would include strengthening and democratization of urban local governments such as pourashavas and city corporations. Moreover, financial support from central government is especially critical in poor regions where local authorities often fail to generate sufficient revenue at the local level but where provision of infrastructural facilities is very important for economic growth.

3. Strengthening of municipal capacity: Capacity-building efforts at municipal level should focus on augmenting human resources in line with the discharge of responsibilities in

major areas of urban planning, community mobilization, and ICT. This will generally imply augmentation of municipal manpower, training and equipment of such manpower, and often a review of the terms and conditions of employment of municipal staff, particularly remuneration levels and career perspectives.

4. Mobilization of resources: The focus of such efforts should be on augmenting municipalities' own resources through automation of property tax and introduction of software-based holding tax assessment, enhancing the effectiveness of intergovernmental transfer of resources to municipalities. Effectiveness of local government current and capital expenditures should be improved. Adequate financing is necessary for sustainable infrastructure systems. Governments (central and local), donors and private actors are major funding sources. In most cases, central government has maintained responsibility for infrastructure provision. Intergovernmental transfers have been the primary source of finance for local governments. In view of public sector budget deficits and competing demand from social sectors, more reliance will be placed on local sources as explained below:

Local revenues: Local urban government is most appropriate to set priorities and finance urban infrastructure investments. But this is not possible given the current state of local government revenues. Capabilities of urban local governments to mobilize resource at the local level are poor. They depend mostly on intergovernmental transfers for infrastructure investments, which often fall short of requirements. Local government finances, therefore, need to be strengthened and made less dependent on central government grants. Emphasis should be placed on local-level resource mobilization through improved assessment and collection practices, improved local administration techniques, more effective budgeting systems, as well as more efficient infrastructure investment planning and programming, and operation and maintenance improvements. Changes are therefore needed in assessing and collecting holding tax, for which the data management system will have to be modernized. Computer-aided information management system will be adopted as soon as possible to significantly improve current collection and reduce arrears.

User charges: User charges are designed to generate revenues to cover operating and finance costs as well as to contribute to investment budgets. Revenues generated by the users should be earmarked for capital investment in the services to ensure their continuous provision and necessary extensions. Capital cost of connecting additional users to an infrastructure network has to be separated from the capital cost of expanding the capacity of the whole system. Expanding the capacity of the whole system often requires large investments, which cannot be attributed to a single group of users but should be incorporated into the overall tariff structure. Where possible, user fees should be directly linked to the level of consumption rather than being imposed as monthly charges. Equity should be integrated into a user fee-financed service by offering special programmes for those least able to pay, not by lowering price for all consumers but through "lifeline" rates which are set below costs for a minimum level of consumption regarded as basic, and then rise with further discretionary usage.

Betterment levies: Provision of infrastructure enhances the value of land which was previously un-serviced. For equity and distributive reasons, it is logical that landowners should return the

land-value windfall profit that resulted from public investment. Betterment levies are charges imposed on landowners who are expected to enjoy land-value increases as a result of investment. These levies should be designed to cover the costs of public investment as much as possible. Since the benefits exceed the cost of investment, the landowners are usually left with a private surplus.

Land readjustment: It can be thought of as an in-kind system of betterment levies appropriate for land development on a large scale. Its success depends on direct participation of the landowners in developing their lands. At first, a plan acceptable to the landowners and the local authority is prepared. The areas required for public use, such as streets, parks, schools and other community facilities are set aside, leaving lots for private development. The cost of providing the infrastructure for the entire area as well as the market value of the improved land is then calculated. A portion of the land, the estimated market value of which equals the cost of development, is then transferred to the local authority in return for carrying out the investment. The major advantage of land readjustment is that land acquisition is not required to provide infrastructure for developing land.

Borrowing: The long service life of infrastructure investments such as water and sewer systems and roads, justifies shifting part of the burden to future generation of users who will benefit from current investments as well as contemporary users. Borrowing, therefore, could be an important funding source. Local governments, however, have limited ability to borrow because of inadequate own-source revenues for debt repayment. One possibility for providing local governments a borrowing option is the use of infrastructure development bank. The creation of ‘Municipal Development Fund’ (MDF) is a right step in this direction. It should be gradually transformed into an Infrastructure Development Bank with activities guided by market forces. It should also have guidelines on creditworthiness of the borrowing local government.

5. Establishing Transparency and Accountability: Transparency and Accountability are indispensable for efficient urban management. Transparency is widely recognized as a core principle of good governance. There are quite a good number of tools which can be used to enhance transparency and accountability as shown below which is proposed to be pursued:

- a. Participatory budget
- b. Annual development report
- c. Open-door policy
- d. Transparent e-tendering process
- e. Standard auditing and accounting
- f. Anticorruption policy
- g. Public feedback mechanism:
- h. Codes of ethics
- i. Conflict of interest laws
- j. Disclosure law
- k. Inter-sectoral agency coordination

9.6.2 Urban Housing Strategies

The government's main role will be a regulator and facilitator rather than a provider of low-cost housing. This requires actions to ensure a competitive but regulated market in land, housing finance, building materials and to remove unnecessary bureaucratic constraints at different stages of housing production.

1. Helping the Land Market to Work Efficiently: The government's role will increasingly be on modernizing the legal and regulatory framework and computerizing the land record system so as to encourage and support land markets that can respond to the variety of demands from different individuals, households and enterprises and investors. Land market will function effectively if they are characterized by ease of entry and ease of buying and selling which in turn depend on good information system about land, including who owns or has rights to each plot, secure tenure arrangements and appropriate registration and recording mechanisms. Private land market can also function effectively within the law if the rules and regulations that landowners or developers must follow are clear and do not require unnecessary expense and where any need for formal permission or approval of a plan takes place efficiently, within a system that is transparent and time bound. Many land developers currently operating illegally could also operate more effectively within the legal system as this would considerably increase the possibilities open to them for obtaining credit.

2. Creating Efficient Housing Market: A well-functioning housing market can respond to housing demand in an efficient way. For encouraging efficient private sector participation in housing delivery, an enabling framework for actors in the market will be created through continuous assessment of housing demand and supply as well as collection, analysis and dissemination of information about housing markets on a regular basis. Inappropriate interventions that stifle supply and distort demand for housing and services will be avoided and legal, financial and regulatory frameworks including land use, building codes, building control and building standards will be reviewed and adjusted from time to time. Step should be taken for periodic assessment of the requirements of government intervention to meet the specific needs of people living in poverty and vulnerable groups for whom traditional market mechanism fails to work; and implementation of legal and regulatory reforms for better operation of housing markets. Proper functioning of housing markets also requires efficient and updated housing registration system. Steps will be taken to simplify the procedure and improve the efficiency of the recording, registration, and mapping of house ownership and transactions. Laws will be reviewed and reform measures will be under taken to improve present registration system so that it can facilitate acquisition of houses, provide security of ownership and ensure more efficient house transfers. Appropriate fiscal measures, including taxation should be applied to promote adequate supply of housing and land In Bangladesh almost no attention has been given on taxation policies that discourage speculative investments in land that is left undeveloped for extended periods of time. Tax burden on vacant urban land is negligible. Sky-rocketing of land value in recent years encouraged wealthy people to invest on urban land where rate of return is very high. Prudent use of capital gains tax can act as a disincentive for large speculative land holdings. It can also help regulate land price and provide a stimulus to develop all land to its full potential. It can also generate revenue for financing urban development.

3. Improving the Mechanism for Financing Housing: The financial system of Bangladesh plays a limited role in the financing of housing investments and the cash economy remains a larger driver of real estate investment in the country. This needs to change creating better access to housing finance thorough reforms in land administration, regulatory environment, and financial sector deepening to make available long term financing to overcome the main challenge of expanding access to the middle- and lower-income groups, and developing housing and housing finance markets that are both sound and accessible for all. A comprehensive strategy will be developed and pursued together with finance for housing, in parallel to a housing policy and in particular the expansion of affordable housing. The key components of the strategy includes:

- Strengthening the foundations of the mortgage system by reinforcing the efficiency of mortgage collateralization and investing in the overhaul of the land registration system and early completion of computerization of land titling and land registration. Such a strengthening is a prerequisite to widen the access to housing finance and attract capital market funding.
- Enhance the mobilization of long term resources for housing: allow a diversification of institutional and National Savings Certificate (NSS) portfolios consider the creation of a market based refinancing facility, create “housing Deposit Pension Scheme (DPS)”.
- Stimulate the efficiency and the dynamism of the mortgage market by ensuring a level playing field and restructuring BHBFC.
- Consider rationalizing the mosaic of implicit subsidy mechanisms to develop a policy of well targeted assistance involving the leverage of public support by market resources
- Develop tools to assess and manage real estate related risks, including market monitoring and transparency and enhanced prudential regulation.
- Ensure favourable environment for implementers with the provision of low cost, high tech and speedy execution in case of PPP in housing.

4. Providing Basic Infrastructure and Services: Provision of adequate and affordable basic infrastructure and services is essential for safeguarding health, safety, welfare and improved living environment of the people. Basic infrastructure and services at the community level include delivery of safe water, sanitation, waste management, social welfare, transport and communications facilities, energy, health and emergency services, municipality services, schools, public safety etc. Central government agencies and the local government bodies have the primary responsibility to provide or enable delivery of services. There are, however, a host of other actors, including the private sector, community based organizations and non-governmental organizations that can participate in service provision and management under the coordination of local authorities /urban local bodies. To ensure more equitable provision of basic infrastructure and service delivery system, it is necessary to establish support mechanisms to enable people living in poverty and the disadvantaged to have access to basic infrastructure

and services. Steps should also be taken to involve local communities, particularly women, children and persons with disabilities, in decision-making and in setting priorities for the provision of services.

5. Supporting Development of Appropriate Building Materials and Technologies:

Appropriate steps should be taken to encourage and support the establishment and expansion of environmentally sound, local building materials industries. Such supports may take the form of legal and fiscal incentives and provision of credit. The use of environmentally sound, affordable and accessible building technologies should be encouraged, and steps should be taken to facilitate transfer of such technologies. Special emphasis should be given on research and development activities for enhancing the local capacity for environmentally sound production of building materials and construction techniques.

9.6.3 Urban Transportation Strategies

Cities are the major sources of national economic growth while transport is considered as the lifeblood of cities. Poor transport system inhibits growth of cities and makes them dysfunctional. The main objective of urban transport strategies should be to support sustainable urban development. Following strategies are therefore proposed under the 7th Plan:

1. Developing Public Transport Alternatives: For reducing congestion in all city roads, especially in Dhaka Metropolitan Area, steps, therefore, should be taken to increase the number of large-size buses including double-decker buses on trunk routes and buses of optimum sizes on other routes. Introduction of Rapid Bus Transit through the use of high capacity dedicated bus lanes should be given high priority. Rail-based mass transit systems will also be built as parts of a long-term integrated transport strategy for Dhaka Metropolitan Area.

2. Non-motorized Transport Modes (NMT): In Bangladesh, non-motorized transport modes (rickshaws/vans) account for largest share of transport services (excluding walking) in urban areas, especially in small and medium towns and this is likely to continue in the near future. Since these modes develop spontaneously, they remain largely outside the normal process of transport planning. Rickshaws will continue to be an important transport mode in small and medium towns in the foreseeable future. Traffic rules and management in these towns, therefore, should focus on rickshaws. In metropolitan areas (such as Dhaka and Chittagong) the rickshaws will continue to play its role but at a lower level of importance. In these areas, this should serve as the feeder mode. In the capital city rickshaws have become an unavoidable part of the transport system because of the dependence of a huge number of people on this mode either as passengers or as operators. Therefore, drastic measures to free major arterial roads from rickshaws cannot be taken without adverse social impact. Such measures should be accompanied by rehabilitation plan for rickshaw pullers and provision of alternative modes for the passengers. In other urban areas, the urban local bodies should impose strict control over the number of rickshaws/vans. Unlicensed rickshaws/vans should not be allowed on roads and licensing procedure should be modernized so that fake licenses cannot be issued.

Other non-motorized transport, such as bicycles should be considered as forming part and parcel of a long term urban transport solution and therefore investments should be oriented

towards this way of transport. Dedicated bicycle lanes will be established where possible and promoted in city areas. Walking is a main way of transport for the urban poor, suggesting significant investments in walkways and rearrangements of public space in favour of pedestrians.

3. Strengthening Linkages with Cities and Towns around Metropolitan Areas: One way of easing pressure on housing and transportation sectors of metropolitan areas, especially the capital city, is to strengthen transportation linkages with surrounding urban centres. Comfortable bus and rail-based commuter services will be provided to encourage people to stay in surrounding satellite towns and commute to their work places in the city. This will take some pressure off the city roads.

4. Coordinated Development of Land Use and Transportation: While planning for new infrastructure, considerations should be given to developing an effective road hierarchy, giving access to underused land, and creating safe environmental areas. It is also essential to channel the growth of an urban area in such a manner that it is guided by the transport network rather than the transport system being guided by the urban form that develops. Land use planning, therefore, should be directed towards developing transport corridors early so that urban growth takes place along such corridors and not in a haphazard manner. Emphasis should also be given to coordinated land-use and transport planning in order to encourage spatial development patterns that facilitate access to such basic necessities as workplaces, schools, health care, markets, places of worship, and leisure, thereby reducing the need to travel.

Most of the urban areas in the country have grown around a central core. Such urban areas, which revolve around a single node having concentration of jobs and major activities, suffer from severe traffic problems due to congestion in the town centre. The peak hour inflow and outflow of traffic to and from the city centre leads to loss of time and energy. The problem is exacerbated by the dominance of non-motorized transport modes such as rickshaws and vans. Future planning of these urban areas should emphasize decentralization of job centres and activity areas, and development of multiple centres. Transportation planning for these urban areas should be directed towards achieving strategy as well as facilitating the operation of the non-motorized transport modes.

5. Making Better use of Existing Road Infrastructure: Existing infrastructure can offer much more benefit if appropriate measures are taken. Such measures may include:

- **Maintenance:** Proper maintenance of roads and drainage can ensure continuous flow of traffic and lessen traffic congestion;
- **Pedestrian access and safety:** Majority of the trips in urban areas of Bangladesh are made on foot. Pedestrians, therefore, should be treated with utmost importance and their rights should be established by eliminating encroachment of pedestrian facilities by hawkers, building construction activities, garbage disposal bins etc.;
- **Traffic management:** Improving management of traffic with clear demarcation of responsibility BRTA, Police and City Corporations/Pourashavas, can reduce the

problem of traffic jam significantly. However, this would require capacity building improvement in terms of manpower and equipment;

- **Traffic rules and regulations:** By enforcing compliance of traffic rules, driver training, proper licensing, better maintenance and fitness of vehicles etc., pressure on existing infrastructure can be reduced considerably; and
- **Demand management:** When excessive traffic volume (mainly resulting from use of private vehicles) puts extreme pressure on existing infrastructure, demand management may be required to ease the situation. The objective is to reduce traffic volume through such measures as parking prohibitions, fuel pricing, charges for use of specific routes, limiting entry to city centres, encouragement to public transport, pedestrianization of congested areas, etc. Physical measures are usually more acceptable to the public than the economic measures.

6. Reforming Existing Institutions: The present institutional structure for the transport sector of the metropolitan areas (i.e. Dhaka and Chittagong) is not really equipped to deal with the problems of urban transport services. There is a multiplicity of agencies that deal with different aspects of urban transport planning and services with little coordination between them. It is suggested that a separate organization be created to deal with planning and regulation of transport services within the metropolitan areas. Dhaka Transport Coordination Board was created in 1998, which was later renamed as Dhaka Transport Coordination Authority (in 2001). This authority, however, does not have any land use planning or regulatory functions nor does it have any authority over such agencies as RAJUK, Police, City Corporation, and BRTA, which are concerned with land use planning and regulatory functions. Without strong coordination among these authorities, the purpose for which DTCA was created may not be realized. Therefore, future development works in transport sector must be implemented with the strong coordination with the agencies involved in this sector.

7. Prioritizing Infrastructure Projects: Projects relating to urban development will have to be selected on priorities determined fundamentally through sound comprehensive feasibility studies. This should be the case for both public and PPP funded projects. When evaluating projects for selection, following parameters should be taken into account:

Feasibility: Feasibility analysis should be done to determine the acceptability of projects to agencies and community groups involved as well as availability of financial, institutional and technical resources;

Equity: Implication of a project for different income groups should be determined and emphasis should be given to those projects giving greater benefits to lower-income groups;

Environmental Impact: Projects should be evaluated in terms of their environmental impacts with priority given to those projects having negligible or positive impact on the environment;

Resource Mobilization: Projects should be evaluated in terms of user's capacity to pay for proposed services. Projects capable of generating revenue to pay for operation and maintenance as well as future expansion should be given priority;

Interdependence of Project: Projects may be interdependent or complementary to each other. It may be desirable to group several such projects together and priority may be given to such groups of projects; and

Economic Impact: Projects capable of providing measurable contribution to economic development and employment generation should be given preference.

9.6.4 Strategies for Reduction of Urban Poverty

To be effective, urban poverty reduction initiatives should be broad-based and integrate mutually reinforcing components so as to provide for a healthy and safe living environment for the poor, improve their access to income and assets, and promote the integration of less fortunate citizens including disadvantaged groups and the disabled within the community.

1. Easing Access to Land and Housing: Urban poverty is invariably associated with poor quality housing, often in overcrowded unsanitary slum settlements without any environmental services – water, drain clearance, solid waste disposal system, and with ill health which is related to the spread of infectious diseases. The slum dwellers are constantly under threat of exposure to environmental hazards such as mosquito infested drains, and fires and floods, which could destroy their homes altogether. The problem is further exacerbated by the fact that infrastructure and services cannot be extended to most of these slums as these are considered as illegal settlements and therefore the slum dwellers are in constant fear of eviction or relocation. Easing access to basic services to land and housing used by the urban poor will be a strategic goal to achieve during the 7th plan period. Some of the strategies for easing access to land by the urban poor could be:

- In urban and peri-urban areas the government should preferably not transfer land in freehold to occupants, rather choose leases as the instrument for granting tenure for publicly-owned land and especially local authority land;
- Leases with various conditions of title should be utilized and this may vary according to the capacity of the authority, the urban area and the residents;
- Basic leases should be used along with group tenure arrangements, whereby block is registered under a lease agreement to the group or a local authority. Providing collective tenure security for communities can eliminate the need for individual titling and will ameliorate land speculation and price increases;
- Private land-owners should be encouraged to set up lease contracts with occupiers which protect the interest of all parties;
- Scaling up of Poverty Reduction Action Plan (PRAP) for addressing poverty with lessons learnt from the relevant ongoing projects ; and
- Capacity is built in CBOs/NGOs to assist people in assessing and negotiating their lease conditions, setting up cooperatives associated with group tenure, assisting people in creating land administration rules for their group tenure and in sorting out their group tenure land disputes.

2. Special Zones for the Urban Poor: The local authority may zone specific land areas for micro-enterprises, farmer's markets, and areas for hawkers' stalls. This will address the issue of land for economic activities of the urban poor. This could also increase flexibility in zoning regulations to allow rights of ways and river banks to be used for urban agricultures.

Special zones may also be created for low-income settlements and regularization of tenable informal settlements. If these are large areas, these should also be broken down into blocks (and super-blocks) to improve social cohesion and management. The boundaries of these areas, special zones, blocks should be negotiated among the stakeholders including the low-income people living in the area.

Block boundaries should be recorded in the national record system. Land administration of the blocks is also very important which should include the creation of a land information system, to be shared by the community and the local authority. The twin objective is to enhance security of tenure and to collect information for the purpose of planning and community servicing. Planning should be based on the existing informal layouts, site sizes and floor ratios of the informal settlements. Planning must also be based on the Structure Plan/Master Plan if any. Planning should take place in a participatory way with a view to involve the community and NGOs in servicing options. The design of the infrastructure network should allow for individual, self-funded, incremental service connections and affordable capital, maintenance and user costs for services. Funding must be found for infrastructure network (sewerage, solid waste, roads, electricity and water), with individual households taking financial responsibility for their own connections. Donor funding, cross-subsidies, central and/or local government taxes, community funding and various other types of funding should be harnessed through infrastructure network partnerships.

3. The Need for In-Situ Upgrading/Improvement of Slums: In view of the sustainable development goal to ensure environmental sustainability by achieving significant improvement in lives of the slum/squatter dwellers by 2030, there is a need to change attitude towards slum settlements. It should be recognized that slums/squatters are an integral part of urban areas and contribute significantly to their economy both through their labour market contributions and informal production activities. An approach based on positive attitude and seeking to improve the lives of the slum/squatter dwellers through slum upgrading/improvement should be pursued to meet the sustainable development goal. Even where slum clearance is considered essential in public interest, the slum dwellers are entitled to receive basic minimum services until proper relocation and resettlement provisions have been made. The local authority should draw up elaborate resettlement guidelines so as to reduce the impacts on and sufficiently compensate the livelihoods of the affected people. The guidelines should also address issues of alternative resettlement sites, service provisions, transportation facilities to workplaces, gender concerns etc. All relocation/resettlement of dwellers of untenable slums/informal settlements should be implemented in accordance with the guidelines as prepared.

4. Low-Income Housing Loan: The government should take up low-income housing loan programme for providing 'collective credit', that is, offering loans through community

organizations for collective housing development. This will allow for greater efficiency and cost-effectiveness in the production process.

5. Rental Housing: Development of rental housing, which caters for the needs of the majority of the low-income households, should be encouraged. This renting ranges from getting and / or sharing a room in a slum area to being provided affordable cluster housing by private developers. Far too often, the emphasis in housing delivery is exclusively on providing home ownership, which does not improve access for those poor urban households who cannot afford to own even basic shelter.

6. Ensuring Access to Infrastructure and Services: The urban poor have limited access to such services as water supply, sanitation (including solid waste management) drainage, flood protection, local roads, public transport, street lighting etc. Without provision of such infrastructure and services, ultimate objective of improved quality of life for the urban poor cannot be fulfilled. It is, therefore, necessary to undertake programmes for physical improvement of the slum/informal settlements through preparing community action plan that will greatly facilitate the integration of the settlements with the wider urban area and also improve quality of life of their residents. Any such programme, however, should take the following into consideration:

- 1) A community-based approach involving active participation of the members of the community at all stages of planning, designing and implementation of infrastructure projects and in subsequent maintenance should be pursued.
- 2) Upgrading/improvement works and delivery of services may be contracted out to NGOs or CBOs as per PPR-2008 if such arrangement is necessary for the sustainability of the system.
- 3) If possible, delivery of services should be made on an individual basis. This will facilitate recovery of charges and proper maintenance of the systems.
- 4) In the design and implementation of physical infrastructure and delivery of services, particular needs of women and children should be given due importance.

7. Ensuring Access to Income and/ or Assets: Inadequate asset base lies at the root of low-income groups' vulnerability to economic shocks or to the economic consequences of ill health. Inadequacy asset base usually results from low-income which also makes it difficult for poor households to invest in social assets such as education that can help reduce their vulnerability in future.

8. Supporting Informal Sector Activities: The contribution made by the informal sector to employment and the local authority must recognize income generation. The growth of economic activities in the "informal sector" or micro-enterprises is an important component of economic development in urban areas. Therefore, any strategy to alleviate poverty should focus on this heterogeneous sector, which covers multiple economic activities ranging from petty trading and domestic services to manufacturing, transport, and construction. The local authority should not impose regulatory impediments limiting the opportunities for informal sector operators such as hawkers, daily labourers, craftsmen, scavengers, street children and women

seeking to supplement their family incomes. The urban local government institutions can provide a favourable environment for informal sector activities in a number of ways that may include:

9. Providing Access to Credit: Credit for small scale and micro-enterprises should be established through encouraging and supporting commercial banks to create special purpose facilities for poor groups, such as hawkers and petty traders (market banks); and lending to women and to savings groups (micro-credit). The urban local government institutions may also encourage the establishment of community-based credit unions or banks and facilitate links among such groups and with the formal banking system. Instead of embarking upon banking operation, the municipality should work as an enabler in this regard.

10. Providing training and capacity building: Vocational and other practical training and skills development and capacity building courses and opportunities should be provided. These should focus on and encourage the participation of women, incorporating child-care, crèche facilities and other such provisions to facilitate their participation.

11. Supporting Home-based Income-Generating Activities: Home-based production (or cottage industry) is also an important income-generating activity among the poor. In view of the potential importance of home-based production for the urban poor, the regulatory framework can be adjusted to permit those activities while maintaining safety and providing infrastructure. The local government can:

- Provide infrastructure and services which would increase efficiency and productivity of home-based activities;
- Provide information and advisory services for marketing and access to credit facilities;
- Provide information and training on safety measures; and
- Organize practical vocational training courses.

12. Providing Social Protection: The National Social Security Strategy (NSSS), 2015 of Bangladesh should be the basis for designing social protection for the urban poor.

13. Providing land for Business operation: Government may make an arrangement to provide khas land earmarked for business of the informal settlers. Urban Local Government institutions will be involved for all sorts of management of informal settlement in such cases.

9.7 SUB-SECTORAL GOALS, TARGETS, STRATEGIES AND PROGRAMMES FOR THE 7TH PLAN

National Housing Authority: To provide housing for all including shelter less and implanting the goals and objectives of the Housing Policy which is being finalized, construction of 7000 residential flats, and 5000 plots, including those to be implemented through PPPs will be pursued during the 7th Plan.

Housing and Building Research Institute will focus on bringing innovation including alternatives to traditional bricks with a target of achieving zero use of agricultural top soil for

brick production, and standardization of construction materials through research and standardization of new construction materials. It will also continue updating the building and on a pilot basis has for construction of 75 low cost multi-storeyed residential building at different villages during the 7th Plan period.

Urban Development Directorate (UDD) will continue to prepare master plans for Paurashava areas along with LGED. A Comprehensive National Physical Plan which was highlighted in the 1st FYP can be prepared under the umbrella of the Planning Commission where both UDD and LGED could be the key partner organization for preparation, implementation and monitoring. Initiative for “National Comprehensive Development Planning along with Interfaced Land Use Plan for the Whole Country” may be taken in this regard under the overall guidance of the Planning Commission and in partnership with LGED. Regional, District and Local Level Comprehensive Development Plan including physical plans could follow the National Physical Plan. However, a lead role of planning commission is necessary to coordinate the plan preparation by UDD and LGED along with the local government institutions.

Rajdhani Unnayan Kartripakkha (RAJUK): Dhaka, a mega city, will continue to face the challenges of growing population from internal migration, lack of sustainable and affordable housing, poor transport and infrastructure delivery, rapid peri-urban expansion, destruction of environmentally sensitive areas. Besides with the growing challenge of providing the basic services there is a multiplicity of government agencies implementing those without any apex body for effective coordination. For enhancing the functionality of Dhaka as a centre of economic activities, creating efficient inter- and intra-urban connectivity with and within RAJUK area, and to ensure environmentally sustainable urban development where benefits of development is distributed in an inclusive way the broad strategies for RAJUK will include: decentralization of activities to regional centres and sub-centres; building proper linkage between land use planning and transport planning; providing affordable housing to all classes of people; providing better connectivity; strengthening development control functions; and protecting environmentally sensitive areas. There is also institutional weakness of RAJUK in legal enforcement and resource constraint, which act as bottleneck to effectiveness of the institutions. Overcoming the institutional weaknesses will also be a priority for RAJUK during the 7th Five Year Plan. To support its strategy the following will be key strategic targets to be pursued by RAJUK.

- To implement Detailed Area Plan (DAP)
- To manage acute housing problem and provide civic amenities to city dwellers
- To protect flood flow zones, agricultural zones and other environmentally sensitive areas
- Improvement of lakes, khals and other water bodies
- Construction of parking facilities
- Construction of apartment buildings
- Construction of flyover/new roads, bridges and culverts etc.
- To facilitate recreational and amusement centres
- Improvement of existing road intersection

- To make RAJUK's development control activities more functional
- Regional development planning for Dhaka city
- Earthquake resilient urban development

As part of that strategy, in order to manage existing housing shortage through planned urbanization, among other things, RAJUK plans to create new township at the proposed a) Savar Satellite Town and b) Eastern Baridhara Model Town projects while ensuring sustainable urban environment through advanced civic amenities. With a view to protecting agricultural land, RAJUK has in plan project that targets to accommodate more people in limited space through vertical expansion at three sites - a) Uttara 3rd phase, b) Jhilmil and c) Purbachal (1st Phase) Project. In addition to minimize illegal parking on various roads at Dilkusha, RAJUK plans to build multi-storeyed car parking space. To provide a new link for traffic from the Padma Multipurpose Bridge and to facilitate north-south traffic movement from Shantinagar to Dhaka-Mawa Road (Jhilmil) a major fly-over is planned for construction by RAJUK. This is also targeted to provide relief to heavy traffic congestion of old Dhaka city. In addition, to help reduce acute traffic congestion, ease east-west traffic movement the road connection of current Madani Avenue project will be extended which will create a new link from Balu River (Beraid) to Dhaka-Sylhet highway. There are other major roads and lake/Khal development projects (e.g. the development of 100' -0" Khal along the north side of Purbachal link road will be undertaken, to safeguard the lake from illegal encroachment and to maintain the lake natural environment) are planned to improve on traffic movement and make them environmentally sustainable.

Chittagong Development Authority (CDA): With a goal to cope with the rapid expansion of the city, and as part of improving its infrastructure, the CDA strategy includes—

- Establishment of Roads hierarchically in the city
- Highway improvement
- Provision of Railway over bridge at several sites
- Improvement of Road and Transport Services
- Industrial Strengthening
- Improvements of other modes, namely waterways, aviation and railways.

Particularly to minimize the traffic congestion and to improve environment quality the Chittagong Development Authority (CDA) has taken different development activities such as Road Construction, Flyover/Overpass/Elevated Expressway Construction, Land (Plot) Development, Flat Construction, Commercial Building Constructions and Renovation during the 7th Five Year Plan (2016-2020). Besides to improve civic facilities CDA has plans to facilitate major international hospital and school chains to locate in Chittagong. It has also strategy for improving living condition of RMG workers and to promote the development of Garments sector for which CDA with collaboration of BGMEA (Bangladesh Garments Manufacturing and Export Authority) will be constructing a dormitory for the low income worker in the Garments Sector.

Besides the other Development Authorities for Khulna (KDA) and Rajshahi (RDA) have similar objectives and strategies for improving traffic and road system and housing in a sustainable way.

Dhaka City Corporation (South and North)

Dhaka, one of the fastest growing cities of the world with staggering problems of traffic jam, solid waste disposal, water logging, housing and other over-burdened public facilities, exacerbated by unprecedented population growth of 8% per year. The expectation is that the Dhaka city population size will be almost two crore within 2015 and three crore by 2021. It presents a development challenge to the Dhaka City Corporations, for which requires special handling of Dhaka. With a 14% annual increase in motorized vehicles and the 8% population growth with resultant pollution and congestion calls for major rethinking of its transport system, and for which a strategic choice for introducing Mass Rapid Transit System (MRTS). The broad goals/objectives of it for the 7th Five Year Plan are to have:

1. Sustainable urban development that supports increased productivity, employment and investment;
2. Better quality of life with emphasis on providing basic living standards for poor;
3. Urban governance and management with greater accountability, transparency and improved public participation; and
4. Institutionally and financially capable Dhaka North and South City Corporations.

To overcome the challenges the DCC (South and North) strategic goals will include among other things improving on the traffic and transportation system include development of effective road network, with pedestrian facilities, support introduction of MRTS and better public transport (bus) systems to set up congestion free, safe and sound communication system, and better provision of utility services like effective solid waste management, sanitation, drainage, for the citizens, optimization of land resources. With focus on raising resources there will be revamping the Property Tax system. Institutional capacity building is another challenge and increasing revenue income, improving municipal financial system and capital budget planning will be a priority for sustainability. As part institutional capacity building there will be review of existing laws, regulations and introduce appropriate framework to cope with present need. Both the city corporation will need to have sufficient number of urban planning professionals for planning, implementation and managing the activities of the corporations. To ensure sustainable development of facilities and maintenance of services to optimal capacity, the two DCC (South and North) will continue to seek private sector investments on BOO/BOT basis. The target is reduce the need for the two City Corporations to only depend on public resources for its investments, liabilities and quality maintenance responsibilities while simultaneously broadening the revenue base of the Corporation.

Chittagong, Khulna, Rajshahi, Sylhet, Barisal, Rangpur, Narayanganj, Comilla City Corporation's face similar challenges, including unplanned and uncontrolled spontaneous urbanization and expansion of the city area. Growth of urban centres at dispersed location has

led to decline in agricultural land. Lack of advanced planning for road infrastructure and public transportation, installation of electric, gas water sewerage and telephone lines, provision of civic amenities like parks, lakes and other recreational facilities, utilization of urban public land and rivers and waste management stands in the way of providing adequate and quality urban utility services. To ensure the planned development and provide infrastructure facilities, it will require of preparing Action Area Plan or Capital Investment Plan (CIP) for the City Corporations. Besides there is the challenge of providing proper services to the urban poor and slum dwellers leads to their continued impoverishment.

To overcome the challenges the City Corporation's strategic goals will include, among other things, building of integrated drainage facilities for the entire city, restoring and re-excavating canals, development of effective solid waste management system, improving the transport system through introduction of public transport (bus) system, and road network and traffic intersection improvement, optimization of available land resources. There are also programmes planned for improving services to the urban poor and promotion of housing development. Institutional capacity building is another challenge and increasing revenue income, improving municipal financial system and capital budget planning will be a priority for sustainability. As part institutional capacity building there will be review existing laws, regulations and introduce appropriate framework to cope with present need. All these city corporations will need urban planning sections with sufficient number of urban planning professionals for planning, implementation and managing the activities of the corporations.

Local Government Engineering Department (LGED) will continue to provide technical support to the urban local government institutions for capacity building and governance improvement. It will also contribute to design, implement and monitor of urban sector infrastructure development projects as well as urban sector infrastructure along with support to planning for infrastructure. It also supports to develop skills of ULGI officials and elected representatives through HRD program.

7th FYP Challenges, Policies, Goals and Strategies for Water Supply and Sanitation

Department of Public Health Engineering (DPHE)

Challenges: The water and sanitation sector faces multifaceted challenges. Availability of fresh water (both ground and surface) is diminishing day by day with lowering of water table. Presence of Arsenic and other chemical contaminants in ground water makes the water supply more complex. On the other hand, scope of switching over to surface water is also limited as there are not enough perennial surface water sources. Degradation of surface water quality due to improper discharge of industrial waste emerges as a great concern for its development as drinking water source and for environment as well. Water sharing among different users is now becoming a major issue. Near future, conflicts among different water users will increase. Climate change will expedite the situation further.

The increased demand due to population growth requires huge numbers of WSS facilities even to keep the present coverage. Moreover, rapid urbanization along with the migration of rural people creates urgent need for the improvement and expansion of water supply, sanitation and

drainage infrastructure. While setting of tariff based on economic pricing of water is essential to cover at least the O&M costs of WSS facilities but this have challenges in implementation. For the better environmentally managed sanitation like *sewer systems and drainage system* face the challenge of densely populated areas, lack of space, heavy traffic and hardly any geophysical inclination apart from the fact that sewerage is expensive in investment and in operation and maintenance.

Policies: In order to address the challenges and to manage the present and future demand of safe water supply and sanitation in sustainable way, the Government of Bangladesh has formulated/adopted several policies and strategies, some of which are named below:

- National policy for safe water supply and sanitation 1998 (WSS policy)
- National policy for arsenic mitigation & it's implementation procedure 2004 (Arsenic policy)
- National sanitation strategy 2005
- Sector Development Plan (2011-2025), Water Supply and Sanitation Sector.
- Pro-poor strategy for water and sanitation sector in Bangladesh 2005
- National cost sharing strategy for water supply and sanitation in Bangladesh 2012
- National Strategy for Water and Sanitation, Hard to reach areas of Bangladesh.
- National Vetting Guideline for water supply and sanitation sub-sector in Bangladesh
- Water Acts, 2013

Goals and Strategies of DPHE

The overall goal will be improving the health and living standard of the people in rural and urban areas by providing access to safe water supply, hygienic sanitation and adequate drainage system.

The objectives to be pursued include:

- Achieving 100% coverage of Water Supply & Sanitation services throughout the country including their safe use and effective management.
- Achieving congenial environmental sanitation for overall development of the country in a sustained manner.
- Ensure quality water for drinking and domestic purposes.

The specific major strategies/activities to achieve the vision target are:

(a) Development Aspects

- Ensuring safe water and sanitation facilities for all through the development of different water supply & sanitation options to improve quality of life and to accelerate development of the country in a sustained manner taking into consideration of poverty alleviation, promotion of private sectors, arsenic mitigation, human resources

development, protection of environment, gender issues, climate change and global warming.

- Ensuring safe water through the development of different water supply options in areas affected by the presence of arsenic, salinity and other chemical pollutants in ground water and presence of micro-organisms, industrial wastes, fertilizers, insecticides, herbicides etc. in surface water.
- Ensuring safe sanitation facilities for all through the development and up-gradation of different sanitation options (sanitation ladder) based on hydro-geology/ weather, socio-economic condition of the people/ community, soil condition etc.
- Ensuring safe water and sanitation facilities in the hydro-geologically difficult and problematic areas through the development of appropriate and affordable technological options.
- Establishment of WSS HRD centre in DPHE to ensure adequate supply of trained and skilled manpower in the WSS sector for its balanced development and effective management.
- Establishment of the NAWASIC (National Water Supply & Sanitation Information Centre) in DPHE to ensure information management of the WSS sector and DPHE as well, necessary for policy making and strategic planning of the sector.
- Establishment of water quality examination, monitoring and surveillance systems throughout the country by establishing laboratory network and onsite testing facilities using portable water testing kits.
- Generation of adequate resource allocation through ensuring GoB fund, resource mobilization from other sources (Development partners/ financial institutions/ Private entrepreneurs/ Private operators etc.) shall be explored for desired development of the WSS sector.
- Development of WSS facilities are targeted to be achieved at least in the following fashion:

Table 9.12: Seventh Plan Water and Sanitation Targets for Urban Areas

Service	Percent of Population Served		
	By Piped Water	By Water Points	Total
Water Supply	50%	50%	100%
Sanitation			100%

(b) Management/Capacity building Aspects

- Update and strengthen “Organizational Setup” of DPHE to orient it to support the LGIs, particularly the City Corporations the Pourashavas and Union Parishads in formulating, implementation and operation of the scheme with a view that DPHE can perform its

mandated responsibility and can achieve the target of 7th FYP meeting desire of the people.

- DPHE will concentrate to continue with hydrological and hydro-geological investigation for ground and surface water and emergency intervention during natural calamities through proper staffing with the development of skill.
- DPHE will carry out the WSS Human Resources Development (HRD) activities for capacity building of personnel (Public/LGIs/ Private/ NGOs/ Unemployed youth etc.) involved in the development and O&M of WSS system. DPHE will also consider deputing its professional staff to LGIs to transfer the technical knowledge.
- DPHE will carry out and look after information management and R&D activities of the WSS sector to support policy making and strategic planning.
- Gradual shift of DPHE from its exclusive role of “Service provider” to the role of “Service provider and Facilitator”. However, DPHE will facilitate overall capacity building of the concerned LGI and continue their technical support until LGIs are capable to manage the scheme by themselves.
- To carry out national water quality monitoring and surveillance including groundwater level, water quality and gradually expand the Water Safety Plan through system development and awareness creation; DPHE will also co-ordinate with WARPO, WDB, DOE and other agencies to develop the surface water source and its pollution control.
- DPHE will explore the strategies to encourage the Public-Private partnership in the development of infrastructure for adequate WSS service and its subsequent O&M.
- DPHE has begun to be oriented as multi-disciplinary department. So, apart from the Engineer, professional of other discipline, such as, social development, economist, geologist, environmentalist to be increased with career opportunity.

Policies and Strategies for the Development of WASA under 7th FYP

Dhaka WASA has the strategic goal of accessing and ensuring supply of quality water, sanitation and removing water logging from the Dhaka City. As part of sustainable water supply strategy DWASA wants to ensure water production ratio where 70% will come from surface water and 30% from ground water. To improve on sanitation services it aims at ensuring *sanitation facilities* for city dwellers by increasing the existing coverage from 40% to 60% during the 7th plan period. As part of its strategy of removal of *Water Logging* from Dhaka city so as to provide hygienic living conditions it plans to increase the existing coverage of drainage system from 60% to 80%. Khulna WASA and Rajshahi WASA also has strategic plans for increasing sustainable quality water supply, improve sanitation services and water logging in the Khulna and Rajshahi city areas.

9.8 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Bangladesh is enjoying sustained robust growth that is leading to higher urbanization levels. This has been creating new demand for urban services, which has already been facing a backlog of unmet demand. The resource needs are huge because there is already an existing backlog. Therefore, creative measures will have to be undertaken to mobilize additional resources. While improving collection of holding taxes, other taxes, user fees, levies etc. would be the usual revenue sources, there needs to be capacity building to undertake PPP projects. There also needs to be efforts to better leverage donor funding, particularly the concessional funds from World Bank, ADB, Government of Japan or any other source, and preparing for long-term debt financing through issuing of bonds. The allocation of development budget for the urban sector is not limited within Ministry of Housing and Public Works but also under the local government development (Chapter 7 of Part 2) to maintain consistency with the planning sectoral definition.

Regarding housing and public works, much of housing activities are in the private sector. However, the Housing Ministry provides support to low cost housing schemes while the Rajuk develops serviced land to facilitate urban housing. Taking into consideration the resource constraint and based on the projected overall resource envelope and a careful assessment of relative expenditure priorities, development resources for Ministry of Housing and Public Works are given in Table 9.13 and Table 9.14 below. These are only indicative figures to broadly support achieving of the 7th Five Year Plan strategic goals and vision regarding development of urban sector in Bangladesh.

Table 9.13: ADP Allocations for the Housing and Amenities in 7th Plan
(Taka Billion; 2015/16 Constant Prices)

Ministry	2015-16	2016-17	2017-18	2018-19	2019-20
Ministry of Housing and Public Works	18.9	16.6	18.7	20.8	23.2
Sector Total	18.9	16.6	18.7	20.8	23.2

Source: Seventh Plan Projections

Table 9.14: ADP Allocations for the Housing and Amenities in 7th Plan
(Taka Billion: Current Prices)

Ministry	2015-16	2016-17	2017-18	2018-19	2019-20
Ministry of Housing and Public Works	18.9	17.6	20.9	24.5	28.8
Sector Total	18.9	17.6	20.9	24.5	28.8

Source: Seventh Plan Projections

SECTOR 10: HEALTH

CHAPTER 10

HEALTH, NUTRITION AND POPULATION DEVELOPMENT STRATEGY

10.1 INTRODUCTION

The World Health Organization defines health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.’ Alongside education and training, health is now universally regarded as an important index of human development. All of the Millennium Development Goals (MDGs) influence health either directly or indirectly. The importance of health towards human development cannot be stressed enough. Proper health is essential not only for physical well-being but also for economic livelihood. Health plays a role in the attainment of development goals by profoundly affecting key factors such as education and income-generating capacity. Health also includes mental and social well-being. A healthy nation has a high potential of becoming happy and prosperous.

Nutrition and population are concepts interlinked with health. Good health entails the intake of adequate and nutritious food. Poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity. Good nutrition is thus a cornerstone of good health. Similarly, population also influences health through a number of ways. A large population adversely affects health resources, water and sanitation facilities and food availability. From a policy perspective, the Health, Nutrition and Population (HNP) sector can be further broken down into the respective components, each meriting a thorough analysis with detailed strategies and goals. However, it should be recognized that these three sub-sectors are intricately related to each other, which raises the need to approach the HNP sector with a holistic policy framework that will allow the actions in one sub-sector to complement the actions in the others. Effective outputs in the HNP sector depends upon coordination among health, population and nutrition.

Within the broader context of Millennium Development Goals (MDG), the Government’s vision for health, nutrition and population sector is as follows:

“The Government seeks to create conditions whereby the people of Bangladesh have the opportunity to reach and maintain the highest attainable level of health. It is a vision that recognizes health as a fundamental human right and, therefore, the need to promote health and to alleviate ill health and suffering in the spirit of social justice. This vision derives from a value framework that is based on the core values of access, equity, gender equality and ethical conduct.”

Vision 2021 of the Government envisions a country where all citizens enjoy a quality of life assured with basic health care and adequate nutrition. The Perspective Plan stipulates necessary actions to increase coverage of all types of health care and family planning services, to

strengthen health administration and to increase the number of skilled professionals in the HNP sector. The goal of the HNP sector is to achieve sustainable improvement in health, nutrition, and reproductive health, including family planning, particularly of vulnerable groups – women, children, the elderly and the poor. Conditions will be created in the HNP sector whereby the people of Bangladesh have the opportunity to reach and maintain the highest attainable level of health. The goals of Vision 2021 and the Perspective Plan have been reflected in subsequent policy initiatives. National Health Policy 2011 views health as a recognized human right. Bangladesh Population Policy 2012 aims to build a healthy, happy and prosperous Bangladesh by planned development and control of population. Bangladesh National Nutrition Policy 2014 plans Bangladeshi population to achieve healthy and productive lives through desired nutrition.

Box 10.1: Milestones for Vision 2021 in HNP Sector

- 85% of the population have standard nutritional food.
- Poor people ensured a minimum of 2122 kilo calories of food.
- All kinds of contagious diseases eliminated.
- Longevity increases to 70 years.
- Infant mortality comes down to 15 from 54 per thousand at present
- Use of birth control methods increased to 80%.

Source: Perspective Plan of Bangladesh 2010-2021

Through the widespread efforts of the Government, the HNP situation appears satisfactory as health outcomes continue to improve as demonstrated by the progress on the MDGs. There has been marked decline in maternal and child mortalities. The MDG target of reducing the number of underweight children is on track. The country's progress in declining fertility rates, which at an aggregate level is now nearing replacement level has also been another success story. In the 65th UN General Assembly Session, the Honourable Prime Minister of Bangladesh was awarded the MDG award for being on track for reducing infant and child mortality (MDG 4). The government efforts and successes in the use of information and communication technology for health has also been recognized through the South-South ICT Award on health of women and child. Furthermore, Bangladesh has been declared as polio free country in 2014.

Despite the good progress made in improving health outcomes, malnutrition continues at an unacceptably high level in Bangladesh, with children and women the most affected. Neonatal mortality has been challenging to reduce. Inadequate skilled attendance at birth, child marriage and teenage pregnancy continue to endanger health status of women and children. Bangladesh remains in the midst of rapid demographic changes, epidemiological transition and confronted with double burden in nutrition. The physical location of Bangladesh makes the country vulnerable to different natural disasters and climate change as well. Issues in service delivery, governance and health workforce are important challenges in the HNP sector. The Government will address these issues in the 7th FYP and will pave the way for a healthy, happy and prosperous nation.

10.2 HEALTH AND NUTRITION LINKAGE TO POVERTY AND GROWTH

It has already been established that promoting human development involves ensuring education and training, improving and sustaining health and nutrition, and planning population. The role of the HNP sector is vital towards overall economic development. Securing a certain level of health is a prerequisite for economic development. The healthy population is an engine for economic growth.³⁵ Improvements in factors like calorie intake and life expectancy has been shown to be significantly correlated to economic growth. Health improvements have accounted for about 11 percent of economic growth in low-income and middle-income countries – and its returns become even larger when full income approaches are used, in which national income accounts are augmented to represent the economic value of the additional life-years. Health is a form of human capital and therefore an input into the growth process, as well as an end product. The health of a population critically influences their education and productivity levels, thus affecting the process of development. The relationship between health and development should be viewed as one where they contribute and converge to each other. Countries with educated, health populations are in a better position to prosper, especially in a favourable policy environment.

Similarly, health and poverty share a bi-directional relationship. Health is both a cause and effect of poverty.³⁶ Ill health can stimulate poverty through reduced employability, and in turn poverty can create and perpetuate poor health status by forcing people to reside in unsanitary conditions. The incidence of greater ill health among the poor can be attributed to a number of interlinked causes. Poor nutrition weakens the body's defence against infection, leaving the body more vulnerable. Since the vast majority of the poor population is involved in manual work, their bodies are their main assets. Ill health therefore imposes a higher level of risk on the poor relative to the wealthier population. The relationships also work positively. Good physical and mental health is essential for effective production and reproduction, while productive livelihood strategies and mitigating health hazards are fundamental to sustaining individual and household health status.

The health and nutrition link to poverty and growth has important implications for policies in this sector. An effective human development strategy should not only be concerned with imparting education and skills, but also put due emphasis on health and adequate nutrition, coupled with population planning. In this regard, the Government emphasizes reducing severe malnutrition, high mortality and fertility, promoting healthy lifestyles, and reducing risk factors to human health from environmental, economic, social and behavioural causes with a sharp focus on improving the health of the poor. The plight of the poor in the HNP sector cannot be undermined. The Government recognizes the severity of this issue and has emphasized the human dimension of poverty, i.e. deprivation in health, deprivation in nutrition including water and sanitation, as well as related gender gaps.

³⁵ Health, Economic Growth, and Poverty Reduction. World Health Organization, 2002

³⁶ Ursula Grant (2005). Health and Poverty Linkages: Perspectives of the chronically poor. Chronic Poverty Research Centre

10.2.1 Review of Progress

Bangladesh has been following a Sector-Wide Approach (SWAp) in the HNP sector since 1998. The first SWAp – the Health and Population Sector Programme (HPSP) - was implemented during 1998-2003. It was followed by a second SWAp, the Health, Nutrition and Population Sector Programme (HNPSP), that began in 2003 and concluded in June 2011.

The third SWAp is titled the Health, Population and Nutrition Sector Development Programme (HPNSDP). Beginning in July 2011 for a period of five years through June 2016, it aims to address the constraints previously faced in this sector. The time span of the HPNSDP thus coincided to a large extent with the 6th FYP period. Apart from sector program, MOHFW is implementing 23 other projects mainly related to tertiary health care which are also contributing to the sector development.

The Mission of the HPNSDP is to create conditions whereby the people of Bangladesh have the opportunity to reach and maintain the highest attainable level of health. The goal is to ensure quality and equitable health care for all citizens by improving access to and utilization of health, under two main components. The first component aims to improve health services, such as maternal and child health, and support the service delivery system including primary health care. The second component focuses on strengthening health systems such as governance and human resources.

Overall, there has been good progress in improving health outcomes. Life expectancy at birth has substantially been increased to 70.65 years. As measured by progress towards attaining the MDGs, Bangladesh has already attained some and are on track for others. Table 10.1 highlights the achievements in attaining the MDG health goals, under two main components.

Table 10.1: Progress towards the Millennium Development Goals in the Health Sector

MDG Indicators	2015 Target	Progress
Prevalence of underweight children under 5 years of age (MDG 1)	33%	32.6% (BDHS 2014)
Under-5 mortality rate (MDG 4)	48 per 1000 live births	46 per 1000 live births (BDHS 2014)
Maternal mortality ratio (MDG 5) Detected	143 deaths per 100,000 live births	170 per 100,000 live births (MMEIG 2013)
HIV prevalence among pregnant women aged 15-24 years (MDG 6)	Have halted by 2015 and begun to reverse the spread of HIV/AIDS	Less than 1% prevalence among population (UNAIDS 2013)
Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS (MDG 6)	Have halted by 2015 and begun to reverse the spread of HIV/AIDS	17.7% (NASP 2013)
Prevalence and death rates associated with malaria (MDG 6)	Prevalence: 310.8 per 100,000 population Death rate: 0.6 per 100,000 population	Prevalence 433.91 per 100,000 population Death rate: 0.34 per 100,000 population (NMCP 2014)

MDG Indicators	2015 Target	Progress
Prevalence and death rates associated with tuberculosis (MDG 6)	Prevalence: 250 per 100,000 Death rate: 30 per 100,000	Prevalence: 402 per 100,000 Death rate: 50 per 100,000 (GTBR WHO 2014)
Proportion of tuberculosis cases detected and cured under DOTS (MDG 6)	Detected: more than 70% Cured: more than 85%	Detected: 53% Cured: 92% (GTBR WHO 2014)

Source: Ministry of Health and Family Welfare; Millennium Development Goals Progress Report 2015

The prevalence of underweight children under 5 years of age has declined from 66 percent in 1990 to 33 percent in 2014, which meets the required 50 percent reduction by 2015. Bangladesh has already attained the MDG 4 in reducing child mortality rate. Bangladesh's under 5 mortality rate has been dropped to 46 per 1,000 live births by 2014 from 144 per 1,000 live births in 1990, which is a 68 percent reduction against the target of 66 percent. The infant mortality rate is 32 per 1,000 live births, and the neonatal mortality rate is 24 per 1,000 live births. The share of neonatal mortality rate is 59 percent of under-5 mortality rate and 80 percent of infant mortality rate.

Bangladesh has performed considerably well in reducing maternal mortality rate, which is MDG 5. From 574 deaths per 100,000 live births in 1990, the number has been reduced to 170 per 100,000 live births by 2013. This is a 70.3 percent decrease as opposed to the target of a 75 percent decrease. In terms of health services delivery, antenatal care visits for pregnant women by medically trained providers increased from 33% in 1999-2000 to 64% in 2014 and proportion of births attended by skilled health personnel increased from 12% to 42% during the same period. This increase in skilled delivery is predominantly due to a rise in facility deliveries, which increased from 8% to 33% during 1999-2013.

MDG 6 is concerned with combating HIV/AIDS, malaria and other diseases. In this regard, Bangladesh continues to be a low HIV prevalence country, with less than 1 percent prevalence among the high-risk population. One downside is that only 18 percent of people aged 15-49 are aware of AIDS. Malaria prevalence is 433.9 per 100,000 populations against the 2015 target of 310.8 per 100,000 populations; malaria death rate is 0.34 per 100,000 populations against the 2015 target of 0.6 per 100,000 populations. Bangladesh is moving towards elimination of malaria by 2020. For tuberculosis (TB), although the detection and prevalence rates need immediate attention, progress on cure rate is on track.

Bangladesh has made good progress in combating other disease as well. MOHFW had launched a mass drug administration Programme to eliminate filariasis by 2015. Bangladesh was declared polio-free in early 2014. The goal to eliminate measles by 2020 has seen satisfactory progress. The proportion of children aged 12-23 months who are fully vaccinated has increased from 73 percent in 2004 to 86 percent in 2013. Leprosy as a public health problem has already been eliminated at the national level in 1998. However, communicable diseases remain to be a major threat to health with common causes still prevalent. An epidemiological transition to non-communicable diseases is taking place and is posing another challenge.

Progress in Family Planning: Ever since her inception, Bangladesh has identified population growth as a major challenge to overall development. There has been impressive progress in this sector. The rate of population growth declined from over 2.50 per cent in 1971 to 1.20 per cent in 2013. Total Fertility Rate (TFR) has declined by 4 children per woman in total since the 1970s. TFR went from 6.3 births per women in the 1970s to 5.1 in the 1980s. The following decade experienced further decline to 3.3 births per woman, and currently it stands at 2.21 births per woman. Replacement level fertility has been reached in 3 divisions. Contraceptive Prevalence Rate (CPR) has increased by more than 7 folds. 3 in 5 women use a method of contraception and 52 percent use a modern method. Use of contraception has increased to 62 percent in 2014 from 56 percent in 2007. However, use of long term methods such as sterilization is low at 8 percent of married couples. Nearly 1 in 3 users of contraception tend to discontinue a method within a year of starting its use.

Although the legal age of marriage is 18, 65 percent of women aged 20-24 years are married before reaching the legal age. The proportion of women aged 20-24 years getting married early has decreased slowly to 65 percent from 73 percent between 1989 and 2011. Childbearing at an early age is a grave concern, with one-fourth of teenage girls having given birth. Child marriage and teenage pregnancy has been difficult to contain despite rapid advancements in awareness and education.

Nutritional Issues: Despite notable progress in reducing undernutrition rates in the recent years, the overall state of malnutrition among children and women remains challenging. Stunting, a reflection of the cumulative effect of chronic under nutrition, is the most common form of malnutrition. Out of every 5 children under the age of 5, 2 are stunted. Between 2004 and 2011, stunting has been reduced by 1.7 percent annually. Another indicator of nutritional deficit is the proportion of children who are wasted. It is estimated that 15.7 percent of children under 5 are wasted, and there has not been any improvement in the last decade. Malnutrition among women is a cause for concern as well. Overall 13 percent of ever-married women fall below the cut-off of 145 centimetres in height. Women of small stature face an increased risk of giving birth to low-weight babies. There exists a high level of micronutrient deficiency in the Bangladeshi population. 4 in 10 women aged 15-49 are anaemic. While a quarter of ever-married women in this age group are undernourished, 17 percent are either overweight or obese.

Health Service Coverage: In terms of access to primary health care, there has been progress under the HPNSDP. The provision of Primary Health Care (PHC) under HPNSDP included an emphasis on establishing a functional referral system at Upazila and district levels to improve the continuity of care and included appropriate upgrading and equipping Upazila Health Complexes (UHC) and Community Clinics (CC). Access to health care in hard to reach areas continues to be challenging. There has also been modest progress in Alternative Medical Care (AMC). The objective of increasing the number of facilities providing AMC was not achieved. The quality of secondary and tertiary health care is a major issue. Total Quality Management (TQM) has been introduced for improving quality of care in some hospitals. There are gaps in health service coverage in urban areas. The urban poor are particularly vulnerable since there are very limited government healthcare infrastructure and provisions within their reach. HPNSDP aimed to tackle the problem of service delivery in urban areas through collaboration

with the Local Government Division (LGD) as it is the local government institutions that are responsible for providing PHC service delivery to the urban population. There has been slow progress in establishing a coordinating mechanism between MOHFW and the LGD.

Community Based Health Care (CBHC) Initiative: During HPSP period (1998-2001), 10,723 CCs were constructed to provide PHC to rural population (1 CC for every 6,000 population), but functioning of those was discontinued at later stage. In 2009, the MOHFW took initiative to revitalize those CCs and launched a separate project titled Revitalization of Community Health Care Initiatives in Bangladesh (RCHCIB) for implementation under the DGHS. Community Based Health Care (CBHC) initiative is to improve overall health status of the rural community by providing health, family planning and nutritional services through community participation and by establishing a functional linkage among the public facilities at union and upazila level through effective referral.

During the last four years of implementation, a total of 12,895 CCs have been made functional, with newly recruited 13,240 Community Health Care Providers (CHCP) and provision of adequate medicines. CHCPs are providing services at the CCs six days a week, on the other hand HAs and FWAs provide services for three days a week each. Services provided through the CCs include: health, FP and nutrition services; BCC and growth monitoring sessions; some CCs also provide normal delivery services with referrals to UHFWCs, UHCs and DHs. The CHCPs went through 3-month basic training including training on nutrition. 12,895 Community Groups (CGs) and 37,731 Community Support Groups (CSGs) are associated with the running and community oversight of the CCs. The reporting format has also been developed and web-based reporting system is in progress.

The number of service users has increased to about 40/day on an average, with increased availability of trained manpower, medicines and services in the CCs. This indicates a right step towards integration into the service system. On the whole, the CCs have taken off as the first-contact facility providing PHC and MNH services. CC based service provision has led to increasing access of the poor to public HNP services and community participation.

Health and Gender Equity: There has been increasing recognition of the importance of improved gender equity in health sector plans and programmes. More generally, there is a growing consensus that no equity in health care will be achievable until there is equity in inputs including but not limited to gender, geography, poverty, illiteracy, etc. The implementation of policies and plans to improve gender equity was limited mainly due to weak institutional mechanisms and leadership. However, continuous effort is going on to improve gender equity. The HPNSDP through implementation of CC based services including conduction of deliveries in certain CCs, keeping separate toilets and other facilities for women at the public hospitals, provision of nutrition corners and establishment of SCANUs in public hospitals, etc. has increased access of the poor women to HNP services.

10.3 CHALLENGE OF SERVICE DELIVERY, CAPACITY AND ACCOUNTABILITY

Bangladesh has a large public health service network covering field-based domiciliary services and facilities at different levels like villages, unions, upazilas, districts, divisions, and several specialized hospitals. To fully utilize the potential of such a vast network is a big challenge. Recognizing the challenge, the Government has undertaken programmes under the 7th FYP to address many of them.

10.3.1 Service Delivery

MoHFW health service delivery: The country's health system is hierarchically structured and can be compared to a five layer pyramid. First, at the base of the pyramid, there is the ward level health facility (CC), which provides services through a Community Health Care Provider, Health Assistant and a Family Welfare Assistant. At the next level is the Union Health and Family Welfare Centre (UHFWC) staffed by a medical assistant (SACMO), one family welfare visitor and one pharmacist, which concentrates on the provision of maternal and child health and FP care and provides only limited curative care. The third level is the Upazila Health Complex (UHC) responsible for inpatient and outpatient care, maternal and child health services and disease control. Operation theatre is also functioning in the UHCs especially in the 50 bedded UHCs. The district hospital constitutes the secondary level of care and finally, the medical colleges and post-graduate institutes form the top of the health services pyramid offering a wide range of specialty services.

To achieve the goal of 'health for all' in the shortest possible time and to ensure equity of access, particularly the poor living in rural areas and urban slums, improvements in the community clinics and Upazila Health Complexes are essential. Community Clinics (CC) for each of 6,000 rural populations, introduced during HPSP and again revitalized since 2009 has been able to deliver health services at the door step of people. The revitalization of community health care initiative integrated in a wider Upazila Health System promises better access for the poor women to health care services at the grass roots level. Involvement of communities through Community Management Group and Community Support Groups is another praiseworthy initiative. However, the challenge of further improving and consolidating gains from the CC based health care initiatives require better use of existing HR and rational use of supplied drugs. As communication and access to services improved, the possibility of a move towards more facility-based services away from the domiciliary approach will be more focussed. Strengthening the referral system across facilities at different levels to improve the continuity of care is another area that needs to be looked at.

Although the CCs have constituted the first tier of the PHC system, still there exist some outstanding issues to be resolved for proper functioning of the CCs and during the 7th FYP period required steps will be taken for sustenance of this PHC system. Some important ones are mentioned below:

- The need for improved co-ordination between CHCPs and the other two categories of service providers at the CC i.e. FWA and HA is essential. The elaborate guidance jointly issued by the DGHS and DGFP for field-level co-ordination and supervision therefore need better compliance for turning the CC into an effective first service-contact.
- Reviewing the drug list for CCs to ensure rational dispensing of drugs by the service providers at CCs.
- The CBHC initiative will need to be mainstreamed with the primary health care system of DGHS's regular service delivery mechanism.
- The female CHCPs – who constitute more than 50% of the total number – offer a potential pool of qualified personnel to undertake CSBA training and thereby lead to filling in the current gap of skilled birth attendants in the rural homes.

There is still ample scope for further improvement in institutional coordination between various sub-sectors in health, population and nutrition to avoid duplication, wastage and missed opportunities. Conscious efforts are being made to improve both inter and intra agency coordination.

The HPNSDP called for strengthening and further consolidating the functioning of the UHCs, union health and family welfare centres/sub-centres through providing adequate human resources, drugs, and other medical aids. There are serious concerns about the level of quality in health care facilities and services. Inappropriate treatment by health providers, long waiting time, poor communication with patients by physicians, lack of privacy, high cost of care and illegal charges are the common complaints raised by users of these facilities. In the past, several initiatives were undertaken to address the quality issue, facilitating the development of some Standard of Procedure (SOP). HPNSDP included TQM for quality improvement activities as a comprehensive approach. TQM includes interventions to change the attitude and to develop the organizational culture in the facility. Efforts were limited to developing standards and regulations and providing training to the service providers or establishing a mechanism for providing accreditation. Health Economics Unit as the focal point of UHC formed a Core Committee for developing an outline for improvement of quality. Under the 7th FYP, more attention will be given to the quality issue – both for maximizing value for money and to guarantee patients' rights.

Non MoHFW public sector service delivery: Besides MOHFW, many other government ministries/departments are engaged in various forms of health services delivery. Combined Military Hospitals, Border Guard Bangladesh Hospitals, Police Hospitals, Railway Hospitals are a few to name. Functional collaboration among all the public sector facilities belonging to MoHFW (DGHS and DGFP) or other ministries is fundamental for an effective, coordinated and synergistic public sector health care delivery system.

Private sector service delivery: A feature of developing countries, particularly in Asia, is the dominance of formal and informal private facilities and practitioners in the health care sector.

Bangladesh has a pluralistic health system with widespread private facilities and practitioners. For the vast majority of people, particularly in poor and remote areas, private providers are often the first and only provider of health care. Although these private entities are able to extend their reach beyond that of their public counterparts, the role of the private health work force is a concerning issue. The private health work force includes both qualified and informal service providers. Village doctors, or unqualified/semi-qualified individuals, provide medical advice and treatment to rural patients. The practice of healthcare by unqualified ‘quacks’ is worrisome. There are also traditional birth attendants, both trained and untrained, that make up the informal health workforce.

To enhance the private sector service delivery and prevent mishaps and mistreatment, a strong and effective regulatory structure to address quality issues and enforce standards is a priority for the remainder of the HPNSDP. Accreditation of service delivery institutions and ensuring patients’ rights are essential in this regard. The National Health Policy has recognized that the quality and extent of current health services provided by both public and private sector needs improvement. High fees and excessive diagnostic tests in the private sector, leading to highly expensive treatment, is another area that requires regulation and effective enforcement. According to the National Health Policy, measures will be taken to develop and apply necessary rules and regulations in order to ensure availability of proper and quality medical care for the patients of private sector. Steps will be taken to keep treatment costs including diagnostic tests at bearable level.

Hard to reach area service delivery: There has been limited progress in providing health services in hard to reach areas. These areas require a different set of strategies for health service delivery. The HPNSDP has already emphasized improving provision of services as well as providing incentives to providers. Policy introducing both financial and non-financial incentives for hard to reach areas has been developed. In addition, motorcycles and bicycles have been distributed among upazila level managers and family planning inspectors to enhance and facilitate monitoring and supervision. A number of NGOs are working in hard to reach areas with the aim of ensuring quality health care services at affordable prices. The Government will explore diversification of service provisions including public-private partnerships, and with proper and equitable service delivery, health outcomes will significantly improve.

Maternal and Child health services: Among the critical issues that inhibit progress in maternal and child health, delivery at home, often with unqualified birth attendants, is a major concern. A high percentage of childbirth occur in the home without any skilled birth attendant present. Although skilled delivery has increased considerably during the HPNSDP, which put due attention to recruitment and training, only 42 percent of deliveries are assisted by a skilled birth attendant. The country is also lagging behind in the proportion of women who attend at least four antenatal care (ANC) sessions conducted by skilled health personnel, as recommended by WHO. Reports have shown that 4 good quality ANC sessions have led to over 60 percent facility based delivery with skilled birth attendants. ANC visits to skilled health personnel also prevent complications that would arise due to anaemia, infection and other preventable causes. The Government will pursue strategies to further encourage ANC visits by

pregnant women to ensure safe and sound delivery and will also enhance quality of health personnel.

There has been marked improvement in reducing child mortality, with the MDG already attained. However, the share of neonatal deaths in infant and under-5 have increased, and the 2016 target is unlikely to be reached. Four priority interventions have been incorporated in Maternal, Neonatal, Child and Adolescent Health (MNCAH) to strengthen new-born care. The Government plans to scale up technologies and interventions across public services and encourage the same in the private sector. In terms of vaccinating children, there has been good progress. 81.6% of children of 12-23 months received all scheduled vaccines by 12 months of age. Under the Reach Every Community Strategy routine, Expanded Programme on Immunization (EPI) has further been strengthened in low performing 32 districts and 4 City Corporations.

Services to tackle double burden of diseases: Epidemiological transition from mainly communicable disease to an increasing problem of non-communicable disease (NCD) is posing another challenge. Although this epidemiological transition should be properly acknowledged, efforts to tackle communicable diseases should not be undercut. The growing involvement of the private sector in treating NCDs lacks effective regulation. Along with proper regulation, the Government will prepare comprehensive strategies for preventing and treating NCDs.

Services for people with disabilities: As Bangladesh makes progress, a lower incidence of impairments is expected. However, the gains due to improved health care is likely to be outweighed by the triple effects of increased numbers of impaired children surviving; increased numbers of people incurring impairments due to old age (e.g. cataracts and arthritis) and widespread malnutrition. Physical, psychological, social and economic barriers often prevent people with disabilities, particularly girls, from enjoying full access to healthcare services. Under the 7th FYP, the Government will address disability issues including mental health in order to provide equal access to healthcare services.

Urban Health Services: Unlike the rural areas, primary health care in urban areas is coordinated by the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC). Both ministries (MOHFW and MOLGRDC) partly coordinate their activities through the National Urban Primary Health Care Committee (NUPHCC) and National Project Steering Committee (NPSC). There has been slow progress in establishing a coordination mechanism that will help smoothen the process of urban health services. Coverage for slum and street dwellers are limited not just in terms of health but also in family planning and nutrition. Absence or paucity of service facilities in urban areas means that the disadvantaged are the worst sufferer which is evident from the health status of the urban people living in slums. HPNSDP aimed to tackle the problem of service delivery in urban areas through collaboration with the Local Government Division (LGD). In respect of strengthening the referral system between PHC providers in urban areas and secondary/tertiary health centres, a draft guideline and protocols for the referral system was prepared and finalized. The Government will take additional steps to ensure urban health services, especially PHC.

Tribal Health Services: Similar to health services in hard to reach areas, tribal health services require a different approach. The tribal lifestyle, particularly of those residing in the Chittagong Hill Tracts (CHT), is shaped by the rugged terrain, hilly environment, scattered population, frequent shift of homesteads, jhum cultivation that requires residing in temporary residence for cultivation period, inadequacy of communications, multiplicity of ethnicities and languages used, post-conflict environment etc. Health service delivery needs to take these relevant factors in account. As per laws, health and family planning departments (along with many other departments) are transferred (by MOHFW) to respective hill district councils (HDCs). However DGHS and DGFP continue to administer its field and facility-based network in CHT like the rest of the country. This dual administration pose problems for effective health service delivery in this region. In this regard, the Government will implement measures to institute district-specific and tribal-friendly health services.

Gender Friendly Health Services: Lack of gender-friendly health services continues to be a challenge. Physical infrastructures usually have unsanitary facilities making it difficult for women. Non-respect of privacy and confidentiality, particularly in outdoor consultation is another issue that greatly dampens a woman's experience in health services and discourages their subsequent involvement. The operating time of most facilities, which is 8 AM to 2.30 PM, is found to be very inconvenient for women who have household chores and other priorities during that period. Hours of operation from 8 AM to 12 PM and then from 2 PM to 5 PM would allow greater flexibility and opportunity for more women to avail health services. Absence of female doctors and other health personnel particularly in rural areas restricts acceptability of services to women. Inadequate information and lack of awareness are often seen as factors preventing women from seeking health services. Women beyond reproductive age are often neglected as most of the health interventions are geared to married women of the reproductive age. Old age complications, menopause, etc. are not properly dealt with. The 7th FYP will address these issues to ensure a more equitable and gender-friendly access to health services.

10.3.2 Public Service Delivery Capacity and Governance

Health Sector Management/ governance: Governance is an important element of health system performance linked with improved quality of care and efficient utilization of scarce human, infrastructural and financial resources. In the absence of adequate decentralization, governing the huge and complex network of health personnel and facilities is a great challenge. Strengthening of the health system in filling up of vacant posts, supervision and monitoring, record keeping and reporting, accountability and attitudes of service providers are important in the smooth functioning of the system. The HPNSDP looked at stewardship and governance issues more closely. Inadequate capacity of the regulatory framework has a bearing upon governance structure of MOHFW. The HPNSDP stated that weak legal framework and institutional capacity of regulatory functionaries have weakened the stewardship role of the public sector. A study on the stewardship role of MOHFW identified problems in approval of private medical colleges and provision of services by the private sector. Professional regulatory bodies are found to have inadequate capacities to enforce standards or quality among the

professionals they represent. Among the priority interventions outlined in the HPNSDP, the following were included:

- Assuming strategic stewardship and governance role by MOHFW for policy management and setting up a coordinating system for synergistic, effective and efficient contribution of public, non-public including private sector and health NGOs.
- Strengthening MOHFW's regulatory and supervisory roles through revising the mandates of the regulatory bodies and capacity building for enforcement of standards.
- Facilitating and strengthening MOHFW's engagement with the NGO and private sector, based on comparative advantage.
- Reviewing and updating the existing health related legal frameworks to include the health consumers' rights in the Consumer Rights Protection Act (2009).
- Constituting a Taskforce to assess the need for (i) new law/ordinance, (ii) revising any existing ones and (iii) determining measures to improve existing legal framework.

The HPSNDP, along with the 6th FYP, illustrated the Government's commitment to strengthen the regulatory and supervisory role of the MOHFW and delegating the stewardship role. Actions are underway to address the deficiencies. Another area needing attention is the institutional arrangements and coordination related to the nutrition and population sub-sectors, which need to be more effective and synergistic. Under the nutrition sub-sector, weak coordination between sectors combined with heavily centralized coordination within sectors continue to pose a significant challenge.

Human Resources: Human Resources for Health (HRH) is considered as a key component of the entire health system. The success and failure of the health system largely depend on how the human resources are managed. Nevertheless, management of human resources is complex and requires strategic directions for successful formulation and implementation of plans and program. In spite of Bangladesh's remarkable progress in certain key health indicators, concerns are there regarding several HRH issues such as acute shortage, inequity in distribution, skill mix imbalance, lack of performance management systems, poor working environment, weak knowledge base and problem of deployment, retention and governance, etc. HR inadequacies continue to be an obstacle to provide quality service delivery. In the absence of Human Resources for Health (HRH) strategy and plan, decisions continue to be taken on ad-hoc basis. Absence of Human Resource Information System (HRIS) is another serious short-coming which adversely affects management decisions like recruitment, deployment, training etc.

Shortage: The National Health Policy 2011 identified Bangladesh as one of the 57 countries in the world suffering from a severe shortage in HWF. Qualified health personnel, like physicians, dentists, nurses and technologists, are insufficient in number, particularly in hard to reach rural areas. According to a WHO estimate, Bangladesh has a shortage of more than 60,000 doctors, 280,000 nurses and 483,000 technologists. Bangladesh also does not fare well compared to neighbouring countries in terms of distribution of HWF across populations (Table 10.2).

Table 10.2: Doctors/Nurses/Dentists per 10,000 Population

Country	Medical Professionals
Bangladesh	6.02
Pakistan	14.6
Sri Lanka	23.7
India	25.5
WHO estimate required to fulfil MDG targets	23

Source: WHO Global Health Workforce Statistics, 2014 update (<http://www.who.int/hrh/statistics/hwfstats/>)

Considering HR shortage as the number one priority, the government has taken steps to fill up the vacant positions and create new ones. During HPNSDP, augmentation of HR in health service delivery has been the focused activity of MOHFW – a total of 42,702 posts in various categories have been recruited during 2011-2014 by DGHS, DGFP, DNS and DGDA. It may be mentioned here that very recently 10,000 additional posts of nurses have been created.

The overall vacancy level was reduced to 14.7 percent from 20.4 percent between 2011 and 2014. Despite this addition to the HWF, the current level of vacancies is still high – four departments of the MOHFW collectively had 31,439 vacancies as of June 2014. The impressive growth of training facilities may have alleviated the problem to some extent, but it is expected that the shortage will continue in the coming years. Acute shortage also exists in particular areas like public health, more so for professionals capable of providing policy advice and identifying priority health interventions in resource constraint situation. There is also a shortage of qualified managers for operating public health interventions and hospitals. Researchers in public health interventions and policy issues are small in number as well. Shortage of skilled attendance during birth has emerged as a barrier for achieving MMR MDG.

HR strategy serves as strategic guide to align HR policies and plans with organizational mission, vision and priorities and thus helps to achieve organizational goals and objectives. To guide activities and improving upon the HR situation in Bangladesh, the MOHFW has undertaken the initiatives for developing a systematic HR Strategy. This Strategy identified six (6) strategic objectives namely (a) accountability and performance management, (b) workforce planning, (c) workforce deployment, (d) improved HR information, (e) improved HR support functions, and (f) engaging professional and staff associations in a more constructive way.

Augmentation of HR in health service delivery is a continuous effort being made by the MOHFW. HR projections and a long-term HR plan is under preparation by the MOHFW. The HR strategy is being developed by the MOHFW to address the issues related to HRH stock and trends, imbalances in skill-mix, distribution and mobility of health workers etc.

Health workforce information is not located or collected in a central database or in one place in Bangladesh. Thus it has been difficult to review the overall HR status. At present MIS Units of DGHS and DGFP are using two different platforms for collecting personnel information including those on promotion and posting. DGHS has been able to maintain updated information and is equipped with logistic, system and software and established Internet connectivity up to upazila level. They are currently piloting data collection processes through providing training and supplies at community clinic and household levels. Under HPNSDP, a

huge investment was made to improve the information infrastructure under DGHS and DGFP. Both MISs would need to be strengthened and reorganized personnel structure to support the investment already made.

In-service training is a continuous and an essential component of HNP sector development programs for capacity development of the health work force. The current policies, strategies and guidelines appear to be piecemeal and a comprehensive and integrated training plan is absent. There is a need to formulate a clear policy direction for working with parastatal organization/institutions with a view to developing the professionalism and social accountability of the health sector professionals.

Recognizing the various impediments related to human resource in the HNP sector, the Government will conduct a number of programmes to strengthen human resources and conduct proper Planning, Monitoring and Evaluation inclusive of governance and stewardship.

Drugs and Equipment: Excess availability of drugs poses a challenge, as insufficient trained providers supplying more than 30 different types of drugs. It has been reported that community clinics often provide drugs for free or on demand rather than providing them based on prescriptions. Since most drug shops lack a pharmacist, private drug shops effectively partner with a poorly educated population to provide a self-medication option, which has turned out to be the dominant mode of curative care. Unnecessary and even harmful drugs are dispensed in less than required dosage that leads to the development of drug resistance and limited capacity of DGDA to enforce the drug control related legislation. Substandard and adulterated drugs are often circulated. Directorate General of Drug Administration will be strengthened to deal with these issues. There are also issues regarding the utilization of equipment in facilities. It was found that only 50 percent of the equipment that was supplied under the Health and Population Sector Programme (HPSP) 1998-2003 was effectively used at its final destination. Of the remaining 50 percent of major medical equipment that was not used 17 percent was in working condition but not in use, 16 percent was not installed and 17 percent was out of order. Expensive high tech equipment were used relatively more than moderately expensive equipment. The Government will address these issues and work to develop a national policy on management of health care technology.

Financing: Inadequate and inequitable health financing along with inefficient use of existing resources are challenges in this area. According to an estimate, US \$ 54 per capita is required to attain a fully functioning health system and to cover a basic package of services including interventions targeting non-communicable diseases by 2015. Bangladesh currently spends \$27 per capita in health. When compared to other South Asian countries, this figure is quite low. Public health spending comprises less than 1 percent of GDP. The HNP sector does not receive its due share of the national budget. The main sources of finance for total health expenditure is out-of-pocket spending (64 percent) followed by government spending (26 percent). Although the relatively wealthy are able to afford these out of pocket expenditures to receive quality healthcare, the poor can afford less and thus receive commensurate below-par healthcare. To tackle financing issues, a Health Financing Strategy (2012-32) has also been developed for addressing this issue of reducing out of pocket expenditure.

Surveillance and Research: Disease surveillance is essential for a well-functioning healthcare system. Since different programmes and institutions are involved in disease surveillance, a single coordinated system will be more effective and yield better results. In terms of research, both the public and private sector are rigorously involved. Well-coordinated efforts are needed to ensure that the findings of the research are utilized to benefit the people.

10.4 7TH FYP GOALS, STRATEGIES, AND TARGETS IN THE HNP SECTOR

Bangladesh will strive to attain a number of targets in the road towards universal health coverage, consistent with the proposed major targets under the proposed UN Sustainable Development Goals (SDG) framework. Promoting and sustaining health and nutrition along with containing population growth are priorities in the human development strategy. Vision 2021 envisions a middle-income Bangladesh with drastic reduction in poverty and with conditions that allows individuals to reach and maintain the highest attainable level of health. To realize that vision, the Government has set certain objectives and targets towards achieving Universal Health Coverage (UHC) in the HNP sector, which include the following:

- To ensure access and utilization of HNP services for every citizen of the country, with particular emphasis on elderly, women, children, poor, disadvantaged and those living in difficult areas
- To reduce total fertility rate
- To ensure adolescent and reproductive health care
- To strengthen community support and involvement to obtain better results in implementation of programmes
- To improve nutritional status of children and women.
- To take effective measures to promote alternative medicines and to improve the quality of care
- To meet challenges of emerging, re-emerging and non-communicable diseases, health hazards due to climate change and emergency response to catastrophe.
- To enhance national capacity for pre-service education (SBA/nursing, Paramedics, midwifery), provide in-service training and better management of Human Resources.
- To improve the quality of hospitals and maternity services and to make these accessible especially to the women, children and poor.

Bangladesh as a nation has already made great strides towards achieving these objectives. Past and ongoing programmes have promoted good health, nutrition while curbing population growth. In order to carry on with the progress achieved and address areas of deficiency, some of the specific targets for the HNP sector under the 7th FYP are shown in Table 10.3.

Table 10.3: Health, Nutrition and Population Targets for the 7thFYP

Sr #	Indicator	Base year's information (source with year)	7th FYP target FY 2020
<i>Impact/Outcome</i>			
1.	Life Expectancy at birth	70.4 (SVRS 2013)	72
2.	Total Fertility Rate (children per woman)	2.3 (BDHS 2014)	2.0
3.	Under-five Mortality Rate (per 1,000 live births)	46 (BDHS 2014)	37
4.	Infant Mortality Rate (per 1,000 live births)	38 (BDHS 2014)	20
5.	Maternal Mortality Ratio (per 100,000 live births)	170 (MMEIG 2013)	105
6.	Proportion of underweight among under-five children (%)	32.6 (BDHS 2014)	20
7.	Proportion of stunting among under-five children (%)	36.1 (BDHS 2014)	25
<i>Output</i>			
8.	Proportion of births attended medically trained provider (%)	42.1 (BDHS 2014)	65
9.	Contraceptive Prevalence Rate (%)	62.4 (BDHS 2014)	75
10.	Proportion of children fully vaccinated by 12 months (%)	78 (BDHS 2014)	95
11.	Proportion of births in health facilities by wealth quintiles (ratio of lowest and highest quintiles)	15 : 69.5 (BDHS 2014)	1 : 3.5
12.	TB case detection rate (%)	53 (GTR 2014)	75

Source: Ministry of Health and Family Welfare

These targets may be viewed as ambitious, but they are certainly achievable with timely actions to implement the associated policy and institutional reforms. Bangladesh is currently implementing the third SWAp, and will follow the Sector-Wide Approach (SWAp) as the Government has already stated its policy of continuing with the SWAp in the HNP sector. Past experience and lessons learned will surely aid in the implementation of the necessary actions during the 7th FYP period through the upcoming 4th HNP Sector Programme. Having established the overall targets for the HNP sector, the strategies for each of the three sub-sectors will be discussed next.

10.4.1 Health Programme in the 7th FYP

Service delivery

To improve service delivery and utilize the vast health network, various innovative approaches will be explored. It will comprise of reviewing existing field-based service delivery, decentralization of the management of facilities including involvement of local government institutions like Upazila Parishad and providing autonomy to hospitals by protecting the interests of poor; updating of essential service package (ESP) at different tiers of health service delivery; diversification of service provision (inclusive of public-private partnership) particularly for hard-to-reach areas; development of a functional referral system involving all levels of facilities; ensuring quality of care etc.

Wider Access: The health service delivery system will ensure that the poor, marginalized and geographically disadvantaged population are able to access and utilize health services. To particularly provide HNP services to urban slum and street dwellers, proper institutional arrangements will be made to facilitate collaboration and cooperation among MOHFW, LGD/MOLGRD&C, DPs, NGOs, private sector and other stakeholders.

Private Sector and Regulation: Since a considerable portion of the population turn to the private sector for health services, proper regulation to protect the people from malfeasant practices is crucial. An effective regulatory mechanism will thus be developed. The Government will support the private sector in discharging their corporate social responsibilities by providing access to the poor and disadvantaged. The possibility of utilizing the vast informal sector of health service delivery, which is particularly important for hard to reach rural areas, will be explored.

Strengthening Delivery and new-born care: To make better and effective use of government trained Community Skilled Birth Attendants (CSBAs), proper technical mentoring and supervision will be introduced. The number of CSBAs will be increased as well. Close collaboration with the private sector and NGOs is expected in this regard. Newly trained dedicated midwives will be deployed in newly created posts at the union and upazila level to augment service delivery. After proper mapping of existing comprehensive emergency obstetrical care (CEmOC) services, new initiatives will be undertaken to ensure access of CEmOC, particularly for hard to reach areas. Strategic partnerships with DPs, NGOs and the private sector will be built to strengthen and expand new-born care. It will include the leverage of resources and collective efforts to align, harmonize actions, and improve public sector efforts including intensification of new-born care promotion.

Tackling communicable and non-communicable diseases: Recognizing the epidemiological transition, massive health promotion and prevention efforts for impending non-communicable diseases will be carried out. Ongoing efforts to reduce the effects of communicable diseases will be further consolidated. Health promotion efforts will be further strengthened through better coordinated (among different health and family planning programmes, non-public sectors including private) with the aim of informing people about different aspects of health for changing their attitudes and behaviour resulting improved health outcomes.

Tackling Tobacco Related Burden: Considering the enormous negative impact and cost of tobacco on our economy, society, environment and public health, to attain goals and targets under SDG 3 (Ensure healthy lives and promote well-being for all at all ages), GoB will ensure effective implementation of tobacco control laws and policies as well as rigorous compliance of Framework Convention on Tobacco Control (FCTC).

Equal access to health services: Gender and adolescent friendly services together with availability of proper information for the adolescent will be ensured to protect themselves from health hazards. Health facilities will be maintained properly and women will be given their due privacy and confidentiality regarding health matters. Alternate medical care services will be further strengthened and expanded through proper initiatives in education, service delivery and regulatory arrangements.

Environmental issues: Environmental and climate change issues related to the health sector will be looked at more closely. Medical waste management will be expanded to cover all medical installation and programmes of public and non-public sectors. Appropriate initiatives will be undertaken to manage the emerging and re-emerging health problems together with strengthening emergency preparedness and response capacity by health sector.

Tribal health: The problem with service delivery in the CHT will be tackled in collaboration with MOCHTA and other relevant authorities. District-specific health service system will be developed along with institutional arrangements for respective Hill District councils to facilitate the system operation. Tribal-friendly health services will be ensured through appropriate initiatives for tribal population residing in plain lands.

Autism: Autism or more commonly known as autism spectrum disorder (ASD) is a complex developmental disorder that affects a person's ability to communicate, form relationship with others, and respond appropriately to their environment. In 2007, the United Nations adopted the Convention on the Rights of Persons with Disabilities (CRPD) addressing the human rights of all persons with disabilities, signed by 150 countries and ratified by 100. Bangladesh was one of the first countries to ratify the CRPD and has also signed its Optional Protocol. In recognition of ASD as a global health crisis, the UN designated in 2008 April 2nd as World Autism Awareness Day. Since then, several regional and international resolutions have been adopted urging countries to coordinate efforts, implement public health initiatives and develop multi-sectoral opportunities for social inclusion and economic emancipation of persons with ASD.

Bangladesh has addressed the issue of ASD in a planned manner. It hosted the first Regional Conference on Autism in 2011, which was attended by over 1000 national & international delegates. A National Steering Committee on Autism and Neurodevelopment Disabilities, comprising representatives of 15 ministries/divisions (Health and Family Welfare, Social Welfare, Education, Primary and Mass Education, Labour and Employment, Women and Child Affairs, Local Government Division and Finance Division). where Ministry of Information, Economic Relations Division, Ministry of Youth and Sports, Ministry of Cultural Affairs, Planning Commission and NGO Affairs Bureau) Has been formed.. The National Steering Committee is guided by a National Advisory Committee and a Technical Guidance Committee comprised of both parents and experts. A Strategic and Convergent Action Plan on Autism and Neurodevelopment Disabilities (SCAPAND) has been developed and incorporated within the current sector program. The national level 17-member Autism Technical Guidance Committee's responsibility is to provide technical support to the Advisory and Steering Committees. Working in specialized group, members are responsible for translating appropriate materials for use in Bangladesh, collating existing materials available in the country and region, identifying needs in the community and setting priorities.

During the 7th FYP period, the exponential increase in the prevalence of ASD across the country including other disability issues will be properly addressed through appropriate advocacy campaign, effective coordination among concerned ministries, departments, and NGOs for proper preventive, curative and rehabilitative services including expansion of services to cater the need of different types of disabled along with making health-facilities disable-friendly. To uphold health rights and ethics, such issues will be incorporated in all medical, nursing and other education curricula along with proper sensitization initiatives for the existing health service providers.

Mental health: Mental health and well-being are fundamental to a healthy nation. During the 7th FYP, MOHFW will promote mental health and well-being including access to essential care. The priority areas to be addressed include: depression, psychosis, bipolar disorders, epilepsy, developmental and behavioural disorders in children and adolescents, dementia, drug use disorders, self-harm/suicide, etc. To address this problem, a comprehensive mental health service delivery plan will be developed with the aim of gradual expansion of service to address the growing need of psychological aspects of health. To uphold health rights and ethics, such issues will be incorporated in all medical, nursing and other education curricula along with proper sensitization initiatives for the health service providers.

Geriatric care: Population aging is an inevitable consequence of fertility decline and the demographic bonus in Bangladesh. People over sixty years constituted over 11% of total population in 2011 and are estimated to grow to 14.4% in 2021 and to 21.3% in 2031. Health is a major component for addressing the challenges posed by increasing proportion of aging population. MOHFW recognizes the need for reorienting the existing institutional arrangements for health service delivery and intends to increase investment – both financial and human resources – in this sub-specialty. As part of that effort, a National Institute for Physical and Geriatric Medicine and Rehabilitation is proposed to be set up during the 7th FYP. MOHFW will also promote multi-sectoral collaboration with other ministries (e.g., Ministry of Social Welfare), NGOs, CSOs, etc. for improving geriatric health care

Health education: Creating and maintaining a healthy nation requires proper dissemination of knowledge regarding factors that affect health outcome. This wide spectrum of knowledge includes, among others, dietary issues, lifestyle choices and sanitation. To instil good practices from an early age, health education will be included in primary schools. Steps will be taken to impart health education through mass media and raise awareness at the community level. The necessity of proper nutrition and food diversification to include iron, vitamin A, and carotene rich food in regular dietary intake will be particularly expounded. Lifestyle choices such as smoking, excess calorie consumption and lack of physical activity pose a serious threat to the well-being of people, particularly the urban youth. To tackle this issue, preventive and promotional health education services will be ensured for all.

Governance and Health Sector Management

In addition to addressing service delivery issues, the 7th FYP will also take into account the deficiencies in governance and management of the health sector. Issues related to the inadequacies in the health workforce, finance, surveillance, drugs and equipment, information and research will be addressed. Table 10.4 provides the details.

Table 10.4: 7th FYP Strategies for Governance and Management in the Health Sector

Health workforce	<ul style="list-style-type: none"> ▪ Develop a national health workforce strategy ▪ Implement an HR action plan to ensure adequate number of personnel with appropriate skill mix, deployment with terms and conditions, retention, career progression, job satisfaction, etc.
	<ul style="list-style-type: none"> ▪ Implement the M&E Action Plan

Information	<ul style="list-style-type: none"> ▪ Further improve health information systems through strengthened collaboration of DGHS and DGFP by scaling up RHIS initiative ▪ Ensure timely reporting from all reporting units ▪ Use information to make management decisions at different levels. ▪ Explore full potential of ICT to facilitate service delivery, education, information gathering and management efficiency ▪ Build capacity of health managers and at district and sub-district levels, particularly on data analysis, health planning and monitoring.
Drugs and Equipment	<ul style="list-style-type: none"> ▪ Strengthen Directorate General of Drug Administration for ensuring production and dispensing of quality drugs, promotion of rational use of drugs and elimination of harmful and useless drugs ▪ Strengthen Bangladesh Pharmacy Council to support regulatory role of DGDA ▪ Develop a national policy on management of health care technology in which all stages of the procurement process is identified in the Planning, Supply and Ownership Management (PS&OM) model are addressed.
Finance	<ul style="list-style-type: none"> ▪ Ensure proper implementation of Health Care Financing Strategy 2012 to strengthen financial risk protection and extend health services and population coverage. ▪ Increase public sector contribution in health sector with appropriate initiatives to increase development partners' assistance and decrease out of pocket expenditures with prepayment initiative like health insurance.
Governance	<ul style="list-style-type: none"> ▪ Strengthen stewardship role, regulatory functions through review of existing regulatory mechanisms in terms of number, structure, mandate and capacity. ▪ Develop and implement proper regulations required to ensure quality, equitable health services of public sector and gradual shift in public sector's role from service delivery to stewardship and regulation for ensuring universal coverage in health.
Surveillance and Research	<ul style="list-style-type: none"> ▪ Develop a well-coordinated surveillance system to guide the Programme initiatives and their effectiveness ▪ Strengthen Bangladesh Medical Research Council (BMRC), National Institute of Population Research and Training (NIPORT), Institute of Epidemiology, Disease Control and Research (IEDCR), and National Institute of Preventive and Social Medicine (NIPSOM) to carry out health sector research and dissemination ▪ Establish Bangladesh Institute of Health Management.

Source: Ministry of Health and Family Welfare

10.4.2 Nutrition Programme in the 7th FYP

A particular challenge faced by the nutrition sub-sector is that it is perceived as a low priority relative to other development issues. The HNP share of total expenditure is dominated by the health sub-sector while that of nutrition is often overlooked. In addition to institutional limitations, persistent micronutrient deficiencies, lack of public awareness, maternal under nutrition, acute malnutrition and lack of dietary diversity are among other challenges in this sub-sector. The 7th FYP will address the impeding factors related to nutrition and strengthen the enabling environment for scaling up nutrition.

Strategy for Nutrition: A strategy for nutrition planning is outlined in the National Food Policy (2006) and the National Food Policy Plan of Action – NFP PoA (2008-2015), which was developed by 11 line ministries. The main objectives of the NFP PoA are to achieve adequate and stable supply of safe and nutritious food for everyone, especially women and children. The Institute of Public Health and Nutrition (IPHN) of DGHS has been assigned as the institutional home for nutrition. Nutrition Programme of the MOHFW has been mainstreamed within the DGHS and DGFP through a new operational plan for National

Nutrition Services (NNS) will be used to provide regular nutritional services. The responsibilities and capacities of relevant sectors and institutions, i.e. Upazila health complexes and district hospitals, will be expanded and developed accordingly to manage severely malnourished cases.

Role of other Ministries: Apart from MoHFW, other ministries are also play important roles in improving nutrition. Ministry of Agriculture provides extension services for different crops fortified with nutrition elements, newly developed by research institutes of Bangladesh. A new variety of rice namely, ‘Golden Rice’, fortified with beta carotene as Vitamin A supplement is a major achievement, which will be extended in suitable areas. Table 10.5 lists some public sector stakeholders in nutrition. During the 7th FYP period, the roles and responsibilities of the stakeholders for nutrition will be specified, and arrangements of appropriate coordination and synergistic action will be made. Policy guidance and inter/intra ministerial linkages can be facilitated through existing cabinet committees and coordination structures that address food security/ nutrition within the Ministry of Food and Disaster Management and others. MOHFW will collaborate with the Ministry of LGRD&C and the Ministry of Food and Disaster Management to address nutrition and food safety issues within urban contexts.

Table 10.5: Roles of Govt. Sectors (outside health) in Improving Nutrition

Domain	Role and activity towards scaling up nutrition	Ministry
Education	<ul style="list-style-type: none"> • Incorporate nutrition and hygiene education in curriculum, including school vegetable garden and cooking demonstrations • Ensure regular Health and Nutrition Days in the schools calendar • Ensure completion for girls education at least up to high school • Promote and protect good dietary practices among children in places where there are school feeding programmes • Improve sanitation facilities in schools 	Education, Health and Family Welfare, Information
Water and sanitation	<ul style="list-style-type: none"> • Contribute to increased levels of hand-washing and hygiene • Ensure availability of safe drinking water • Improve availability of sanitary facilities in different settings • Prioritise the availability of water to women for agriculture and fishing 	Local Govt., Rural Development, Coops, Health & Family Welfare, Water Devt.
Food	<ul style="list-style-type: none"> • Ensure improving availability of diverse foods of quality • Promote best practice to ensure food safety in agriculture sector, food processing industries, food distribution system and in food value chain • Ensure adequate food safety regulatory framework in place and monitored 	Food, Industry, Disaster Management, Fisheries & Livestock, Health & Family Welfare, Agriculture
Agriculture, Fisheries and Livestock	<ul style="list-style-type: none"> • Improve production of diversified food (source of animal protein) • Empower women to access agriculture extension services, resources • Incorporate basic nutrition into agriculture extension training and tasks • Build agriculture extension and agriculture input supply system to ensure nutrition is considered in planning and implementation 	Agriculture, Fisheries and Livestock, Water Development
Women and children affairs	<ul style="list-style-type: none"> • Emphasis on empowerment of women to make decisions about their own and their children’s wellbeing 	Women and Children Affairs, Health and Family Welfare,

Domain	Role and activity towards scaling up nutrition	Ministry
	<ul style="list-style-type: none"> • Highlight c child marriage/early pregnancy and childbearing, and their harmful implications for nutrition • Ensure 6-month fully paid maternity leave is implemented in all sectors 	Primary and Mass Education, Information
Industry	<ul style="list-style-type: none"> • Increase availability of fortified staples e.g. salt and oil • Adhere to high standards in advertising/marketing, focus on children 	Industry, Food Agriculture
Environment, forestry and natural resources	<ul style="list-style-type: none"> • Restoring or enhancing natural resources • Protecting forests, promoting forest-derived foods to benefit poor/women • Securing ownership, access and management rights to land and other productive resources for poor or marginalised groups (e.g. ethnic minorities, emergency-affected populations) • Pro-poor, efficient and integrated management of water resources including control for negative impacts, such as water-borne diseases • Risk mitigation and management of water-related shocks (e.g. droughts, floods, water insecurity) through adequate infrastructure, storage and flood control, supporting adaptation to the effects of climate change • Strengthening early warning and nutrition surveillance systems • Increase collaboration with other sectors and joint programming to increase household/community resilience, especially in emergencies • Monitoring & evaluation systems include nutrition relevant indicators 	Environment and Forestry Chittagong Hill Tracts
	<ul style="list-style-type: none"> • Protect, promote and monitor rights and non-discrimination: right to adequate food and to be able to feed oneself in dignity; and all other –related rights (employment, children’s rights; women’s rights; water and rights, focus on marginalized groups, poor households and women) • Uphold refugee and humanitarian law in protracted crises 	Women and Children Affairs, Justice

Source: Compiled by FAO, UNICEF, WFP, WHO (partnering as UN REACH) with Canada DFATD, DfID, EU, USAID and World Bank, as part of their joint work on “Under nutrition in Bangladesh: A Common Narrative”. Version 1, 2014

Addressing child and maternal malnutrition: Under the 7th FYP, efforts will be taken to mainstream gender issues in nutrition programmes. Proper attention will be given to the high rate of malnutrition among children and women. To that end, the Government will consider a multidimensional approach to address the intergenerational health impact. Among other things, such an approach will include awareness on child/women nutrition, food value and food diversity. Iron-folic acid supplementation among pregnant, lactating women and adolescent girls to cover iron-deficiency anaemia will be undertaken through health and family planning facilities. The national strategy for infant and young child feeding will be implemented. Existing half-yearly Vitamin A capsules distribution for children will be continued. Post-partum Vitamin A distribution to improve vitamin A status of neonates through breast milk will be scaled up. Monitoring of salt iodization will be strengthened. Zinc for treatment of diarrhoea will be adequately promoted. Expansion of intestinal parasite treatment, including the distribution of albendazole tablets, along with a separate deworming programme will be

considered. With the coverage of IMCI, zinc tablets are expected to be freely provided to children with diarrhoea.

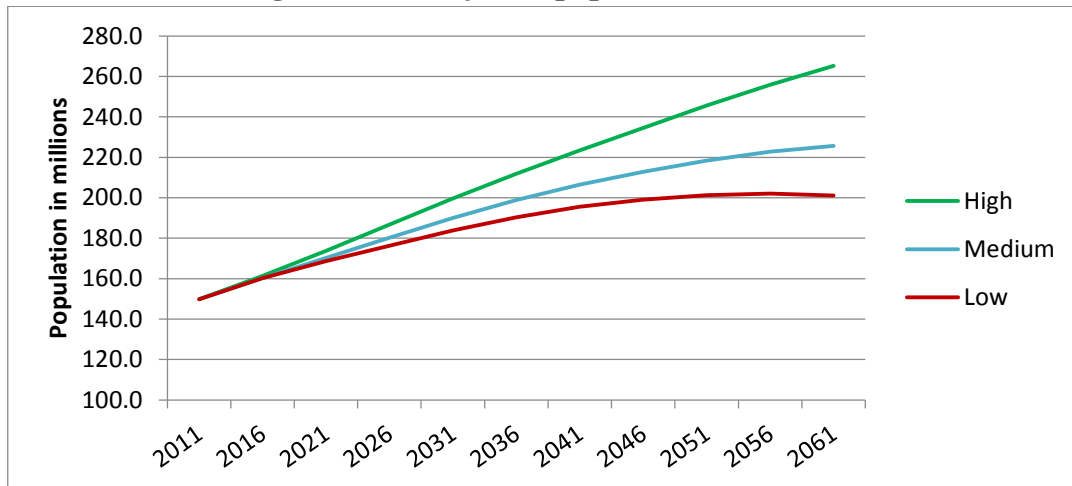
Capacity building and awareness: To improve the knowledge base and capacity of health personnel regarding nutrition, health and family planning workers as well as agricultural extension workers will be appropriately trained in nutrition education. This will ease the mainstreaming of nutrition in health and family planning services through community clinics, union health and family welfare centres/sub-centres, Upazila health complexes, and agriculture extension services. Capacity building in nutrition of Upazila health and agriculture workers, school teachers and women farmers will be undertaken through the NNS Operational Plan of IPHN. Community awareness regarding health and nutrition will be strengthened through disseminating messages. Community based arrangements will also promote preparation of low cost nutritious recipes, processing and preservation of micronutrient rich foods. Issues that are supplementary and complementary to nutrition, like water and sanitation, dietary intake, EPI and health education will be addressed through a comprehensive approach.

10.4.3 Population Programme in the 7th FYP

In recent times, there has been good progress in curbing population growth, with total fertility rate now lowered to 2.3. The current fertility rate is the lowest of any country with a similar level of poverty. However, even with a declining growth rate, significant population growth is likely to occur in Bangladesh over the coming decades. Depending on the total fertility rate, the total population would fall in the range of 167-171 million by 2020, when the 7th FYP period ends. A study looking at population projections based on three different fertility rates report the following outcome, shown in Figure 10.1.

The high fertility rate is the current rate of 2.3; the medium scenario assumes TFR declining to replacement level (2.1) by 2016, and subsequently to 1.9 by 2021; the low scenario assumes TFR declining to below replacement (2.0) by 2016, and then to 1.6 by 2021. Based on these projections, population increase would be between 17.41 million under the low scenario and 21.26 million under the high scenario by the end of 2020. Per year, the population growth rate would be 0.89 to 1.46 percent. As can be seen from the figure, total population will continue to grow under both high and medium scenarios. Only the low scenario shows the population levelling off within the next 50 years.

Figure 10.1: Projected population 2011-2061



Source: Hayes and Jones (2015). The Impact of the Demographic Transition on Socioeconomic Development in Bangladesh: Future prospects and Implications for Public Policy

Demographic dividend: An interesting feature of the population trend in Bangladesh is the emergence of a demographic dividend. Under all three scenarios, the core labour force age group of 15-59 would increase significantly by 2061. The increase would be from 86.7 million in 2011 to 152.3 million under the high scenario, 130.8 million under the medium scenario and to 117.1 million under the low scenario. Thus, significant growth in the working age population lies ahead. This demographic dividend is expected to come into being over the next decade. This is particularly important because a plentiful supply of young, healthy and educated workers can stimulate the economy to a large extent. The next few years will thus be the optimal period for investing in human resources and establishing other conditions that will further stimulate the Bangladesh economy.

Strategy for the population sub-sector: Given the current scenario and projections of population growth, the population subsector of HNP is particularly important for future development of Bangladesh. As such, the Government has outlined a strategy to not only reduce the fertility rate but also to create an environment where the citizens of Bangladesh will be aware and actively involved in checking population growth.

Total fertility rate varies across regions in Bangladesh. While some have already achieved replacement level, fertility rates are as high as 3 in some areas. Existing family planning services will thus be strengthened through delivering regional packages in less performing divisions/pockets. Method-mix of contraceptive use will be shifted to long acting permanent method (LAPM). The unmet need for contraception will be reduced along with the tendency to discontinue contraception through improved collaboration with health department and others to ensure services of technical personnel like doctors and nurses.

Gender equality and family planning: Gender equality will be particularly ensured during the 7th FYP period in family planning. Despite government mandates declaring legal age of marriage, child marriage continues to be a serious problem, more so in rural areas. Increasing the average age at marriage, translating to greater maturity of women at the time of marriage is likely to reduce fertility. It will open other potential roles for women, enabling them to avoid

unwanted pregnancies. Moreover, later childbearing will reduce rates of population growth by extending the mean length of time to replace a generation. Population and family planning services will thus be improved by promoting delay in marriage and child bearing among other interventions. Newly-wed couples, especially adolescents, will be targeted to delay the first birth. Counselling on population control and reproductive health and behaviour will be continued and expanded in health care centres. Steps will be taken to ensure women's decision making over reproductive health through proper education and information. Services for women beyond reproductive age will be addressed to ensure a more equitable and gender-friendly access to health services.

Targets for the 7th FYP: The Government has set a target to reduce the fertility rate to 2.0 by the end of the plan implementation period. This target is close to the low scenario among the projections. Although this can be viewed as ambitious, it is undoubtedly achievable with diligent action on all fronts. Apart from the TFR target, other targets in the population sub-sector are as follows:

- Increase Contraceptive Prevalence Rate from 62.4% to 75%.
- Reduce unmet demand of eligible couples for FP supplies from 12% to 10%.
- Reduce discontinuation rate of contraceptive rate from 30% to 20%.
- Increase contraceptive prevalence rate to arrest population growth by making services and contraceptives available to people at minimum cost and using door to door service wherever required.
- Improve population and family planning services through following interventions:
 - Promote delay in marriage and child bearing, use of post-partum FP and FP for appropriate segments of population;
 - Strengthen FP awareness building efforts through Information, Education and Communication (IEC) activities with special emphasis on mass communication and considering local specificities;
 - Use different service delivery approaches (including domiciliary services) for different geographical regions and segments of population having low CPRs;
 - Register eligible couples with particular emphasis on urban areas to establish effective communication and counselling;
 - Compensate for lost wages for long acting and permanent method contraceptive performance;
 - Strengthen FP services especially post-partum and post abortion FP and demand generation through effective coordination of services with DGHS; and
 - Strengthen advocacy for male participation in permanent and other methods of contraception.
- Create awareness of all relevant ministries of their roles in population management with MoHFW as the lead Ministry.

10.4.4 Implementation Mechanism

The Government of Bangladesh (GOB) is currently implementing the 3rd Health, Nutrition and Population (HNP) sector program entitled “Health, Nutrition and Population Sector

Development Program (HPNSDP)”, which will be completed in June 2016. The HNP sector development initiatives in Bangladesh have been following the sector-wide approach (SWAp) since 1998 as part of implementation mechanism of MOHFW’s development activities. As the GOB had already stated its policy of continuing with the SWAp in the HNP sector through the on-going 6th Five Year Plan, the HNP sector’s development programs of the 7th FYP will also be implemented following the SWAp mechanism. It is intended that the 4th HNP Sector Program will be implemented from July 2016 for a period of five years through to June 2021 without any interruption between the current and next sector program.

The strategic directions and objectives of the 4th Sector Program will be in line with the 7th FYP document and will be guided by and closely aligned with the overarching economic and social development objectives of the government. MOHFW is already in the midst of preparation of the Strategic Investment Plan (SIP) in connection with the development of a Program Implementation Plan (PIP) for the 4th Sector Program.

10.5 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Ministry of Health and Family Welfare has developed specific programmes within their domain to help strengthen the human capital of Bangladesh. The Seventh Plan stipulates adequate development resources for the health, population and nutrition sector. During the Seventh Plan, the Government aims at substantially improving human capital to propel the country towards higher growth. In the HNP sector, service delivery will be enhanced; severe malnutrition will be countered while population growth will be kept in check. With a view to achieving the targets mentioned in the 7th FYP, the planned development resource allocations in constant (FY2016) prices and current prices are shown in Table 10.6 and 10.7.

Table 10.6: ADP Allocations for Human Development in the Seventh Plan

(billion taka; constant FY2016 prices)

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Health and Family Welfare	53.3	64.0	72.2	81.6	92.8
Total Health Sector	53.3	64.0	72.2	81.6	92.8

Source: Seventh Plan Projections

Table 10.7: ADP Allocations for Human Development in the Seventh Plan

(billion taka; current prices)

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Health and Family Welfare	53.3	67.9	80.9	96.3	115.0
Total Health Sector	53.3	67.9	80.9	96.3	115.0

Source: Seventh Plan Projections

SECTOR 11: EDUCATION AND TECHNOLOGY

CHAPTER 11

EDUCATION SECTOR DEVELOPMENT STRATEGY

11.1 INTRODUCTION

Since human development is a key input to the goal of inclusive and shared economic growth and poverty alleviation, the Sixth Plan put considerable emphasis on human development. Considerable progress was made in expanding education at all levels including tertiary education for both male and female. But there is unfinished agenda that needs to be addressed during the Seventh Plan. In particular there are important challenges regarding education quality, scientific and technical education, equity, and labour training. Further progress with human development will be critical to raise GDP growth to the 8% level envisaged in the Seventh Plan, to reduce poverty and income inequality, and to empower citizens.

This Chapter looks at the progress made on education sector development during the Sixth Plan, identify the main achievements and future challenges, develop a strategy for addressing these challenges during the Seventh Plan and discuss the main policies, institutions and financing needed to implement the human development strategy for the Seventh Plan. The 7th Plan's goal of accelerating growth and empowering citizens is critically dependent upon progress with human development.

11.2 HUMAN CAPITAL AND INCLUSIVE DEVELOPMENT

The 7th FYP aims at accelerating growth which is inclusive in the sense that the benefits of growth are shared by the widest swathe of citizenry. Human capital, in a broad sense, includes education, skills, training, health and other related factors of workers that determine their overall productivity and capacity to seize opportunities created by economic progress. Formation of human capital for sustaining economic growth and poverty alleviation has been a pivotal developmental instrument in Bangladesh since independence. This goal was affirmed in the First Five Year Plan and in the successive Plan documents. Successive education sector plans and strategies focused on enhancing access and quality of education along with emphasis on equitable access and better utilization of scarce resources. Improving education quality was perceived as the most critical challenge for meeting the skills and knowledge requirements of the national economy. Interlinked programmes in nutrition, maternal health, sanitation, and preventive health practices, enabled the poor to gain access to the human capital formation process and empowered them for seeking curriculum relevant to labour market needs, self-employment generation, and export of skilled manpower.

In line with the Rio +20 outcome document which articulates the global sustainable development agenda, the National Sustainable Development Strategy (NSDS) identifies human resource

development as a priority sector. Acknowledging that people live at the Centre of development in Bangladesh, the NSDS calls for population planning, providing quality education and training, and providing quality health and sanitation services and nutrition for all. As a vehicle for implementing the strategies outlined in the NSDS, the 7th FYP also recognizes the integral role of human development in pursuit of a prosperous nation, and will advocate measures to ensure that development is indeed inclusive so that the benefits can be equitably shared by all.

Human capital and poverty alleviation. Although the incidence of poverty has exhibited considerable reduction, poverty still acts as a constraint in realizing human potential. Efforts to reduce the poverty level generally focus on driving growth and development so that the poor can graduate out of poverty. In order to do so, improvement in human capital is required. There is ample evidence of a strong relationship between investments in human capital and poverty alleviation. With improved human capital, suited to the demands of the labour market, the poor and marginalized population can seize employment opportunities for income generation and sustenance. By contributing their knowledge, talents and skills to various sectors of the economy, they not only cause further growth and development, but also lift themselves out of poverty. The 7th FYP strategy is to accentuate this virtuous circle where higher growth will result in higher income, which translates to improved human capital in future generations and subsequently leading to poverty alleviation and equity. Development can thus be made inclusive by augmenting human capital that ensures productive employment and improvement in the employability of the labour force.

Educational Profile of the Labour force: A major challenge in building human capital is the lack of educational attainment of the labour force which predominantly consists of workers with little or no education. Of the 56.7 million workers, some 40.8 percent have no education, while 23 percent have up to a primary education. Although there is not much disparity in these numbers across gender, there is a considerable difference between urban and rural areas. In urban areas, 27.9 percent of workers have no education. The figure jumps to 44.7 percent in rural areas. The share of female workers with JSC and SSC is greater than similar male workers. The greatest deficiency in educational attainment is illustrated by a significantly low share of workers with vocational education. The low attainment of education among the workforce translates to low productivity and deficient human capital, accentuating the employment challenge.

Human capital development and equality of opportunity. Ensuring equality is fundamental to human capital development for poverty reduction. A pro-poor strategy will help to achieve the desired objectives. There has to be equal access to educational, health and other services in rural and urban areas. Major gender gaps and challenges remain in many crucial areas, including higher rates and severity of poverty among women relative to men, lower access to economic resources and assets, high rates of early marriage, dowry demands, and gender based violence and persistent wage discrimination. All these lead to lack of adequate reproductive health and nutrition services, a high maternal mortality rate, low female access to tertiary education and remunerative

employment, and the public safety of women and girls. These gaps and differences are evidence of the continuing low value placed on girls and women.

In terms of educational attainment, gender parity has been achieved in primary and secondary education, Female enrolment in primary and secondary education has surpassed male enrolment. However, females continue to lag behind in secondary completion. There have been improvements in equity in primary enrolment between the poor and non-poor. Despite these improvements, the absolute gap between poor and non-poor is still high. Household surveys that have related economic status of families (measured by their food security status) with their children's primary school participation have shown a strong correlation. In this context, the Government has recognized that eliminating inequalities in the areas of education, health, nutrition etc. is essential to achieving long-term vision of human development.

11.3 EDUCATION AND HUMAN CAPITAL FORMATION

The link between human capital and economic growth is well documented. Human capital is seen as an important determinant of growth, a claim substantiated by empirical evidence for a broad group of countries. Economic growth is not only driven by quantities of capital and labour. The quality of these inputs are important determinants of growth as well. Improvements in human capital increases the potential of workers through enhanced knowledge and skills, which lead to economic growth and development. Education is the means through which human capital is improved. Instilling education at all levels and ensuring proper access is a crucial input for empowering people and for providing them the opportunity for productive employment in the future, while increasing their income. Education is the most potent tool for socio-economic mobility and a key instrument for building a just and equitable society. Proper education not only enhances efficiency but also augments the overall quality of life. A well-educated population, equipped with the right values and competencies, is essential for economic and social development. Apart from the economic impacts, education also has positive impacts on health, nutrition and social cohesion. Better educated population has lower child poverty, lower child and maternal malnutrition, and enhanced women empowerment. The burgeoning population of Bangladesh can be transformed into a valuable resource if improvements in the educational sector take place. A quality education has to meet the needs of the economy and society. The benefits of such an educational system will not be merely limited to the people receiving the education. Rather, there will be spill over effects which will affect the economy and society at large and lead to the realization of Vision 2021.

11.3.1 Review of progress

Recognizing the importance of education, the Government has continued its commitment to bring significant improvements in education sector. Development plans with education have been prioritized in public sector investments. Public spending on education and technology currently amounts to 12.3 percent of the overall development expenditure, and about 2.2 percent of GDP. For fiscal year 2014-15, the country's education sector received by far the highest allocation of

TK 292.13 billion. This spending priority has served Bangladesh well as reflected in the progress made in education indicators of the country. Table 11.1 highlights the progress made over the years.

Table 11.1: Indicators of Performance in Primary and Secondary Education

Indicators	Sub-indicators	2010 (unless stated otherwise)	2014 (unless stated otherwise)
Indicators of Participation	a) Primary Gross Enrolment Rate	107.7%	108.4%
	b) Primary Net Enrolment Rate	94.8%	97.7%
	c) Secondary Gross Enrolment Rate	47.34%	55.84%
	d) Secondary Net Enrolment Rate	43%	50.21%
Indicators of Internal Efficiency	a) Primary Repetition Rate	12.6%	6.4%
	b) Primary Dropout Rate	39.8%	20.9%
	c) Primary Survival Rate	67.3%	81%
	d) Primary Student Absenteeism	16%	13.3%
Indicators of Quality	a) Primary Student Teacher Ratio	1:48 (2009)	1:42 (2013)
	b) Secondary Student Teacher Ratio	1:35 (2009)	1:37 (2013)
Indicators of Educational Expenditure	a) Public expenditure on education as % of total expenditure	13.8% (2009)	12.3% (2015)
	b) Public expenditure on education as % of GDP	2% (2009)	2.3% (2015)

Source: Bangladesh Education Statistics-2014, BANBEIS; World Development Indicators

Under the 6th FYP, educational targets were aligned with the goals of Vision 2021 and National Education Policy 2010. The targets included achieving universal primary education, and extending primary education to grade 8; creating a new generation equipped with technical skills and scientific knowledge; better remuneration for teachers; overall improvement of quality. The important aspect of the education policy is that it emphasizes science and technical education. During the period of the 6th FYP, the Ministry of Primary and Mass Education (MoPME) launched the third Primary Education Development Programme (PEDP III). PEDP III is a five year Programme using the sector-wide approach (SWAp), aimed at improving the standard of primary education. It highlighted six areas where progress was needed: learning outcomes, participation, reducing disparities, decentralization, effective use of budget allocations, and Programme planning and management. PEDP III further emphasized the effective use of resources to improve completion rates and the quality of learning.

Issues related to secondary and higher education were addressed on a two-pronged basis: a qualitative goal, and a quantitative goal. Under the quantitative goal, the main objective was to increase enrolment and completion rates by improving infrastructure, number of teachers and stipends among others. The qualitative goal included the improvement of the standard of education by addressing teaching capacity, curricula, teaching techniques and other reforms. In terms of secondary education, two important development projects have been implemented: Secondary

Education Quality and Access Enhancement Project (2008-2014) and Secondary Education Sector Development Project (2007-2013). For tertiary education, the Higher Education Quality Enhancement Project has been initiated.

Box 11.1: Key Initiatives Taken by the Government in the Education Sector

- Third Primary Education Development Programme (PEDP-3) to improve the standard of pre-school and primary level education
- Secondary Education Quality and Access Enhancement Project (2008-2014) and Secondary Education Sector Development Project (2007-2013)
- The Higher Education Quality Enhancement Project
- Prime Minister's Education Assistance Trust Act 2011 – a trust fund for poor meritorious students
- Creative Talent Hunt 2012 which finds and supports creative talent in Bangladesh
- Increased coverage of the School Feeding Programme (from 3.5 million to 20 million) and Stipend Programmes (from 7.8 million to 13.0 million)
- Establishment of 12 Primary Teacher Training Institutes
- Development of a framework for early childhood care and development policy
- Free distribution of textbooks to all primary and secondary students
- Introduction of ICT labs in over three thousand secondary schools
- Primary Education Development Project 2012, which provides better infrastructure, including sanitary latrines and safe water
- Various projects to increase the number of educational institutions – 1500 new primary schools in villages without a school, 306 new model high schools, and 4 new universities

Source: Ministry of Education, Ministry of Primary and Mass Education

The Government also recognizes the importance of other forms of education, such as vocational, technical and non-formal. The Ministry of Education (MoE) formulated the National Skill Development Policy (NSDP) and the National Skills Development Council in an effort to improve the skill of the workforce, which would lead to rapid economic growth with a more equal distribution of its benefits. A framework for a Non-formal Education policy has also been formulated, with the intention of providing quality education and training. This training will provide productive income-generating skills and allow trainees to become self-reliant. The Capacity Development for 'Education For All' was implemented with UNESCO between 2009 and 2011, and aimed at improving adult literacy and the capacity of the government to provide the necessary services.

Through the widespread efforts taken by the government, Bangladesh has made significant progress in improving access and attaining gender equity at both primary and secondary levels. Net primary enrolment rates rose from 93.9 percent in 2009 to 96.7 in 2012 and 97.7 percent in 2014. The primary education cycle completion rate has risen from 60% in 2010 to 79% in 2013 including a gain of nearly 5 percentage point between 2012 and 2013. The Department of Social Services under the Ministry of Social Welfare has started a stipend Programme for the students with disabilities, which is encouraging the students with disabilities to enrol in the general

educational institutions. Gender parity in access to primary and secondary education has also been achieved. Net secondary enrolment rate for girls increased to 78 percent in 2013 from 51 percent in 2009, surpassing the target of 75 percent in the 6th FYP. Efforts have resulted in a higher number of students participating in public exams at the secondary level. The quantitative improvements have been accompanied with some qualitative ones, such as the increase in the number of schools with pre-school classes and the rise in the proportion of teachers trained.

11.3.2 Major challenges in the education sector

The Access, Dropout and Equity Issue: Despite the impressive progress made in the education sector, there are still issues and challenges that impede human capital formation. In terms of enrolment, the poor are lagging behind, especially at the secondary level. Secondary gross enrolment rate for the poor is 45 percent, substantially lower than the 76 percent enrolment rate for the non-poor. About five million children are out school, either because they did not enrol in school or dropped out early, mostly due to poverty. The issue of limited access due to poverty is particularly acute in urban slums. The educational attainment of children belonging to poor slum households is low. Although there was a notable decline in repetition rates in recent years, they are still quite high. Another major problem is the low transition rates across various levels of education. The dropout rate in primary education stood at 21.4 percent in 2013. The high repetition and low transition rates raise concerns about the low levels of learning.

Gender Discrimination: Along with poverty, gender discrimination is an obstacle towards females attaining education. Despite the achievement of gender parity in primary and secondary education, females continue to lag in higher secondary and tertiary completion rates. In higher education, just 40% of the enrolled students are female. The problem is worse at public and private universities, where only 26% of students are female. This disparity in enrolment and attainment can be traced to social norms and practices. Many families still keep their girls from out of school simply because they do not believe a girl needs or should have an education. Many girls are married at young ages, eliminating any chance they had to receive an education beyond the primary level. Especially in rural areas, girls are also frequently kept in the home to work and take care of younger siblings, exacerbating the problems of access they already face. The same holds true, although to a lesser degree, in urban areas. In both urban and rural areas, the problem is worst for girls of poor families. The drawbacks of the educational systems manifested in the low achievement and competency levels doubly disadvantages girls since they already face overwhelming gender discrimination.

The Quality Issues: The shortcomings in educational attainment levels can be attributed to a persistent lack of quality prevalent in the education system. The following are issues that stand out:

Teacher Capacity: Although the proportion of teachers trained have increased, there is still a large number of teachers without training. Furthermore, the training that teachers receive can be

inadequate to enhance performance. The minimum qualification for female teachers has been raised to the HSC from SSC, which is a step forward.

Teacher absenteeism and tardiness: Various studies have reported that about 13-17 percent of teachers are absent, and some 30 percent of teachers are tardy. Teacher absenteeism and tardiness prevent proper learning in the classroom and inhibit student performance.

Inappropriateness of curricula: In addition to deficiencies in teaching quality, the curricula and textbooks are often inadequate for the set goals in many disciplines. Lack of modernization of the system is a limitation in implementing the quality improvements necessary for development. Endeavours have been made to unify the curricula between different educational institutions, however this has only been proposed for basic subjects. The three streams of education (Bangla, English, and Madrasas) do not result in synergy, but often compound existing inequality.

Poor physical facilities: The poor physical infrastructure of schools, particularly in remote areas, greatly detracts learning and the overall schooling experience. They do not meet the minimum acceptable criteria for appropriate learning environment for achieving the quality with equity goals. Of particular concern are the limited facilities for girls which often discourage their attendance. The National Hygiene Baseline Survey 2014 found that a mere 6 percent of schools have provided any sort of menstrual hygiene session for female students, mostly in urban secondary schools. The survey also reported that only 11 percent of schools had a separate toilet for girls with both soap and water available, and 3 percent had any facility in the toilets to dispose of sanitary products. The gravity of this issue is highlighted by the finding that over 30 percent of girls think menstruation interferes with their school performance. Furthermore, MoPME has identified 1500 villages as lacking a primary school. These villages, with a population above 2000 and no schools within a 2 kilometre radius, are generally located in areas with limited accessibility and dispersed habitations such as coastal areas and hills.

Issues related to training: The role of Vocational and Technical Education (VTE) programmes for increasing the skilled labour force is vital. The VTE programmes such as Technical and Vocational Education Training (TVET) and apprenticeships have the potential to profoundly impact unskilled informal workers as well as self-employed people. However, modest progress was achieved during the 6th FYP. The structure of the TVET system can be modified to allow greater access. A wider clientele including the poor can be served to the extent that skill development activities adopt more non-formal, flexible and variable-duration approaches with eligibility not strictly tied to formal education. The mismatch of jobs and skills, highlighted by the narrowing wage gap between skilled and unskilled workers, is also an issue. This indicates that the training workers go through is not valued highly in the market. Quality and content issues in training, along with limited access and shortage of skilled labour are major drawbacks in this subsector. In the 7th FYP, the Government will continue the major reformation Programme by improving the capacity of the system among other methods.

Other issues: Other challenges in the educational system include issues in management, capacity and financing. The coordination mechanism among sectors and subsectors of primary education is often found lacking. Allocation for the educational sector also needs adjustment. The current allocation for education is much lower compared to other South Asian countries. The 7th FYP goal would be to make a pathway to attain the UNESCO prescribed level of 20% of budget allocation, which translates to around 6% of GDP.

11.4 EDUCATION SUB-SECTORAL GOALS, STRATEGIES AND TARGETS

Having stressed the need for educational policies appropriate for growth, the specific goals, strategies and targets for each sub-sector of education will be discussed in this section. Under the broad human development goal of improving the human capital to meet the needs of a growing economy, specific actions are required within each sector to realize this vision.

11.4.1 Primary education

Significant progress has been made in increasing equitable access, reduction of dropout, improvement in completion of primary education cycle, and implementation of a number of quality enhancement measures in the primary education Sub Sector. Access to primary education has increased steadily over the past decade. The contribution of government primary schools, which accounted for 85 percent of the primary school children, were complemented by Ebtedayee madrasas, which also receive substantial government subventions, and non-formal primary schools managed by NGOs, largely funded by external donors.

Net and gross enrolments rate increased over the recent past years. The GER and NER were 108.4% and 97.7% respectively in 2014. The primary education cycle completion rate has risen from 60% in 2010 to 79% in 2013 including a gain of nearly 5 percentage point between 2012 and 2013. Between 2005 and 2014, the dropout rate has been drastically reduced from 47.2% to 20.9%. Gender parity index has been achieved and it was 1.03 for GER and 1.02 for NER in 2013. Distribution of free textbooks and provision of stipends of 100 Taka for a child and 125 Taka for more than one child in school per family has encouraged primary school attendance. The school feeding programme for 34 lakh students is also another incentive. The Department of Social Services under the Ministry of Social Welfare has started a stipend Programme for the students with disabilities, which is encouraging the students with disabilities to enrol in the general educational institutions.

Initiatives to improve quality and capacity: Various Quality improvement measures in primary education have been taken. Competency based curriculum and textbooks have been revised and creative question paper has been introduced in the grade 5 terminal examination. School based sub-cluster training and subject based (major five and others) in-service training for teachers have been provided to the teachers at Upazila resources Centre (URC). Diploma in Education (Dip-Ed) training for the primary school teachers have been introduced in PTIs. Leadership and School

Management training for Head Teachers and ICT training for teachers have been introduced. Upazila and District primary education staff are being provided management training while AUEOs are given academic supervision training.

Progress of PEDP II and PEDP III and constraints: The Third Primary Education Development Programme (PEDP III) for the years 2011-16 (extended to June 2017) has been undertaken as a sub-sector wise Programme to improve primary education quality and expand access to primary education. Initial targets were set for net enrolment rate to 98 percent, which has been achieved. The Directorate of Primary Education has summarized progress of PEDP II and PEDP III as outlined in boxes 11.2 and 11.3, which will be further pursued in the 7th FYP.

Box 11.2: PEDP Objectives Likely to be Achieved

1. The targeted transition rate from Primary to Secondary (from grade 5 to grade 6) is likely to be met, although about 21.4 percent students dropped out from primary schools in 2013.
2. The number of student receiving stipends targeted to be at least maintained at or to rise above the 2005 baseline level (of 78, 15,000 students) is also achieved.
3. Planned additional teacher recruitment (a total of 35,000 under PEDP II) has been completed and the recruitment of 47000 teachers under PEDP III is continuing.
4. Target related to organizational development and capacity building, including producing the HRD plan and conducting institutional analyses, will be achieved.
5. Educational Management Information System (EMIS) has been significantly enhanced.
6. Achieving universal coverage of School-Level Improvement Plans (SLIP) by FY 2015-2016 as on track and additional attention is being given to their scope and quality.
7. The decentralization of planning and management functions is progressing.
8. Textbooks are now being produced and distributed to all primary school children and received on time. Since the academic year 2010, all primary children have received free textbooks. The Teachers Guide is being developed based on newly revised competency based curriculum.
9. To enhance the early childhood development of the 5+ aged children, pre-primary curriculum has been developed and introduced all GPS. From this calendar year pre-primary grade will be introduced in all RNGPS.
10. Quantitative training targets (for Teachers and Head Teachers) are likely to be met. However, the quality and outcomes of training have not yet been “systematically documented.”
11. The pass rate of grade five completion examination has been significantly changed which was 92.34% in 2010 and 98.54% in 2013
12. Schools infrastructure development targets are likely to be met, as are the revised targets for better maintenance although building sufficient classrooms to reduce class size to 46 was not achieved during PEDP II.
13. The 2013 target regarding safe (arsenic-free) water sources in GPS and RNGPS is likely to be achieved on schedule. About 13000 water sources constructed up to June 2014 under PEDP III.
14. To ensure proper health and hygienic service for the children 7521 WASH blocks (instead of toilets) have been constructed in the primary schools.
15. The issue of “Inclusive Education” is being pursued diligently. Training on Inclusive Education has been given to all teachers, field level officials and DPEs officers. The current Programme addresses the needs of only those children with mild physical disabilities – meeting the needs of those with severe disabilities remains outside the scope of the primary education system.
16. In the primary level the ethnic people are given opportunity to study in their mother tongue and ethnic teachers are given priority in areas where ethnic people are residing. Textbooks in five ethnic languages is going to be introduced under PEDP 3 from 2016.

17. Education tools are being given by Ministry of Social Welfare for mild disabilities children in the primary education.

Source: Ministry of Primary and Mass Education

The PEDP II design was ambitious relative to DPE capacity, had many and diverse activities, and underestimated the impact of the primary education system's size and inherent geographic and communications challenges. PEDP III was designed based on the lessons learnt from PEDP II. Under PEDP III, targets take into account both the baseline situation and institutional capacity. PEDP III design is cautious around deliverables that require actions or decisions by other ministries or regulatory bodies. PEDP II developed the capacity of the Education Management Information System (EMIS) and Monitoring and Evaluation (M&E) system. PEDP III utilizes and further strengthens these capacities. Building on the lessons learned from PEDP II, PEDP III will develop a communications strategy to improve understanding of the programme at district, upazila, and school, and local community levels. The communications strategy will include social mobilization.

Box 11.3: PEDP Targets Requiring More Action

- Expenditure on education as a percentage of GDP and for expenditure on primary education as a proportion of total education is not on track to achieve the anticipated increase.
- The rate for completion of primary education up to grade 5 will be well below target, some children may complete grade 5 in schools outside PEDP III. Dropout rates are far higher than those targeted.
- Repetition rates have yet to decrease significantly and, despite stipends and quality enhancement, the coefficient of efficiency target is likely to be achieved.
- Diploma in Education will be introduced in all Primary Training Institution (PTIs) gradually including improved physical facilities. Although it will not address major issues regarding teachers for a system of primary education that meets criteria of quality and equity but skills of teachers will be enhanced significantly.
- The job description of teachers should be revised with well-defined incentives and career paths.
- Filling of staff vacancies at all levels in PTIs, DPEOs, and UEOs has proved much more time consuming.
- Capacity development in NAPE and NCTB, two key institutions for improvement of quality in primary education, remains a challenge. Almost all the professional staff are 'deputies' (seconded on a temporary basis) from other departments who stay for uncertain and often short periods. Many of those trained for specific roles within NCTB and NAPE are no longer with these institutions. The recruitment rules of NAPE need to be amended. The primary curriculum wing of NCTB should be separate from NCTB and strengthened.
- Post PEDP III planning is already being undertaken for continued effective and efficient measures to ensure quality education.

Source: Ministry of Primary and Mass Education

Development Vision, Goals, Objectives and Targets for the 7th FYP in Primary Education

The Government's current education vision is articulated in the 2010 National Education Policy (NEP). The Policy is derived from the Government's commitment to the goals of Education for All and the Millennium Development Goals. As per the NEP, proposed changes include a year of pre-primary and the extension of free, mandatory primary school education to a total of eight years by 2018 as per NEP.

The Government has established the following goals to develop primary education:

1) *Improve the Teaching Learning process in schools*

Teacher recruitment and their career path, training, professional support and remuneration are crucial to the strategies for improving quality in education. Assessment of learners' achievements will be based on terminal examinations and continuous evaluation by teachers. National assessment will aim to strengthen cognitive, effective and skills domains rather than memorization. The pass rate of primary completion exam will be increased. A core curriculum will be followed in government, nongovernment, private schools and madrasas.

Under this goal, the following targets have been specified:

- Mainstreaming Each Child Learn Programme all over the country
- Expand in-service training to teachers
- Conduct school and classroom based assessment
- Provide quality textbooks to all children of all types of schools
- Introduce ICT in all schools including audio visual aids
- Adopt quality improvement measures in academic curriculum and pedagogy

2) *Ensure participation and reduce disparity*

Early childhood development and pre-primary education have a strong positive influence on preparedness for school and later performance and achievement of children in school. Preparing children physically and mentally to begin formal education by creating a one-year pre-primary programme for children aged 5+ in all primary schools is envisaged. To address the problem of inadequate nutrition in children, the school feeding programme will be expanded. Nutritional deficiency from childhood often limits the productive potential of skilled labour. As such, it is imperative to expand the school feeding programme so that nutritional issues can be addressed from an early stage. An inclusive education will enable all primary school-age children to complete quality primary education. The access portion will focus on reaching the unreached, particularly for special needs children, working children, children in difficult circumstances, and children belonging to ethnic minorities or living in remote areas. Tribal children are encouraged to learn in their mother tongue.

The following targets are set for this goal:

- Continuation of pre-primary education
- Increase support for inclusive education
- Engage all schools in social mobilization
- Provide assistance in emergency periods
- Provide stipends to 100% of primary school children
- Provide health check-ups for all students and expand school feeding programme

- Construct more schools and classrooms

3) *Ensure Decentralization and enhance effectiveness*

Primary education management will be comprehensively decentralized. The School Management Committee will be given more authority. Involvement of Local Community will be further enhanced in the management and improvement of primary education. The following targets will help ensure decentralization and enhance effectiveness:

- Increase school funding (SLIP) with the help of local community
- Provide leadership training to head teachers
- Fill vacancies as available and recruit more teachers
- Conduct annual primary school census every year
- Continue national assessment of G-5 students

4) *Establish Effective Planning and Management*

Management of primary education will be decentralized to the extent possible with greater involvement of community and parents and greater authority for schools. To facilitate the process, two targets have been set:

- Transparent financial management and good governance
- Human resource development by conducting performance and need based training along and approving recruitment rules

Non-formal education and adult literacy

Literacy is a basic tool for all individuals, regardless of age, should possess. It is an effective instrument of social change that empowers individuals with the essential skills of numeracy, communication and problem solving. Non-Formal Education (NFE) especially literacy and continuing education for adults and youths including life skills & livelihood skills development, is considered as the process of empowerment that contributes to human resource development and poverty reduction.

The Government has been implementing Literacy/NFE programmes in various forms since its Independence in 1971. The commitment to battling adult illiteracy prompted the Government to launch a major non formal education Programme in the 1990s, focusing on basic literacy. The government has adopted NFE Policy in 2006 aimed at reducing the number of illiterates, offering need-based continuing education, Pre-voc 1 & Pre-voc 2 level education, promotion of equivalency between formal and non-formal education, ensuring community ownership and sustainability of NFE programmes. The goal of the 7th FYP will be to completely eliminate illiteracy as outlined in the NEP. In addition, a mechanism supporting ‘Second chance’ schooling will be considered. It will serve as a remedial Programme for workers who dropped out of school

to enter the labour market. Bangladesh has received a number of international awards for achievements in this sector, but realizes that there is still more to be done. Table 11.2 highlights the goals, targets and indicators to monitor progress in the area of NFE.

Table 11.2: Non-Formal Education- 7th FYP Targets and Monitoring Indicators

Goals	Target to attain	Input indicators (resources/policy changes, etc.)	Output indicators (Measurable)	Impact indicators
Elimination of illiteracy/ Providing Basic Literacy.	32.5 million adolescent and adult illiterates.	Allocation of fund and development & printing of learning materials	32.5 million adolescent and adult illiterate became literate.	Socio-economic condition and lifestyle changed, zeal for education arose among the people.
Establishing a community-based network of learning centres in order to create scope for ICT based continuing and lifelong learning.	5025 (Minimum one in each union + in certain urban areas).	Financial allocation from Government, community contribution.	5025 learning centres established.	Awareness for education enhanced.
Extending opportunities for effective skill training	5 million graduates of Basic Literacy Project	Financial allocation, Development of Training Materials, Guides etc.	5 million graduates of Basic Literacy Project became skilled in different trades/occupations	Improvement in life-style.
Establishment of Non-Formal Education Board	1 (One)	Financial allocation, Making rules etc.	One NFE Board established.	Scope created for attaining higher education and skill through establishment of Equivalence between Formal and Non-Formal Education

Source: Ministry of Primary and Mass Education

11.4.2 Secondary education

Despite progress in Secondary Education, past experience from development efforts and the current constraints suggest the need for action that will effectively address the issues in the education system. Major challenges include large urban-rural disparity and disparity by socio-economic category, relatively low completion rate and absence of proper learning in the classroom. The enrolment rate in secondary education suggests that a large proportion of students do not continue their education beyond the primary level. The completion rate of 58.06 percent shows that a significant amount of students enrolled in secondary schools are for one reason or other kept

away from passing the SSC examination. Virtual dropout, where students are physically present in the classroom but psychologically and intellectually absent, also affects a large proportion of children. Quality issues in teaching are curriculum continue to deter learning.

The Government has initiated a number of policies and programmes to improve the education sector. In addition to the NEP, the Ministry of Education with the assistance of UNESCO has initiated the 'ICT in Education Master Plan' which aims at developing a quality education system based on information technology in connection with attaining the objectives of 'Vision 2021'. The main objectives of this master-plan is to: i) promote Education for All (EFA) goals, ii) improve the standard of education, iii) produce skilled manpower and iv) eradicate digital divide in education standard between urban and rural areas through the use of ICT and by suitably conducting information technology in education. On this agenda the Ministry of Primary and Mass Education (MoPME) and the Access to Information (a2i) programme of the Prime Minister's Office and other different organizations are working very closely in providing essential cooperation with the Ministry of Education.

The role of DSHE: The Directorate of Secondary and Higher Education (DSHE), under the overall direction and guidance of the MoE, is continuously working towards providing education to produce enlightened people who can contribute to the development goals of Bangladesh. In order to address the issues at the secondary and higher levels, DSHE has always focused on specific actions to raising the quality of education and improving equity and access in secondary and higher education through various continuous strategies. These strategies include:

A) Strategies for Secondary Education

- Infrastructural, ICT and equipment support for education institutions;
- Financial support and training for teachers;
- Providing financial facilities including stipend, scholarship and other subventions for students.

B) Strategies for Administration

- Reforming Education Management Information System;
- Decentralization of MPO;
- Training officers and administrators;
- Introducing modern management options for education.

The development interventions of DSHE are currently taking place through a number of programmes/projects. Ongoing activities that will be continued during the tenure of the 7th FYP are listed in Table 11.3.

Table 11.3: The Running Programmes and Projects of DSHE

Name of Programme/ Project and major activities
Secondary Education Sector Investment Programme (SESIP) [January 2014 - December 2017]
<ul style="list-style-type: none">• Providing local and foreign training for teachers, trainers and education administrators of government and non-government secondary level institutions• Providing teaching learning materials• Providing stipends
Secondary Education Quality & Access Enhancement Project (SEQAEP) [July 2008 - December 2017]
<ul style="list-style-type: none">• Undertaking programmes for enhancing the quality of education• Providing grants to students who are truly deserving in terms of socio-economic status through Proxy Means Testing (a targeting technique)• Initiating programmes for improving the quality of secondary education, increasing the attendance and success rate SSC exam, and raising awareness among guardians and other stakeholders• Financing the Monitoring and Evaluation Wing under the DSHE to strengthen the management, evaluation and assessment of secondary education
Teaching Quality Improvement II (TQI-II) in Secondary Education Project [July 2012 - June 2017]
<ul style="list-style-type: none">• Increasing teachers' training programmes through pre-service, in-service and Continuous Professional Development (CPD) training• Providing office equipment and ICT materials
Establishment of 7 Govt. Secondary- School in Sylhet, Barisal & Khulna Metropolitan City. [July 2012 - June 2017]
Establishing 7 Govt. Secondary- Schools in Sylhet, Barisal & Khulna Metropolitan City through: <ul style="list-style-type: none">• Building academic cum administrative buildings and• Providing learning materials
Establishment of Autistic Academy [January 2014 - June 2016]
<ul style="list-style-type: none">• Establishing an Autistic Academy in Dhaka Metropolitan city with full facilities for the physically and mentally retarded children.• Providing local and foreign training
Female Stipend Project for Degree (Pass) and Equivalent Level (FSPD) [July 2011 - June 2016]
Providing stipends to female students of Degree (Pass) level

Source: Ministry of Education

As in the 6th FYP, the critical needs and important issues related to Secondary and Higher Education will be pursued on a two-pronged basis in this plan: a qualitative goal and a quantitative goal.

The Qualitative goal: The qualitative goal to improve the standard of education will cover four areas:

1) Resource management and improvement of infrastructure:

- i. Construct/upgrade classrooms and labs to facilitate spacious, healthy environment for the students.
- ii. Build inclusive and separate latrines for girls in schools with adequate facilities for sanitary napkins and cleansing materials.

2) Improvement of teaching quality by:

- i. providing teaching and learning aids, facilities to increase the pupil's interest over education and to modernize the education environment;
- ii. introducing ICT for education; providing computers to make the students competent with the modern world of ICT and to make them fit for the present day job market;
- iii. improving capacity for teachers to promote quality teaching;
- iv. providing computer trained teachers and subject based teachers

3) Appropriation of curricula and pedagogy: Appropriation of curricula, pedagogy, texts examination techniques. Give more importance to Science subjects and mathematics at the secondary level. Science and mathematics are the foundation on which acquisition of other skills depends.

4) Minimizing multiplicity in education: Modernize Madrasah Education with changes of the society and reduce the gap of existing facilities for secondary education between General Education and Madrasah Education.

The Quantitative goal:

The major actions to be taken to improve Secondary and Higher Education, in this area are:

1) Increasing the rate of enrolment: Stipend and other financial support will be provided to the poor to encourage enrolment. As stated in the Perspective Plan, the Government aims to achieve a compulsory 100% enrolment rate within the 7th FYP period.

2) Capacity increase in reading, writing, listening & speaking: Necessary steps will to be taken to increase listening & speaking capacity building.

3) Reducing the rate of dropout: Continuous financial support in terms of stipends will be provided and communications maintained with family to prevent them from sending their children to work. The dropout rate of 41.94 percent will be substantially lowered.

4) Encouraging female enrolment: Providing special financial support to the female students and raising awareness in the society about the importance of female education is envisioned. The good

progress made in recent times to increase gross secondary female enrolment to 61 percent will be continued.

5) Inclusion: All children will have access to an appropriate, relevant, affordable and effective education regardless of gender, age, physical or financial ability, ethnicity, autistic & disable, impairment or HIV status.

Table 11.4 summarizes the goals, targets and activities for secondary education in the 7th FYP.

Table 11.4: Secondary Education-- Goals, Targets, and Activities for the 7th FYP

Goals	Targets	Activities (policy/ Programme/ project)	
2	3	4	
Qualitative improvement of education at Secondary and Higher levels.	1. Resource management and Development of infrastructure	Establishment of 11 Secondary Schools & 6 Colleges (Government) in Dhaka Metropolitan City.	
		Transformation of Existing Non-government Schools into Model schools in selected 310 Upazila Headquarters.	
		Development of 70 Govt. Post Graduate Colleges In District HQs For Improving of Quality Education.	
		Establishment of 7 Govt. Secondary- School in Sylhet, Barisal & Khulna Metropolitan City.	
	2. Improvement of teaching quality	3. Appropriation of curricula and pedagogy	Development of Selected Non-Government Colleges Along With ICT Facilities for Improving Quality of Education.
			Establishment of IT Labs in Selected Secondary Level Institutions in Dhaka
			Secondary Education Quality & Access Enhancement Project (SEQAEP)
			ICT for Education in Secondary and Higher Secondary Level Project
Quantitative increment of students and equity at Secondary and Higher levels.	4. Minimizing multiplicity in education	Establishment of Foreign Language Training Centres-II (FLTC-II)	
		Secondary Education Sector Investment Programme (SESIP)	
	5. Increasing the rate of enrolment	6. Reducing the rate of dropout	Teaching Quality Improvement II (TQI-II) in Secondary Education Project
			Secondary Education Stipend Project (SESP)
7. Encouraging female enrolment	8. Inclusion	Higher Secondary Female Stipend Project (Phase-4)	
		Female Stipend Project for Degree (Pass) and Equivalent Level (FSPD)	
		Higher Secondary Female Stipend Project (Phase-4)	
		Female Stipend Project for Degree (Pass) and Equivalent Level (FSPD)	
		Establishment of Autistic Academy	

Source: Ministry of Education

Madrasa Education

In addition to Bangla and English Medium schools, religious Madrasas form another stream of education in Bangladesh. Children enrolled in Madrasas focus on religious studies along with traditional subjects in the national curriculum. Concerns about the quality and content of learning, particularly pertaining to the issue of employability of students, have been raised in recent years. Necessary steps have to be taken to curb sectarian bias among madrasa graduates and to facilitate their integration in the larger society.

Trends in Madrasa Education: A study on Secondary School Madrasas provides valuable insight into the role of the madrasa sector. The share of madrasas among all educational institutions have significantly increased until 1990, decreasing afterward. However, the share of madrasas in total secondary enrolment has been increasing since the 1980s. The introduction of the Female Stipend Programme is partially responsible for the increased secondary enrolment in madrasas. Two interesting caveats regarding female students should be noted. First, the proportion of females among all madrasa students has grown rapidly since 1990, mostly due to the stipend Programme. This calls for the need to properly address gender issues in madrasas, such as female-friendly facilities, etc. Second, the share of madrasas in total secondary female enrolment has also increased rapidly since 1990. Thus, the growing importance of madrasas, especially in secondary female education, deserves recognition.

Strategies to develop the Madrasa system: In order to make the Madrasa education system productive and job-oriented, vocational courses have been introduced in the Dakhil Stage in selected one hundred Madrasas through a Project with financial assistance from IDB. This Programme may be extended gradually to other Madrasas. The Madrasa system will be modernized under the qualitative goal of secondary and higher education. This will ensure better outcome of religious education and will counter the current low returns to Madrasa education.

The 7th FYP has set goals to increase the number of educational facilities to accommodate demand in the Madrasa sector. A congenial education environment is envisaged in non-government Madrasas as well. The Education Engineering Department (EED), responsible for infrastructure development of educational institutions, will carry out a number of projects in this regard. Construction of furnished academic buildings of non-government Madrasas will be implemented. There will be major infrastructural improvements in 6000 non-government Madrasas, including extension of buildings. This will greatly facilitate learning in the Madrasas and will help to reduce lingering disparity between Madrasas and other educational systems

To promote quality education in Madrasas, existing courses and curriculum of Ebtedayee, Dakhil and Alim will be reviewed and revised. The text materials (Islamic and Arabic subjects) will be updated/modified and teaching aids will be included as well. Classes will be more interactive where students can actively engage in learning and discussion. Reform of the examination system is also in the agenda.

ICT in Madrasas: To promote the vision of ‘Digital Bangladesh’, there will be wider access of ICT in Madrasas. ICT is to be incorporated in the teaching-learning process. Capacity building of Madrasa teachers in using ICT and computer aided learning will take place. Government approved Madrasas will be equipped with multi-media classrooms. Introduction of e-filing at Bangladesh Madrasa Education Board is expected during the plan period.

11.4.3 Higher Education

Higher Education and Economic Development: University Education acts as the engine of growth for economic and social development of a nation. Universities instil necessary skills and technical expertise that expedite economic and social development. In this era of globalization, the objectives, goals and missions of university education have undergone profound change all over the world. Information and communication technology has brought forth a global knowledge revolution. The growth trajectory of Bangladesh economy requires a highly skilled labour force equipped with the necessary technical and professional expertise. In this backdrop, formulation of strategies for higher education will be considered with these factors in mind. The strategy will be consistent with the 20 year Strategic Plan for Higher Education (2006-2026), the upcoming Sustainable Development Goals (SDGs), the National Education Policy 2010 and the Government vision of establishing Digital Bangladesh by 2021.

Growth of the Higher Education System: Higher education was traditionally dominated by the public sector, but in recent years, private universities have proliferated, particularly in Dhaka. There are 117 universities in the country of which 37 are public and 80 are private universities. The MoE has the overall responsibility for formulating policy, strategic leadership, and preparing the national budget for public funding in higher education. The University Grants Commission (UGC) is the regulatory body for both public and private universities. Four streams of higher education are offered in Bangladesh: general education; science, technology, and engineering education; agriculture education; and medical education.

In response to social and market demand, the tertiary education system has grown. An expansionist approach has been followed, particularly in the sphere of degree colleges under the National University and in approving liberally the charters for private universities. The Private Universities Act, enacted in 1992, paved the way for the proliferation of private universities. The number of institutions and enrolled students has increased remarkably. From 5.44 percent in 1999, the gross enrolment rate in tertiary education has risen to 13.15 percent in 2011. With more females entering tertiary education, the female to male ratio has improved steadily over the years. The rapid increase in universities coupled with loose regulation has prompted serious concerns regarding the quality level to be raised. There are numerous cases of private universities with improper physical facilities that have sprung up to exploit the demand for higher education. UGC has a new law with regards to establishment and operation of private universities, approved in 2010. This law replaces the 1992 Act and requires stronger self-regulation, specify the responsibilities of various parties involved in establishing and managing the institutions, and the formation of an accreditation council for academic and instructional standards.

Challenges in Higher Education

Focus on infrastructure: The higher education sub-sector also faces challenges. It has been observed that the act of establishing universities is primarily focused on erecting the building itself. Construction of buildings takes most of the funds available at the expense of important components like textbooks, lab equipment, computers, teachers' training and curriculum development. Distribution of the resources between academic facilities and physical facilities of the past Five Year and Three Year rolling plans shows that about 70% of the total amount was spent on bricks and mortars. Books and journals, equipment and chemicals and other essential academic ingredients of education did not receive enough attention.

Inadequate implementation: A large number of investment projects and technical assistance projects had been implemented by the universities during the past five year and three year rolling plans. Project management and implementation capacity of the universities have remarkably increased over the years. Nonetheless, there exists a gap between the formulation and actual implementation of development projects in the universities. Financial expenditure does not match with the physical progress achieved in real terms.

Insufficient funding: The fund allocated to the university projects in the ADPs during the past Five Year plans was efficiently utilized and spent within scheduled time. But allocations of fund against the university education sub-sector proved to be insufficient compared to the genuine needs of the existing older and new universities. More allocation of fund will be necessary in the future for meeting the urgent development needs of the universities.

Inequality and gender disparity: Inequality is compounded by high public subsidy for higher education. The ability to compete on the basis of equal opportunities at the basic education stage is not ensured; this inequality is multiplied progressively through higher stages of education, reflected in selectivity which favours urban residents and the wealthier strata of society. The net enrolment rate for the non-poor has increased in the last decade, but that of the poor has remained unchanged, thereby increasing the gap between the two groups. Moreover, gender disparity in higher education persists. Although females are ahead of males in primary and junior secondary, they lag behind in tertiary completion rates. Only about 45 percent of tertiary students are female. The number of female students is even lower for public and private universities, at around 26 percent. The net enrolment rate in tertiary education is also low at 12%.

Imbalance among disciplines: Balance among disciplines in tertiary education as a whole remains inclined towards humanities and social sciences than science, technology and applied subjects. The balance is even more skewed in degree colleges relative to universities. This arises because of lower costs for the humanities subjects and difficulty in recruiting teaching staff in disciplines others than humanities. The vast majority of students in public universities enrol in general studies rather than applied sciences and specialized professional courses. Although there

is no hard formula that dictates the distribution of students in different disciplines, the current imbalance is inappropriate.

Demand for public university access: As a result of broadening primary, secondary and higher secondary education, demand for tertiary education in universities continues to increase. The problem regarding access to higher education arises from the fact that there is intense competition for the limited seats in public universities and a few prestigious institutions and for fields which seemingly have high market value. The emergence of private universities has been able to partially meet the huge demand. However, high tuition fees and other costs discourage enrolment of those who are unable afford such expensive education. There are also concerns about the quality level of teaching and learning in private institutions.

Box 11.4: Key Strategies in University Education during the 7th FYP

- Increase higher education rate from 12% to 20%
- Enhancement of standard and quality of University Education; Quantitative expansion on desired lines but no compromise with quality
- Consolidation and strengthening of existing universities
- Focus on quality, selectivity, and excellence
- Guaranteed access to computer and internet facilities
- Science & technology, business administration, teachers training to be given high priority
- Rationalization of enrolment among various disciplines
- Emphasis on research and training
- Introduce virtual education
- Emphasis on development of libraries and laboratories
- Further strengthening of University Grants Commission
- Establishment of accreditation council

Source: Ministry of Education

The Government has formulated clear strategies in this sector. Since the main functions of universities are teaching and research, priority will be given to infrastructural development including libraries & laboratories and procurement of scientific equipment. More universities, especially belonging to science and technological fields, will be established to meet the demand for higher education. Curricula will be modified and updated to match market demand. A new role for the University Grants Commission will be envisaged in the context of rapidly changing national and global scenario in the higher education sector. This will include restructuring the UGC to strengthen its capacity as the leader in the policy matters and ensure transparency and accountability in the academic, financial and administrative affairs in the universities as well as in UGC. Financial and administrative accountability will be brought in through efficient supervision of the activities of the universities by the UGC and the relevant Parliamentary Committees. Relevant statutes/rules of universities will be reviewed to make their operation more transparent and cost effective.

In order to attain the stated objectives and execute the strategies, a number of programmes and activities will be carried out during the 7th FYP.

- Ongoing development projects of the university education sub-sector, now under implementation will have to be completed on priority basis
- Repair and renovation works for existing dilapidated university buildings will be undertaken. These would receive priority over construction of new buildings.
- Some new public universities will be established. These universities will preferably be science and technology based.
- The standard and quality of colleges for higher education will be improved by providing necessary library, laboratory & IT facilities and by offering appropriate training and scholarships for the teachers. ICT courses would be introduced in all of the post-graduate colleges of Bangladesh. New projects will be taken up for strengthening these colleges.
- Aside, all reputed and established degree colleges offering honours and masters programmes, should be facilitated more in order to maintain the quality of tertiary education. Strengthening of these age old renowned colleges will restrict the entry of new educational institutions without appropriate quality and facility.
- Bangladesh Open University (BOU) will be further developed in order to facilitate distant educational facilities for on the job and distressed people all over the country.
- Programmes for mid-term and short-term training in foreign countries will be taken up for university teachers and researchers.
- Higher Education Quality Enhancement Project (HEQEP) is now under implementation (2009-2018) with an objective to improve the standard and quality of university education. In line with this, further projects will be taken up with regard to quality assurance and accreditation.
- For ensuring world-wide on line internet connection for our university students, teachers and researchers, Bangladesh Research Network (Bren) has been established under the HEQEP. This will be further developed during the Seventh Five Year Plan with a view to subscribe the Government policy of establishing Digital Bangladesh.
- The University Grants Commission will be appropriately empowered in the context of rapidly changing national and global scenario in the higher education sector. This will include restructuring the UGC to strengthen its capacity as the leader in the policy matters and ensuring transparency and accountability in the academic, financial and administrative affairs in the universities.

Delta Planning Learning Community: The Bangladesh Delta Plan 2100 will promote long term holistic delta planning using many knowledge based concepts and themes related to state of the art adaptive delta governance. This delta planning should be knowledge based continuously. Therefore a delta planning learning community is needed in Bangladesh focused on international oriented knowledge creation, building a knowledge infrastructure and on application of knowledge for policy making and planning purposes. A knowledge infrastructure should be established as a set of physical, informational, scientific, educational and organizational resources needed to

facilitate a delta planning learning community (universities, knowledge institutions and relevant agencies, societal organizations and companies) and action toward a desired collective future.

Scientific education and Research: The importance of a scientific education needs to be stressed. To that end, the Government has already set a goal of creating interest in the young generation in studying science and technology. Students of secondary and higher education will be particularly targeted in this attempt. Various scientific facilities, such as planetariums, will be constructed at six divisional levels. These facilities will be furnished with state-of-the-art equipment. The display of scientific exhibits will popularize science and technology and help to build a science minded nation void of superstitions. Along with learning and exploring the wonders of science, these facilities will also provide the youth with means of entertainment.

The Government is also committed to promoting research at all levels. Conducting research and innovative activities to introduce new technology is one of the goals. Grants on research assistance and fellowships will be provided. In the nuclear energy sector, Nuclear Power Training and Educational Institute will be established which will develop qualified and specially trained manpower.

11.5 ADDRESSING THE SKILL CONSTRAINT TO GROWTH ACCELERATION

Skills mismatch: Different stages of economic growth require different set of skills from workers. Therefore, whether skills of workers are constraints to advanced growth depends on which stage of growth the economy is in. As Bangladesh continues to industrialize and undergo structural change, it has been observed that the skill level of workers were not aligned with the stage of growth. Industries in the private sector consistently identify low skill levels amongst the labour force as a fundamental constraint to Bangladeshi growth. Low skill translates to low productivity and prevents the utilization of labour potential. Sectors like the RMG, which has grown rapidly, face a shortage of skilled workers and management. Inadequate human capital will be a limiting factor towards the absorption of 2 million plus labour each year.

Skills deficiency of migrant workers: Overseas employment is another prominent element of the economy of Bangladesh from which foreign exchange is being earned in the amount of US\$ 15 billion annually. Presently about 5 million Bangladeshi workers are working worldwide of which 31% are skilled, 14% are semi-skilled, 2% are professional and 52% are low skilled. Demand of skilled personnel is increasing with the advancement of technology which paves the way for better remittance as well. However, although there have been improvements in the skills development system, there still exists a considerable mismatch between the capacity of labour and quality required in the overseas job market.

Progress with Technical Education and Training during the Sixth Plan

The main strategy during the Sixth Plan was to strengthen the system of technical and vocational education and training (TVET). Formal TVET consists of SSC, HSC, and Diploma courses. The Directorate of Technical Education (DTE) and the Bangladesh Technical Education Board (BTEB) oversee vocational and technical education (VTE) provided by both public and private institutions. The programmes include time-bound, institution-based, and graded training with formal certification. The courses are offered by vocational training institutes, polytechnics, commercial institutes, technical training centres and specialized institutes. Private sector institutions are increasing, especially in the IT sector and in response to opportunity for work abroad as skilled and semi-skilled workers.

Programmes and Policies: The Government expressed its commitment to improving the TVET system through the implementation of the National Education policy-2010 and the National Skills Development Policy-2011. These policies envisaged the expansion, diversification, extension and development of technical and vocational education programmes for the elevating of socio-economic condition of the people of the country. It emphasized greater importance in imparting TVET and brings more secondary school enrolment into the fold of technical and vocational education & training. Accordingly, enhancement of enrolment in diversified TVET system has been envisaged and suggested in terms of Projects. Under the National Skills Development Policy, National Technical and Vocational Qualifications Framework (NTVQF) has been designed to improve the quality and consistency of nationally recognized qualifications. It will also provide a new benchmark for the international recognition of the skills and knowledge of Bangladeshi workers. The Skills and Training Enhancement Project (STEP) has been implemented to improve the quality of training and employability of trainees.

The TVET Reform Project was initiated in January 2008 and is expected to continue till December 2015. The NSDP lays out the strategic plan to improve VTE. The following actions are also being undertaken.

- A draft national strategy for promotion of gender equality in technical and vocational education and training (TVET) 2012 has been developed;
- Introduction of technical and vocational courses in secondary, higher secondary and madrasa levels;
- Introduction of double shift in the existing technical school and colleges and polytechnic institutes;
- Undertaken a project to establish 100 Technical School (TS) at Upazila level;
- A project named “Bangladesh - Skills for Employment and Productivity (B-SEP)”;
- Recognition of Prior Learning (RPL);
- Improved access for underrepresented groups;
- Industry Training & Workforce Development;

Some 21 Polytechnic Institutes are being established in 21 districts, along with 389 technical school and colleges at the upazila level. 100 technical schools are being established through a project for imparting appropriate and rural based technologies/trades in SSC Vocational courses at the upazila level. This will foster entrepreneurship attitudes and generate self-employment (having acquired appropriate and local-based skill) among the rural masses. This will also keep migration to urban areas in check.

Major Challenges: Despite multiple efforts, the unavailability of trained labour continue to plague the economy. The unsatisfactory performance of the TVET sector is mainly caused by deficiencies in quality. A recent study points out that certifications from formal institution are not among the major criteria defining the skill level of workers. Duration of overall work experience and on the job training are among the criteria having more weight. Most employers find the training received by workers to be inadequate, and in some cases, irrelevant to their needs. A little less than a half of those who graduate from the training system are unable to find jobs. All of these are major drawbacks of the VTE system recognized by the NSDP. Extensive lack of infrastructures/labs/necessary equipment in most of the non-government technical institutions along with the lack of infrastructure and manpower of Bangladesh Technical Education Board are additional challenges.

Skills Development Strategy for the Seventh Plan

The main elements of the skills development strategy for the Seventh Plan are:

- To implement the vision and mission of National Skills Development Policy (NSDP 2011).
- To produce educated qualified and skill manpower for the accelerated economic development of the country.
- To diversify technical and vocational education programmes to meet the technical manpower needs in the areas of emerging technologies (such as: Fish Production, Leather, Textile, Mechatronics, Mining & Mine Survey, Instrumentation & Process Control, Construction, Environmental, Garments Design & Pattern Making, Electro-Medical, etc.) including the I.T. sector.
- To encourage more women's participation in TVET to ensure empowerment equality and gender equity.
- To develop and modernize the existing TVET Institutions with available rural technologies to meet the challenge of the fast changing economy in the rural setting for poverty alleviation and to arrest rural-urban migration.
- To encourage private sector involvement and initiative in the delivery of technical and vocational education programmes.

The main focus will be to implement the NSDP 2011 that constitutes a comprehensive skills development strategy

Implementing the National Skills Development Policy

NSDP seeks to guide skill development strategies and facilitate improved coordination of all elements of skills training and the parties involved.

Vision: The vision for skills development shared by government, industry, workers and civil society is that:

‘Skills development in Bangladesh will be recognized and supported by government and industry as a coordinated and well planned strategy for national and enterprise development. The reformed skills development system will empower all individuals to access decent employment and ensure Bangladesh’s competitiveness in the global market through improved skills, knowledge and qualifications that are recognized for quality across the globe.’

Mission: The mission of the skills development system in Bangladesh is to support rapid and inclusive economic growth through:

- a. Enhancing individuals’ employability (in wage/self-employment) and ability to adapt to changing technologies and labour markets;
- b. Improving the productivity and profitability of enterprises; and
- c. Strengthening national competitiveness and reducing poverty.

Objectives: Major objectives of the National Skill Development Policy are to:

- a. Provide a clear statement of the reform agenda and strategy for skills development in Bangladesh;
- b. Improve the quality and relevance of skills development in Bangladesh;
- c. Establish more flexible and responsive delivery mechanisms that better service the needs of labour markets, individuals and the community at large;
- d. Improve access to skills development for various groups of citizens including women and people with disabilities, encourage participation in skills development by industry organizations, employers and workers and improve skills acquisition in communities; and
- e. Enable more effective planning, coordination and monitoring of skill development activities by different ministries, donors, industry, and public and private providers.

Key Target Groups: Access to education, training and lifelong learning will be promoted for people with nationally identified specific needs, such as youth, women, low-skilled people, people with disabilities, migrants and internally displaced people, older workers, ethnic groups and the socially excluded; and for workers in small and medium sized enterprises, the informal economy, in the rural sector and in self-employment.

Decent Work: A major challenge for the skill development system is to address the needs of a huge population by providing skills to enhance employability and secure safe and decent work.

Consequently, skills development for those working in the informal economy is a key strategy, one that will also create greater awareness of environmental, safety and health concerns.

Lifelong Learning: The government will establish, maintain and improve a more coordinated education and training system within the concept of lifelong learning. The primary responsibility of government is for education, pre-employment training and training the unemployed.

Social Partners: The social partners have a major role in skills development. In particular, employers and workers are key stakeholders who work with government to develop and implement a vision for skills development. Through this Skills Development Policy, the government pledges to develop social and economic policies to encourage enterprises to invest in education and training and support individuals to develop their competencies and careers.

The Bangladesh Skills Development System: The Bangladesh Skills Development System will consist of:

- a. National Technical & Vocational Qualifications Framework (NTVQF);
- b. Competency Based Industry Sector Standards & Qualifications; and
- c. Bangladesh Skills Quality Assurance System.

National Technical and Vocational Qualifications Framework (NTVQF): The NTVQF will expand the number of qualifications available in the country to better reflect the growing and changing occupational and skill profiles in both domestic and international labour markets. It will support stronger integration of skills training in community organizations, schools, training institutions and the workplace, by providing a common national benchmark for the naming and achievement of qualifications, up to, but not including, university degrees. The NTVQF will also provide a new benchmark for the international recognition of the skills and knowledge of Bangladeshi workers, who are recognized as an increasingly important export for this country.

NTVQF will be a nationally consistent system designed to:

- a. improve the quality and consistency of nationally recognized qualifications;
- b. introduce consistent naming of credentials for formal and non-formal skills based education and training;
- c. provide formal recognition of workplace skills obtained in both the formal and informal economies;
- d. provide high-quality skill outcomes to maintain individuals' employability and increase their productivity;
- e. improve the alignment of formal and non-formal training programmes with industry requirements; and
- f. increase options for students by broadening Programme and progression pathways; and
- g. support lifelong learning by providing recognized pathways for workers to raise the level of their knowledge and skills throughout their working life, and beyond.

The NTVQF will include two pre-vocational levels to introduce additional pathways in general education and to cater for the under privileged and low educated groups in society. It will also include five vocational levels, and one level for diploma level qualifications. Under the NTVQF, training organizations will also be able to issue a Statement of Attainment for specific units of competency when less than the full Programme has been completed.

Competency based training and assessment (CBT&A): The skills development system must be responsive to the present and future industry needs and will move to implement a competency based training and assessment (CBT&A) system to achieve that end. It is widely recognized that skill needs in the labour market need to be more clearly and precisely defined so that delivery and assessment arrangements can give greater emphasis to practical skills. The CBT&A system will support the introduction of demand-driven training, and will result in the development of partnerships between industry sectors and the training organizations. CBT&A represents a shift away from traditional theory based approaches to delivery and assessment by placing greater emphasis on the achievement and demonstration of practical skills required to perform at a specified standard demanded by industry.

The CBT&A system will be based on the following principles:

- a. Progression through a competency based training Programme will be determined by whether the student has met the set standards, and not by the time spent in training.
- b. Each learner's achievement is measured against job-related competency standards rather than against the achievement of other learners.

An important foundation for the introduction of CBT&A is close dialogue with industry to develop clear descriptions of the skills and knowledge required to perform different tasks in the workplace. These units of competency, or competency standards, set the performance criteria that will be assessed in training institutions who issue nationally recognized qualifications.

Under a CBT&A system, industry will be expected to increase its engagement and support of training institutions, so that programmes and graduates are more likely to meet the needs of employers and their staff. All instructors and trainers will be provided with adequate training so they can develop and implement CBT&A programmes. Considerable investments will also be made to upgrade the facilities and equipment of select training institutes so they can deliver the new industry endorsed qualifications. The impact of CBT&A will be closely monitored to ensure the opportunities for skills development available to industry and learners are not adversely affected due to additional costs.

Bangladesh Skills Quality Assurance System: The Bangladesh Skills Quality Assurance System will be introduced to improve the quality of skills development in Bangladesh. The quality assurance system will introduce new national quality standards to ensure nationally consistent and high quality training and assessment services for learners. The new quality assurance system will deal with the following issues:

- a. the registration of public and private training providers;
- b. development of nationally recognized units of competency and qualifications;
- c. accreditation of learning and assessment programmes;
- d. auditing of training providers for compliance against quality standards;
- e. validation of assessment tools against units of competency (e.g. standardized examinations and practical tests); and
- f. the development and publication of quality procedures and manuals and its effective implementation.

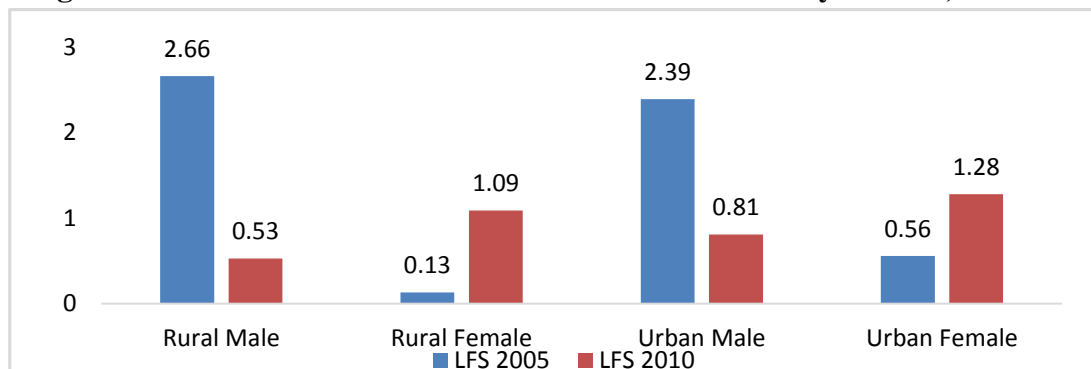
The key aim of the new quality assurance system is to ensure that training providers in Bangladesh meet minimum standards related to the facilities and equipment they use, the skills and experience of their trainers and the management and operations of their institutions. Specific detailed quality standards and criteria will be developed to allow implementation of the new Skills Quality Assurance System. The new system will also consider a multiple tiered registration process so that mandatory registration for private training providers can be implemented. Tiered registration will also allow for the recognition of excellence amongst training providers.

Over time, all government agencies delivering skills training will become accredited against the new quality standards, so that learners can receive formal recognition of skills learned, through Statements of Attainment and other qualifications from the NTVQF. The implementation and periodic review of the new quality system will be the responsibility of the Bangladesh Technical Education Board (BTEB) under direction of the NSDC (National Skills Development Council). The NSDC secretariat will ensure that BTEB receives the necessary technical support and has adequate manpower and resources to fulfil this expanded role. In accrediting local training providers, BTEB will recognize those who have achieved other national and international quality standards related to TVET and skills training. Training institutions that provide evidence of meeting these standards will have local registration fast-tracked. NSDC Secretariat needs to be strengthened to oversee the skills training of 22 Ministries and co-ordinate the implementation of NSDP-2011.

Training and Gender equality: In the TVET sector, male graduates outnumber their female counterparts. To promote gender equality in TVET, a draft national strategy has been developed. Female quota for admission into VTE institutes will be doubled. Studies show that VTE has higher returns for both male and females compared to HSC education. As shown in Figure 11.1, although the returns to vocational/technical education has decreased for males, the returns to female students has substantially risen in both urban and rural areas, underlying the need to encourage more females to pursue this field. Accordingly, the Government plans to increase the enrolment in technical education from the existing 8% to 25% within the next 10 years. A target for 40 percent female enrolment in TVET by 2020 has been set. Stipends and other financial support will be provided to the poor, especially female students, to encourage enrolment, retention and completion. 4 new Polytechnic Institutes exclusively for women have been set up in 4 divisional headquarters. Three additional women's Polytechnic Institutes will be setup at Barisal, Sylhet and

Rangpur divisional headquarters. Seven women’s technical school and college in seven divisions will be established.

Figure 11.1: Returns to Vocational/Technical Education by Gender, Location



Source: LFS 2005 and 2010

Training of Overseas Employment: To address the skill level of migrant workers, Ministry of Expatriates' Welfare & Overseas Employment (MEWOE) has already taken a wide variety of initiatives. During the period of 6th FYP, there has been a tremendous improvement in the area of skill training coverage. A total number of 10 new Technical Training Centres (TTCs) and 3 Institutes of Marine Technology (IMTs) have already established and another 17 TTCs and 2 IMTs will be established within 2015. In addition, the MoEWOE has already taken the initiative to establish TTCs at Upazilla level to ensure skill training program at grass root level. Due to these new initiatives the number of total trainees given skill and technical training has increased from 59554 in 2010 to 115000 in 2014. After 2015, it is expected that the MEWOE would be able to provide skill training to more than 150 thousand people annually. The MEWOE has also expanded the overseas labour market from 75 destinations to 160 destinations during the previous plan period. The Ministry reflects the Government’s commitment to transforming the unemployed youth to skilled manpower by providing quality technical and vocational training at minimum cost and by ensuring equal access. The following actions will be taken during the implementation period of the 7th FYP:

- Establishment of 68 (including 4 divisional offices) District Employment and Manpower Offices (DEMO) is on the agenda. This will help Expand overseas employment opportunities in lagging regions by enhancing logistic support and technical advice. Costs of migration and remittance transfer will be reduced to facilitate the process.
- A ‘Catering Institute’ will provide market oriented skill training to address demand for new skills and knowledge.
- Completion of 40 upazila level TTCs and 1 IMT to ensure skill training program at grass root level including lagging regions.
- The quality component of training and skill development will be further enhanced. This will be done through capacity building of trainers by setting up a permanent training institute for trainers.

- Existing training of domestic workers will be extended, and about 50,000 potential female migrant workers will be trained per year. The Government has set a target to increase the share of female migrant workers from 17.86 percent in 2014 to 30 percent in 2020.

Accelerating Private Investment in Training: Bangladesh needs to invest heavily in human development, particularly in schooling and skills development. Currently, only 500,000 receive skills training annually against the actual industry need of at least 2 million. And the quality is often poor. Similarly, the total expenditure in skills development is estimated at around \$150 million per year against the need to invest about \$600 million; these numbers will grow as the labour force increases by 40% by 2025. Industry leaders need to and indications are they are willing to participate actively in skilling the work force in priority sectors to exploit the full potential of growth opportunities.

With donor support, the government has embarked upon an investment program that will support its reforms in skills development, anchored in the NSDP, 2011. Under overall supervision of the Ministry of Finance the program will support large-scale private sector involvement and promote public-private partnership, which is critical to meet existing and future labour market needs and to reduce the skills gap. This in turn is crucial for Bangladesh to move away from the “low-skill, low-wage equilibrium” to a “higher skill, higher wage virtuous cycle” to become a middle-income country. The investment program will help the government to scale-up skilling of new entrants and up-skilling of existing workers to contribute to higher growth of priority sectors as well as to cater the emerging demands in overseas job markets. It will also strengthen skills development in Bangladesh and support transition to a sector-wide approach (SWAp) by establishing a unified funding system and enhancing overall coordination of the currently fragmented system. It will also establish twinning arrangements with world class organization and institutions for international recognition of skills training.

Initially, the market responsive inclusive skills training program will engage public training institutions of three ministries (47,400), 9 industry associations, PKSf (10,000), and Bangladesh Bank Small and Medium Enterprise Department (10,000) to train about 260,000 people in the first phase in six priority sectors, with an average job placement of 70% targeting among others, people from disadvantaged groups (40,000) including people with disabilities and women. In three phases the ten year program will train about 1.5 million people in 15 priority sectors strengthening along the way the training institutions and the quality assurance system. To expand the capacity, the program will support 30 Centers of Excellence and 15 Industry Skill Councils with public-private partnership. All skill development activities will be coordinated under a National Skill Development Authority (NSDA) with additional and uninterrupted finance to be mobilized and disbursed through a National Human Resources Development Fund (NHRDF).

11.6 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Ministry of Primary and Mass Education and Ministry of Education have programmes to strengthen the human capital of Bangladesh. The Seventh Plan stipulates development resources for these ministries in the context of the country's overall development priorities.

During the Seventh Plan, the Government will involve its resources for improving human capital through development of education sector for higher productive labour force to achieve plan targeted growth. Goals and targets for overall education have been distributed among various tiers of education. The Government is focused on raising secondary and tertiary enrolment rates, along with enrolment in vocational and technical education. The level of quality and learning will be raised. To ensure that the labour force are equipped with the right skills, various training programmes and other capacity enhancing activities will take place. With a view to achieving the targets mentioned in the 7th FYP, the planned development resource allocations in constant (FY2016) prices and current prices are shown in Table 11.5 and 11.6.

Table 11.5: ADP Allocations for Human Development in the Seventh Plan

(billion taka; constant FY2016 prices)

Ministry/Sector	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Primary & Mass Education	55.4	82.0	93.0	103.6	116.2
Ministry of Education	42.0	56.2	63.4	70.8	79.2
Total Education*	97.4	138.3	156.4	174.4	195.4

Source: Seventh Plan Projections

Table 11.6: ADP Allocations for Human Development in the Seventh Plan

(billion taka; current prices)

Ministry/Sector	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Primary & Mass Education	55.4	87.0	104.1	122.4	144.0
Ministry of Education	42.0	59.6	71.0	83.7	98.2
Total Education*	97.4	146.6	175.1	206.0	242.1

Source: Seventh Plan Projections

*This allocation is partial of total allocation for the sector of Education and Technology. The rest of the sectoral allocation which belongs to ICT Division and Ministry of Science and Technology is in the following chapter under this sector.

CHAPTER 12

DIGITAL BANGLADESH AND INFORMATION COMMUNICATIONS TECHNOLOGY (ICT)

12.1 INTRODUCTION

In this 21st Century knowledge has emerged as a leading determinant of economic growth and human welfare. At the economy level, knowledge is transforming ways that new technology is developed and adopted to enhance productivity and lower cost. At the individual level, the speed and ease by which an economic agent acquires and absorbs relevant knowledge to inform the underlying economic decision conveys a huge competitive edge. Knowledge is also transforming people's welfare by facilitating advances in medical sciences that is contributing to increased life expectancy and health quality through preventive, diagnostic and curative measures. Accordingly, the focus on strengthening the Knowledge Economy (KE) is an integral part of any development strategy.

Analytically, the KE can be defined as a process by which an economy produces, acquires, disseminates and uses knowledge for serving the cause of development. A Knowledge Economy strategy comprises of policies and institutions that can be grouped into the following 3 dimensions:

- 1) Economic incentives and institutional arrangements to support the creation, acquisition and conversion of knowledge into usable form based on research and innovations by public and private enterprises.
- 2) A body of skilled professionals in science and technology that can lead the research and innovation and adapt knowledge to the local circumstances.
- 3) An effective and efficient Information & Communications Technology (ICT) system that can disseminate knowledge and make it usable at the doorsteps of all citizens.

As a young economy, Bangladesh is still a long way catching up to the standards of the global KE. According to the latest available (2012) ranking of the Knowledge Economy Index (KEI), Bangladesh was ranked at the low end of 137 out of 146 countries. This suggested a long run ahead. While there are many long-term challenges in upgrading the KEI performance of Bangladesh, especially in the areas of spending on research and development and increasing the availability of skilled professionals in science and technology, Bangladesh has made important strides in the area of ICT. This is an area of strength for Bangladesh and an updated KEI performance review will likely see an increase in the Bangladesh rating.

This Chapter reviews the development of the ICT sector in Bangladesh with special emphasis on the performance during the Sixth Plan. The Chapter looks at both strengths and challenges for the

future. Against the backdrop of progress during the Sixth Plan, the Chapter suggests a strategy for the Seventh Plan and identifies specific policies, programmes and investment to implement the strategy.

12.2 REVIEW OF PROGRESS WITH ICT UNDER THE SIXTH PLAN

Digital Bangladesh is an integral part of the government's *Vision 2021*. In FY 2010, the then Prime Minister outlined the Digital Bangladesh initiative consisting of four key priorities:

- Developing human resources ready for the 21st century.
- Connecting citizens in ways most meaningful to them.
- Taking services to citizens' doorsteps.
- Making the private sector and market more productive and competitive through the use of digital technology.

This initiative was incorporated in the Perspective Plan and the first phase of implementation started with the Sixth Plan. Bangladesh made important strides during the Sixth Plan in utilizing technology to bring in tangible transformation in all four areas emphasized by the Prime Minister. Progress made in bringing government services to the doorsteps of citizen is probably the area where Bangladesh registered most significant progress. Vertical (with government ministries and agencies) and horizontal (i.e., with citizens) policy advocacy and development interventions have resulted in a number of citizen-centric e-initiatives and services such as multimedia classroom and teacher-led education content development in public schools, mobile phone based health service from Upazila Health Complex, agricultural and other livelihood information and services (e-Tathyakosh) online through grassroots outlets. These are at an early stage of implementation but they constitute a concerted effort to bring government closer to the people through use of technology.

12.2.1 Progress with Policies and Regulations

A number of acts, policies and guidelines are in place to guide the nation towards the realization of Digital Bangladesh (see Box 12.1). The ICT Policy 2009 and the 'Strategic Priorities for Digital Bangladesh 2011' also contain elaborate work plans. Because of the cross-cutting nature of the vision, these work plans encompass priorities in almost all development sectors. These policies and regulations have provided a first round enabling environment for the implementation of the Digital Bangladesh enterprise. The ICT Policy 2009 has now been updated to ICT Policy 2015.

Box 12.1: Digital Bangladesh Policies and Regulatory Framework

- ICT Policy 2009, now updated to ICT Policy 2015
- Right to Information Act 2009
- Perspective Plan
- ICT Act 2013 (amended)
- Strategic Priorities of Digital Bangladesh
- Cyber Security Policy 2010
- Information Security Policy Guideline 2014
- Rural Connectivity Policy Guideline 2010
- Broadband Policy
- Mobile Keypad Standardization Policy
- Guidelines for Utility Bill Payment
- e-Krishi Policy
- National e-Governance Architecture
- Mobile Banking Policy Guideline
- National Telecom Policy 2010
- Guidelines on Mobile Financial Services (MFS) for the Bank
- Secretariat Instructions 2014 (amended)
- Proactive Information Disclosure Guidelines 2014
- Innovation Team gazette
- National Portal management gazette
- Hi-Tech Park Authority Act 2010
- ICT Fellowship and Donation Policy
- Guideline for Private STP 2015

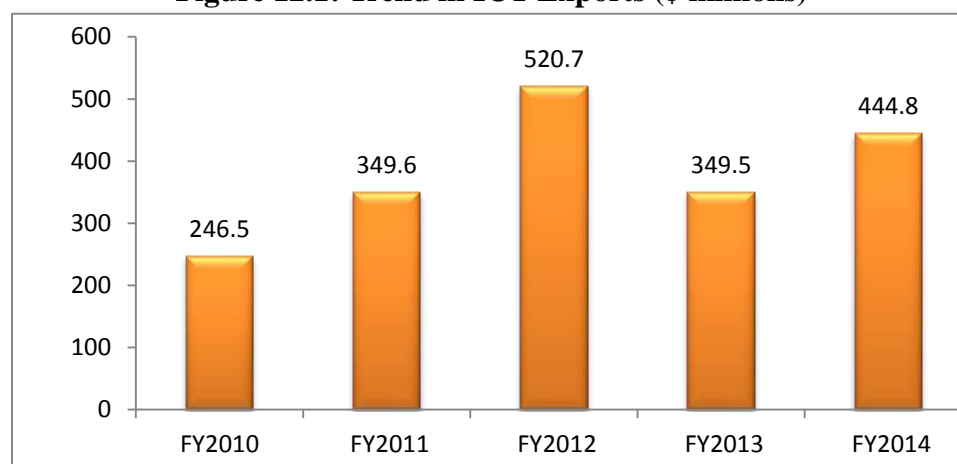
12.2.2 ICT and Economic Growth

In G20 countries, the digital economy is growing at more than 10 per cent a year. The growth of the internet economy in emerging countries is even faster: 12-25 per cent per year. Internet-based economic or iGDP activity (the measure of internet's contribution to a country's economic gain) is expected to reach USD 4.2 trillion in the G-20 nations by 2016, or more than 5 per cent of GDP. Despite the absence of quantitative assessment (iGDP for Bangladesh) of contribution of digital economy to Bangladesh's GDP, there is a growing perception that progress is being made to meet the e-business objective of the Sixth Plan to enable businesses, irrespective of their size, to avail ICT for production and to gain market access domestically and internationally. The progress is summarized below.

Growth of ICT services: In Bangladesh, the tele density increased from less than 4 per cent to 78 per cent between 2004 and 2014. This robust growth in the last decade can be attributed to the phenomenal uptake of mobile phones – from 5 million to 116 million (more than 70 per cent of the population) – alongside robust growth in the number of internet subscribers which stands at 36 million today, or nearly one-quarter of the population, from less than a million a decade back.

Contribution to Exports: Starting from a low base, ICT export earnings have gained some momentum during the Sixth Plan, growing from \$ 246.5 million in FY2010 to \$444.8 million in FY2014 (Figure 12.1). This is an encouraging sign and with concerted efforts, this can be a major source of export earnings during the Seventh Plan.

Figure 12.1: Trend in ICT Exports (\$ millions)



Source: Bangladesh Bank

Online Transaction and Payments Infrastructure: Usage of ICT in e-transactions, e-commerce and e-procurement has been made possible through the amended ICT Act 2006. The Government has applied the provision for digital signature through appointing the Controller of Certifying Authorities (CCA). The Office of the CCA has issued licenses for 6 (Six) Organizations as Certifying Authority (CA). 5 (Five) CAs have developed the capacity to provide digital signature certificates to government and private organizations and individuals. The Bangladesh Computer Council (BCC) has been issued license as the CA for issuing digital certificates to the government organizations. The Right to Information (RTI) Act 2009 has taken effect in order to make information easily available. The Bangladesh Bank has already inaugurated the National Payments Switch (NPS) to facilitate interbank electronic transactions that will support online and mobile based financial transactions of customers.

Promotion of e-Business and Commerce: The capacity of local ICT industry plays an important role to empower businesses and citizens. To support the development of the ICT industry, Bangladesh Hi-Tech Park Act was passed in 2010. Subsequently, Bangladesh Hi-Tech Park Authority (BHTPA) was established in 2010 for creation, management, operation and development of hi-tech parks across the country.

Bangladesh's first university based incubator is being established at the campus of Chittagong University of Engineering and Technology (CUET). This incubator will help to bridge the gap between ICT industries and academia for fostering meaningful research, innovation, entrepreneurship, job creation, and industry ready human resource development. More than Taka

95 million have been allocated over 2013-2015 to develop and promote the model of high value ICT research, innovations and entrepreneurs in the country.

The Investment Promotion and Financing Facility (IPFF) project is aimed at funding PPP Projects, co-sponsored by government of Bangladesh and the Bank. Recently, the policy of eligible sector list has been updated to include ICT infrastructure projects. Following this policy change, US\$20 million fund has already been approved for a private nationwide telecommunication transmission network (NTTN) operator to expand fibre optics backbone infrastructure.

To establish special purpose facility to meet unique infrastructure requirement of the ICT industry, Kaliakoir Hi-Tech Park, Janata Tower Software Technology Park and Jessore Software Technology Park are being implemented. BHTPA has already approved 3 (three) private Software Technology Parks. Moreover, STP/HTP/IT parks have been proposed: Mohakhali IT Village, Silicon City Rajshahi, and Electronic city Sylhet. "Twelve (12) IT park Project " of Unique design in Dhaka, Comilla, Chittagong, Cox's bazar, Gopalganj, Jamalpur, Mymensingh, Sylhet, Rangpur, Khulna, Barisal & Nator District and "IT training incubation center" in different places.

Progress has made in arranging annual fairs, exhibitions and targeted workshops for local enterprises and organizing road shows and other interactive programmes such as seminars. The Government (ICT Division) in partnership with Bangladesh Association of Software and Information Services (BASIS) organized Digital World 2014. The exposition had three components: software, e-governance and mobile innovation. In this event, there were 30 seminars and 10 technical sessions in which about 160 enterprises featured their innovations and products. The ICT Division in partnership with BASIS also organized eASiA 2011 with the slogan - *Realizing Digital Nation*. The conference provided a unique opportunity for stakeholders to share a level-playing ground through active conferencing and networking.

It is believed that the promotion of ICT based model targeting micro, small and medium enterprises (MSMEs) will play important role in fostering entrepreneurs in the country. To take advantage from this potential, SME Foundation has undertaken a project to study growth potentials of software companies and constraints limiting the exploitation of those potentials.

In order to make ICT industry vibrant, a number of activities have been implemented. The ICT business promotion council spearheaded by Ministry of Commerce supported BASIS in promoting ICT industry including the publication of software and IT service catalogue 2014. The Gartner global consultancy rated Bangladesh as among the first 30 most attractive destinations for IT/ITES outsourcing. Also, Bangladesh was rated as the 26th most preferred destination of IT/ITES outsourcing by another international consultancy, A.T. Kearney. Bangladesh entered the latter's *Global Services Location Index* in 2014. Moreover, Bangladesh has been ranked as number i.e. financially Bangladesh is the most attractive destination for outsourcing/ off shore business.

Bangladesh has introduced online payment for both domestic and international transactions. Online payment gateway service providers play an important role as an easy media in bringing

numerous small fixed incomes home against ICT services provided by the freelancers. Besides, the authorized dealer banks have been directed to cooperate with Online Payment Gateway Service Provider (OPGSP) for the purpose of remitting small amounts of overseas income earned by freelance ICT-services' exporters at low cost.

In order to spur e-commerce activities in the country, Bangladesh Bank has set up a National Payment Switch (NPS) to ensure the interoperability of different payment channels. The commercial banks having an ATM/POS/e-Payment Switch or being connected to any other shared switch network will be able to send inter-bank or inter switch payment instructions to the NPS for clearing and settlement purpose. This Switch acts as an electronic clearing settlement system and manages all electronic payments through cards and payment gateways irrespective of their ownership. The Switch went live on 27 December, 2012.

Already many banks have connected with NPS. It will help to consolidate legitimacy and credibility to e-commerce activities through secured electronic settlements of all financial transactions. Banking sector of Bangladesh will then improve further in green banking initiatives. The scope for providing faster banking services at a low cost will enlarge due to NPS. Electronic shopping will increase and people will be able to pay all types of utility and other recurring payments electronically.

Implementation of "Banking Application Software" has been completed to automate overall banking activities of Bangladesh Bank. Most of the financial transactions of the government are settled automatically at present. As a result, all the accounts of the government are balanced everyday automatically. Under this software, salaries are paid to government employees through electronic fund transfer (EFT).

12.2.3 ICT and Education

The Sixth Plan envisaged restructuring the education system to make it more attuned with the technologically evolving global landscape. More specifically, the Sixth Plan sought to enhance the role of ICT in boosting the quality of education and to narrow the ICT skills between urban and rural people. The Perspective Plan calls for making ICT education mandatory at the secondary level by 2013 and establishment of computer labs at the primary level by 2021 also. Whilst the first target has been met, significant progress has been registered with regard to the latter.

The human resource development component of ICT consists of four parts: (a) building e-learning infrastructure, i.e., one school, one computer lab, smart class room with e-learning facilities; (b) ICT education; (c) ICT-based education; and, (d) vocational ICT training facilities for the youth.

Building e-learning infrastructure: A model is being implemented meeting two interrelated objectives: (a) creation of smart/multimedia classrooms; and, (b) training teachers to create digital contents for their use in classrooms. The Ministry of Education (MoE) and Ministry of Primary and Mass Education (MoPME) undertook two initiatives *multimedia classroom* (MMC) and *Teacher-led Digital Content Development* after successful prototypes. Two separate projects under

MoE and MoPME are currently underway aimed at establishing 20,500 and 7,000 MMCs at the secondary and primary level respectively.

The Bangladesh Computer Council (BCC) has set up computer labs in 3,544 educational institutions in order to expand ICT education at the grassroots level. For increasing the usage of internet by educational institutions, it is provided free of cost. Bangladesh Research and Education Network (BREN) have been established in 6 universities and gradually, all universities will be brought under this network. BREN is connected to the Trans Eurasian Information Network (TEIN-3).

ICT education: With regard to the second area, progress is more limited. ICT courses for grade VI-XII have been introduced besides e-book conversion of 325 textbooks. An electronic teaching Programme for students (e-learning) has been introduced. The *Bangladesh National Library Modernization Project* is working in the following areas: digital library infrastructure, collect materials for full-text digitization, permanent store, create digital data storage, online data transfer, automatic binding and conservation measures to scientific and research. ICT literacy evaluation as part of Public Service entrance exams has been introduced, but it needs to be extended in terms of depth of questions regarding the usage of ICTs for good governance in the delivery of public provisions.

Remarkable achievement has been made in areas such as online registration, payment of admission fees and publication of results in enrolment of university students and to some extent at primary and secondary education.

ICT-based education: Bangladesh has made some progress in this third area. *Secondary and Higher Secondary ICT based Education* project has established 20,000 Multimedia MMCs comprising of 13,700 school, 5,200 madrasas and 1,600 colleges. Each MMC has at least one internet connectivity, one laptop and one multimedia. The *Basic ICT Skills Transfer up-to-Upazila-level* has set up computer labs at 192 educational institutions. It has provided training to 7,890 teachers as master trainers and to 112,189 students. In addition, 12,500 teachers have been trained to create multimedia content. These teachers are creating and sharing multimedia contents through a Teacher's Portal (<https://www.teachers.gov.bd/>), which is a central repository for e-learning content for teacher training and for all students. Incentives, through public recognition of best contents, are being awarded to encourage teachers' participation. Digital World (international), Digital Innovation Fair (district and sub-district level), Education Leaders' Conference (international), and Teachers' Conference (national) are being organized.

Vocational ICT training: Finally, in terms of spurring ICT related vocational training, 4 MMCs have been set up in each of the 64 technical teachers training institutes. Bangladesh Open University (BoU) has undertaken an initiative to launch e-learning/online Programme for its target audiences. Bureau of Manpower, Employment and Training (BMET) is also set to launch e-learning courses for migrant workers.

12.2.4 Progress with E-Governance

The Perspective Plan stipulated that e-governance will manage the way that citizens deal with the government and with each other, allow citizens to communicate with government, participate in government policy making and planning, and to communicate with each other. It further articulated that work flow in government and semi-government offices will be fully integrated with ICTs through re-engineering of the government's business process.

There are 23 targets under two interrelated components of the Digital Government category: (a) e-Administration, i.e., business process re-engineering of government agencies; and, (b) e-Citizen services, i.e., converting traditional service delivery into e-service delivery system to take "service at citizens' doorsteps." Besides, the Sixth Plan identified 14 targets for improved public service delivery under three components: (a) an inclusive information and knowledge management system; (b) ICT for equity; and (c) e-Participation to promote grassroots participation in policy discourse and effective feedbacks.

Bangladesh has witnessed significant progress in the area of Digital Government, although the latest *e-Government Development Index* (e-GDI) ranking, prepared by UNDESA, positioned the country low at 148. In 2012, in spite of Bangladesh's low 150th rank, the country got placed alongside the US, China, India, Brazil, Japan and other giant economies (countries with populations larger than 100 million) that succeeded in making a special effort to improve service delivery to their populations. Also, ITU's *ICT for Development Index* (IDI) acknowledged Bangladesh as one of the three most dynamic countries in Asia-Pacific, alongside Australia and Mongolia

E-Administration: All public information is being made accessible in Bangla through electronic means and also mobile phones. All gazettes and notifications are being published online using the Unicode characters. Under the auspices of the Cabinet Division, the Access to Information Programme (a2i) in the Prime Minister's Office (PMO) supported designing, developing and implementing the National Portal of Bangladesh (www.bangladesh.gov.bd), which is a manifestation of the provisions articulated under RTI Act, 2009. The National Portal is a gateway to 25,000 websites of all government offices starting from the lowest (union) to the highest (ministry) level.

This Portal embeds key information pertaining to agriculture, education, health, law and human rights, human resource development, social security, environment and disaster management, tourism and history, natural and archaeological sites, educational institutions, business organizations, public representatives and eminent persons, freedom fighters list, government circular/gazette, procedures for applying and receiving public services, government forms, citizen charter, list of officers and personnel, digital guard files, e-directory, district-level and other e-services, development projects' activities and other information of public interest. Starting from the entrepreneurs of Union Information Service Centres (UISCs) to the ministries and their

divisions, about 50,000 trained government officials and employees are collating and updating the National Portal. The content is managed centrally by the Cabinet Division.

The government established District e-Service Centres (DESCs) across all 64 districts in 2011 to start the work on online-data sharing and decision making system. Once the Programme is fully functional, through UISCs, citizens can receive services such as land records (khatiyans) from the District Commissioner's (DC) office at a much lesser cost and time without having to undertake multiple visits. The development of National e-Service System (NESS) is also underway (see Box 12.2). Under this system, the delivery of services at district, upazila and union parishad level will be directly connected with concerned ministries, divisions, directorates and other public departments. Work is in progress across 16,000 government offices to launch the NESS by 2015. Once the system is up and running, this will mark the achievement of one of the long-term strategic goals identified by the Perspective Plan pertaining to the introduction of e-governance at all executive levels of government by 2015.

Box 12.2: Features of NESS

NESS will enable the following for citizens:

- Provide service for any kind of application submission through mobile, internet, UDC, upazila Centre, etc.
- Offer inquiry service to enable tracking progress of applications.
- File grievances and track any redressal.
- Receive notification through SMS and detailed acknowledgment through the internet.
- Empower citizens to discuss service delivery issues, provide suggestions and recommendations, and share ideas through a provider-recipient social networking.

NESS will enable the following for the service provider organizations:

- Initiate e-Filing to simplify the process of file processing (i.e. file put up, file sending, file seeing) and it is to be noted that Secretariat Instructions 2008 has been amended to incorporate use of ICTs in file and record management;
- Enable tracking of any information at any time through file management and decision management;
- Maintain auto register so that each day's work/progress is entered automatically;
- Enable monitoring of all service providing government organizations from one single dashboard to ensure accountability and transparency; and,
- Allow automatic scheduled e-communication such as SMS, email or any other kind of alert for meetings, events, etc.

The "National ICT Infra-Network for Bangladesh Government Phase-II" or the "Info-Sarkar" project is being implemented by the BCC to provide optical fibre connectivity across government offices in all 64 districts and 487 upazilas. Each upazila office would be brought under broadband connection and Wi-Fi network and solar power system would be introduced for ensuring uninterrupted internet connection. The ICT network facility created under the "Banglagovnet" project with Korean assistance would be expanded at grassroots level government offices through the Info-Sarkar project. This is one of the key priorities in paving the road towards building a networked society.

Video conferencing system has been introduced between PMO, Cabinet Division, Divisional Commissioners' offices and DC offices to speed up field administration activities. This has enabled conducting online meetings and seminars with the central authorities. The Cabinet Division has undertaken a Programme for launching video conference system in 64 DC offices and 7 Divisional Commissioners' offices. The Info-Sarkar project is to set up 800 video conferencing systems at different offices including the ministry, department, and upazila office and training centres.

National Data Centre is in operation at the BCC. It is managing information on the government's official website, the Bangladesh Election Commission's national identity card and voter lists, and e-service-related activities. The Centre is also providing services to 200 websites and 70 mail hosting services. The process of setting up an IV-tier data Centre is underway.

The Bangladesh Public Administration and Training Centre (BPATC), Bangladesh Civil Service Administration Academy (BCSAA) and Bangladesh Institute of Management (BIM) are pioneering an initiative to introduce e-learning in public sector training organizations. As pilot, a demo version of e-Learning system for Bangladesh Civil Service has been developed based on free version of Moodle (<http://moodle.com/>). Three separate courses of the institutions have been identified for piloting e-learning modality.

Using the enterprise resource planning (ERP) software, financial statements of Bangladesh Bank are being prepared automatically following international systems, applications and products (SAP) standard. Under SAP, officials of Bangladesh Bank can easily access their salary statements, account balances and different human resource related information using intranet. All the procurements of Bangladesh Bank are being carried out through ERP. Maintenance of accounts in the Bank such as general ledger and accounting, budgeting, payables, receivables, cash management, budget and cost Centre accounting system, purchase management, fixed asset and HR management, have been automated.

In addition, district-level and field-level offices are connected with the Finance Division through WAN/LAN and all ministries/divisions through LAN/VPN. Information pertaining to budget making, implementation and evaluation is exchanged through Integrated Budget and Accounting System (iBAS). The latter has been introduced in the Finance Division to bring dynamism in budget formulation and implementation process and to improve the effectiveness of resource mobilization as well as its proper allocation. All 49 Chief Accounts Officer (CAOs), all District Accounts Office (DAOs) and 38 ministries/divisions, alongside nearly 400 upazilas, have been brought under iBAS. It has provided scope for monitoring activities in the process of financial reimbursements and bills.

With regard to the final target under the e-Administration component, the underlying rationale behind creation of Innovation Teams is to endorse a whole-of-government approach in embedding a culture of innovation. The government of Bangladesh formed Innovation Teams across all public

offices through an *Innovation Team* gazette in 2013. Former e-Governance/ICT Focal Points were replaced by *Chief Innovation Officer (CIO)* as team leaders. This is a total of over a thousand Innovation Teams and over 6,000 Innovation Team members at different tiers of the government.

In March 2013, a *Service Innovation Fund (SIF)* was launched to enable CIOs and Innovation Teams to experiment with new and innovative ideas focused on the TCV (time, cost and number of visits) algorithm. It is expected that by 2016, the SIF will disburse Taka 800 million (see Box 12.3). Institutionalization of innovation awards, introduced in 2010, will be the key in helping the government officials remain motivated to work honestly and ethically towards the goal of accelerating delivery of public services to its rightful beneficiaries. The National Integrity Strategy calls for establishment of an ‘Ethics Committee’ in each ministry/division for the latter purpose.

Box 12.3: Key Highlights of SIF

One of the major challenges for carrying out prototypes pertains to a lack of seed capital for initial testing and observing for further replication. In March, 2013, a2i launched the SIF to: (a) provide seed funding to pioneering and creative innovations for more cost-effective provisions for public service to the underserved communities, particularly targeting women; and, (b) enhance capacity of small and medium initiatives working to find creating solutions in technology for development.

SIF started in 2013 with USD 10 million for 3 years with a goal to establish a USD 50 million fund. To date (July 2014), the SIF has successfully disbursed USD 0.4 million to 17 innovative ideas – USD 0.1 million in this first round and USD 0.3 million in the second round. It is supporting 10 public entrepreneurs, 3 entrepreneurs and 4 initiatives from private sector – one university and 3 private organizations.

The SIF functions as an effective capacity building tool for the recently formed Innovation Teams in all Ministries, directorates, divisions, districts and upazilas to learn by experimenting with service delivery innovation prototypes. Ultimately, a culture of innovation within the government will emerge. The Fund limits its exposure to innovation that directly improves service delivery to citizens, particularly women, measured around three simple, easy-to-understand, TCV – time, cost and number of visit - parameters to realize the vision of taking “services to citizens’ doorsteps.” One of the key specific purposes of SIF includes enhancing capacity of small and medium initiatives creating innovations in public service delivery.

E-Citizen Services: The public service delivery mechanism of Bangladesh is in the midst of reinventing itself to become more transparent, accountable and responsive to citizens’ needs. A *Transparency International Bangladesh (TIB)* report acknowledged 30 per cent reduction in corruption in the service sector due to the introduction of e-services.

In September 2014, the Cabinet Division launched the “Services Portal” and “Forms Portal” during the *Bangladesh Social Good Summit 2014*. Services, in terms of importance and popularity, were identified and accumulated in the “Sebakunja” thereby reducing TCV in terms of availing of a public service (www.services.portal.gov.bd). It is expected that this initiative will eventually cumulate to instil transparency and increased efficiency in public offices. All ministries, divisions, directorates and corporations are being linked with “Sebakunja” - about 400 services of 36 Directorates/Offices have been amassed in a “Single Access Point.” Through “Forms Portal”

(www.forms.gov.bd), on the other hand, citizens can download necessary forms, if and when, they intend to apply for any service.

Since 2009, applications for admission registration at 32 public universities, 400 colleges and all public medical colleges are being done through SMS service. All public examination results are also being delivered through mobile phone text message service since 2009. In 2013, 38.2 million results were delivered via SMS. Students can also apply for re-scrutiny of their papers through SMS. Bills of various public utilities such as electricity, gas and water can now be paid online or via mobile phones. Some 45,000 electricity bills and 25,000 gas bills are paid through mobile phones every month. WASA bill can be paid through Citycell and Robi mobile phone operators since October, 2010.

Mechanisms are also being established for online status check of court cases. The date of the case and a short description of the results of the case can be provided through SMS and internet. The daily schedule of 13 courts in 13 districts (Daily Cause List) is being publicly displayed in the digital display boards. An initiative has been adopted to connect all subordinate/lower courts with the Bangladesh Supreme Court, through a web network to store important data, track case and modernize information exchange system.

Dhaka Metropolitan Police has launched an experimental online diary. Introduction of electronic general diary (GD) and first investigation report (FIR) at all police stations by 2021, initially in Dhaka and then in other metropolitan areas by 2015, is mentioned as strategic long-term goals under the Perspective Plan. It is to be pointed out here that Dhaka Metropolitan Police Service has developed an interactive mobile application. It has enabled an individual to immediately get directions to the three nearest police stations.

The e-Ticketing and mobile ticketing mechanism for Bangladesh Railway was inaugurated in March 2010. It is reported until 2013 that 1.75 million tickets were sold, of which, 25 per cent tickets were purchased through mobile phones. The service is available on Dhaka, Chittagong, Rajshahi and Sylhet routes. Thus, more work needs to be done in terms of scaling up the successfully limited m-service transport operations in Bangladesh.

The Board of Investment (BoI) has allowed online registration and work permit for foreign investors and online tax filing has been introduced by the National Board of Revenue (NBR), alongside submission of online income tax returns, VAT and income tax payments. Online tax calculator has been launched. Nevertheless, there is still room for making more use of national ID cards in creating a comprehensive tax database including all eligible taxpayers.

Vehicle registration confirmation is being sent through SMS. Automation of Chittagong and Dhaka Customs has increased transparency and dynamism in the import-export activities.

Domain experts of a2i Programme, Ministry of Law, Justice and Parliamentary Affairs and the Department of Registration are working in reducing TCV to receive a deed registration – involving

sub-Registry of the upazila and Registry office of the district. The “Deed Registration Digitization” Programme has been undertaken in this regard and work has begun in 3 districts’ record rooms - Dhaka, Comilla and Jessore – in addition to 5 sub-registry offices.

Scanning and digitization of mouza maps prepared under the latest survey (RS/SA/CS) including mutation khatiyans have been completed. Implementation of digital land management system in 45 upazilas under 7 districts and establishment of 20 land information service centres in 20 different upazilas through another project titled, “Strengthening Governance Management Project, Component B,” is underway. Once the implementation phase is completed, citizens, at district and upazila levels, will be able to get latest updated record and maps of any plot in any upazila in the concerned district in quickest possible time. This project will be implemented under PPP’s build-operate-transfer (BOT) basis, retaining overall control of the government. In order to reduce implementation time, the entire initiative for computerization of khatiyans and mouza maps as well as digitization of land records and survey, will be distributed among private organizations. In this case, the services relating to distribution of khatiyans and maps will be channelled through private organizations.

The government has introduced online procurement system in phases. Both e-tendering and e-contract management have been integrated through e-GP (Integrated e-GP). This marks a major milestone in the Digital Bangladesh Programme. The e-GP has increased participation of organizations/individuals in tender submission. It is also facilitating more donor support. Additionally, an online procurement management information system (PROMIS) is enabling participants to monitor the administrative public procurement rules compliance with regard to the procurement process. Digital Certificate would be introduced in Electronic government procurement (e-GP) Process.

12.2.5 Establishing an Inclusive Information and Knowledge Management System

In order to take public and private information and services to the marginalized communities in rural areas, the National Institute for Local Government (NILG), under the Local Government Division (LGD), and the Access to Information (a2i) Programme of the PMO, launched 4,547 Union Information and Service Centres (UISCs) at the union parishad level. These Union Information and Service Centres, rebranded to Union Digital Centres (UDCs) in August 2014, are required to be *de jure* run by one male and one female entrepreneur. In addition to information, these centres provide services to the general public pertaining to health, education, agriculture, legal services, online birth registration, foreign workers and professionals’ online registration service, and various types of utility payment services (see Box 12.4).

Box 12.4: A Snapshot of UISCs

A total of 3.91 million citizens are directly receiving information and services from UISCs every month. Of these, it has been estimated that total 949,120 are women, 16,160 ethnic or religious minorities, 62,266 physically challenged persons and approximately 237,282 citizens of aged over 50 years. The online services involving various types of information from these centers are saving their time, cost and visits. UISCs are reported to generate about BDT 42 million per month, thanks to its PPP modality. It is to be highlighted that the first online registration for less-skilled migrant workers seeking employment in Malaysia took place in January 2013. Subsequently, 40,000 women registered and sent for foreign employment in Hong Kong, Singapore and Middle East. So far, 51,500 rural citizens have received training (also English training) from the UISCs. The UISC Blog is another key innovation – the experience of exchanging information within a network of 13,500 members (including UISCs entrepreneurs, field-level officer, i.e., at the sub-district (upazila) and district level, and some ministerial/division level secretaries)

New services are always being explored by NILG and a2i under PPP arrangements. The PPP modus operandi is the key factor offering UISCs opportunities to not only further widen their service delivery spectrum, but also to ensure their financial independence and sustainability through new income generation opportunities. For instance, with support from the Directorate General of Health Service (DGHS), 30 UISCs have introduced telemedicine services. Besides, each Upazila Health Complex has a mobile phone so people can easily seek emergency medical advice. Many e-services and m-services (mobile services) in the areas of agriculture, health and services sector have been introduced by public and private sectors. In taking life insurance services to rural people's doorsteps, the national Life Insurance Corporation has partnered with 2,016 UISCs and it will be introduced to all UISCs in a phased manner.

Ubiquity of mobile phones across all district and upazila hospitals has made it possible to launch a "mobile phone health care" Programme. 18 hospitals have introduced telemedicine services. A total of 800 health institutions have received computer supplies and have been brought under the internet service. This has enabled introducing an online reporting system by the DGHS. All upazila health complexes have been provided webcam which are being used to conduct video conferencing and at the same time, also acting as a monitoring tool. All 12,557 community clinics have a mini laptop with a built-in webcam.

Today, fourteen community radio stations are proactively providing interactive voice response (IVR) related services and early disaster warnings to more than 4.6 million listeners of 67 upazilas under 13 districts. Until 2013, more than 3.5 million people were evacuated and in particular, during the cyclone Mahasen in May 2013, over 1.1 million people were evacuated by the government. Using websites and mobile phones, early warnings are being sent out across the country's climate vulnerable areas, prone to cyclones, floods and other natural disasters. Grameen Phone and the state-owned Teletalk are providing such early warnings through SMS alerts to the residents of Sirajganj district, a flood-prone area, and Cox's Bazar district, a cyclone-prone one. Moreover, citizens can avail of the latest weather information through IVR by dialling 10941. Altogether, disaster risks have been reduced as a result of adoption of early warnings and IVR through the provision of affordable communication through mobile phones.

The Ministry of Disaster Management and Relief, with support from UNDP's Comprehensive and Disaster Management Project (CDMP), has succeeded in increasing flood warning from average 3 days to 5 days. ADB estimates that this allows three-fourths climate vulnerable communities to move their animals and other productive assets to safer locations.

Some progress has been made in expanding the use of National ID cards in availing of public services, especially in designing an “electronic public grants (social safety net) delivery system.” An initiative by Statistics and Informatics Division (SID), under the Ministry of Planning, is creating a hard-core poor database which is going to be linked with the National Population Register (NPR) to identify the most vulnerable, i.e., ultra-poor. In creating a list of the latter and the NPR, the BBS has already carried out pilot projects in two districts – Manikganj and Tangail. *National Informatics Committee*, being led by the Planning Minister, is exploring the scope for using National ID cards for availing of various e-services.

If Digital Bangladesh is to be consolidated through locking-in progress made to date, creation of a NPR, by engaging a diverse portfolio of concerned authorities, is the key to streamline citizen-to-government (C2G) and vice versa, i.e., G2C interactions. Thus, NPR ought to receive the highest priority in the Digital Bangladesh agenda of the Seventh Plan. Citizen Core Data Structure (CCDS), prepared by the Cabinet Division, is being referred by the BBS in preparing the Bangladesh Poverty Database, which will set the ground for working on a more sophisticated NPR.

12.2.6 Progress with ICT for Equity

There are different targets from vernacular content development, online market information to programmes for land digitization and ICT-induced employment opportunities. The e-Tathyakosh (www.infokosh.gov.bd), a national e-content repository, is in operation which offers contents prepared by concerned authorities. A total of 350 partners, from both public and non-state sectors, came together in creating this national information portal which is enabling citizens to acquire information in less time. It is also to be noted that the National Portal of Bangladesh has been created in the vernacular to increase usability of the contents by the vast majority of Bangladeshis.

The Ministry of Commerce has implemented an “online price monitoring system” which offers daily price updates in its website. Nevertheless, awareness and usage of this information is not significant given the low rate of internet subscribers. Therefore, development of mobile apps which could be used by farmers and relevant beneficiaries can increase usage of this information.

Digital land management system has been introduced in order to make land administration and management transparent and accountable by making land records available online, through conducting satellite technology based digital survey, preparation of digital maps and ledgers. A pilot project is being implemented in three upazilas to introduce “Authoritative Land Records” (ALR). Directorate of Land Records and Survey (DLRS) launched “Savar Digital Survey 2009”

and digitization of 441,506 khatiyans (land records) and 4,089 mouza (an area covering 300 households) map sheets were done on the basis of the survey conducted in 191 mouzas.

A total of 5 upazilas under Dhaka district have been chosen as pilot projects under a Programme titled “Computerization of Land Management of Dhaka District.” Depending on the success of this project, all 64 districts will be brought under this Programme.

Steps have been taken to implement computerization of existing mouza maps and khatiyans across 55 districts under another project titled “Digitization of Land Survey, Record Preparation and Preservation Project, 1st Phase. Mouza maps, prepared under the latest surveys (RS/SA/CS) conducted in 54 upazila headquarters, under 54 districts, have been updated by scanning, digitization, geo-referencing and aerial photography.

The “Learning and Earning” project has been approved to provide training to 55,000 citizens at the district, upazila and union levels. The “Bari Boshe Borolok” (earn from home) initiative is aimed at providing basic outsourcing training to 12,420 women candidates, of which, 2,240 will be offered advanced training. Process has been initiated to create 34,000 skilled human resources (30 per cent women) and including 4000 Fast Track Future Leaders in the IT/ITES sector through a project titled “Leveraging ICT for Growth, Employment and Governance.”

Implications of mobile financial services on poverty reduction and economic growth are well perceived. Within a short span of time, Bangladesh has achieved significant progress in mobile based financial services. Bangladesh bank has already given approval to 28 banks to provide mobile banking services. To speed up banking transaction, implementation of Real Time Gross Settlement (RTGS) transaction speed system has been undertaken. If it is implemented, transaction of large sums of money from one bank account to another bank customer can be completed within a minute.

In taking banking services to the doorsteps of unbanked citizens, the government has allowed 5 private commercial banks to provide mobile banking services through 1,700 UISCs across 40 districts. It is estimated that 10 million users have used mobile money order and cash cards through the post offices. Bangladesh Bank has also permitted banks to disburse remittance payments through various mobile operators’ outlets operating at the grassroots level. This is hoped to attract more formal remittance as a result of strengthening the distribution network.

In order to localize content for inclusive growth, Bangladesh has already joined the Unicode Consortium Forum as a member. As a result, there is an opportunity now to develop and share content in Bangla on agriculture, food and small and medium enterprises. To facilitate it further, BCC undertook a few research initiatives on how to expand the use of Bangla through development of (a) Bangla spell checker, (b) “text to speech, speech to text” software; and, (c) “Bangla Word Sorting” software. Mobile Bangla keypad has been standardized for using Bangla in mobile phone. The e-Tathyakosh, a national e-content repository, is allowing public and non-state actors to publish and share their information in a more targeted manner.

To share indigenous knowledge and innovations related to pest management, crop preservation, etc. a number of projects have been implemented. For instance, with the SIF's support, Bangla OCR software has been developed by a local IT company to facilitate sharing of indigenous knowledge. Digital innovation fairs have been organized firstly at Dhaka, then to other district level and upazila levels to create demands for e-Service and to make people aware of the e-services available at the government and nongovernment level. As noted earlier, the development of National Portal comprising of the 25,000 web sites will also contribute to compile and share indigenous knowledge and innovations.

There appears to be significant opportunity for strengthening supply chain of the agricultural production and distribution system of Bangladesh. To demonstrate such potential, a project has been implemented to strengthen sugarcane supply chain. To reduce the uncertainty of the previous paper-based (purjee) system by enabling farmers with punctual delivery of sugarcane to the mills benefiting farmers and sugar mills alike, e-Purjee system has been introduced in all state-owned sugar mills. As a result, as many as 200,000 sugar cane farmers are being benefited because they now receive "purjee" information through mobile SMS. This success will lead to wider capacity development to support the agricultural supply chain management system through business portals. Moreover, several e-commerce sites have already come to operation in the country to trade agricultural produce. A recent report of "Amar Desh Amar Gram e-shop" indicated that they have around 16,000 people in Dhaka alone who buy even vegetables from them. Their contribution is recognized in 2012 with the wining of WITSA Global ICT Awards.

In Bangladesh, there is an immense opportunity of improving productivity of sustainable agriculture through utilization of GIS based soil mapping system to analyse detailed data to provide information relating to crop suitability, land zoning, nutrient status and fertilizer dosage. To benefit from this opportunity, the Survey Department's project, "Improvement of Digital Mapping System of Survey of Bangladesh," is aimed at creating topographical digital maps: 1: 25,000 scales (over 988 sheets) for the entire country and 1: 5,000 scales (over 263 sheets) for the division-level cities. Work on the construction of a 5-storey Digital Mapping Centre has been completed under this project.

12.2.7 Progress with ICT infrastructure

The first component of the Sixth Plan's Digital Bangladesh is ensuring that citizens have access to ICTs for accessing information and knowledge required to perform their day-today activities. Five long-term strategic goals of the Perspective Plan can be related with this particular Digital Bangladesh category. The Plan calls for establishment of tele-Centre/community e-centres with internet facilities across all unions and increasing tele density to 70 per cent by 2015. Both targets have been met and Bangladesh is on-track to achieve 90 per cent tele density by 2021- a key long-term strategic goal of the Perspective Plan.

Allocation for research and development (R&D) is, nevertheless, low alongside broadband penetration (both in terms of access and availability). Whilst China spends almost 2 per cent of its

GDP on R&D, this is less than 1 per cent for Bangladesh. Similarly, broadband penetration for China and Bangladesh recorded 12.72 per cent and 0.39 per cent in 2012.

With regard to widening internet connectivity, although there are challenges, significant strides have been made. A regional information highway network was established among 4 South Asian nations, Bangladesh, Nepal, Bhutan and India through South Asian Sub Regional Economic Cooperation (SASEC) in order to ensure broadband information communication, exchange information related knowledge and offer access to ICT in inaccessible areas. With an outlay of BDT 294 million, establishment of 55 km fibre optic cable from Panchagar to Banglabandha, and 30 upazila community information centres, was completed by June 2014.

The second phase of SASEC is underway. High-speed fibre optic cable network is expected to become ubiquitous by 2017, after the project “Installation of Wireless Broadband network for Digital Bangladesh (4G, LTE)” ends. This project will cut across all 64 districts, 300 upazilas and an approximately 19,000 km optical fibre cable will be established. In 2014, Bangladesh officially joined the submarine cable SEA-ME-WE-5 – its second – and hopes to get connected to it by the first quarter of 2016. This will help to further add 1,300 GBps bandwidth.

12.2.8 Progress with Financing and Investments

Since the first budget under the Sixth Plan purview, i.e., FY2010-11, there has been a 45 per cent increase in budgetary allocation – from BDT 27.16 billion to BDT 39.39 billion (Table 12.1). The highest allocation, nevertheless, was recorded during FY2013-14 with BDT 40.24 billion. A budget of BDT 39.39 billion has been allocated for the ongoing financial year although there is flexibility for increasing the amount if, and when, new projects are entered into the pipeline. The allocation for development projects is, nevertheless, the highest recorded compared to the corresponding years – BDT 32.29 billion against BDT 19.84 billion in FY2010-11 and BDT 31.77 billion in FY2013-14.

Table 12.1: Budget Allocation for ICT over the Last 5 Years (BDT million)

Allocation	2014-15		2013-14		2012-13		2011-12		2010-11		2009-10	
	Projects	Budget	Projects	Budget	Projects	Budget	Projects	Budget	Projects	Budget	Project	Budget
ICT sector	-	5.14	-	5.74	-	3.76	-	3.23	-	3.45	-	2.69
ICT related institutions	-	1.19	-	15.00	-	4.0	-	0.35	-	0.25	-	0.23
Programmes under the revenue budget	0.016	0.77	0.030	12.30	0.034	0.96	0.037	1.08	0.037	1.62	0.02	1.21
Development projects	0.063	32.29	0.070	31.77	0.049	28.04	0.061	26.40	0.061	19.84	0.05	17.44
ICT entrepreneurship	-	-	-	-	-	-	-	-	-	2.00	-	2.0
Total		39.39		40.24		33.16		31.06		27.16		23.57

Source: Ministry of Finance

In view of the success attained in implementing various provisions under the Digital Bangladesh vision, the Government has been financing a number of projects from its revenue budget as well. The number of such projects, at 37, peaked in FY2010-11 and FY2011-12 with a budget allocation of BDT 1.62 billion and BDT 1.08 billion respectively. At present, the number of projects stands at 16 with a budget allocation of BDT 770 million.

12.2.9 Private Investment and Taxation of ICT Sector

While public investment provides the fixed infrastructure and supportive R&D expenditure, much of the supply of ICT services comes from the private sector. The private sector response to the deregulation of the ICT sector has been highly positive with considerable foreign and domestic investment. This response has been the key to the rapid expansion of tele density and mobile digital services in Bangladesh. The attractiveness of Bangladesh as an investment destination for ICT is indicated by the supply response from foreign investors, which is commendable. Nevertheless, service providers have raised serious concerns regarding the level of taxation of the ICT industry. A study by the International Technology Information Foundation (ITIF) covering 125 countries shows that Bangladesh has the highest rate of taxation of ICT among the 125 countries. Bangladesh also records the highest tax rate in the South Asia region (Table 12.2). The ITIF study also looks at price elasticities of demand and concludes that this elasticity is quite high for Bangladesh that suggests that these taxes are a major reason for low investment and low use of ICT services in Bangladesh relative to other countries noted in Table 12.3 below. Accordingly, the Government will review the tax regime for ICT and ensure that the taxation regime is friendly to the ICT and is supportive of the implementation of the Digital Bangladesh vision.

Table 12.2: ICT Tax Structure in South Asia (Percent)

Country	Broadband tax			Wireless tax			Consumer product tax			Consumer product tariff	Business use product tariff
	Base	Extra	Total	Base	Extra	Total	Base	Extra	Total	Total	Total
Bangladesh	15	45.5	60.5	15	114.1	129.1	15		15	17.7	14.1
India	12		12	10.3		10.3	13		13	1.0	1.5
Nepal	13	20.5	33.5	13	53.5	66.5	13	2	15	0.2	0.8
Pakistan	20	2.4	22.4	16	4	20	0		0	15.1	8.7
Sri Lanka	15	3	18	12	20	32	12		12	2.0	1.9

Source: Miller and Atkinson (2014)

12.3 ICT STRATEGY FOR THE SEVENTH PLAN

The strong progress with the implementation of the Digital Bangladesh Initiative during the Sixth Plan provides a solid foundation on which the Seventh Plan can build forward. Notwithstanding past progress, the road ahead is immense. This is illustrated in the ICT progress indicators in Bangladesh in relation to countries (Table 12.3)³⁷. As a late starter Bangladesh has done well. Progress with expansion of mobile connections is particularly noteworthy. Nevertheless, the bandwidth connectivity is low compared to the demand. Wider usage of the bandwidth should receive immediate priority. The development role of knowledge economy through ICT has just started and the returns are already being felt. The future potential is immense and the Seventh Plan will adopt strategies and policies to take this forward. A special challenge will be to expand the bandwidth connectivity through investments in fixed infrastructure as well as lower access cost through tax reductions in ICT taxes. A larger subscription volume will both benefit service expansion and total tax revenues from ICT.

Table 12.3: Indicators of ICT Progress (%)

Country/Region	Mobile Subscriptions		Internet Users		Fixed Bandwidth Subscription	
	2005	2013	2005	2013	2005	2013
Bangladesh	6.29	74.43	0.24	5.75	0.0	0.97
India	8.0	70.78	2.39	12.58	0.12	1.16
China	29.84	88.71	8.52	42.3	2.83	13.63
Sri Lanka	16.85	95.5	1.79	18.29	0.11	1.99
Vietnam	11.29	130.89	12.74	39.49	0.25	5.62
Developed	82.1	120.8	50.9	78.3	12.3	27.5
Developing	22.9	90.2	7.8	32.4	1.3	6.1
World	33.9	92.5	15.8	40.4	3.4	9.8

Source: ITU Website, ICT Facts and Figures 2014

³⁷ The data used for international comparability is based on latest information published by ITU. Latest available data for Bangladesh show further progress with ICT adoption and use after 2013, especially for tele-density and internet use.

The driving philosophy of Digital Bangladesh is to strike the right balance between equity and growth in the country. It recognizes the danger of adopting concepts of a ‘knowledge-based society’ which may contribute to growth but will miss the equity parameter and may further perpetuate inequity in the form of digital divide. ICTs impact is not unprejudiced and a nation must make the right choices in policy formulation, stakeholder engagement and choice of technologies to ensure that both equity and growth aspects are addressed. The deliberate focus on serving the underserved and empowering citizens is helping to break down traditional barriers by connecting citizens with government and non-government service providers through internet and mobile phone-based systems. This equity focus of ICT will be further strengthened during the Seventh Plan.

The core element of the Seventh Plan ICT strategy is built around the following basic principles:

12.3.1 Promote Economic Growth

This will be done through a number of channels.

(i) Expand markets and reduce transactions costs through e-commerce and trade: This entails focus on a number of areas including:

e-Commerce and online/mobile transactions: Mobile phones and internet have the potential to inter alia expand market access and level the playing field for small producers. At the same time, consumer prices will be driven down and the quality will increase due to increased competition. Specific focus on rural e-commerce and low-cost online transactions would be devised and popularized.

No one left behind – civil registry and financial inclusion: The vision for Digital Bangladesh is to establish an equitable, inclusive society and economy. Development of a comprehensive civil registry that is linked to all service delivery by the government, and preferably also by non-government service providers, will ensure inclusion. A whole-of-government approach, possibly steered by the Cabinet Division, will be necessary to establish and use the civil registry across all service delivery organizations. True financial inclusion mechanisms that provide low-cost mechanisms at citizens doorsteps for banking, money transfer including safety net payments and local and foreign remittances, credit including micro-credit, insurance including crop, health, life, disaster and other kind, must be formulated and popularized.

Business productivity: ICTs have proven to increase productivity in virtually all sectors of economy and business ranging from agriculture, manufacturing and services. Appropriate productivity tools will be adopted alongside incentives for quick adoption.

Rapid expansion of the IT/ITES industry: ICTs hold immense promise for a country like Bangladesh which boasts a booming youth population, with a sharp interest to learn ICT tools and put them to the purpose of gainful employment. A collaborative approach is necessary to develop technical and soft skills necessary for the sector, generate employment for local, foreign and

outsourced jobs. Additionally, establishment of necessary infrastructure, special focus on international brand image of the country, and access to finance for entrepreneurs is required to tap into the imminent demographic dividend.

Convert ICT to a major source of export earnings: The past progress in increasing exports of ICT services, while encouraging, still constitutes a low level of earnings. As compared with a mere half a billion dollar worth of ICT exports in Bangladesh, these amount to \$72 billion in neighbouring India. Even after allowing for size effects, the ICT export earnings are 3.4% of GDP in India and only 0.3% in Bangladesh. The global export market is large and Bangladesh has strong comparative advantage based on relatively low cost labour. As well, the investment and transaction costs are manageable and within the capabilities of the current Bangladesh environment. The government's target is to expand ICT exports to \$5.0 billion by FY2020. Policies will need to focus on expanding ICT infrastructure, improving incentives by lowering taxes on ICT products, greatly expanding the ICT skills base and investing in ICT-related research and development. These are discussed in details in the following sections.

(ii) *Promote public-private partnership (PPP):* The concept of PPP is new for e-service or m-service delivery in Bangladesh. There is a gap in perception about PPP within the government and private sector in view of the dichotomy of public and private interests. The relevant stakeholders are not aware about strong political commitment of the government to engage with the private and non-state sectors. This is because the PPP Policy is not well circulated and not sufficiently explained among the stakeholders. The transformation of strategic priorities from agenda into action requires significant resource mobilization, which is currently inadequate. The vision is to make e-service delivery a reality through active participation of private sector under PPP.

Strengthening office of the PPP: The institutional arrangements for PPP will be strengthened with internationally competent professional staff. The line ministries would collaborate with the Office of the PPP to identify, formulate and implement PPP projects in partnership with private sector actors. The Office should coordinate among various government and private agencies for accelerating approval and implementation of PPP projects. The Office and line ministries and implementing agencies will encourage private sector to come forward with unsolicited proposals where private sector innovation and dynamism will be leveraged for offering e-services to citizens.

The Office of PPP, with support from GIU and a2i, could contemplate on developing a comprehensive five year plan under which PPP projects will be identified and contribution of the government to those projects will be estimated. These estimates will be included in the national budget in each fiscal year and progress will be reported at the annual budget session.

The Office can undertake programmes for building capacity of government officials and private sector participants in collaboration with development partners so that project identification and approval process strictly adhere to stipulated time frame.

The Office needs to work with similar government agencies abroad to share views and exchange experiences to understand best practices and to make the PPP initiatives in Bangladesh vibrant and effective. The Office should work with the development partners to engage them in PPP projects for participating either in government contribution or investment by the private sector. The Office should follow state-of-the-art online process for proposal submission, processing, decision making and implementation progress tracking with individual interface for each ministry and implementing agency.

(iii) Facilitate Financial Transactions: As noted earlier, the Bangladesh Bank already has taken a number of steps to facilitate online financial transactions and through the mobile phones. This effort will be further strengthened during the Seventh Plan. Efforts are also underway to implement e-transactions in the Ministry of Finance. The Ministry of Finance is prioritizing automation of different processes and activities relating to both direct and indirect taxes in order to augment the tax-GDP ratio to an acceptable level. It mentions of a number of ongoing and planned initiatives in this regard (see Box 12.5). This effort will be strengthened and implementation accelerated.

The Government has undertaken various measures to increase the flow of remittances by digitizing the migration management system and at the same time, easing the process of delivery of inward remittance as a result of mobile banking facilities. The Government will continue to provide support to both private and the public sectors through the EEF-IT and the SIF respectively.

(iv) Establishing Technology Parks: Global IT/ITeS outsourcing business has turned out to be a robust sector with more than trillion dollar annual turnover. For diversifying our export basket and achieving the ambitious yet achievable US\$5.0 billion export target by 2020, an appropriate IT/ITeS business ecosystem has to be established. To this end, more Hi-Tech Parks and Software Technology Parks will be established throughout the country. Besides, Business Process Outsourcing (BPO) centers will be set up in district and sub-district level. Steps will be taken to gradually convert the potential Union Digital Centers into Business Process Outsourcing centers by providing high speed connectivity and other necessary infrastructure.

(v) Creating an Innovation Ecosystem and Startup Incubation: To attain a sustained growth in IT/ITeS export, concentrating only on the outsourcing business is not sufficient. Introducing own products and services should be given equal importance alongside outsourcing business. For this purpose, an innovation ecosystem comprising of required infrastructure, well trained human resources and supportive policy regime will be established. For developing a group of successful and innovative entrepreneurs to lead the digital economy, incubation of startup is of paramount importance. Hence, steps will be taken to nurture the tech startups in Bangladesh.

Box 12.5: Reform Activities

- Use of e-TIN- a Unique Identifier for Income Tax, Customs and VAT to ensure better service delivery and combat tax evasion.
- Implementation of Online TIN registration system linked with the National Identity Card Database.
- Online VAT registration and Return Submission to start from January 1, 2015 and June 2015 respectively.
- Introduction of e-payment for Income Tax, Customs Duty and VAT through debit, credit and other prepaid cards.
- Implementation of e-Filing system for income taxes on a limited scale.
- e-TDS (Electronic Tax Deduction Source) management system to be implemented soon.
- Use of Alternative Dispute Resolution (ADR) to reduce number of revenue-related litigations.
- Introduction of systems for submission, assessment and tax refund of VAT and Income Tax centrally and online.
- Implementation of ASYCUDA World with a view to processing customs data in major customs stations leading to a paperless management system in near future.
- Inclusion of transfer pricing procedures in Customs law.
- Provision of higher training to revenue officials at home and abroad to improve their level of efficiency.

Source: Ministry of Finance

12.3.2 Enhance Education Quality through ICT

The strategy here will build on the progress made in the Sixth Plan. The vision is to establish a system where ultimately every student will be equipped to face the challenges of the globalized 21st century through (a) reforming curriculum, pedagogy and teacher's capacity building to ensure quality education for all; (b) ensuring transparency, efficiency and effectiveness at all levels of educational administration; and, (c) securing accountability to the students and parents to enable stakeholders' participation in policymaking and decisions.

(a) Interactive multimedia classrooms in every school: Every primary and secondary school will establish a multimedia classroom with a power-saving internet-connected laptop, projector/large-screen-TV and teachers professionally trained to use multimedia content for general subjects. Teachers will use digital content in the classroom for collaborative, problem solving sessions.

(b) Incentives for teachers based on performance and innovation: Salary increments, bonuses and professional advancement for teachers will be instituted over time based on innovation and educational outcomes. Non-fiscal incentives will be designed in terms of recognition and opportunities for leadership in different levels. Some awards have been introduced but more incentives will need to be explored to make the system more competitive.

(c) ICT literacy for students in tertiary education: ICT literacy will be mandatorily impart at the tertiary level to prepare students for the job market which increasingly demands ICT skills. For tertiary education, and partially for secondary education, the internet's capacity for two-way interaction offers the greatest promise for improving access and affordability and for providing flexibility to combine work with further study. Specialized education in ICTs may be encouraged to feed the burgeoning IT industry.

(d) Education TV or web TV: The almost unused second terrestrial channel of the government may be turned into an education TV channel after the broadcast of parliamentary sessions. As many as sixteen ministries have already shown interest for producing educational content for this TV channel. HDTV work is underway.

(e) Loans and scholarships for ICT education: Special initiatives are needed to prevent brain drain and to encourage the meritorious and young IT graduates. In this regard, special education loan scheme and scholarship programmes will be introduced for suburban and rural meritorious students who are comparatively less likely to move abroad. This will facilitate their admission in universities in IT related subjects. The Government will consider providing long term loan facilities (at least 4 year grace period and maximum 4 per cent interest) via commercial banks to create opportunities for IT education for the poor but meritorious students. They will be entitled to repay the loans after getting jobs on completion of graduation.

(f) Establishing a National Certifying Authority: A National Certifying Authority would be established immediately for ensuring uniformity in the quality of IT students graduating from different public and private universities. The Authority could begin its work by launching its own massive open online courses (MOOCs) targeting fresh university graduates to groom them into a world class IT manpower.

(g) Establishing Virtual University: Initiative will be taken to set up an ICT focused virtual university having campuses throughout the country. This will not only accelerate decentralization of quality ICT education but also ensure efficient utilization of available resources.

12.3.3 Facilitate Youth Empowerment

Since the launch of the Digital Bangladesh Initiative, the youth of Bangladesh, including the disadvantaged groups like women, the extreme poor, and person with disabilities accessed necessary information, skills and education to transform their lives individually and as members of groups. Besides, poor job market opportunities are a key issue of concern. An organized network to distribute centralized information on various development sectors to local levels that can be spearheaded by youth will be developed to bring about sustained long term development for the youth. The next five years is the key to extract a rich demographic dividend through grooming the youth with secular, democratic, ethical, and humane values who will drive Bangladesh to a happy and prosperous nation.

12.3.4 Enhancing the Equity Aspects of ICT

Operational efficiency of local government institutions is low which impede effective access to services and information by the citizens. Citizens' voice is often unheard and their participation is not fully effective which creates gap between citizens' perception and direction of the central government. The vision is to unleash the power of ICTs for increased efficiency, transparency and accountability of local government institutions so that they are able to deliver information and services to the citizens and involve them in the process. In particular, the vision is to make

appropriate integration of ICTs for ensuring better access to land records and bring about transparency and accountability in land transactions as well as better access to khas land by poor and community groups. Some ministries and organizations have been identified to integrate ICT in delivering services to poor people in the key sectors like agriculture, health, land, social security etc. However, a collaborative approach between ICT Division and the line ministries is necessary for effective integration of ICT in the service delivery channel and enhancing access to those basic services by the rural poor. Finally, in making services pro-poor through embedding the use of ICTs across the government, the underlying vision is to make the civil service capable and interested to use ICT tools for management, planning, implementation and monitoring budget and non-budget purposes. Building on the progress achieved in the Sixth Plan, the strategy will emphasize the following.

a) *Improving the efficiency of land markets:* The most important physical asset that the poor have is land. Due to various inefficiencies, land disputes are pervasive. ICT can play a major role to improve the efficiency of land markets, reduce land disputes and protect the poor from the predatory behaviour of land grabbers. The steps taken under Sixth Plan to improve the functioning of the land market through ICT will be strengthened further in the Seventh Plan through the following steps:

Digital land market reforms: Enforcing land acquisition ceiling and preventing anonymous transactions are difficult. One-fourth of all land records are disputed, resulting in nearly 3.2 million pending litigations involving around 150 million people; each dispute takes an average of 9.5 years to resolve. Manual tax management system is inefficient and available data related on land is inadequate and often contradictory. Years of unorganized land sale, revenue, survey and mutation records create serious difficulties for planned use of land in development. The reform will enhance public access to land records, transparent land transactions and efficient collection of land revenue through modernization of all land records. Marginalized citizens will be allowed to establish their legal rights on khas land through transparent distribution mechanism.

Consolidation: Lessons learnt from various pilot interventions seem to be conflicting at the first glance. The relevant authorities will conduct further investigations to sift through the evidences taking into consideration latest technological advances and develop a new set of policies for proper land administration and land use. A review process will be initiated to consider how the stakeholders of those policies and legal framework may be brought on board. A high-powered independent body will be established to give recommendations for next steps based on such a review and through a consultative and inclusive process.

Capacity development: The present manual system of land management and the proposed ICT based management represent two distinctively different cultural contexts. Hence, efforts will be undertaken to gradually transform the work culture of relevant agencies. To this end, modern technology will be introduced to support improved work-processes of the relevant agencies.

Additionally, skill-training Programme for the management of these agencies to build leadership skills such as negotiation and communication skills will be organized.

b) Self-governed and responsive local governance

Operational efficiency of local government institutions is low which impedes effective access to services and information by the citizens. The vision is to unleash the power of ICTs for increased efficiency, transparency and accountability of local government institutions so that they are able to deliver information and services to the citizens and involve them in the process. It is hoped that a connected local government system will be established for efficient governance and effective information and service delivery to the citizens, coupled with enhanced transparency and opportunities for citizens' participation. ICT-based reforms for improving local government services have already been initiated during the Sixth Plan. But there is a long way to go. The Seventh Plan will put considerable emphasis on this.

Seamless connectivity: The Ministry of LGRD will create seamless vertical and horizontal as well as reliable and high speed connectivity among the local government and central government institutions and agencies. Such network will accelerate decision making and implementation process. More importantly, inter and intra-agency horizontal and vertical electronic connectivity will increase operational efficiency and simplify decision-making processes.

Service process simplification (SPS): The Ministry of LGRD would try to integrate ICTs in local government institutions for back office automation so that front end service delivery is possible through one-stop windows. Paper-based procedures will be replaced gradually by automation coupled with digitization of all data and records. Application of ICT in office processes such as computerized billing system, inventory management, computerized data entry etc. will help establish more efficient service delivery regime at local levels.

It is recommended that the Governance Innovation Unit (GIU) under PMO, along with the Cabinet Division and the Ministry of Public Administration, should institutionalize the TCV led SPS reform approach (discussed earlier as in Box 12.4). This approach has not only been a tool for mobilization of popular support for service delivery reforms but it has also been recognized as an effective reform approach at the global level.

Capacity development: The LGRD will undertake programmes for comprehensive skills development of the government officials in using ICTs for their day-to-day activities. Government officials and elected representatives of local government bodies in both urban and rural sectors will be given training to develop ICT skills and adaptability to the change in old system.

One-stop centres: The Government will create scope for service providers both within the government and private sector to deliver services and disseminate information using multi/alternative channels like Digital Centres, SMS, community radio and television as per their convenience. The information and service delivery system will focus on education (e.g. formal,

non-formal and technical/ distance learning), health-care (e.g. healthcare management, telemedicine), agriculture (e.g. pesticide, high-yielding cropping), disaster (e.g. preparedness), self-employment creation, government services, human rights protection and so on. Digital Centres are envisaged as information dissemination and service delivery outlets for rural and peri-urban citizens. Such centres are to be run with participation of private sector and non-government organizations for efficient operation and socio-economic viability.

One-stop services/help desk in all unions, upazilas and districts will be created for enhancing citizens' access to services. Digital Centres in district, upazila offices, city corporations, municipalities and union parishads present significant opportunities for the government to reduce red tape, streamline work procedures, and co-locate services from multiple agencies into one Centre. To speed up and improve the reliability of the internet connectivity at the Union level, the government has undertaken a new project InfoSarker III to connect at least 1000 unions by optical fibre network within 2 years.

m-Governance: Mobile phones can be a supplement to the physical location based information and service delivery points. The Government would design an m-governance or m-service strategy to explicitly set the scope for deploying such tools for improving governance in public service delivery and moving towards a pro-citizen civil service.

National portal: During the Sixth Plan, the Government succeeded in bringing together all 25,000 government websites under a common e-architecture. Nevertheless, the National Portal needs to be made more interactive so that it can add value to the Digital Bangladesh vision. In this Bangladesh can learn from good practice international experience

c) *Promoting agriculture through ICT*

Despite major economic transformation in rural Bangladesh, the bulk of the rural poor continue to depend on agriculture for their livelihood. The underlying vision here is to ensure that all citizens of Bangladesh, including disadvantaged groups like women, children, etc. have sustainable access to adequate food and nutrition and farmers derive equitable financial benefit from connected market access. Research and extension linkages need to be established to reach farmers (crop, fisheries and livestock) and ensure that production is adequate for meeting demand in basic foods from domestic sources. It will be imperative to ensure here that farmers are able to access market for receiving a better price which reflects the market realities.

Research and development (R&D): The Ministry of Agriculture and relevant research and extension institutions in association with institutions abroad would take an initiative to create a 'research to use network.' Here, researchers and extension workers will supply tailor made technology information to farmers and other players in the agri-value chain in a seamless fashion using different media (CD-DVD, internet, mobile phone, radio and television) for application on the ground.

Knowledge management: An ICT based surveillance system will be developed to assist farmers with timely and accurate detection, diagnosis, prevention, and control of diseases; and, to manage data of input and subsidy distribution. This system will provide accurate information for evaluating impact of policies and programmes for growth and sustainable development of the sector.

Extension system: The Ministry of Agriculture will equip extension workers with ICTs and/or ICT based extension system so that they can take services to farmers' doorsteps. Mobile phone based applications would be developed and applied for livestock and forestry. The Ministry of Agriculture and relevant research agencies would work together with private sector to develop effective multimedia content for facilitating agricultural extension workers and tele-centres. They can help farmers and women with the simplified delivery of complex messages.

Access to information, services and market: The Ministry of Agriculture would work with the Ministry of Commerce, Ministry of Industry and other relevant ministries, alongside the private sector, for developing alternative supply chain information and promoting fair price for farmers and consumers. UISCs could be integrated as new intermediaries in the supply chain. e-Commerce for farmers can be promoted for direct trading within country and abroad. At present, a joint rural e-commerce initiative of Department of Women Affairs of the Ministry of Women and Children Affairs and BRAC called "Projukti haate Joyeeta" is being implemented to enable local female artisans to sell their products online for a fairer price. Additional initiatives can be designed from good practice international experiences.

Rural finance: Bangladesh Bank in association with commercial banks and financial institutions would explore potential for introduction of automated teller machine (ATM), a point-of-sale (POS) device located at a local retail or postal outlets, to understand whether it can be a sustainable and affordable alternative to connect rural farmers to formal banking system. Remote mobile loan payments will also be initiated using SMS and wireless application protocol (WAP) technologies.

GPS and radio-based system: The Ministry of Food and Disaster Management would consider launching an initiative to equip sea fishermen with Global Position System (GPS) to find their way when lost due to protect livelihoods of local small-scale fishermen.

d) *Strengthening healthcare for the poor through ICT*

Inadequate healthcare services to the marginalized citizens, due to lack of availability of doctors in rural areas and high cost of accessing services in health facilities, is a key problem. Challenges exist with respect to accountability, promptness of service and timely decisions regarding strategic interventions from a healthcare administration perspective. The underlying vision is to accelerate quality healthcare services to doorsteps of all citizens.

Healthcare management: The Ministry of Health will play a stewardship role in guiding and coordinating efforts. A proper e-monitoring system will be established to monitor attendance,

absenteeism and quality of service delivery. Health education will be arranged to service providers using ICT. Medical faculties will be connected to address remote medical needs.

Healthcare services: Telemedicine, particularly mobile phone based solutions, could be launched at a national scale to provide medical information, consultation and services. Standard operating procedures will be developed for clinics and hospitals. Patients' information and queue management protocol will be automated using the CCDS. On the other hand, similar to online and mobile payments facility for utility services, measures would be explored so that patients do not spend a significant amount of time in paying bills or in arranging accommodation. Availability of essential drugs would be monitored. It is also imperative to design systems by considering persons with disabilities.

Health and demographic information: National data on health indicators will be consolidated and updated. The electronic health record (EHR) being prepared by the DGHS will be developed to maintain an integrated system. The geographical database will be completed. Health data would be standardized using the CCDS and cooperation among large health facilities in disease surveillance ought to be strengthened.

e) Effective and efficient social security administration through ICT

There is a serious problem in identification, allocation and distribution of benefits for specific disadvantaged and vulnerable groups. It is difficult to monitor quality and quantity of distribution as transparency is not ensured properly. ICT skills are not adequate among the personnel at the grassroots level which inhibits introduction of ICT-based social security Programme (SSP) management system. It is also difficult to monitor progress and status of graduation of beneficiaries as data are not available in digital form and when available, they are not interoperable. In recognition of various concerns, the Government has adopted a National Social Security Strategy (NSSS) that is discussed extensively in Part 2, Chapter 14. The NSSS will build an extensive network of management information system (MIS) based on ICT that will revolutionize the implementation of the social security system by delivering timely support to the marginalized population of the country.

Building on CCDS: The Government has developed a uniform system of identification of citizens which is being used in the preparation of the hard-core poor database. Ministries need to coordinate among themselves under the guidance of the Cabinet Division to enhance use of CCDS for targeting beneficiaries and capturing their information in the database.

One entity for one national ID: An entity, comprising of relevant officials, needs to be made responsible for identification of beneficiaries of all SSPs using an ICT-based SSP management system, where all nodes of SSP distribution will be linked gradually. The SSP management system will have interface for each ministry and government agencies for update of information and processing of SS benefit distribution. This system will be able to avoid multiple-targeting and reduce the time for subsequent beneficiary identification. The central database will be made

available readily accessible at the local upazila level for entering information about new beneficiaries, and also for verifying identify of beneficiaries.

Portals: For ensuring citizens' right to information and proper distribution of SS benefits, each district portal and subsequently upazila and union parishad portals should publish list of all eligible candidates for each type of SSP. All the lists should be prepared using the CCDS to bear names of beneficiaries with photograph and other relevant information. Such disclosure of information will facilitate reduction in mis-targeting and involvement of citizens' groups for transparency and accountability. The web-portals will have a system to redress grievances if and when any irregularities take place.

SS payments: A system of mobile-phone based payment of benefits will be developed so that target beneficiaries are able to receive payment directly without any other interfaces. One of the most commonly cited examples in the area of m-payments is the m-Pesa, first introduced in Kenya in 2011. m-PESA is the first service where mobile money was used for social transfers. In view of the widespread use of mobile phones, the government could consider drawing lessons from the m-Pesa model to capitalize on the growing number of m-citizens. In particular, such a mechanism can be of acute use in times of natural disasters when infrastructure becomes a key deterrent to disbursing money to those in need.

For those who do not have reliable and private access to mobile phone, they may receive benefit at their doorstep through postal service system or the Union Digital Centres (previously UISCs). As the ICT usage matures and gains maximum coverage throughout the country, plans for automated delivery of cash grants will be considered, as solar-power ATMs can be introduced for expediency in local town centres where the literacy rates make such a Programme conceivable.

12.3.5 ICT for Greater Transparency, Good Governance and Service Delivery

The increasing role of ICTs in accelerating delivery of public service is running parallel to the growing demands for transparency and accountability in all regions of the world. E-Governance attempts to deal with two interrelated and mutually exclusive objectives – (a) internal, focusing on processes (operations); and, (b) external, fulfilling people's needs and expectations by simplifying processes. The concept of e-governance epitomizes horizontal and vertical connectivity by providing a virtual, yet, de jure platform for streamlining government-to-government (G2G), and Government to Citizen and vice versa (G2C/C2G) interactions and business-to-government (B2G) and vice versa, i.e., (G2B) interactions.

SPS, e-Services and RTI: The RTI-based portals set up in all 25,000 offices of the government offices will be maintained with up-to-date information and made accessible through mobile phones and service access points. With the introduction of ShebaKunja in 2014, service maps of about 400 services from 36 major service delivery ministries and directorates have been amassed in one location. These maps show the exact steps to get a service. The next logical step for the concerned government agencies is to simplify service delivery using the methodology called Service Process

Simplification (SPS), devised by the a2i Programme to reduce transaction costs for citizens. This is a mammoth undertaking that will require significant coordination from the PMO and Cabinet Division. A whole-of-government approach will be adopted to set up electronic dashboards with administrative alerts across all ministries, directorates, districts, upazilas and union parishads, in order to monitor the speed and quality of service delivery.

Service access points: The Union Digital Centres (UDC) have proved that it is possible to take centralized services to the local level and reduce citizens cost of access services. These service access points must be nurtured and made financially sustainable by strengthening the entrepreneurship-based model. The number of service access points may also be increased by incorporating other government agencies such as the post offices and community clinics, and non-government agency offices. In addition, with technical capacity and advancements of mobile phones rapidly rising and costs falling, they are becoming viable access points for services. Within the duration of the Seventh Plan, it is projected that over half of critical government services may be made available over mobile phones.

Incentives for innovation within civil service: Lessons from a2i show that the latitude for experimentation offered to civil servants, especially the ones that are close to service delivery, have significant impact on generating new ideas for improving service delivery. Policy support, small funds to prototype new service delivery mechanisms and capacity building on innovation have proven to be effective incentives for kicking-off, prototyping and scaling up of innovations. In addition, public competition for service delivery excellence has proven to be, and will continue to be, another effective incentive for innovation. These efforts will continue and will be further strengthened during the Seventh Plan.

E-Administration and flattening of hierarchy: The e-Filing system in operation in the DC offices since 2012 has proven that unprecedented administrative efficiency gain is possible by leveraging ICTs. This system needs to be expanded to all offices of the government within the Seventh Plan's ambit. Additional systems such as human resources, payroll, leave, study tour, and training management, budgeting and expense management, inventory management and other ERP and decision support modules should be integrated with e-Filing to broaden and deepen administrative efficiency in government organizations.

E-Participation and social media: The rapid rise of social media in Bangladesh has created unprecedented opportunity to engage the citizens in decision making and policy formulation. There is now viable platform for the citizens' voices to be heard. With each DC hosting public Facebook page taking in citizens' grievances, there is a goldmine potential for increasing G2C and C2G interactions, and bringing the government closer to its citizens. The UDC Blog has showcased the potential of redressing grievances at the grassroots level and lessons from such a virtual platform needs to be further formalized within the government structure to make it more responsive to social injustices.

12.3.6 Pro-citizen Civil Service

Change management: The introduction and beneficial use of ICT in reforming civil service and creating better service delivery is essentially a change management process. The needs, benefits, vested interests of all those concerned (whether senior or junior) should be given equal heed, in combination with continuous support to experimentation, risk-taking (within acceptable parameters) and learning.

Innovation fund: The fund is in operation for the civil service and this may be perceived as an encouragement towards easy fund mobilization for experimentation of innovation in service delivery.

Paperless or 'less paper' office: It is important to develop a strategy towards a 'less paper' environment for the civil service. Notable among various priorities are electronic tracking movement of files, automating the pension processing and payments, electronic submission of project proposal (DPP) documents from line ministries to the Planning Commission and electronic review of these during ECNEC meetings along with electronic access to all supporting documents. The *Secretariat Instructions 2008* has been amended to allow for making the use of ICTs in file and record management. Cabinet Division needs to set a timeline for its revision within the Seventh Plan's tenure so as to measure the progress of e-readiness of the government's back-end operations.

Flow of digital information: National enterprise architecture and interoperability framework is being formulated by ICT Division with a view to provide a blue print for automation of government offices and easy and real time information exchange among the government agencies. This national enterprise architecture will form the basis for automation of all the government offices through business process re-engineering and service process simplification. Besides, ICT Division is implementing a tier IV certified Data Centre. From this Data Centre, a number of cloud based services will be developed and offered to the citizens. Through the greater interaction among the government, businesses and citizens, huge volume of data will be generated that will pave the way for big data analytics. Hence, initiatives will be undertaken to facilitate big data/ open data analytics for informed and effective decision making and formulation of time-befitting policies and planning.

Connecting civil service: Providing reliable and high-speed connectivity across all tiers within the central and field administration, and within a defined timeframe, is a high priority. Much of the two-way information sharing, knowledge management, collaborative learning depends on connectivity. The necessary hardware and connectivity will be included in the Table of Organogram and Equipment (TO&E).

Capacity and leadership development: Mandatory ICT proficiency for all government officers will be ensured according to ICT Policy 2009. However, the skills will be focused on day-to-day functions and not on generic ICT literacy.

12.3.7 Strengthening Judiciary

In the civil and criminal justice system, the case management process is slow, costly and time consuming, which restricts access to justice for the poor and the marginalized groups of the society. This results in high transaction costs for the citizens seeking justice. The vision of a just judiciary system consists of three major components: (a) ensuring citizens' easy and affordable access to judicial services; (b) eliminating pending cases through digitization of case and court management process; and, (c) improving legal enforcement system through integration of ICTs in all stages of legal process, e.g., digitization of case record management. As a result of responsive judicial process, it is hoped that there will be no more pending cases and justice will no longer be delayed for citizens, particularly for the disadvantaged.

Case process management: To expedite case management process, the present system would be transformed into a digital system, starting from filing, recording of presence to witness and evidence production. This will automatically generate cause list of the day in the respective court with specified time. Court and other process fees should be paid online or through mobile phones.

Record keeping and proceeding: A modern record keeping, filing and maintaining case proceedings using ICT based management system will be introduced to strengthen the judiciary governance mechanism. Digitization of current files and introduction of e-filing will be introduced at the same time. Indexation of digitized record will be completed for easy retrieval. Orders and judgments dictated in the courts/ chambers will be signed using digital signature and will be automatically added to the respective e-Case file.

Documentation and referencing: The websites of courts at all levels would be developed which will ideally provide information on: general court information, cause lists, roster, court fees, case status, orders etc. Online forms for application for urgent listing, inspection, process fee, information about certified copies, online filing, web casts and live streaming of certain cases, archived court cases, court functions, swearing in of judges and full court references. All digital data will be archived and will be backed up each day to two different locations in the same jurisdiction and to a third in a relatively disaster-free area, saving them from destruction by unforeseen calamities.

Legal services: Case and court procedure related information will be made available online or sent using SMS. Citizens will be able to monitor progress without travelling to the court premise. This will also reduce transaction costs for citizens. Agencies will maintain liaison with the local government institutions to use their information access points as their first face for filing any plea. The Information Commission has put in place a *Proactive Information Disclosure Policy* to specify the requirement for government institutions in complying with the RTI Act, 2009. It is important that the Commission, in collaboration with the Cabinet Division, monitors compliance of all government institutions.

12.3.8 Responsive Law Enforcement

Reliable and 100 per cent high-speed and high quality connectivity for the network of law enforcing agencies is still not available for prompt response at any place, any time. Skills of the members of law enforcing agencies are improving but it is not adequate. Cybercrimes have been added to list of crimes. The vision is to implant and infuse a high sense of security and rule of law among citizens' through friendly and digital services. It is hoped that rule of law and secured environment will be created, where digitized crime data management covering information on crime patterns and criminal records also play an important role in serving citizens to make their life safer and more secured.

Connectivity: Police is in strong need of secured and dependable connectivity to share/exchange data vertically and horizontally. All district, metropolitan, range and training institutes would be under WAN. In metropolitan areas, WIMAX based WAN would be established. At the initial stage, all highway/range stations and posts can be connected through VPN. The connectivity that links all DCs and UNOs may be extended for police usage joining all 64 superintendents of police (SP) offices and 600 police stations.

ICT skill building: All members of law enforcing agencies will be gradually provided basic IT literacy. Special emphasis will be given on ICT literacy of officers who have direct interface with citizens for various services such as GD preparation that can be automated through ICTs.

Information management: A uniform system would be developed where all details of the complaint will be recorded. Custody records for prisoners held in police stations can be used in preparation of cases for court. Passport verification report can easily be generated using SMS.

Crime fighting: In house management mechanism with efficient management information system (MIS), data analyses tools and other related mechanism with human resource can ensure quality service to citizens. Crime data management system (CDMS) would be installed across all district and divisional headquarters.

Citizens' services: Citizens' access to police services starting with access to police stations to lodge complaints regarding violation of rights will be strengthened keeping in mind the present need. ICTs will play a significant role to meet these challenges by making effective use of mobile phones especially in times of emergency.

Cybercrime prevention and prosecution: The law enforcing agencies would adopt programmes to enhance their capacity in preventing and prosecuting cybercrimes and protecting citizens from breach of privacy, security and fraudulent activities. The Government will undertake a comprehensive Programme to protect children from child pornography, women from cyber stalking and citizens in general from various financial and privacy related crimes.

12.3.9 Strengthening Responsiveness of Parliament

The vision is to make the Bangladesh Parliament responsive to the needs and well-being of the citizens. It needs to be equipped with the tools of interactive democracy and its stakeholders, both elected representatives and government officials, need to be made comfortable and confident in the use of such methods which could strengthen democratic foundations. In so doing, the Parliament of Bangladesh will effectively fulfil its role as a legislative, representative, and oversight body according to the Constitution of the People's Republic of Bangladesh and the citizens of Bangladesh will have access to more participatory democracy.

Enlighten: Competent, knowledgeable, impartial, professional and proactive services provided to the members are a key factor that can contribute to a parliament's effectiveness in accomplishing its major functions. Initiatives based on technology can deliver reforms in parliament which will eventually impact the entire populace of Bangladesh through better laws, better governance and better representation.

Ensure: The oversight functions of the legislative is a key activity which can benefit from the use of ICT. Parliamentary committees are a key nexus upon which much of the potential of a parliament can be built. Strengthening of members' knowledge of procedural issues can inform more meaningful debate in the House.

Engage: The number of constituent voters a Parliament Member has to keep in touch with has been increasing over the years. Using various means of e-Dialogue, e-Participation, e-Deliberation and e-Consultation can strengthen democracy and reinforce trust of the people in democratic processes. For instance, e-Petitions can introduced to allow for digital C2G and G2C interactions.

12.3.10 Reduced Environmental Vulnerability

Notwithstanding the substantial progress with improving disaster management, there is still a lot of scope for lowering vulnerability by using ICT. For example, there is still a serious problem of identification of victims and proper distribution of relief and post-disaster rehabilitation support. The underlying vision is to ensure that all citizens, irrespective of their residence, whether plain or high land, coastal or inland, can survive without fear of being affected by natural calamity and subsequent misery. Ultimately, the human and natural resources will be protected from natural disasters and climatic changes through a comprehensive and pro-active effort of national and international stakeholders.

Remote sensing and forecasting: Given the increasing frequency of climatic events, initiative to install geostationary satellite would be undertaken to ensure close and constant monitoring of weather patterns to forecast climatic events. A related priority is to improve internal capacity to analyse satellite data. The Government will invest in 'automated weather station', now available at much lower cost than in the past, that measures various weather parameters like river water level, rainfall, precipitation, temperature, humidity, wind speed and direction etc.

Early warning and disaster recovery: ICT tools like mobile phone, VHF/UHF radio, broadcast radio, are common in Bangladesh. Given its nature, the Government will amend related rules so that all cell phone carriers make it a free service for their customers. The mobile communication network will be upgraded to leverage ‘location based service’, which will allow a message to reach to all phones of a particular geographic location.

Satellite-based network: GPS technology can be incorporated into the radio receiver set, along with the unique code assigned to every receiver, which will allow hazard warnings to be issued in text and audio formats to sets that are within a vulnerable area, and also to radio sets with specific assigned codes. Internet and email, particularly using handheld devices, will be promoted for the first responders, coordinating bodies or disaster managers.

GIS-based modelling: Bangladesh is already leveraging GIS based models to predict medium term river erosion months before such erosion actually take place. The immediate priority now is to mainstream the model into development planning so that aversive action can be taken by moving out communities from the probably areas of impact to reduce the probability of loss of life and assets.

Green ICT: The Government will promote green ICT related education, training and skill development to meet demand for environmental skills and expertise at all levels and in all industries. Initiatives will be taken to minimize the environmental impact of ICTs in public administration through green ICT approaches, applications and services. Tele-working and videoconferencing are reducing externalities associated with commuting and travelling. The government will undertake initiative to minimize ICT-related disposal through reduce, reuse and recycle policies.

Leverage community radio: The established community radios can play a critical role in broadcasting disaster warning to not only among the community, but their signal can also reach out to the fishermen operating in the open water so that they can get back to safety in time. These radios should also play a critical role in post-disaster recovery stage and also during the preparedness and awareness stages.

12.4 DEVELOPMENT OF ICT INFRASTRUCTURE AND SERVICE CAPACITIES

In order to implement the above strategy and especially to achieve the ICT export target, a number of policies and institutional reforms will be needed to ensure that the ICT is a resilient institution that is built on strong policy and technical foundations with reliable and open access to all citizens, consistent with national security considerations. These foundations will be strengthened during the Seventh Plan.

12.4.1 Strengthening the Enabling Environment

Reliable and secure infrastructure: ICTs require reliable infrastructure – consisting of power, high-speed internet connection and appropriate equipment - at a minimum to be functional. When service delivery and businesses become dependent on ICTs, this reliance is paramount and unavoidable leading to the requirement that the infrastructure needs to be ubiquitous. This means that adequate infrastructure must be ensured in all service delivery and business organizations that have adopted ICT-based service delivery. Information security becomes a critical priority of the Government with appropriate measures in place to prevent against cyber-attacks which will be increasingly common with citizens' identity and financial information becoming increasingly online. Bangladesh will build international alliance for software infrastructure from open source and proprietary technologies.

Policy and legal framework and whole-of-government approach: An innovation may start with experimentation but there is no getting around to the fact that policy framework, and often legislation, is necessary to scale up innovation. Institutionalization of an innovation almost always requires policy and/or legal reform. Years of e-Governance investment has been known to fail globally because required policy and legal safeguards were not developed to institutionalize the new ways of doing old things. The country's ICT Policy and ICT Act have already laid a strong foundation. Building on that, the Seventh Plan will review and institute additional policies and regulations in order to scale up and institutionalize ICT-based service delivery, administration and business productivity.

Incentives for private investments: Without adequate private investment, the ICT initiative will falter and not deliver the required results. The experience so far is positive and encouraging. Yet significant challenges have emerged on the incentive side. To incentivize private sector investment into ICT infrastructure and e-Services, reforms are necessary in taxation. The present level of high taxes on ICT is a serious constraint on private investment in ICT infrastructure and use of ICT services. Accordingly, the taxes will be reduced to make Bangladesh a competitive place for additional FDI inflows into the ICT sector. Similarly, mechanisms for valuation of intellectual property are a high priority for the industry. Also, the experience from within the country and from other countries indicates that a whole-of-government approach, although difficult to orchestrate, is most effective for policy and legal reform. Recently, efforts have been identified to formulate policies and develop platforms to open up data so that other organizations – both government and non-government – can make use of the data to add value to products and services. Also, a number of platforms – software systems, social media, mobile platforms, among others – are generating so much data that it is opportune to launch big data initiatives which will lead to value added products and services. For both open data and big data initiatives, a whole-of-government approach is highly recommended.

Public financing: Making Digital Bangladesh a reality and expanding ICT exports will ultimately require large public investments in ICT fixed infrastructure, ICT-related R&D and skills development. However, it is possible to mobilize finances in a flexible way. The ICT Policy allows

the provision for a percentage of the revenue budget and development budget to be used for ICT-based expenditures. Many large projects have ICT components which can be more effectively designed and sourced often by pooling funds or sharing plans and activities. Mechanisms may be devised for a whole-of-government approach in ICT implementation especially when connectivity, hardware and software infrastructure components are concerned. Since a large portion of ICT activities are funded by development partners, more aid effectiveness can be obtained by coordinating across development partners as well.

Partnerships: For both service delivery and industry development, partnerships within the government, with non-state and global actors, can be helpful at least in terms of resource mobilization. There is a great value to be gained by striking partnerships across government organizations: infrastructure sharing, expertise sharing, complementary implementation, etc. Partnership with private sector may bring in private investment through PPP arrangement where the risk is shared across the partners. Partnership with reputable international companies has the additional benefit of developing the brand image of Bangladesh.

12.4.2 Investing in R&D

The government will continue its efforts to develop the software capabilities through ICT Technology Parks. Private investment in software development will be promoted through public research grants and tax incentives. Provision for necessary public funding will be made to commercialize and scale up of the new and innovative products and services developed through R&D initiatives in both public and private sectors.

12.4.3 Branding Bangladesh ICT Services

In addition to a strong R&D for developing new software for exports, a key policy effort to support the expansion of ICT exports is to market and brand Bangladesh ICT products for the international markets. The government has appointed Tholons and e-Gen to support this task. The progress on this will be monitored regularly and additional measures will be taken as necessary to promote Bangladeshi ICT products.

12.4.4 Develop and Strengthen ICT Skills Base

Regarding the ICT skills availability, some progress has been made but there is a long way to go. Special efforts are needed on a number of fronts.

- *Expanding supply of scientific and technical education:* First is the need for expanding the breadth and depth of science and technology education in Bangladesh. The tertiary education system is still unduly biased towards general education. The Government will support the growth of centres of excellence in science and technology through grants.
- *Increase R&D spending:* The Government will also expand the spending on R&D for the economy that will support the growth of scientific education and research. Public spending on R&D is the most important driver of the growth of science and technology education and research in advanced economies.

- *Encourage IT student enrolment:* a long term plan will be undertaken so that current supply of 5,000 yearly IT graduates can be doubled in next 2-3 years. Students from non-metropolitan cities with relatively low overseas migration trends will be encouraged to enrol. To facilitate this, colleges under the National University will be required to start IT education.
- *Student loans and scholarships:* Also, special education loan policy and scholarship programmes will be designed to encourage students for IT education enrolment. More industry involvement will be ensured during academic programmes.
- *Strengthening vocational stream:* Vocational stream is not attractive for the youth, as was explained earlier in the document. However, there is a national target to increase enrolment in the vocational stream to 20 per cent of the entire student cohort. This will require re-branding of the vocational stream in order to ensure that the curriculum is market-ready, linking graduates to the job market more effectively and making appropriate use of ICTs for training purposes. Several number of ICT vocational institutions will be established that will offer ICT based diploma/certificate courses on the basis of industry requirements subject to periodic review.
- *Expanding IT employable pool:* If Bangladesh has to meet the increasing demand of local and outsourced IT jobs in the world, tertiary educational institutions, industry and the government must work together to rapidly increase the number of qualified IT graduates who are industry-ready every year. In-house training may need to be established in companies (perhaps funded by the government) and accreditation mechanisms must be in place to ensure high quality, as noted earlier with regard to the establishment of a National Certifying Authority.

12.4.5 Strengthening Access to ICTs

The vision here is to build a connected nation with high speed broadband internet connection with last mile access which enables connected citizenship. In spite of high mobile penetration, one of the major problems pertains to creating opportunities for common citizens to access high-speed internet connectivity due to infrastructure constraints. Besides, there is inadequacy of useful local language content and useful services. Mobile phone based value added services benefiting citizens' income and empowerment are limited for a number of reasons, particularly as a result of unattractive revenue sharing policy. There is a lack of synergy between private and not-for-profit sector and the government – starting with the internet to mobile phones.

IT infrastructure development: The unlimited potential of IT sector may be diminished if steps are not taken to cope with the challenges of infrastructure development. Accordingly, the Government will expedite the installation of second submarine cable connection for expanding high speed internet facilities. The Government has already subscribed membership of SMW-5 submarine cable consortium and signed an MOU in this respect. This will help Bangladesh to get connected with second submarine cable link by 2014.

The Government will invite the private sector and not-for-profit sector for rolling out broadband connectivity in rural area. Basically it will be government-private-NGO partnership for reaching

the very last mile, where there is already vibrant NGO presence. Here, local entrepreneurs will be encouraged to launch last mile internet service to local community.

The Government will seek to reduce the price of bandwidth to facilitate increasing number of net users, enhancing demand for local content and applications and developing a connected Bangladesh. Whilst the lowest recorded price of fixed-broadband (as a percent of GNI per capita) is 0.7 per cent in case of China, it records a high of 7.3 per cent in Bangladesh. The Rural Telecommunications Network Development and Utilization Guideline 2010 would be implemented to make sure that the existing network infrastructures have been optimally utilized for commercial communication and key social services (e.g. education, health care, e-governance, etc.).

Telecommunication services: The Government will revisit the taxation policy for mobile telecommunications industry for creating opportunity for reaching out to the poor in rural Bangladesh. The Information Technology & Technology Foundation (ITIF) reported that Bangladesh is a significant outlier for tax rates. Alongside the Government will also explore policy and regulatory options for further decreasing the cost and increasing the delivery quality of ICT services. Particularly, there appears to be significant scope for cost reduction in the mobile sector through pursuing appropriate policy of increasing resource utilization, such as transmissions and towers. Moreover, incentive for higher value added services would be given due priority, before recommending tax reduction. The Government would accelerate the process of introduction of new technology (e.g., 3G, 4G, and LTE) in the mobile telecom segment through transparent licensing system.

Access to broadband: A nationwide national IT infrastructure plan would be developed considering potential resource mobilization Programme so that every citizen will have effective access to information and service through various channels. The Government would design appropriate incentives for value added service providers through mobile telecommunications and internet through regulatory arrangement so that providers can protect their investment. It would proactively promote PPP for launching various “e” and “m” based services, particularly those targeting rural and marginalized population in the areas of health, education, employment creation and human rights.

Content development and services: Synergistic opportunities would be explored between diverse communication media (e.g. FM Radio, Satellite TV, Cellular Phone services, etc.) to reach out to maximum number of people at the shortest possible time with valuable information. Community radio stations can emerge as another channel of last mile connectivity for the bottom-of-the-pyramid population.

Inclusive partnerships: Institutional partnerships with software proprietaries or outsourcing companies can be an important enabler of building resilient ICT system. This issue will be explored further during the Seventh Plan based on relevant international experience.

12.4.6 Building a Resilient Digital Bangladesh

At the conceptual level, resilience based development interventions promote inclusiveness that reduces relative vulnerability of less fortunate communities. To attain that, resilient transformation demands respect for context-specificity such that ICT development is based on deep and genuine analyses of local context and ownership from the population. At the same time, for a resilient transformation, people need to be empowered with knowledge and the capacity to mobilize to overcome or significantly mitigate adversity and hence, a culture of learning and innovation must be embraced.

As such, the ‘Digital Bangladesh’ is an inclusive vision—a vision that encompasses all citizen of Bangladesh including the disadvantaged groups. One of the important resilience aspects of Digital Bangladesh is that the vision is organic in nature, and it is driven from within. In addition, learning and innovation have been the hallmark of efforts undertaken to attain the vision. Effective tools such as the SIF, targeting citizen services and citizen-centric mobile applications are noteworthy. While so far most Digital Bangladesh initiatives were bottom-up in nature, more can be done to involve grassroots not just in the implementation but also in planning and prioritization.

From the resilience promoting perspective, one of the first issues to be highlighted is the fact that there is a risk that technology can make the strong even stronger and disempower the already weak. This phenomenon is also known as “digital divide”—which is actually several gaps in one. There is a technological divide—great gaps in infrastructure permeated by restriction of access both financial and physical. There is a content divide. A lot of web-based information is simply not relevant to the real needs of people. And nearly 70 per cent of the world’s websites are in English, at times crowding out local voices and views. There is a gender divide, with women and girls enjoying less access to information technology than men and boys.

To avoid this pitfall, several steps will be taken. First, massive scaling-up on multiple fronts of field-level service delivery through local government institutes will be done. Secondly, the Government will review the legal and policy framework guiding those institutions as well as assessment of their capacity to ensure that these services are accessible to the disadvantaged groups. Third, capacity of the beneficiary groups will be assessed and built if required. Fourth, disaggregated data indicating specific usage by disadvantaged groups and other priority groups like women will be mobilized to monitor participation.

Transformation envisioned by the Digital Bangladesh vision aims at sustainably raising the quality of institutional efficacy, greater mobilization and better utilization of resources. In addition, the modern society that the Digital Bangladesh vision aspires also requires fundamental reforms in governance structure which would significantly upgrade public service delivery systems and make it responsive to citizens’ needs for information and services. Hence, it is needed to review the incentive systems and regulatory frameworks such as ‘Government Servants Act’ and promulgate/update related laws etc. to remove risks and uncertainties.

The other aspect of resilience is about privacy and citizen space. Technology has long been viewed as the source of many privacy concerns through amplification, routinization, and sublimation. Arguably, however, right use of technology can protect individual's privacy as well. Hence, countries that are rapidly adopting technology like Bangladesh, need to consider specific steps and measures to ensure that Digital Bangladesh do not create scope for violation of fundamental human rights. Such steps would include regular review of privacy related laws and guidelines in light of Article 12 of the Universal Declaration of Human Rights and other UN Conventions to preserve privacy in the information society. Internationally accepted principles of freedom of expression, association and similar rights will be protected in the context of cyber space too.

National capacity to defend data, infrastructure and citizen from cybercrime is yet another frontier of building resilience. Bangladesh is going through an e-transformation; processing of public services, data belonging to private individuals, and data/information related to public safety and security are all being transferred to digital forms. The nation is also investing heavily in building digital infrastructure and new technology such as 'public cloud'. This could make Bangladesh a target of organized cybercrime often by international criminal groups. Recent cyber-attacks on government websites are one indication of this risk. In this context, specific steps will be taken to build national capacity and institutions to ensure protection from such criminal activities. In addition, investment would be made to establish Centre of excellences to develop nationally owned/developed software systems to ensure adequate level of security. Leveraging Free and Open-Source software technologies, Bangladesh will develop her own backbones in partnership with local universities.

A final issue is building resilience against physical calamities caused by nature (earthquake, flood, etc.) and human activities (cyber-attacks, human errors, etc.). While Bangladesh is building Tier-2 datacentres in 7 divisional headquarters, and already subscribed to an alternate international internet backbone, efforts would be made to complete the on-going projects in due time. An overall national readiness and capacity assessment of safeguarding digital assets in the face of disasters, natural or otherwise, would be carried out immediately and repeated in regular interval. Moreover, a project has been taken to establish Tier IV Data Centre.

12.4.7 Digital Bangladesh and Gender Policy

While there is recognition of the potential of ICT as a tool for the promotion of gender equality and the empowerment of women, a "gender divide" has also been identified, reflected in the lower numbers of women accessing and using ICT compared with men. Unless this gender divide is specifically addressed, there is a risk that ICT may exacerbate existing inequalities between women and men and create new forms of inequality.

The *Global Information Society (GIS) Watch* reported that there are about 3.8 million Facebook users from Bangladesh, out of which close to one million can be estimated to be female users. The private Dutch Bangla Bank limited reported that only 15 per cent of their mobile banking users are female, while according to data from e-Desk on freelance IT professionals, as of the fourth quarter

of 2012, only 1,200 of 30,000 registered users were female. GIS Watch also observes that in spite of an overwhelming share of population having access to internet in Bangladesh, these data do not classify usage information, for instance, according to nature of usage or gender-based participation in online activities.

The 2009 ICT Policy focuses on gender as a cross-cutting theme for a number of areas. In particular, it refers to promoting women-led micro-enterprises. Action items 174 and 175 suggest that the Government should work to increase enrolment of female students in ICT courses and foster a gradual increase of the female workforce in the ICT industry. Women are prioritized in Vision 2021 and also in the Digital Bangladesh component. However, not much official information is available to comprehend gender impacts. There needs to be a set of non-mutually exclusive and diverse indicators so as to enable comprehensive monitoring of the progress being made by Bangladesh. This will be an important priority for the ICT strategy under the Seventh Plan.

12.4.8 Indicators for Measuring Progress with Digital Bangladesh

Regular monitoring of progress is important to both measure ICT progress at the national level and also to make sure that the progress achieved in Bangladesh is comparable to others in the world so that the country can further build its ITES image and also emerge as a role model for implementing e-governance reforms in revamping traditional public service delivery processes.

The ITU publishes global data on a number of indicators to provide a broad assessment of a country's progress with ICT. This data is very useful for aggregative and broad picture cross-country comparison of progress. The ITU indicators largely focus on the infrastructure, connectivity and skills status across a society. The United Nations Department of Economic and Social Affairs (UNDESA) suggest online service index indicators to measure e-government from the online service delivery perspective. Together they constitute a total of 104 indicators under seven broad categories. It is to be highlighted here that some 41 indicators incorporate the gender perspective of ICT.

The Ministry of Finance 2014 progress report on the implementation of Digital Bangladesh is a most welcome initiative. This initiative will continue with annual updates of the Digital Bangladesh progress. This exercise would be further enriched through tracking progress made with regard to the 104 indicators. To make this possible, timely and quality data is necessary. There is an online system for submission of industrial information/data although industries have yet to fully respond to this initiative. In strengthening the work of BBS, three key partners have been identified: Information and Communication Technology Division, the BCC, and the Ministry of Information (MoI). The objective will be to establish a mechanism aimed at regularly updating the method, collecting and processing relevant data, and subsequently, interpreting and disseminating the findings – through policy briefs - for the government to identify gaps in implementation. Such an exercise will draw upon both private and public sectors' stakeholders –two catalytic complements guiding successful implementation of Digital Bangladesh.

12.5 DEVELOPMENT OF SCIENCE AND TECHNOLOGY

Bangladesh has a National Science and Technology Policy of 2010 which is aimed to meet the basic needs of the citizens by harnessing the potential of science and technology. It has acted as a facilitator of development of our nation having self-sufficiency in food and clothing, increased life expectancy nearer to 70 years and remarkable achievement in the improvement of public health indicators. While a group of young Bangladeshi scientists deciphered the complete Genetic Code of Jute with a great success only within a very limited time and resources, importance given in the S&T Policy 2010 on harnessing Biotechnology has sufficiently proved that Bangladesh may take lead in global science, technology and innovation activities if necessary policy and infrastructural support is ensured from the appropriate level of the government. These success stories have been experienced in the back drop of a rapid changing global scenario even in the persisting global economic recession.

The renewed S&T Policy framed during the previous Sixth Five Year Plan, 2011-2015, focused on enhancing Research & Development for utilizing more and more indigenous resources as well as on introduction and/or adaption of appropriate technologies. It also focused on finding solutions to the emerging problems in agriculture, health, environment and climate change. The results of this policy support was commendable especially in agriculture and health. As per the international, regional, UN and other Development Partners' observations, Bangladesh has marked excellent success in preventing and fighting diseases like HIV AIDS, bird flu, malaria, diabetes mellitus etc., as well as in reducing the risk of child mortality. Nuclear Medicine Centre's (NMC) are still providing low cost medical services to the poor and vulnerable patients. Export basket are now containing more diversified products including agro-based products, pharmaceuticals, fertilizer, light engineering products, electrical cables, electrical goods, batteries, plastic and jute products, ships and marine vessels which are manufactured utilizing, in some cases, advanced scientific knowledge.

Whereas the previous Five Year Plans were mainly focused on creating R&D environment for harnessing appropriate technologies to ensure merely the basic human needs, the forth coming Seventh Five Year Plan is focused more on harnessing science and technology for *improved economic performance* in accelerating the growth so that the country may turn to be a middle income one by the year 2021 in line with the Vision 2021. In principle the Seventh Five Year Plan is specially focused on, not limited to,

- Establishing the role of science, technology and innovation as central to our national development.
- Reviewing the legal framework having direct impact on the national science, innovation and technology activities in order to provide effective backward linkage support to industry and economic activities is protecting the consumers and environment;

- Attracting more private sector in supporting, leading and performing research and development;
- Creating effective cooperation and synergy among industry, government, and academy;
- Allocating resources in establishing and supporting effective R&D cooperation with the global R&D actions supported by EU 8th and 9th Framework Programmes, OECD, ASEAN and similar international science, innovation and technology actions initiating “science diplomacy” to ensure partnership for sustainable economic development through knowledge generation and sharing.
- Establishing more world class infrastructure for R&D; for gaining global recognitions in the leading and emerging areas of science.
- Formulating effective state-of-the-art knowledge based “means and indicators” for evaluating, monitoring and ranking Research & Development investments and assessing their impacts on the society and as such improving communication about these evaluation results among the citizens including political leaders, industries and the general tax payers.

12.5.1. Objectives and Targets during 7th Plan

Ministry of Science and Technology is promoting Science and Technology as stewardship of positive change in society and for balanced socio-economic uplifting, national well-being and thus to make Science and Technology a part of national culture. The use of Science and Technology as a means of sustainable use of Environment, Ecosystem and Resources contribute to world pool of knowledge in Science and Technology. Ministry of Science and Technology has been working relentlessly to step up peace and prosperity of the country through proper utilization of science and appropriate technology. In the last few years Ministry of Science and Technology has achieved a rare feat with due policy level support and with proper planning. The ministry has seven agencies under its umbrella- Bangladesh Atomic Energy Commission (BAEC), Bangladesh Council of Scientific and Industrial Research (BCSIR), National Institute of Biotechnology (NIB), Bangladesh National Scientific and Technical Documentation Centre (BANSDOC), Bangabandhu Sheikh Mujibur Rahman Novo Theatre (BSMRNT), National Museum on Science and Technology (NMST), Bangladesh Atomic Energy Regulatory Authority (BAERA). These agencies major focus during 7th plan period will be as follows,

- Expand peaceful use of nuclear energy through establishment of nuclear power plant (NPP) and nuclear medicine centres (NMC).
- Completion of two units of Rooppur Nuclear Power Plant for 2000 MW electricity production.
- Undertake research on biotechnology and develop human resources in the concerned area.
- Augmenting legal and institutional framework and technical capacity in the Science of Chemical Measurements for ensuring the chemical metrological traceability to enhance the confidence among the national and international stakeholders.

- Establishing energy efficient green technology based Bangladesh Environmental Specimen Bank.
- Research and development for innovation of environment friendly sustainable technology for the economically constrained communities.
- Development of infrastructure for conducting research on oceanographic resources.
- Enable the Scientific Documentation Centre to furnish data for science and technology.
- Inculcate scientific attitude among the people.

Special Focus on Marine Resources: Research on marine resources is an underserved area, which can be a major source of economic development and employment for the country. It can uncap the potentials of Blue Economy in the Bay of Bengal. The Seventh Five Year Plan will undertake specific programmes in the area of marine resource management which will include:

- Research on protection of coastal breeding & nursery areas:
- Research Programme on Integrated Coastal Resource Management by ICZM
- Long term project on conservation of marine biological resources
- Programme on protection of IUU (illegal, unreported and unregulated) fishing in Bangladesh waters
- Programme on prohibition of pollutants discharge from ship breaking and other sources and their impacts
- Deep-sea resource survey every five years.

12.6 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

The ICT service expansion funding will mainly come from the private sector. The highly positive response by foreign and foreign private investors over the past decade provides comfort that the ICT sector will not be starved of funds. The Government is mindful of the taxation issue and will take actions to resolve it satisfactorily and ensure that Bangladesh remains an attractive destination for ICT investments. Regarding public investment, the strong foundations laid in the Sixth Plan provides a solid platform to build upon in the Seventh Plan. During the Seventh Plan the main investment priorities will be:

- Ensure rapid and satisfactory completion of all ongoing ICT projects.
- Upgrade ICT infrastructure to provide space for projected growth of ICT services in adequate speed and reliability.
- Provide funding for R&D in ICT & Science and Technology
- Provide funding for ICT capacity building in public institutions
- Support the development of Atomic energy.
- Support ICT initiatives to expand services in the rural areas (cloud based service, National helpline, BPO, Incubation Centre, ICT Research & Development centre, Broadband connectivity etc.)

- Develop an e-government master plan
- Support product innovation & creation ecosystem
- Provide physical incentives & Institutional reform to create appropriate investment climate
- Establish Virtual University, Multimedia University

The development budget allocations for education ministries were contained in Chapter 11 Part 2 dealing with education sector as a part of human resource development. The ADP for ICT infrastructure development and Science and Technology is shown in Tables 12.4 and 12.5 along with the total education allocation carried over from last chapter.

**Table 12.4: ADP Allocations for Education and Technology sector during 7th Plan
(Taka billion; FY2016 Prices)**

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Total Education*	97.4	138.3	156.4	174.4	195.4
Information and Communication Technology Division	10.7	12.9	14.5	16.1	18.1
Ministry of Science and Technology	13.0	22.5	36.0	40.0	44.8
Sector Total	121.1	173.7	207.0	230.6	258.3

Source: Seventh Plan Projections

**Table 12.5: ADP Allocations for Education and Technology sector during 7th Plan
(Taka billion; Current Prices)**

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Total Education*	97.4	146.6	175.1	206.0	242.1
Information and Communication Technology	10.7	13.7	16.3	19.1	22.4
Ministry of Science and Technology	13.0	23.9	40.3	47.3	55.5
Sector Total	121.1	184.1	231.7	272.4	320.0

Source: Seventh Plan Projections

* Total Education is carried over from the previous chapter to calculate the overall allocation under the sector of Education and Technology

SECTOR 12: RECREATION, CULTURE AND RELIGION

CHAPTER 13

ROLE OF SPORTS, CULTURE AND RELIGION IN HUMAN RESOURCE DEVELOPMENT

13.1 INTRODUCTION

The Government's commitment to human resource development is further manifested through the activities of a number of Ministries. The activities of the following ministries are classified under recreation, culture and religious affairs. These include: the Ministry of Youth and Sports; the Ministry of Religion, the Ministry of Cultural Affairs and the Ministry of Information. Each Ministry provides services that tend to help shape a balanced and well-informed citizen group. Youths are the future of Bangladesh and they require special attention for training, motivation and broad-based upbringing through targeted programmes. Sports are essential for the physical and mental well-being of citizens, especially the children and youth. Religion provides the means for shaping moral values of citizens, strengthen ethical standards and motivate better appreciation of human values and responsible behaviour. Culture strengthens appreciation and understanding of social values, norms and aspirations. Finally, access to correct information is critical for improving the understanding of the citizens about social, political and economic developments in the country and elsewhere. The rules and regulations guiding the flow of information including the Right to Information are critical determinant of the growth of an informed society that helps guide the government's policy analysis and debate in the right direction.

The Ministries mentioned above have elaborated their goals, targets and activities for the duration of the 7th FYP. Although not exhaustive, the following highlights the key programmes and actions that will be carried out by the Ministries.

13.2 CULTURAL DEVELOPMENT OF THE NATION

The Constitution of the People's Republic of Bangladesh guarantees the conservation of cultural tradition and heritage of the people and calls for measures that will foster and improve the national language, literature and the arts. The Ministry of Cultural Affairs, through its different organizations, is focused on enriching the intellectual status of the nation through preservation, research and development of culture, history, heritage, arts and literature. Under the 7th FYP, various activities will be undertaken that will promote the healthy growth of cultural activities throughout the country. Programmes for development of Bengali language and literature and reference books for higher education will be continued with greater emphasis. Within the framework of national unity, steps will be taken to preserve and promote language, arts and culture of ethnic communities through cultural centres in tribal areas. To restore and preserve many of the

intangible cultural heritages that are on the verge of extinction, digitization efforts will be implemented. The Ministry will also reiterate the importance of archaeological sites by conducting national surveys and programmes for further development. The Antiquities Act will be amended to strengthen protection of archaeological sites and historical monuments. Programmes will also be undertaken to develop museums and folk art. To enhance appreciation of fine arts, various subjects will be introduced in primary and secondary level as per education policy.

Ministry of Cultural Affairs envisages for a culturally and intellectually developed nation where the intellectual status of the nation will be enriched through preservation, research and development of culture, history, heritage, arts and literature. The history, civilization, national character and identity of a nation are reflected by its culture. In line with the course of cultural progress in the universal context, Ministry of Cultural Affairs is delivering relentless effort for development, preservation, promotion and extension of the cultural elements of Bangladesh through its different organizations. Bangladesh Shilpakala Academy is engaged for preserving, developing, promoting and encouraging national culture through fine arts, drama, music etc. Bangla Academy, Public Library, National Book Centre, National Archives and National Library are responsible for education, research, publishing of books & journals and give support to all categories of readers. Department of Archaeology preserves historical sites and exhibits the antiques. National Museum preserves and exhibits the cultural heritage of Bangladesh. Folk Art and Crafts Foundation is working for preservation and development of folk art & crafts. The Copyright Office is serving to protect intellectual property rights of creative works from piracy. Besides seven cultural centres for small ethnic groups are also playing vital role in order to enhance their cultural activities.

13.2.1. Objectives of 7th FYP for Cultural Development:

The Seventh Five Year Plan will aim to promote healthy growth of cultural activities throughout the country. In addition to promotion of literature and fine and performing arts, attention will be given to create and promote a culture attuned work, towards perseverance, confidence and creativity. The major objectives in this field are to:

- Develop Bengali language and literature and create facilities to develop Bengali as the medium of instruction;
- Help and promote production and publication of quality books and make them available to the masses at reasonable prices;
- Undertake programmes for implementation of the national book policy;
- Carry out research on the lives and works of great men and women of our nation;
- Flourish the perception of ‘Amar Ekushey’;
- Establish and develop a library network system from the national to the rural level and introduce modern technology to this end;
- Promote and foster cultural activities and citizen participation throughout the country reflecting values, hopes and aspirations of the people;

- Develop infrastructural facilities for fine and performing arts including drama and theatre and explore private and voluntary involvement in this area;
- Preserve and present national history, culture and heritage;
- Promote good citizenship through sensitization of rights, duties and responsibilities;
- Preserve and promote language arts and culture of small ethnic group communities within the framework of national unity;
- Protect copy rights of intellectual property.

13.2.2. Strategies under the 7th FYP

- Programmes for development of Bengali language and literature and reference books for higher education will be continued with greater emphasis;
- Programmes will be undertaken for book development and development of reading habits;
- Research programmes on lives and works of great people will be undertaken and memorial libraries and institutions will be established in respective areas;
- Programmes will be undertaken to develop library network, infrastructural facilities and services from national to the rural levels in order to meet the education, recreational, cultural and information need of people at all walks of life;
- Regional and tribal cultures will be promoted and preserved through various programmes viz. erection of more tribal cultural and language centres within the tribal areas;
- National survey on archaeological sites will be carried out and physical facilities for the department of archaeology will be developed for enhancing archaeological tourism;
- Programmes for further development of archaeological sites, museums and ethnological museum will be undertaken and historical monuments will be identified and preserved;
- Private sector as well as the local government bodies will be encouraged to contribute their resources and efforts for cultural development;
- Amendment to the Antiquities Act will be undertaken to strengthen protection of archaeological sites and historical monuments;
- Fine arts like music, painting, arts & crafts, recitation, acting; dancing, theatrical performances would be introduced at primary & secondary level as per education policy.

13.2.3. Current & Future Challenges for the Sub Sector:

To preserve and develop our tangible and intangible cultural heritage needs involvement of people at the grassroots level to ensure participatory planning. Many of the intangible cultural heritages like language literatures, arts, performing arts, music and other areas are at the verge of extinction. Careful attention needs to be given for their restoration, preservation and digitization. Institutional establishment as well as human resources development for such delicate works needs to be made carefully.

The Archaeological sites are invaluable properties to our history. Most of the sites are yet to be explored, preserved and restored. Due to shortage of skill, human resources, funds and

communities involvement it is greatly impaired. Proper perspective, short, medium and long-term plan needs to be carried out. As per new education policy school curriculum included subjects like art, music, dance theatre etc. as an optional subject. Bangladesh Shilpakala Academy should be equipped to produce a huge numbers of subject oriented texts and teachers for matching with national needs.

13.3 YOUTH DEVELOPMENT AND SPORTS

To tap into the immense potential of the young generation, the Department of Youth Development under the Ministry has been assigned the task of transforming the disorganized and unproductive youth into a disciplined and productive workforce. To achieve this vision, a number of programmes engaging the youth in various activities such as disaster management, primary health care and awareness building against anti-social activities are ready to be implemented. The youth will be organized through voluntary organizations that will motivate them to take part in community development for reviving the rural economy. Skill development training in different trades will be conducted on a massive scale. The plan also envisions the disbursement of microcredit in this sector and involvement of trained youth in self-employment activities.

Sports is considered as one of the crucial prerequisites for development of discipline, physical and mental health and moral character of individuals. It also helps to enhance sense of participation, self-confidence and patriotism of citizens. Active participation in games, sports and recreational activities will be highly encouraged by developing and extending playgrounds at the upazila level. Wider participation of women will be especially encouraged. Efforts will be made to strengthen sports and physical education programme at the school stage, right from the primary level and gradually develop and systematize them up to the College and University levels. The game of football will be developed through various tournaments and organized management of the academy in Sylhet. The standard of cricket will also be raised through a number of different initiatives, including building and upgrading facilities to meet the international standard. Proper investments in Bangladesh Krira Shikkha Protishtan (BKSP) will ensure talented athletes avail the best training and guidance that will enable them to shine in the regional and international competitions, bringing laurels for the country.

13.3.1 Goals/Objectives for Sports during 7th FYP:

The talented promising athletes after availing adequate modern training facilities at BKSP and after participating at the regional and international level competitions, they will bring laurels for the country. This is main goal of the institute along with other objectives including the following:

- To increase the sports and games at international standard.
- Talent identification for expensive training for all kind of sports.
- To raise the standard of Games & Sports in Division Level and District Level.
- Development & Extension of Playground at upazila level.

- To develop of sports infrastructural facilities for men and Women at.
- To create Sports infrastructure facilities for indoor games
- To provide Sports infrastructure facilities for Football and Cricket games at Upazila level

Targets for 7th FYP

- Development of regional sports institutions with proper facilities.
- Establish Sports Schools under BKSP in all the districts.
- Establish sports related infrastructure in all the upazilas and zilas.
- Establish indoor stadium and swimming pools in divisional and national level.
- Develop facilities for Football and Cricket as well as other sports in rural level.

13.3.2 Goals/Objectives for Youth Development during 7th FYP:

- To accelerate economic growth and create productive employment opportunities through transforming youth into human resources.
- To organize the youth through voluntary youth organizations and motivate them to take part in community development for revitalizing the rural economy.
- To involve the youth in socio-economic activities like disaster management, primary health care, environmental improvement, resource conservation and awareness building against anti-social activities, drug abuse, AIDS/STDs etc.
- To take necessary steps for empowering the youth by providing life skill and skill development training to ensure their participation in decision making process.

Targets for 7th FYP

- 19,25,150 youths will be trained up and out of them 5,96,000 youths will be involved in self-employment activities.
- 75,000 youths will be trained up for temporary employment under National Service Programme.
- Establishment of seven divisional offices along with infrastructures for Youth Training Centres.
- Sheikh Hasina National Youth Centre will be transformed as “Centre of Excellence.”

13.3.3 Youth Development Strategies for 7th FYP:

- Improving the link between training and job markets.
- Strengthening the institutional capacity and infrastructures.
- Sufficient resource allocation for human resource development.
- Strengthening of public-private partnership programme.
- Creation of employment and self-employment opportunities.

13.3.4 Current and Future Challenges for Youth Development:

- It is really difficult to provide wage jobs to huge unemployed youths.
- Existing training, infrastructure and financial facilities are insufficient to utilize the youth potentials.
- Creation sufficient number of decent jobs, human development, reducing income inequality is great challenges for 7th FYP.
- Ensuring effective representation of youth in policy formulation, planning and decision-making process.
- Placed youth in the centre of sustainable development.
- Considering youth as a separate segment of population.
- Creating market facilities for youth entrepreneurs.
- Youth access to new technologies and information system.

13.4 RELIGIOUS AFFAIRS

Religious values and appreciation of religion not only shape human character but also lead to social cohesion. The Ministry is responsible for assisting centres (mosques, churches, temples, pagodas and related academies and institutions) in undertaking research and promoting religious values, universal brotherhood and good citizenship Agencies within the Ministry, such as Islamic Foundation, Hindu Religious Welfare Trust and Buddhist Religious Welfare Trust are working within their domains to promote education, literacy, women empowerment under the broad umbrella of human and social development.

Through the Mosque-based Child and Mass Literacy Programme and the Temple-based Child Literacy and Mass Education Programme, primary school enrolment and literacy rate of adolescents and adults will be raised. These programmes will provide ample work opportunities all over the country, particularly for women. The Pagoda-based Pre-Primary Programme will widen the reach of the Ministry in educating children. There will also be opportunities for the general people, especially in rural areas, to study Islamic text in 4500 new mosque-libraries. The construction of Islamic Mission Complex in 3 hill districts will provide the poor and disadvantaged people with free education and medical care. The Ministry has taken steps to construct mosques in district and upazila levels to improve and accommodate prayer services. To enhance the role of religious leaders in social development, proper training and capacity building will be implemented. The Ministry also envisions the formulation of Buddhist Family Law in Bangladesh.

13.4.1 Objectives for Religious Affairs in 7th FYP

- Increasing the enrolment of six 6+ Childs to primary school, increase the literacy rate of adolescent and illiterate adults and increase opportunity of disadvantaged poor learning of Holy Quran which uplift morality, social and religious values.
- General People will get chance to study the Islamic & socio-economic development related books at free of cost to foster religious and social values and ideals.

- Creating Medicare facilities by creating a permanent infrastructural facilities for each Centre.
- Providing free Medicare service will be given to the poor and disadvantaged people.
- The religious education at primary level will be well organized & systemic. Islamic ideals, values and culture will be disseminated and flourished among the students at primary schools.
- Provide financial support for the temples and set up temple based libraries.
- Publication of Religion books and repairing old & historical temples.
- To enhance Religious knowledge on Buddhism for Buddhist Community of Bangladesh by Print and supplying Buddhist Religious Books.

13.5 IMPROVEMENT OF INFORMATION AND MASS COMMUNICATION

Access to and flow of information is critical for human capital development. A well-informed citizenry is more aware of social, political and economic developments of the country and can subsequently make informed choices. In this regard, the Department of Mass Communication will conduct numerous environment and social awareness programmes. To help realize the vision of a ‘Digital Bangladesh’, various mediums like Bangladesh Television and Bangladesh Betar will be digitized. Mainstream newspapers will be preserved in digital form for future reference. In order to ensure better performance in this sector, officials will undergo capacity building with training abroad.

Expansion of Radio and Television

Bangladesh Betar: During the 7FYP Bangladesh Betar shall adopt programmes of establishing more F.M based radio stations, expansion and replacement of existing old facilities by modern and digital technology. The projects/programmes planned for implementation of noise free listening and quality programmes. Currently Bangladesh betar coverage of Medium wave transmission is 95% and F. M coverage is 65%. It is expected that this coverage will increase during next 5 years. In enhancing media coverage the government has already given permission to 28 F. M Radio stations to operate throughout the country. 13 of these stations are already in operation. Besides, 32 community Radio stations have received permission for operation and of those 15 stations are already in operation. Whole country will be covered by community radio network in future.

Bangladesh Television (BTV): Bangladesh Television, the state owned Television network in Bangladesh has been undergoing through development of infrastructure facilities, expansion and digital/ modernization process. BTVs terrestrial transmission covers 97% geographical area and 98% population of the country. In the SFYP the Television coverage is expected to reach cent percent area and people of the country. To create facilities to watch and enjoy television broadcast by more people in the rural area, the government has permitted license to 41 new television channels to operate. Already 23 private TV channels have been broadcasting their programmes.

Permission of granting license for rest of the channels is under process. To strengthen private sector media coverage the Ministry of Information have taken up a policy to granting license to F. M Radio stations and private television channels as per existing rules.

Right to information Act

With Vision 2021, the country aspires to an accountable and transparent government system, with the right to information firmly established under the auspices of the Right to Information Act 2009 and the high-powered right to Information Commission. RTI Act will contribute to further independence of the media, both electronic and print. Since its establishment, Information Commission has already appointed 20,467 (Government Officials 16,644 and NGOs 3,823) Designated Officers from different ministries/divisions, agencies, field level organizations in districts and NGOs. They are giving feedback about the implementation progress of right to information. The Information Commission has already taken initiative to impart training and formulated training Manual on RTI implementation mechanism, along with preparation of an electronic data base. The Commission organized awareness campaign in 64 Districts and 19 Upazilas to further strengthen RTI functioning with ability to track data at different level; enhance proactive disclosure, undertake an audience survey and analysis to identify target group strategy and establish partnerships with civil society organizations and media to promote public awareness to fulfill the SDG requirements. The Cabinet Divisions Coordination and Reform Unit will facilitate RTI strategic partnerships, promote capacity Building of officials and initiate legislative and policy changes to Strengthen RTI activities further.

13.5.1 Objectives for Information Sub-Sector in 7th FYP

- Improve, up-grade, modernize and replace the existing logistic and technical facilities of Bangladesh Betar gradually for its responsible, uninterrupted service and CD quality radio programmes.
- Improve the quality of sound recording by incorporating digital recording and digital archiving
- Establish new studio and improve studio facilities of Bangladesh Betar with full digital equipment
- Minimize breakdown in the Programme due to technical fault.
- Introduction of text message, video clips of artists along with Radio Programme by adopting digital Audio Broadcasting Techniques.
- Introduction of satellite Radio broadcasting in the very near future.
- Expansion of SMS based interactive and request oriented entertaining musical Programme.
- Using social media like Facebook, twitter etc. for greater participation of all classes of people

13.6 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Each concerned Ministry under the sector of Recreation, Culture and Religion has their respective programmes to develop the nation morally which eventually support the human development. The Seventh Plan stipulates adequate development resources for these ministries in the context of the country's overall development resource envelope and the development priorities. The Seventh Plan goals and targets have been set for the different ministries under the sector of Recreation, Culture and Religion for creating a culturally developed nation with high morals. With a view to achieving the targets mentioned in the 7th FYP, the planned development resource allocations in constant (FY2016) prices and current prices are shown in Table 13.1 and 13.2.

Table 13.1: ADP Allocations for Recreation, Culture and Religious Affairs in 7th Plan

(billion taka; constant FY2016 prices)

Ministry/Sector	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Youth and Sports	3.3	4.6	4.9	5.4	6.1
Ministry of Religious Affairs	2.5	2.5	2.9	3.2	3.6
Ministry of Cultural affairs	1.3	1.3	1.4	1.6	1.8
Ministry of Information	1.3	1.7	1.9	2.1	2.4
Total Recreation, Culture and Religious Affairs	8.3	10.1	11.1	12.3	13.8

Source: Seventh Plan Projections

Table 13.2: ADP Allocations for Recreation, Culture and Religious Affairs in 7th Plan

(billion taka; current prices)

Ministry/Sector	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Youth and Sports	3.3	4.8	5.5	6.4	7.5
Ministry of Religious Affairs	2.5	2.7	3.2	3.8	4.4
Ministry of Cultural affairs	1.3	1.4	1.6	1.9	2.2
Ministry of Information	1.3	1.8	2.1	2.5	2.9
Total Recreation, Culture and Religious Affairs	8.3	10.7	12.4	14.5	17.1

Source: Seventh Plan Projections

SECTOR 13: SOCIAL PROTECTION

CHAPTER 14

SOCIAL PROTECTION, SOCIAL WELFARE AND SOCIAL INCLUSION

14.1 INTRODUCTION

The Constitution of the People's Republic of Bangladesh provides for equal opportunities for all citizens and the Government is committed to implementing this, while mindful that this is a long term commitment and continued efforts are necessary. This commitment is reflected in the Perspective Plan of Bangladesh 2010-2021 which envisaged Bangladesh to be a middle income country by 2021, where poverty will be drastically reduced, citizens will be able to meet every basic need and development will be on fast track with accelerated rate of economic growth. Bangladesh is justifiably proud of its progress in reducing poverty through social protection and the social inclusion of marginal people in its development effort. The social protection programmes provide income transfers and other benefits to the poor and vulnerable population with a view to helping them climb out of the poverty trap. On the other hand, there is large group of population who face various forms of social discrimination (women, socially excluded population) or require special protection against exploitation (children). Bangladesh has developed a whole host of laws, regulations and policies to empower the women and to support the socially vulnerable and marginal population with a view to preventing discriminatory practices from hurting these groups and also to provide affirmative actions to enable these groups to participate fully in the development process.

Along with poverty and inequality reduction, increasingly greater focus is also being given to reduce the vulnerability of the poor to hunger and natural disasters. Food security is a major issue for the 7th plan because food entitlement is an important aspect of reducing the risk from hunger for the poor. At the same time, the disaster risk reduction and management for the poor and vulnerable population is also an integral element of the empowerment strategy, given that Bangladesh is among the most disaster prone countries of the world.

This Chapter reviews the past progress in each of the areas under the sector of Social Protection. It looks at achievements and implementation gaps relative to targets. Based on the analysis, the Chapter develops the respective targets and strategies for social protection, inclusion, food security, disaster management and women empowerment to be implemented during the Seventh Plan.

14.2 SOCIAL PROTECTION

The Government of Bangladesh is strongly committed to reducing poverty, improving human resource development and reducing inequality. Social protection is an important tool for reducing poverty and inequality. Reflecting the Government's commitment to social protection, budgetary allocations have grown in absolute terms as well as a share of GDP. The allocation for Social Protection Programmes (SPPs) increased from 1.3 percent of GDP in 1998 to 2.3 percent in FY2011. Since then it has stabilized around 2 percent of GDP. Although this level of funding is modest by international standards, when measured against the Government's tight budget situation, this represents a substantial commitment, accounting for 13 percent of total government spending, and reflects the high priority accorded by the Government to this aspect of the social development policy.

These increased expenditures over the latter half of the decade is reflected in the survey data as well. The 2010 HIES data shows a substantial expansion in the coverage of safety nets over a five year period. About 24 percent of households benefited from at least one safety net Programme in 2010 as compared to only 13 percent in 2005. In 2005, the bulk of safety net transfers in Bangladesh were allocated to more expensive food transfer programmes. Over time, the government increased cash transfer programmes. Nevertheless, food transfer programmes remain an important safety net response to crises, as well as serve a secondary role in turning over the country's emergency food grain supplies.

14.2.1 Safety Nets Coverage, Transfer Adequacy and Targeting Efficiency

While safety net programmes continue to be based in rural areas as in the earlier part of the decade, there has been a dramatic improvement in the geographic coverage of these programmes. Another important positive aspect is that even though the coverage of safety net programmes varies significantly by region it is closely correlated with division level poverty rates. For example, according to HIES 2010, Barisal, with the highest poverty rate (39 percent), has the second highest coverage of safety nets among all divisions (34 percent). In contrast, Chittagong and Dhaka, which have the lowest poverty rates in the country (respectively 26 and 31 percent), have the lowest coverage of safety nets (19.4 and 18.8 percent). Poverty reduction and increase in safety net coverage are also positively correlated. Divisions that saw the largest absolute reduction in poverty rates between 2005 and 2010 are those that recorded the largest increase in Social Safety Net participation rates.

14.2.2 Issues and Challenges with Safety Net Programmes

The positive contribution of safety net schemes to poverty reduction is laudable but there are many issues and challenges. First of all, there are too many programmes (145) spread too thinly owing to limited resources. Secondly, there are too many ministries/divisions involved in administering the safety net programmes (23 ministries/divisions), thereby increasing administrative costs and making Programme coordination a tough challenge. Third, the schemes are not always strategically designed to anticipate the various life-cycle risks and cover the poor and vulnerable.

Consequently, a large proportion of the poor and vulnerable population is missed out of the safety net coverage. Another issue is the low coverage of urban poor.

A major implication of these gaps in the present safety net system is the low net impact on poverty reduction. Thus, while participation in safety net programmes is progressive, it displays large inclusion errors.

14.2.3 Sixth Plan Strategy

The Sixth Plan sought to strengthen the Government's commitment to social protection by increasing the amount of spending on social protection from 2.0% of GDP in FY2010 to 3.0% of GDP by FY2015. The Sixth Plan also sought to improve the coverage of the programmes for the poor by focusing more on schemes that benefit the extreme poor and strengthen Programme monitoring and efficiency.

Implementation: The Sixth Plan continued with the implementation of the existing programmes while seeking to introduce reforms in a number of areas including reform of the workfare schemes, efforts to reduce leakages through better improvements in design and service delivery and selectively introducing monitoring and evaluation of individual schemes. An inter-ministerial coordination committee was established to better monitor and coordinate the implementation of the safety net system. The Government also charged this committee to oversee the preparation of a new and strengthened social protection system in order to ensure that the poor and vulnerable citizens benefit most from the available budget resources.

Accordingly, a comprehensive National Social Security Strategy (NSSS) was adopted by the government during the Sixth Plan. The NSSS seeks to streamline and strengthen the existing safety net programmes with a view to achieving better results from money spent, and to broaden the scope of social protection from the more narrow safety net concept to include also employment policies and social insurance to address the emerging needs of a middle income Bangladesh in the years ahead. The Government also believes that a well- designed and effective social protection system will help lower income inequality and contribute to higher growth by strengthening Human Resource Development. The NSSS draws on the past experience with social protection programmes in Bangladesh and good practice international experience.

The adoption of the NSSS sets a new milestone in the commitment of the government to provide social security to the poor and vulnerable citizens of Bangladesh. The NSSS provides a sound strategy that defines the various life-cycle risks faced by poor and vulnerable population and seeks to mitigate those risks by instituting a well-designed income transfer system that reaches the poorest and most vulnerable segment of the population (the young children, school going children, vulnerable women, the elderly and the physically challenged). The NSSS is inclusive of all population irrespective of race, religion, profession, location or ethnicity. It seeks to modernize the Bangladesh social security by combining tax-funded safety net programmes with contributory social insurance and employment regulations to protect the workers. It also seeks to considerably

improve the administrative arrangements for social protection programmes by consolidating complementary programmes, by strengthening staffing and institutions, by instituting a modern MIS system, by replacing food-based transfer payments with cash-based payments using the financial sector based G2P (government to people) system, by introducing a grievance redressing mechanism and by installing proper results-based M&E system. These reforms will be instrumental in eliminating leakages, improving targeting, increasing the average value of the transfers, lower the risks faced by the poor and vulnerable population, reduce poverty, help reduce income inequality and build social capital.

14.2.4 Social Protection Strategy for the Seventh Plan

The main challenge for the Seventh Plan in the area of social protection is the successful implementation of the NSSS. The successful implementation of this NSSS will provide a strong basis for Bangladesh to extend proper social protection to its poor and vulnerable population. The proposed reforms will be instrumental in eliminating leakages, improving targeting, increasing the average value of the transfers, lower the risks faced by the poor and vulnerable population, reduce poverty, help reduce income inequality and build social capital. The core elements of the NSSS and associated implementation challenges are discussed below.

The Vision for Social Security System

In the long-term the objective should be to move towards building a Social Security system that is available to all Bangladeshis who are in need of support, providing them with a guaranteed minimum income but also a comprehensive safety net for those who suffer shocks and crises that may push them into poverty. Therefore, the long-term vision for Social Security is to:

- Build an inclusive Social Security System (SSS) for all deserving Bangladeshis that effectively tackles and prevents poverty and inequality and contributes to broader human development, employment and economic growth.

Over the next five years the aim should be to build the foundations of a progressive and inclusive system:

- Reform the National Social Security System by ensuring more efficient and effective use of resources, strengthened delivery systems and progress towards a more inclusive form of Social Security that effectively tackles lifecycle risks, prioritizing the poorest and most vulnerable members of society.

Priority Challenges for the Medium-Term

Against the backdrop of the review of past SSS experience, the priority challenges that will need to be addressed over the next five years are:

- A shift from current discretionary to a targeted universal approach to avoid leakages and under-coverage.

- Expanding coverage of core schemes for the extreme/hard-core poor, marginalized and most vulnerable people of the society, focusing on mother and child, youth, working age, the elderly and people with disabilities. A basic objective for the next five years would be to support the elimination of hard-core/extreme poverty as much as possible.
- For this to be effective, given the dire circumstances of the extreme poor, consideration will need to be given to progressive but substantive scaling up of the ‘graduation’ programmes that offer real and direct income earning opportunities and formal and informal work to the poorest, alongside complementary activities that provide poor people with a means to lift themselves out of extreme poverty.
- Ensuring that the most vulnerable women are provided with income security and greater opportunities to engage in the labour market, in particular as they enter into motherhood.
- Initiating a social insurance system that enables people to invest in their own social security, providing protection against the risks of old age, disability, social exclusion, unemployment and maternity.
- Expanding coverage of Social Security schemes to include the poor and vulnerable residents of urban areas (Health, Nutrition and Education) and to the socially excluded people.
- Ensuring that the Social Security system supports an effective disaster response system.
- Strengthening the delivery systems for priority transfers by establishing advanced management information systems and trained professional staff.
- Expanding the awareness of the social security programmes for the beneficiaries and motivating potential contributors.

Programme for Consolidation along the Life Cycle Risks: The NSSS will strengthen the transformation towards a lifecycle system by consolidating programmes in a small number of priority schemes. The aim is to identify the high priority schemes make the system more inclusive by incorporating a higher proportion of poor and vulnerable people within it. This will be achieved by gradually increasing coverage of priority schemes and ensuring that selection processes prioritises the inclusion of poor and vulnerable families. The NSSS benefits will be non-discriminatory and will be available to all poor and vulnerable people who satisfy the income criteria and other selection criteria relating to life-cycle or disability described below, irrespective of religion, ethnicity, profession and location.

The five core life cycle programmes of NSSS are described below.

Programmes for Children: The strategy advocates two core programmes for children:

- A child grant for children of poor and vulnerable family up to age 4. The child grant will be limited to a maximum of two children per family to avoid any adverse implications for the population management policy.

- A school stipend for all primary and secondary school going children belonging to the poor and vulnerable households.
- The children will also have the disability benefit, the school meals programme, the orphans programme and the legal provision to ensure that abandoned children get the financial support from the responsible parent.
- Supply side interventions relating to immunization, childcare health and nutrition, water supply and sanitation and nutrition outreach will be strengthened.

Programmes for the Working Age:

The reformed strategy for the working age includes:

- Strengthening education and training programmes to motivate the adolescent and youth to complete education and to enable the working youth and the older workforce to acquire required skills.
- Implementing a strengthened workfare programme for the unemployed poor. The Government will in a longer perspective consider converting food-based programmes into cash-based and consolidating fragmented schemes.
- Exploring possibilities of providing unemployment, sickness, maternity and accidental insurance as a part of the National Social Insurance Scheme (NSIS)
- Implementing a programme of financial support to vulnerable women (widows, divorced, destitute, single mother, and unemployed single women) and facilitate their participation in the labour market. In the strategy, women will be entitled to the Citizen's Pension and the Disability Benefit as relevant. Additionally, in recognition of the special difficulties faced by vulnerable working age women, the strategy advocates a consolidated income transfer under the reformed Vulnerable Women's Benefit (VWB).
- In addition, the strategy provides for expansion of the Maternal Health Voucher Scheme (MHVS) administered by the Ministry of Health and Family Welfare and a range of policy measures to facilitate the entry of women in the labour market. These include continuation of training provided under the ongoing Vulnerable Group Development (VGD) scheme, provision of childcare facilities in all government offices and in formal private sector, as well as maternity insurance through the NSIS as noted above.

Comprehensive Pension System for the Elderly: This reformed programme has four components:

- The Old Age Allowance for senior citizens who are aged 60 years and above and belong to the poor and vulnerable population. Continue with the Government Service Pension with no change at this time.
- Explore possibilities to establish a National Social Insurance Scheme (NSIS), to be managed under the Insurance Development & Regulatory Authority (IDRA) under the provision of the Insurance Act-2010, based on the principle of employers and employees jointly paying

contribution. The NSIS would provide pensions as well as address other contingencies (such as disability, sickness, unemployment and maternity).

- Review options to facilitate the development of Private Voluntary Pension (PVP), which are open to all citizens irrespective of occupation or formality of employment.
- The Old Age Allowance and the Government Service Pension will be funded by the Budget. The NSIS and the PVP would be funded through employer and employee contributions.

Programmes for Liberation War Veterans: Ministry of Liberation War Affairs is entrusted to uphold the ideals and spirit of the great Liberation War and ensure overall welfare of the liberation war veterans and their descendants. It has been implementing different projects and programmes for the welfare of the freedom fighters and their descendants, wounded veterans and family of the martyrs of Liberation Wars. The support strategy during 7th FYP for the freedom fighters will be:

- The schemes to support the freedom fighters and their families will continue under the consolidated Freedom Fighters Benefit Programme.
- Prepare and distribute digital certificates among the freedom fighters.
- Train-up the insolvent freedom fighters and their descendants for self-employment.

Programmes for People with Disabilities: The support strategy for the disabled consists of:

- A disability benefit for children suffering from disability.
- A disability benefit for working age population suffering from disability.

Setting the Value of Benefits: The benefit size for reach programme will be decided by the Government through due process. The Central Monitoring Committee under the Cabinet Division will develop guidelines for determining the benefit rates, considering the need to adjust to inflation index.

Income Eligibility Criteria: The above programmes will be available to those poor and vulnerable people who meet the other requirements of each specific programme. Income eligibility will be determined on the basis of a Proxy Means Test (PMT) that is being developed by the Bangladesh Bureau of Statistics (BBS), Statistics and Informatics Division.

Health Insurance and Human Development Supply Side Interventions: The Government is aware that without health financing reforms and adequacy of supply side interventions in health, education, water supply and sanitation, the cash transfers from the life cycle scheme alone will not achieve the desired results. The Government has already adopted a long-term comprehensive health financing reform strategy, which will be fully implemented. Additionally, efforts to strengthen the provision of health care, nutrition, water supply and sanitation, and education and training will continue.

Consolidating Small Schemes: In recent years there has been a rapid expansion in the number of small schemes. Much of this has been led by development partners, usually well intentioned as new approaches have been piloted and specific challenges addressed. However, with the formulation of core programmes of the NSSS, it is important to assess whether these schemes are adding value in terms of innovative ideas with prospects for scaling up. Under the leadership of the General Economics Division (GED) of the Planning Commission, each sponsoring Ministry/Division of these small schemes will be responsible for determining the value of these schemes and will present a business case if they believe that the programme should continue. The GED will, on the basis of the business cases, make proposals to Cabinet on which schemes should continue.

Consolidation of Food Transfer Programmes: The transfer of food during and after disaster will continue as a disaster management response under the management of the Ministry of Disaster Management and Relief. Open Market Sales (OMS) managed by the Ministry of Food will be expanded as necessary to tackle hunger and food affordability issues as appropriate. The OMS will remain self-targeted as presently.

Food distribution through OMS and as disaster relief will be coordinated with the Government's Food Stock Policy and the fair price policy. The government will in a longer perspective consider converting all workfare based programme into cash transferred, based on the recommendations of and in depth assessment.

Reducing Risks and Vulnerabilities from Climate Change, Environmental Degradation and Disaster Preparedness: The Government's programmes to address climate change and disaster prevention will be further strengthened as a part of its broader development effort. Agricultural research, embankment and reforest programmes, disaster preparedness etc. are already making important inroads in lowering the vulnerability of the population to climate change and natural disasters. Longer-term programmes such as the planned Delta Region Development can be of further benefit in this regard.

Reaching Out the Urban Population: The Government is mindful of the need to bring more of the poor and vulnerable population living in urban areas under the umbrella of Social Security. Accordingly, steps will be taken to ensure that the priority Social Security schemes for the elderly, children, vulnerable women and people with disabilities are expanded so that urban residents have equal access. The Government also understands that new proposals in NSSS such as the childcare proposals and the NSIS will initially benefit urban residents mostly owing to the location of the formal economic activities. Therefore, special efforts will be made to expand these benefits to the rural population.

Reaching Out the Socially Excluded Population: A range of socially excluded population that faces various social discriminations based on religion, age, ethnicity, profession or illness. The Government is highly sensitive to ensuring the elimination of all kinds of socio-economic

discrimination against these groups through legislative and other affirmative actions. This is a major agenda item for the Government's broader Social Development Framework. The Government will also ensure that these groups have similar access as the rest of the population to all Social Security programmes and to all publicly provided basic services in education, health, nutrition, population planning, water supply and sanitation. The Government believes that these two strands of public policy are the best way to support the development of these groups. Moreover, an effective grievance redressing mechanism will also be helpful to bring members of these excluded populations into the Social Security network.

Old Home and Palliative care for Senior Citizen: The Ministry of Social Welfare is going to create a new drive for old aged people with old home and palliative care, namely 'Senior Citizen Hospitality Complex', which will be first time of its kind in Bangladesh to provide international standard services for the senior citizens. This will be a shelter place for the aged people, where they will be able to communicate with their sons, daughters and relatives staying away from home through telephone, email and Fax etc. The senior citizen hospitality care facilities will be provided with general health and medical care, palliative care for ailing patients and hospice for terminally ill patients. Government of Bangladesh will address Palliative care properly in the upcoming years and establish more quality 'Senior Citizen Hospitality Complex' for the Senior Citizens.

Strengthening the Delivery of the National Social Security System

The Government understands that improvements in the administrative arrangements for the NSSS will be critical to its success. Administrative problems and weak governance in the implementation of SSPs are inter-linked. Establishing good institutional arrangements for administering well-designed SSPs will also help lower leakages. The review of past experience suggests that there are number of areas that need to be reformed. The key priorities are to address:

- A vastly simplified institutional arrangement that allows proper planning, implementation and M&E of the National Social Security Strategy (NSSS).
- The professionalization of staff so that there is a group of public servants who are experts in the delivery of Social Security schemes at both national and local levels.
- Effectiveness in identifying recipients for Social Security schemes.
- Up-grading the MISs so that they are able to underpin the effective and efficient delivery of transfers and promote cross-governmental coordination and monitoring of performance.
- Strengthening payment mechanisms to minimize leakage and to use the Social Security system to promote financial inclusion, in particular among poor and vulnerable families.
- Establishing an effective grievance redress system so that all citizens have recourse to appeal decisions on selection and can notify the competent authorities about instances of misconduct and failures in the delivery of the promised benefit.

Administrative Reforms: The Government will introduce five thematic clusters, a) social allowances, b) food security and disaster assistances, c) social insurance, d) labour/livelihood

interventions, and e) human development and social empowerment, for coordination and cooperation of ministries engaged in programme implementation.

Role of Local Government Institutions (LGIs): Implementing Ministries/Divisions will work closely with the LGIs and NGOs in the delivery programmes. The LGIs will be instrumental in helping identify potential beneficiaries, resolving disputes and helping conduct M&E exercises.

Role of NGOs: The Government will continue, and where necessary, deepen the partnership with NGOs in the area of delivering Social Security services based on the NSSS. Specific areas where NGOs can be helpful concern piloting of innovative ideas for possible scaling up, identification of potential beneficiaries, especially those that are hard to reach because they live in remote areas or belong to the marginalized or vulnerable social group of the population, and helping redress grievances and disputes relating to the implementation of the NSSS.

Establishing a Single Registry Management Information System: The efficient administration of Social Security schemes requires that high quality Management Information Systems (MISs) are in place. A number of developing countries have shown that it is possible to establish effective MIS using advanced technologies. In effect, a form of national Single Registry can be established, based on a network of independent but interlinked scheme-specific MISs.

The Government will, therefore, establish a national Single Registry that uses the database from the national identity system and is based on building scheme-specific MISs that communicate with each other and deliver comprehensive information across government. The Statistics and Information Division will take the lead in establishing the Single Registry in coordination with other concerned Ministries/Divisions.

Strengthening Government to Person (G2P) Payment Systems that Promote Financial Inclusivity: A further key reform that will be introduced is an initiative to transform the Government to Person (G2P) payment systems so that they promote financial inclusivity and prevent leakages. The Government has already improved the cash delivery systems in some Social Security schemes so that transfers are delivered through financial institutions. Therefore, to take forward this initiative, the Finance Division of the Ministry of Finance will undertake a comprehensive review of current G2P payment mechanisms as well as international experience.

Strengthening Processes for Selecting Recipients of Social Security Schemes: It is imperative to ensure that transfers go to the right people. Yet, identifying the right people is a common challenge faced by developing countries, in particular when using poverty-based selection processes. Recently the SID has taken an endeavour to establish a Bangladesh Poverty Database (BPD) using the PMT scorecard approach which will be completed by 2016. In view of the limitations of the PMT approach, a combination of PMT, support from local government, and support from NGOs will be employed to identify the poor and vulnerable population. More specifically, PMT scorecard should be used only in conjunction with vetting by local communities including elected representatives and NGOs. Assessing disability is problematic in many

countries– both developed and developing–but the Government is willing to invest sufficient resources to ensure that the most deserving are able to access the disability benefits.

Appeals Mechanism: The Ministry of Social Welfare in close consultation with SID will develop a nationwide complaints and grievance redress mechanism. The exercise will run in parallel with the task on selection processes and its recommendations will be implemented starting in 2016.

Towards a Results-Based Monitoring and Evaluation System for the Social Security Programmes

Coordinating Role of Agencies/Ministries for M&E: M&E activities will be divided into three components. Implementing Ministries/Divisions will monitor progress of their respective programmes; IMED will be responsible for overall monitoring and evaluation of implementation of projects/programmes. Lastly, the role of GED would be to prepare a results framework using a matrix of specific indicators and evaluate performance of NSSS implementation in a holistic approach. The GED will also be responsible for overall coordination of the M&E framework and dissemination of the evaluation results. The Central Monitoring Committee (CMC) headed by the Cabinet Secretary will play a critical supervisory role. In particular, the role of the CMC will be performance review of social security programmes, inter-ministerial coordination, trouble shooting and crisis mitigation.

Dissemination and Use of M&E Results: Emphasis on M&E is placed in order to ensure that best results are obtained from the resources spent on Social Security. It is therefore important that there are well-specified mechanisms for disseminating the findings of the M&E. All information needs to be readily available to stakeholders, in this case the beneficiaries, ministries/divisions and NGOs involved. The beneficiaries should be aware of the programme outcomes and the eligibility criteria for each programme. This could be best achieved by putting all monitoring data and evaluation results on the websites of the implementing ministries/divisions as well as the website of the Planning Commission. All evaluation reports would be shared with the Cabinet and responsible Parliamentary Standing Committee. GED will be responsible for reporting to the Cabinet and subsequently GED and Cabinet Division will report to the Parliamentary Standing Committee the types of actions taken to respond to the findings of the evaluation reports.

Overall Coordination of NSSS Implementation: The NSSS calls for reforms over an extended period of time. Performance Review and Coordination of reform implementation will be done by the CMC chaired by the Cabinet Secretary. The CMC will report on implementation progress to the Cabinet on a regular basis.

14.3 FOOD SECURITY AND PUBLIC FOOD MANAGEMENT

There has been considerable evolution in official thinking on the concept of food security over the past 25 years. The definition of food security globally has been refined through the various World Food Summits held over the past two decades. The widely accepted World Food Summit definition

reinforces the multidimensional nature of food security as including food accessibility, availability, utilization, and stability³⁸. Acknowledging the complexities of the concept, SFYP placed the focus mainly on food availability (domestic production and imports) and utilization (macronutrient consumption) measures of food security.

One of the biggest achievements in Bangladesh agriculture has been its ability to secure food for its 160 million people. The country has made significant progress on the food security front, primarily through efficient food delivery mechanism, improved rural infrastructure, and liberalized agricultural input and output markets. All these factors have contributed positively towards the increase in production of major crops, mainly cereal crops. However, the country needs to tackle a host of challenges in future if it is to ensure food security for its growing population, to meet their nutritional requirement, and to ensure a balanced diet for its population. Child nutrition still remains a major challenge that requires considerable attention.

7th Plan Food Security Goals and Objectives

Food security strategy under the 7th Five Year Plan will be in line with the three objectives of the National Food Policy (NFP 2006) and the National Food Policy Plan of Action (2008-2015). There 26 key areas of interventions have been identified with more than 300 action agenda of which some were prioritized.

7th Plan Policies and Strategies for Food Security

The strategies to be followed for improving food security pertain to the three broad objectives of the National Food Policy.

1. Ensuring adequate and stable supply of safe and nutritious food.

Making food production efficient and sustainable: The prime consideration in making food production efficient is to make judicious use of land, water and other critical inputs. Making lesser use of land and greater use of improved technologies will intensify rice production, inclusion of more high value crops in the cropping pattern, and expanding production in the fishery and livestock sectors will strengthen diversification.

Strengthening agricultural diversification: An integrated approach to diversification calls for strengthening research and extension for non-cereal crops and non-crop agricultural products including fisheries and livestock. Special thrust will have to be given for developing and expanding integrated crop-livestock-fish farming system. This strategy should try to ensure that small and marginal farmers are able to meet their diversified consumption needs from own production so that their nutritional welfare will get maximized.

³⁸FAO (2003). *Trade Reforms and Food Security: Conceptualizing the Linkages*. Economic and Social Development. FAO, Rome.

Making food market efficient: For making food market more efficient, improved market connectivity will have to be established at local, regional, national and international level. Improved private storage and transportation facilities will be important for ensuring spatial and seasonal availability of foods. Growth centres, hats/ bazars, women market centres, roads, bridges, culverts and railway networks under different agencies will have to continue to be improved under different programmes.

Maintaining of buffer stock: Considering the population size, smart buffer stock of food grains to make up anticipated production and stock losses due to periodic calamities will be maintained. In order to maintain efficient stock information and appropriate distribution management, ICT based Public Food stock and distribution system will be introduced in 7th Plan. Besides, household level food grain stock will be promoted, especially vulnerable community in the disaster prone areas of the country are to be encouraged for preservation and storage up to emergency survival level food grains.

Non-distortionary food grain market intervention for price stabilization: Public procurement of food grains, price supports after harvest, and public stock for distribution are some of the tools used by the Government to support producers and consumers. The Government now plans for a more non-distortionary food grain market intervention Programme to accelerate market price stability, encourage market competition and improve food security, yet not discouraging private sector trade and storage. Measures like maintaining improved public stock management; keeping adequate public storage facilities and enhanced effectiveness of Open Market Sale are the important strategies for maintaining a non-discretionary food grain market.

Ensuring access to food, particularly for the poor and vulnerable groups: To ensure greater access to food, purchasing power of the poor needs to be increased. Although there has been substantial decline in poverty over the last two decades, about 45 million people in the country still remain poor. Per capita food consumption of the lowest income group remains about 40% less than that of the highest income group. There has been little improvement in income inequality, reflecting persistent lesser share of the poor in the income growth. For improving poor peoples' access to food, pro-poor growth strategy will have to be pursued. This calls for increasing employment opportunities, particularly in the rural non-farm sector. Food price volatility will have to be minimized. For improving social access to food, public food grain stocking and distribution systems will have to be aligned with the Social Security Strategy.

2. Enhancing purchasing power of people for increased food accessibility

Agricultural disaster management: An important consideration in agricultural disaster management is to strengthen the effectiveness of post-disaster rehabilitation programmes in agriculture. Public and private efforts will need to be strengthened for providing seeds/seedlings and other agricultural inputs following disasters. To satisfy the emergency distribution needs, public food grain stock equal to three months of emergency requirement along with relief system

to distribute food, clean water, medicine and other essentials are to be maintained. Research efforts will be continued to develop weather, submergence and disease tolerant crop varieties. Effective early warning systems will be developed to provide sufficient lead-time information about occurrence of impending disasters. Introduction of agricultural insurance schemes is a special consideration in this regard.

Effective implementation of targeted food programmes: Targeted distribution of food through Vulnerable Group Feeding (VGF) Programme, distribution of food grain as wages in Food-for-Work (FFW), direct distribution of food to poor households participating in training and development activities (as in the Vulnerable Group Development (VGD), the National Social Security Strategy (NSSS), and expansion and effective implementation of the social safety nets for the ultra-poor and the underprivileged population are some of the strategic means to improve food security of the poor and ultra-poor households. Improving targeting effectiveness, ensuring cost effectiveness, reducing leakages in the distribution are the strategies to be followed for improving overall effectiveness of the targeted food programmes.

Promoting agro-processing and small scale rural enterprise: In line with the Small and Medium Enterprise (SME) policy, value chain approach will have to be followed by integrating input providers, traders, processors and service producers. In implementing the strategy, care will have to be taken to expand support for the activities in more backward areas.

Employment-generating income growth: To promote income growth of the poor, the Government has undertaken numerous development projects such as (i) support to women and the disabled in income generating activities; (ii) promoting investment in employment enhancing technology; (iii) providing incentives for development of agro-based industries; (iv) special assistance for expansion of rural industries; (v) education and skill development programmes; and (vi) broad-based growth promoting macro-policy. Implementation and monitoring of these activities will have to be strengthened to achieve higher income growth from these employment-generating activities. The coverage of the Employment Generation Programme for the Ultra-poor will be enhanced to achieve desired results in this direction.

3. Ensuring adequate nutrition for all.

Promoting balanced diet containing adequate micronutrients: In addition to adequate intake of carbohydrates, protein, fats and oils, intake of diets rich in iron, vitamin A and other micronutrients for better health of the Bangladeshi are also necessary. To attain this, cost-effective public health interventions and nutrition education programmes will have to be undertaken. Other potential and sustainable strategies are development of iron and vitamin A rich staple crops through conventional plant breeding for bio-fortification. In the interim, effective programmes for micronutrient supplementation and food fortification (with established standards and regulatory mechanisms) need to be explored as cost-effective approaches. Considering the long lasting

negative effects of micronutrient malnutrition, the Government will undertake programmes to increase availability and accessibility of balanced food.

Safe and quality food supply: With increasing supply and consumption of processed food, the need for special care is increasingly emerging to maintain the quality of foods at all levels of marketing (e.g. assembling, cleaning, sorting, processing and packaging). Priority will have to be given to assessment and prevention of risks involved in the distribution of safe food along the entire channel from production to consumption.

Adequate health status: Disease control not only contributes to raising nutritional status, but also helps in improving the health condition. With regard to nutrition and proper utilization of food, the Government of Bangladesh has instituted various programmes including the Health, Population and Nutrition Sector Development Programme (HPNSDP) in cooperation and coordination with the NGOs. It is important to strengthen and expand nutrition specific interventions among pregnant and lactating women, new-born babies, under-5 children and adolescent girls. Mainstreaming of interventions in water and sanitation, health and hygiene covering agriculture, livestock and fisheries sectors should be high in the agenda.

Ensuring food safety through the food chain: Consumption of safe food is seriously constrained by contamination and adulteration through the whole food chain. Apart from contamination by heavy metals and trace elements in the production process, chemical contamination through mixing of adulterants, bacterial contamination and loss of nutrient during storage, transportation and processing pose serious threats to health. Greater coordination on food safety management with concerted efforts of all stakeholders needs to be ensured. Simultaneously, communications for awareness and behavioural change for the mass people would be strengthened. Furthermore, Production and market monitoring along with enforcement of regulatory framework and strengthening institutional capacity have to be ensured with utmost priority. In this regard, formation and activation of the Food Safety Authority as provisioned in the newly enacted Food Safety Law (2013) needs to be expedited.

WASH in Schools: According to the National Hygiene Baseline Survey, 2014 only about one-third (32%) of schools have hand washing location with soap and water available. It is also found that only 11% schools have separate latrines for female students. Special direction is there in the 7th plan for WASH in schools including generation of funds for maintenance of toilets and ensuring the latrines to be kept open during class time, and are of course inclusive with universal accessibility.

Policy Innovations: Considering the holistic dimension of food security issue, the following strategies should be incorporated in the final 7th FYP:

- The National Food and Nutrition Security Policy (NFNSP) (2016-2020), Plan of Action and Country Investment Plan (CIP) to be initiated.

- Nutrition oriented food-based safety net channels of Public Food Distribution System (PFDS) to be promoted.
- Direct interventions on food-based nutrition in identified communities/ vulnerable areas of the country, where the prevalence of underweight and stunting is higher than average, to be encouraged.
- The annual monitoring National Food Policy Plan of Action (NFP-POA) and Country Investment Plan (CIP) to be continued up to preparation & finalization of new National Food and Nutrition Security Policy (NFNSP).
- Private sector participation to manage and operate modern food storage facilities to be explored for food stock and management.
- Strengthen food grain fortification initiatives and explore the preparation of Road Map for fortified food grains.
- The present public procurement system effectiveness through applied research to be explored.

14.4 DISASTER MANAGEMENT

The Ministry of Disaster Management and Relief is mandated to drive national risk reduction reform programmes to address the disaster management issues. It strives to fulfil the Government's vision to reduce the risk of people, especially the poor and the disadvantaged, from the effects of natural, environmental and human induced disasters/hazards to a manageable and acceptable humanitarian level and to have in place an efficient emergency response management system. In order to create a legal basis in the area of disaster management, the Disaster Management Act has been passed in 2012 by the government. The Act facilitates a more coordinated, objective driven and strong disaster management system. Several programmes were implemented to better prepare the citizenry in dealing with disasters. Taking a more quantitative approach according to the Department of Disaster Management and Relief, during 2010-2014 period, 181 flood and cyclone shelters and 7,934 resilient houses have been constructed. However, substantial improvement is required to increase the number of rural communities with disaster resilient habitats and community assets to 300, with only 2 communities added in 2011. The Government of Bangladesh has produced a National Plan on Disaster Management, revised its Standing Orders on Disaster (SOD), and enforced its legal framework for disaster risk reduction. Efforts are being made to fulfil GoB's promises through the Hyogo Framework of Action towards providing disaster risk reduction services to its citizens.

Progress with of Strategies during 6th Plan

- Disaster management would involve the management of both risk and consequences of disasters.
- Involvement of local government bodies would be an essential part of the strategy. Self-reliance should be the key for preparedness, response, and recovery.

- Non-structural mitigation measures such as community disaster preparedness training, advocacy, and public awareness must be given a high priority; this would require an integration of structural mitigation with non-structural measures.

14.4.1 Disaster Management Context for Bangladesh

The country is exposed to severe environmental hazards like river erosion, cyclones, droughts, tornadoes, cold waves, etc. In addition to conventional hazards, emerging issues like climate change and salinity pose further challenges. These disasters not only lead to loss of lives and livelihood, but also have a bearing on economic development and sustenance. Moreover, some argue that often more than 1% of GDP is lost annually for disasters, and climate change impacts are likely to exacerbate the disaster scenario in the country. Although the magnitude of these changes may appear to be small, they could substantially increase the frequency and intensity of existing climatic events (floods, droughts, cyclones etc.). Impacts of climate change are visible in Bangladesh in the form of temperature extremes, erratic rainfalls and increased number of intensified floods, droughts prevalence of rough weather in the Bay.

The main disasters affecting Bangladesh are floods, cyclones, tornadoes and earthquakes among others. Figure 14.1 shows vulnerability to multiple hazards across the country. Floods pose a serious threat as two-thirds of the country is less than 5 meters above sea level. As mentioned earlier, a rise in sea level will make an additional 14% of the land extremely vulnerable to floods by 2030. Although the relative severity of the impacts of severe floods in Bangladesh has decreased substantially, Bangladesh continues to be damaged by floods. Floods and riverbank erosions affect some one million people annually. 61 % of the land area is vulnerable to flood, while 23 % is affected by flash flood in a normal flooding year. The north-eastern part of Bangladesh, particularly Sunamganj, Sylhet and Netrokona districts are especially vulnerable to floods, with flash floods being common.

Figure 14.1: Multi- Hazards Map of Bangladesh



Source: Ministry of Disaster Management and Relief

Cyclones

The severity of cyclones in Bangladesh is reflected in the fact that 60% of the worldwide deaths caused by cyclones in the last 20 years occurred in Bangladesh. The high mortality risk stems from the high population density. Between 1877 and 1995, Bangladesh was hit by 154 cyclones - including 43 severe cyclonic storms and 68 tropical depressions. UNDP has identified Bangladesh as the most vulnerable country in the world to tropical cyclones.³⁹ Cyclones hit Bangladesh almost every year, with a severe cyclone on average every three years. Cyclones in Bangladesh, depending on their intensity, leave behind a trail of massive destruction. The cyclone that struck the coastal areas of Bangladesh in November 1970 caused over 300,000 deaths and US\$ 2.5 billion worth of damage to property. Cyclone Sidre of 2007 resulted in damages worth US\$1.7 billion, or 2.6

³⁹UNDP (United Nations Development Programme). 2004. A Global Report: Reducing Disaster Risk: A Challenge for Development. Available at <http://www.undp.org/bcpr>.

percent of GDP, and claimed 3406 lives. The relatively recent Cyclone Mahasen in 2013, although not as severe as its predecessors, affected over 1.2 million people in eight coastal districts of Bangladesh. There were 17 casualties in total, with around 49,000 homes destroyed. Table 14.1 lists the damages and losses due to a single severe cyclone by sector. The sectors most affected by severe cyclones are housing and agriculture. Total damages from an average severe cyclone are worth 2.4 percent of GDP.

Table 14.1: Damages and Losses during an average Severe Cyclone

Economic Sector	Damages and loss (Constant 2009 Million USD)
Housing	900
Agriculture	469
Transport	151
Water Resource Control	83
Education Infrastructure	73
Industry/Commerce/Tourism	56
Urban and Municipal	27
Power	15
Other	28
Total Damages and Losses	1802
Share of GDP	2.4%

Source: Economics of Adaptation to Climate Change, World Bank 2010

Cyclone patterns are difficult to predict, intensifying the gravity of the situation. Studies show that the damages and casualties from cyclones are likely to increase. Projected casualties for a 10-year return cyclone in 2050 are estimated to rise to 4600, while 75,000 are expected to succumb to injuries from the cyclone⁴⁰. In comparison, the above-average severe cyclone Sidr caused 3406 deaths and a little over 55000 injuries. Therefore the growing potential risks from cyclones give rise to added concerns in disaster management (DM). In addition to floods and cyclones, salinity intrusion and other recurring disasters continue to endanger the people of Bangladesh.

Earthquakes

The threat of earthquakes is also incontrovertible. Bangladesh is located in a seismically active region. Geographically Bangladesh is also located close to the boundary of two geological plates: the Indian plate in the west and the Eurasian plate in the east and north. Several major active faults, e.g. the Madhupur fault, the plate boundary fault (the northern extension of subduction fault) and the Dauki Fault, are also of concern to Bangladesh. These faults may generate large earthquakes with a magnitude of 8 and above on the Richter scale. In the past, there were several earthquakes that caused severe damages to life and properties in this region. Location of the country close to seismically active Himalayan region, nearness to the regional active fault lines, and time elapsed

⁴⁰ Turn Down The Heat: Climate Extremes, Regional Impacts, And The Case For Resilience. A Report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics, June 2013

after the last major earthquake all indicate possibility of impending earthquake to strike Bangladesh any time in the future.

The urban infrastructure and building stock of Bangladesh, to a large extent, is not compliant with established building codes for seismic resistance and new development is occurring rapidly. The Comprehensive Disaster Management Programme estimated that a 7.5 Richter scale earthquake on the Madhupur fault would cause more than 70,000 buildings to collapse in Dhaka alone, with greater damage in other major cities, in particular, Sylhet. The risk related to a significant earthquake is largely unmitigated and would have catastrophic consequences to the lives and livelihoods of the urban population and could be a major, global scale humanitarian emergency. Other risks related to flood, water logging and fire are among disaster risks that will be exacerbated by rapid urbanization in the future.

New and emerging risks, in particular anthropogenic risks, are increasingly becoming more apparent in Bangladesh. As a consequence of the rapidly growing economy, a range of systems are under pressure. Transport disasters are becoming commonplace, including industrial accidents resulting in pollution, The Rana Plaza disaster highlighted the risk of building collapse resulting from inappropriate design and utilization of buildings.

Between 1990 and 2008, Bangladesh incurred an average annual loss equal to 1.8% of the GDP due to natural disasters. Nevertheless, the country has made significant development gains over the last decade. This period also witnessed a drastic reduction in the mortality resulting from regular flooding and cyclones. This was achieved through disaster risk reduction programmes, extended volunteerism, increased community resilience, extended social safety nets, legal and institutional frameworks including national and international frameworks for disaster risk reduction, as well as other social development such as girls' education, sanitation, etc. .

14.4.2 Disaster Management Framework and Key Policies/Programmes

In 2009, the Disaster Management and Relief Division (DMRD) was formed as a separate division. The Ministry of Disaster Management and Relief (MoDMR) was subsequently set up. The Ministry has been playing a vital role in disaster risk reduction and preparedness and in overall disaster management.

MoDMR has been given the mandate to drive national risk reduction reform programmes. Its mission relative to this agenda is: "To achieve a paradigm shift in disaster management from conventional response and relief to a more comprehensive risk reduction culture, and to promote food security as an important factor in ensuring the resilience of communities to hazards"

The ministry is mandated to carry out the following responsibilities:

- Formulation, review and execution of legislation, policies, plans, procedures, standing orders and guidelines in relation to overall disaster risk reduction and emergency response management including relief rehabilitation and safety net programmes.

- Relief and disaster risk reduction programmes, planning, and monitoring.
- Coordination of all activities in relation to disaster management and relief incorporating disaster risk reduction and emergency response management.
- Mainstreaming Disaster Risk Reduction across line ministries and agencies at all levels, local governments, NGO, CBOs, civil society and all other stakeholders.
- Implementation of the disaster related programmes/projects undertaken due to adverse impacts of climate change.
- Approval, administration and monitoring of safety net programmes such as Test Relief (TR), Vulnerable Group Feeding (VGF), Vulnerable Group Development (VGD), Food For Works programme, Institutional Feeding programme, Rural Infrastructure Maintenance programme, Risk Reduction Programme, Road Maintenance Programme, House Building Grants etc.
- Construction and Maintenance of small bridges/culverts, multi-purpose disaster shelters, cyclone shelters, flood shelters with a view to eliminating/ reducing disaster risks.
- Liaison with regional and international organizations and matters related to treaties and agreements with other countries and world bodies relating to subjects allotted to this Ministry.
- Assessment of disaster situation and recommendation to declare state of disaster emergency and issuance of evacuation notices and monitor disaster early warning dissemination.
- Establish, strengthen and improve the national disaster response mechanism.
- Implementation of the refugee related programmes.
- Disaster Management Framework and Key Policies/Programmes

DM in Bangladesh has been guided by a number of national and international drivers which among others includes a) the Standing Orders on Disasters (SOD) first introduced in 1997 and then revised in 2010; b) The Millennium Declaration (MDG) to protect the vulnerable from the consequences of natural disasters c)The National Plan for Disaster Management 2010-2015 d) the Hyogo framework for action (HFA) 2005-2015 and e) the SAARC Framework for Action (SFA) 2006-2015. These international guidance are included in national drivers like the SOD and the NPDM. In light of MDG and HFA expiring in 2015, DM issues in the 7th Plan will reflect the Sustainable Development Goals and Sendai Framework for Disaster Risk Reduction.

Mainstreaming Disaster and Climate Change risk reduction integration efforts within government, NGOs and private sector and effective response mechanism across the whole country will help to achieve sustainable development from national to community level. Women, children, elderly, the disable and other socially marginalized groups will be primary beneficiaries of all disaster management efforts.

Disaster Management Policy: The Disaster Management (DM) Policy has recently been approved by the Government of Bangladesh. It emphasizes on Disaster Risk Reduction (DRR) to a great extent. The policy puts importance on DM fund which will be a dedicated fund for DM. Overall, it is expected that the policy will be an effective instrument to make DM efficient in Bangladesh.

National Plan for Disaster Management (NPDM): The National Plan for Disaster Management is an outcome of the HFA and of the process of regional cooperation in South Asia. The NPDM 2010-2015 envisages a group of broad-based strategies:

- a. Disaster management would involve the management of both risks and consequences of disasters that would include prevention emergency response and post-disaster recovery.
- b. Community involvement for preparedness programmes for protecting lives and properties would be a major focus. Involvement of local government bodies would be essential part of the strategy. Self-reliance should be the key for preparedness, response and recovery.
- c. Non-structural mitigation measures such as community disaster preparedness training advocacy and public awareness must be given a high priority; this would require an integration of structural mitigation with non-structural measures.

NPDM illustrated the Disaster Management Model (Figure 14.2), which dictates disaster management activities in Bangladesh. It comprises of 2 main elements namely Disaster Risk Reduction (DRR) and Emergency Response. DRR includes defining and identifying the risk environment through rigorous analysis, and managing the risk environment. Responding to the threat environment falls under emergency response.

Figure 14.2: Bangladesh Disaster Management Model



Disaster Management Act (DMA) 2012: The objectives of this Act are substantial reduction of the overall risks of disasters to an acceptable level with appropriate risk reduction interventions;

effective implementation of post disaster emergency response; rehabilitation and recovery measures; provision of emergency humanitarian assistance to the most vulnerable community people; strengthening of institutional capacity for effective coordination of disaster management involving government and non-government organizations, and establishing a disaster management system capable of dealing with all hazards in the country.

Following its enactment, the Government has set up the Department for Disaster Management (DDM) with a more robust and wider role focusing on comprehensive disaster management, and has been responsible for implementation of the national disaster management related policies and plans at all levels.

Standing Orders on Disaster (SoD): The Standing Orders on Disaster (SoD) outlines the disaster management arrangements in Bangladesh and describes the detailed roles and responsibilities of committees, ministries, divisions, departments and other organizations involved in disaster risk reduction and emergency response management and established the necessary actions required in implementing Bangladesh's disaster management model, e.g. defining the risk environment, managing the risk environment and responding to the threat environment. All ministries, divisions/department and agencies shall prepare their own Action Plans in respect of their responsibilities under the Standing Orders for efficient implementation.

Comprehensive Disaster Management Programme (CDMP): CDMP, with its second phase recently concluded, aimed to further reduce Bangladesh's vulnerability to adverse natural and anthropogenic hazards and extreme events.

Disaster Management Activities under implementation

The Government has expressed its commitment to reducing the harsh impacts of disasters and improves disaster management. During the 6th FYP, Bangladesh made good progress in moving towards resilience. Its accomplishments can be summarized under four broad categories:

Mainstreaming DRR and CCA: The Disaster Management Act (2012) has been implemented and a Disaster Management policy has been approved. The Disaster Management Policy will provide guidance, plan and help prepare for all types hazards and disaster. Department of Disaster Management was also established to implement DM Act 2012. DPP (Development Project Proforma) process has been amended to require climate and disaster risk analysis for new development projects prior to their approval.

Earlier, the Comprehensive Disaster Management Programme (CDMP) was launched to facilitate the reform of the disaster management approach by expanding its focus from reactive emergency responses to proactive risk reduction. The National Curriculum and Text Book Board (NCTB) has been supported to incorporate DRR and CCA into education.

DRR Strategies: A number of strategies have been pursued to better implement DRR. Seismic micro zonation atlases for 9 major cities have been prepared. Multi hazard vulnerability assessment cell has been established at DDM. Hundreds of structural and non-structural risk reduction projects at the local level have been implemented by a range of actors including the Government. These have benefitted millions of people.

Massive efforts are underway to create shelters for disasters and to make communities more resilient. During sixth plan period a total of 107 cyclone shelters have been constructed in 13 districts of coastal area of Bangladesh. Besides, additional 400 shelters are targeted to be built by 2020 in all over the coastal belt. Besides, 10,103 resilient houses have been built in Alia affected areas of Chittagong, Barisal and Khulna Division during 2010-2014, out of which 7,938 have been constructed with the assistance of GoB contributed Climate Change Trust Fund. The Government has targeted to build 97,000 resilient houses with support of Asian Development Bank in year 2015-2020. The Government has initiated the Emergency Cyclone Recovery and Restoration Project (ECCRP) to build multipurpose cyclone shelters. During Cyclone Mahasen, an estimated 40,219 people and 4307 livestock used ECCRP's new and upgraded shelters. MoDMR is also constructing food shelters, procuring search and rescue equipment for earthquakes and other disasters.

Disaster Preparedness, Warning and Response: In order to promote awareness on disaster-related information, an Interactive Voice Response (IVR) system has been initiated. The IVR can be accessed through any mobile phone and provides information such as weather updates, cyclone warnings, and information for sea-going fishermen. Disaster Management Information Centre (DMIC) has also been established to disseminate disaster related information and early warning in a coordinated way. Initiatives have been taken to send disaster alert through SMS to Union Information Service Centre from DMIC.

To tackle food insecurity resulting from disasters, the Government keeps a healthy storage of staple which ensures availability during pressing times. Recently, the GoB has enhanced its food storage capacity from about 12 million tonnes to over 16 million tonnes, by building silos across the country. Cyclone Preparedness Program (CPP) has now a total of 55,260 volunteers including 16,455 female volunteers. Simultaneously, in order to enhance the effectiveness and efficiency of the post-earthquake search and rescue operations, government has undertaken initiatives to form a total of 70,260 thousand urban volunteers by 2020. As a part of initiative, the MoDMR through its CDMP Project has already developed 32 thousand volunteers. Besides, Bangladesh Scout is also taking active part in Disaster Management activities on necessity. Volunteerism for disasters has been enhanced by enhancement of the cyclone preparedness programme and creation of the flood preparedness programme implemented by Ansar & VDP. Community Based Disaster Preparedness Model has been developed and operationalized which links response interventions with risk reduction and enables risk-informed planning, implementation and monitoring of disaster preparedness.

An Emergency Response and Communication Centre (ERCC) and a National Disaster Management Research and Training Institute (NDMRTI) will be established under the Urban Resilience Project. The purpose of the ERCC and NDMRTI is to enhance the emergency management and preparedness capacity at national level and local level city corporations as well as FSCD (Fire Service and Civil Defence) in Dhaka and Sylhet through training, exercise and drills.

MoDMR has procured 7,496 no. of equipment for search and rescue operation related to earthquake and other disasters in 2011-2014. These equipment have already been distributed to Fire Service & Civil Defence and Armed Forces Division. Procurement of more equipment is under process. Tentatively, 15,020 no. of disaster related equipment is planned to be procured during the 7th FYP period. Besides, 2154 no. of equipment for water related disasters will be procured with support of Government of Japan by 2020.

Post-Disaster Recovery, Reconstruction, and Rehabilitation: In the sixth plan period, spending on Social Safety Net (SSN) has been substantial. GoB runs Gratuitous Relief, Test Relief, Food for Work, Cash for Works and Employment Generation Programme for the Poorest (EGPP) with SSN allocation. Significant delivery of disaster relief and recovery assistance has been achieved via DDMR's social safety net programme. Approximately, 30% of the total budget allocation for Safety Net is being implemented by MoDMR. Besides, to mitigate seasonal unemployment problem during lean periods employment opportunity has been created for the rural poor through implementing the Employment Generation Program for the poorest and Food for Works Program. Cyclone Aila affected communities were supported with disaster resilient housing with funding from the GoB Climate Change Trust Fund and development partners. Needs Assessment capacity of DDMR has been strengthened through development of SOS and D-Form Guidelines and training of DRRO, PIOS, and UNOs. Joint Government-Development Partner cooperation for effective disaster response and recovery strengthened through the reformed humanitarian coordination architecture which includes the LCG-DER, Humanitarian Coordination Task Team (HCTT) and the humanitarian clusters.

To facilitate economic enhancement and better communication during disasters, MoDMR is implementing projects to improve the rural earthen roads. In persuasion of this effort, 7,92,375 km rural roads have been constructed through FFW and EGPP during the period 1999-2014 all over Bangladesh. Besides, 2,50,000 km rural earth roads is planned to be constructed in 7th FYP period. Further, 33km pacca roads will be constructed in collaboration with LGED with JICA assistance in 19 districts of Komen affected areas in coastal areas, and 3145 km Herring Bone Bond (HBB) roads will be constructed by 2020. 6371 bridges/culverts (up to 12 meter) were constructed with GoB fund all over Bangladesh including Hill Tracks. Further, a project for construction of bridge/culvert has been undertaken to implement for the period 2016-2020. It is expected that 12,972 number of bridges/culverts will be built by 2020. In addition, 356 meter of small scale bridge, 7 km of embankment and 8 no. of sluice gates will be constructed in collaboration with BWDB with the assistance of JICA in Komen affected areas of Bangladesh.

Implementation Challenges in Disaster Management

Despite being a disaster-stricken country, post-disaster recovery and reconstruction is rather weak as a policy measure.⁴¹ Some lessons and constraints from previous experience are highlighted below:

Whole of government approach: Disaster Risk Reduction is a multi-sector business. It is not possible for government alone to tackle disaster unless strong collaboration among all the relevant stakeholders such as government, NGOs, researchers, scientists, civil society, private sector, media etc. are established and maintained. Collaborative efforts can strengthen the preparedness activities at all level and reduce the impact of disasters.

Mainstreaming: Mainstreaming of DM policy and practice across government has been projectized and occurs at a relatively small scale and often on a pilot basis. A clear advocacy and technical assistance role for the MoDMR could help promote and deliver mainstreamed DM outcomes.

Policy and Plan implementation: Major policies and plans to deliver effective disaster management and risk reduction are not always fully implemented. Monitoring and accountability systems are essential to ensure implementation.

Decentralization: Mechanisms to build capacity, finance and delegate responsibility needs to be improved. Disaster management is often considered as a standalone activity of the MoDMR and is not integrated into the district and upazila level development planning processes. Finally, community participation is prone to elite capture and lacks genuine accountability mechanisms for vulnerable communities to make their voices heard.

Financing for Disaster Risk Management: DM financing is largely focused on relief assistance through various social safety nets (2.0 % of GDP invested in extensive social safety net programmes) with DRR investment largely financed through international cooperation. The DM act provides the establishment of a DM fund. It is crucial that the Fund be established. Further strengthening of MoDMR financial management capacity, transparency and accountability is needed.

Inclusive DRR with special focus on Gender: Although women are key contributors to disaster management, policies and programmes are not designed or delivered through an analysis of gender needs. Inclusion of persons with disabilities, children and women is also lacking in the current framework that needs to pay special attention to address vulnerabilities of the most vulnerable sections of communities at risk.

Recovery: Many of the disaster management phases have received attention and investment, but disaster recovery and “building back better” has largely been overlooked. It is not prominent in policy and practice and, consequently, undermines the development of disaster resilience.

⁴¹Alam, K (2014). Planning and Implementation of Post-Sidr Housing Rehabilitation in Bangladesh. UNDP

Technical assistance: With Bangladesh attaining lower middle income status the availability of internationally financed TA will go down. Careful consideration of how TA can be most effectively used to support lasting increases in resilience must be made and a strong commitment to change ensured

Box 14.1: Sendai Framework for DRR 2015 – 2030

The Sendai Framework is fundamental to the vision and ambition of the Government of Bangladesh and thus requires full implementation. It is fully integrated into the objectives, goals and activities described below. The Government’s disaster resilience strategy is in line with the Sendai Framework which it has adopted. The framework aims to achieve the following in the coming 15 years:

“The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.”⁴²

This outcome will be realized by the achievement of the following goal, drawing on the “strong commitment and involvement of political leadership in every country at all levels in the... creation of the necessary conducive and enabling environment.”

“Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.”

The Framework is built on four priority areas of action which are integrated into the goals and activities for Disaster Management of the 7th Five Year Plan:

- Understanding disaster risk;
- Strengthening disaster risk governance to manage disaster risk;
- Investing in disaster risk reduction for resilience; and
- Enhancing disaster preparedness for effective response.

14.4.3 Activities under the 7th FYP for Disaster Management

Goals, Targets and Activities

Goal: Overall goal is to reduce and mitigate the effects of the underlying risk

Overall targets:

1. Upgrade the disaster management regulative framework.
2. Risk reduction and climate change adaptation principles (with sustainability) are mainstreamed within all development programmes, plans and policies.
3. Create a national training capacity to sustain and progressively expand the training efforts.
4. Strengthen community and household level capacity to withstand the disastrous situation
5. Establishment of DM fund, the National Emergency Operations Centre (NEOC)

⁴² Sendai Framework for DRR 2015 – 2030

http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf

6. Strengthen national capacity for response management support to local disaster management committees
7. ICT based Multi-hazard EWS at community level
8. Establish Go- NGO and private sector coordination for disaster risk reduction
9. Establish multi sectoral coordination system
10. Reduce vulnerability of the at risk communities through effective, targeted social safety nets
11. Establish & strengthen the regional networks
12. Strengthen the use of space based technology
13. Develop a monitoring and evaluation system to enable the effectiveness of the capacity building strategy to be measured

Under the 7th FYP, the Disaster Management Act of 2012 will be institutionalized and implemented to achieve adequate decentralization throughout the Government and accountability for delivery. Adequate national resources will be identified to finance risk reduction and enable appropriate allocation of resources to disaster resilience through local and national level mechanisms. Regional cooperation will be further strengthened for disaster management. For the 7th FYP, MoDMR has set 4 broad categories of goals and one cross cutting category to make the country more disaster resilient. These goals and their associated activities will provide direction to carry out the necessary interventions in this sector.

1. Mainstreaming DRR and CCA

- a) Reform the SoD and DM Act and its rules, if needed in line with post MDG and Sendai Framework for DRR.
- b) Publish the National Plan for Disaster Management 2016-2020 in line with post MDG and Sendai Framework for DRR.
- c) Approve and implement the National Disaster Management Policy.
- d) Activate disaster coordination mechanisms at national and local level.
- e) Establish and activate the Disaster Management Research and Training Institute to develop capacity and provide technical assistance across all relevant government agencies including the DMCs.
- f) Integrate DRR and CCA for resilience approaches and principles within the planning and policy frameworks of all Government institutions, provide technical assistance, monitor and report on implementation.
- g) Integrate DM in district development plans and provide capacity development training including UDMCs.
- h) Inclusion of DRR and CCA issues in the training curriculum for local government, public representative officials, Bangladesh Ansar & VDP, religious leaders, scouts, etc.
- i) Implement a gendered approach to disaster resilience in all Government planning, policy frameworks and programmes. Monitor and report on implementation.

- j) Establish effective partnerships for disaster resilience with the private sector focused on roles, responsibilities, investment priorities and incentives, including regulation.
- k) Develop policy framework for addressing slow onset disasters such as water logging in south-west, river bank erosion etc.

2. Disaster Risk Reduction Strategies:

- a) Establish or strengthen regional networks and agreements for real time data sharing on disaster risk.
- b) Streamline the risk assessment, analysis and information sharing systems within government.
- c) Monitor risk and vulnerability nationwide and widely disseminate regular reports on the changing risk profile.
- d) Develop risk assessment and CCA inclusion guideline and promote DRR and CCA inclusion in district level and below development planning processes.
- e) Allocate adequate sectoral financing of disaster management through line ministries and establish the Local DM Fund. Monitor and report on implementation.
- f) Promote structural and non-structural investment like disaster and climate resilient housing, roads, embankments, flood and cyclone shelters and other infrastructure construction and risk reduction programmes at community level.
- g) Promote RRAP (Risk Reduction Action Plan) and contingency planning across agencies and for all unions/cities/wards and monitor its implementation and practice.
- h) Encourage different hazard based contingency planning like chemical and technological hazards, road and water safety, nuclear and radiological risk, biological hazards, landslide etc.
- i) Encourage earthquake vulnerable building retrofitting for major cities especially public buildings
- j) Integrating DRR & CCA issues in private investments
- k) Develop tsunami guideline

3. Disaster Preparedness, Warning and Response:

- a) Establish the National Emergency Operations Centre (EOC) and fully operationalize it. An EOC is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management or disaster management functions at a strategic level in an emergency situation and ensuring the continuity of operation.
- b) Develop national emergency response co-ordination mechanism framework & guidelines
- c) Finalize, approve, disseminate and create capacity for implementation of critical guidelines and plans on debris management, dead body management etc.
- d) Finalize, approve, disseminate and create capacity for implementation of an Incident Management System.

- e) Procuring search and rescue equipment for earthquake and other disasters
- f) Use of space technology and IT based long lead time EWS at community on flood, flash flood, land slide, cyclone etc. Ensure dissemination of early warning through the use of volunteers and technology.
- g) Strengthen national space based observation & monitoring disaster management system (satellite)
- h) Develop National Volunteers organization
- i) Provide equipment, training programmes for CPP, Urban volunteers, scouts certification & award programmes for volunteers, compensation programmes for dead or injured volunteers.
- j) Develop and implement the National Disaster Information Management Strategy.
- k) Approve and implement protocols for the implementation of Joint Needs Assessment and create nationwide capacity to implement it.
- k) Promote community level drills.
- l) Develop ICT based country wide earthquake seismic monitoring system
- m) Functionalize DMIC at DDM and all district and upzila level
- n) Mutual Aid-Agreements between Public-Private Partners for emergency Response
- o) Develop guidelines on co-ordination mechanism for GO-NGO and private sector for emergency response and strengthening GO-NGO and private sector co-ordination for emergency response
- p) Arrange Memo of Understanding (MoU) and bilateral agreements among the trans boundary natural hazards countries
- q) Guideline for International Assistance in Disaster Emergency

4. Post-disaster Recovery, Reconstruction and Rehabilitation:

- a) Fully operationalize Multi Risk Vulnerability Assessment Mapping (MRVA) cell and Damage and Needs Assessment Cell.
- b) Develop dedicated capacity within MoDMR and DDM to lead and coordinate post disaster recovery and reconstruction
- c) Develop and implement a strategy for the recovery of vulnerable groups.
- d) Integrate “build back better” principles into recovery and reconstruction policies, plans and financial projections.
- e) Establish a sustainable financing mechanism to support recovery with Build Back Better principles
- f) Establish an effective targeting mechanism for proper utilization of safety nets.
- g) Establish an effective monitoring and support mechanism
- h) Integration of DRR CCA in safety net programmes
- h) Reduce vulnerability of the at risk communities through social safety nets
- i) Prepare monitoring and evaluation guideline

- j) Develop guidelines on multi sectoral co-ordination for post disaster recovery and development activities
- k) Protect & support the most vulnerable groups during disaster & post recovery stage especially women, children & disable groups and older people.

Cross-cutting issues:

- a) Design and implement a comprehensive communication strategy to enable proactive communication to vulnerable communities, across government and to the wider DM community to support awareness raising for effective disaster resilience.
- b) Review and reform business processes within relevant ministries and departments focusing on financial management, monitoring and evaluation, human resource management, incentive structures and coordination / collaboration skills. Build human resource capacity to manage reformed processes as needed.

Monitoring Mechanism and Financing systems:

To facilitate the institutional mechanism for monitoring, a vulnerability index will be developed which will help channelize equitable resources to the targeted districts. The vulnerability index will also help to monitor the outcome level results of plans and programmes. Overall performance of the various plans, programmes and projects will be tracked by developing focused and specific DRR-CCA indicators.

A financial management reform in MoDMR and DDM will help improve the implementation capacity to deliver services in a transparent, accountable and cost-effective manner. GoB will consider developing a policy on DRR financing, considering different financing models, and allocate sufficient national budget to initiate action whilst welcoming international contributions in support of national efforts, as well as Public-Private Partnerships and the support of civil society and volunteer organisations, to deliver sustainable enhancement of disaster resilience.

14.5 SOCIAL INCLUSION

In addition to women, vulnerable populations in Bangladesh encompasses different social groups such as children, elderly, ethnic and religious minorities, people with disabilities or physical impairments and low caste groups. All these heterogeneous groups are generally vulnerable to extreme poverty, natural disasters, and other external shocks that may impact their well-being. Likewise, their access to health and nutrition services is often restricted and their education participation and achievement tends to be low. Therefore the different needs and priorities of these social groups must be taken into account when planning to eradicate poverty and improve Human Resource Development. Empowerment through increased participation in the various spheres of a society is the most efficient and inclusive way to do so. This positively reinforces the development of a nation and strengthens economic growth both directly and indirectly, in addition to increasing social stability and the well-being of its citizens.

The Sixth Plan's strategy for poverty reduction put emphasis on human resource development and higher-income, higher productivity job creation as the two most important elements. Even with higher growth, better jobs and better access to essential services, the Sixth Plan recognized that a part of the under-privileged population - among them poor women and people from ethnic groups and socially excluded groups - still will likely be left out. Additionally, substantial risks are posed by natural disasters and climate change for this vulnerable population. To address this challenge, the Sixth Plan aimed at significantly strengthening the social protection programmes.

Sixth Plan Progress with Inclusion

Through the Constitution of the People's Republic of Bangladesh, the Government is committed to eliminating all kind of social exclusion. This is a long term agenda and continuous efforts are needed. For the Sixth Plan, goals and strategic approaches were identified for each of these groups, exploring the most efficient ways to include and empower them within the society. The progress in addressing the exclusion challenges in each group is reviewed below.

Children: Major progress has been made in promoting children's status, their survival and their development. For instance Bangladesh has already achieved the MDG for gender parity in primary and secondary education as well as the MDG for reducing child mortality. Nonetheless, children make up 46% of the poor in Bangladesh, and are more susceptible to abuse, exploitation and natural disaster. Many additional issues linger in terms of malnutrition, poverty, and low or lack of education.

Sixth Plan strategy: The Sixth Plan's approach to empower children focuses mainly on their development as well as their legal protection and their rights. Improved health will be achieved through 1) controlling communicable and non-communicable diseases as well as increasing behavioural change communications in schools about health and healthy practices; 2) increasing food and nutrition intakes of children; and 3) ensuring access to safe water and sanitation to reduce environmental health hazards for children. The children's access to good quality education will be strengthened through early childhood development strategies and access to formal and non-formal education. Legal protection will be achieved by 1) creating a national platform for allowing children to express opinions on their needs; 2) enforcing and harmonizing laws against children abuse, trafficking, exploitation; 3) mobilizing municipal corporations to register all births; 4) eliminating child labour by instigating the National Plan of Action for Implementing the National Child Labour Elimination Policy 2010; and 5) ensuring children are removed from abusive and exploitative circumstances.

Implementation: Three crucial piece of legislation have been passed as a mean to implement the children empowerment section of the Sixth Plan. The key one was the National Children Policy was adopted in Bangladesh in 2011. This policy aimed to empower children and protect their rights by eliminating all form of abuse, violation and discrimination that may impact their well-being. Amongst the objective of this policy, the importance of providing all children (regardless of age,

gender, religion, ethnicity and location) with equal opportunity for development is highlighted. The policy recognizes that children are a heterogeneous social group, with different needs that must be met. Prior to that, the National Child Labour Elimination Policy was approved in 2010 with the aim of improving children's life and well-being through the removal of all types of child labour, especially dangerous and degrading work. Emphasis was put on children with more predispositions to enter child labour, such as children from poor households and ethnic minorities. The policy looks at increasing the incentives for these children to return to the education system. The stakeholders are directed to coordinate amongst themselves to develop short, medium and long-term programmes to eliminate child labour in Bangladesh. Finally, the Government passed the Children Act of 2013 based on the Convention of the Rights of the Child. It defines children as an individual under the age of 18, a definition universally recognized. It also provides legal instruments to protect children with regards to a wide range of potential exploitation and abuse such as child marriage, work, and issues with the justice system.

Despite the impressive progress made through the ratification of such policies and acts, the changes in child labour and other potentially harmful attitudes and norms has been slow to come by. The reasons for this include the lack of enforcement capacity for these laws and the lack of public awareness. The Government must persist in its efforts to empower children by scaling up awareness campaigns to ensure these laws become common knowledge to all and that every household is sensitized in the different risks children may face.

In addition to laws, the strategies have also been put into action via various new and ongoing projects. A Child Focus Budget has been adopted on a pilot basis to monitor the adequacy of budget allocation and actual spending on child related programmes. Emphasis has been placed on early detection and screening of child autism to help this disability at an early stage. Another programme, the "Services for Children at Risk" aims to strengthen the protection of children and the government's capacity to do so, and the "Child Sensitive Social Protection in Bangladesh" improves children's access to social protection programmes. A Child-Helpline Programme is being implemented, 250 Community-based Child Protection Committees are being formed and 7 Integrated Child Protection Service Centres have already been established. Regarding the Human Resource Development strategies, their review was done in the chapter 11 of part 2. The evaluation showed that education access and participation was improved, both for boys and girls, especially within the primary and secondary cycles. Furthermore, the number of schools offering pre-school classes had increased as well, offering children the opportunity for early development. In terms of health, important advances have been made in detecting and preventing communicable and non-communicable diseases, as well as in reducing the under-5 mortality rates. However, challenges remains in terms of education quality and nutrition which continues to hinder children's empowerment and development.

Ethnic Communities: According to the Population Census 2011, more than 1.5 million people of ethnic communities live in Bangladesh. About a third of them live in three districts of Chittagong Hill Tracts, where peoples from different ethno-linguistic backgrounds form the

majority. Other ethnic communities are found in the plain lands, particularly in Northern Bangladesh. The ethnic communities in Bangladesh are the most deprived of economic, social, cultural and political rights, mainly due to their ethnic status. Ethnic identities are creating barriers to ethnic minority people's inclusion in wider social networks. Enforcement of the notion of 'national unity', which is not nuanced and sensitive to minority groups, has brought about an elimination of the particular cultural and political values of ethnic minorities. The result is that ethnic people are socially isolated, with little access to mainstream economic and political spheres. A complex interplay of ethnic inequality, enduring discrimination, lack of education, little access to land and lack of employment has resulted in increased poverty amongst these groups. One of the major problems for all minority communities is land grabbing by influential people from the mainstream population. Policies to protect the land of ethnic people have not been adequate.

CHT is one of the most disadvantaged and vulnerable regions in the country in terms of almost all major development indicators, such as income, employment, poverty, health, water, sanitation, education, women employment, access to infrastructure and national building institutions, inter-community confidence, etc. Only 7.8 percent of all CHT people complete primary education and 2.4 percent complete secondary education. Food poverty is widespread in CHT. The prevalence of absolute poverty and extreme poverty in ethnic communities is 65 percent and 44 percent respectively. Extreme poor ethnic minority people are less able to find jobs, making their situation even more perilous.

Challenges with respect to addressing social and economic conditions of ethnic communities include: (i) living in remote areas and far away from each other making it difficult to reach and mobilize them; (ii) only partial operationalization of the Land Disputes Resolution Commission to prevent land grabbing and displacement of ethnic people; (iii) lack of specific objectives concerning needs and concerns of ethnic minority people in mainstream policies of ministries/divisions; (iv) absence of an alphabet and dearth of students hindering development of curriculum in indigenous languages at schools; (v) low food production and lack of economic opportunities resulting in food insecurity; (vi) inadequate institutional mechanism to establish linkage and coordination with NGOs and the private sector to address issues related to ethnic minority people in a comprehensive manner; (vii) lack of comprehensive understanding of the problems of the ethnic communities.

Sixth Plan strategy: To combat these issues, the Sixth Plan aimed to ensure ethnic people their social, political and economic rights; ensure security and fundamental human rights; and preserve their social and cultural identity. This will be achieved by providing them with improved health and education services, promoting their employment, as well as protecting their rights to land and other resources. One of the chief strategies is to fully implement the 1997 Chittagong Hill Tracts (CHT) accord. Others include actions to promote their economic empowerment, improve their quality of life and legally protect them, as such:

- Economic empowerment through 1) the expansion of non-farm income generating opportunities and rural development, 2) the provision of microcredit along with vocational training, 3) the development of a sustainable tourism industry.
- Improve quality of life by 1) expending Human Resource Development programmes to address the special needs of ethnic people, 2) formulating a National Language Policy to protect the culture of these communities, 3) extending national power grid and distribution systems for electricity supply to meet these communities' demand for electricity and 4) providing ethnic communities with preferential access to social protection programmes.
- Legal protection ensured by 1) implementing the UN Declaration on the Rights of Ethnic groups Peoples 2007 and ratify the ILO Convention 1969, 2) formulating a land policy to deal with land disputes involving ethnic communities and finally 3) ensuring the participation of local governments in the management of natural resources.

Implementation: In 1997, the CHT accord was signed between the GoB and the Jana Samhati Samiti, which recognizes the CHT as “tribal inhabited” region and acknowledges the region’s traditional governance system, the status and importance of its chiefs. Recent progress in continuing the implementation of this accord includes the transferring of 5 new institute functions under the Hill District Council’s authority. Various meetings and discussions have also taken place between different stakeholders to discuss the state of the implementation and the way forward.

With regards to securing coverage of Human Resource Development services to ethnic communities, diverse initiatives have been taken. The Tribal Health, Nutrition and Population Plan (THNPP) were formulated as part of the Health, Population and Nutrition Sector Development Programme (HPNSDP) to ensure ethnic minorities have access to the health, nutrition and population services. The purpose of the THNPP is to offer need-based, area-specific services delivered in an ethnic sensitive way. Both the National Education Policy of 2010 and the Third Primary Education Development Programme (PEDP 3) recognize the different needs of ethnic communities, and have committed to educate student from those minorities in their mother tongue.

A recent review of the advancement of the CHT people in the context of the MDG shows that good progress has been made. However, challenges remain. Access to land and land related disputes prevail as the main issues for empowering ethnic minorities. The legal and political empowerment of these populations is still lagging. On the whole, while progress is good further efforts are needed.

Dalits and Extreme Poor Groups: Dalit status is historically associated with occupations regarded as ritually impure. In Bangladesh, the dalits are categorized with respect to their work, religion and ethnicity. There are over 30 different dalit groups in Bangladesh, representing 4.5-5.5 million of the country’s population. These groups of people, being identified as untouchables, have limited social, economic and employment opportunities to blend with the mainstream. They are victims of social antagonism due to their low socio-economic status. Historically, the dalits have

been confined to specific jobs and segregated from full participation with the mainstream society. Dalit communities are some of the most economically marginalized and socially excluded groups in Bangladesh.

Despite their long presence in the traditional Bangladesh society, dalit communities are not focused in development interventions, and are hence are often referred to as the 'missing poor'. Economic disparity is not the only problem faced by these marginalized groups, but also non-economic problems, some of which are (1) untouchability and the hatred associated with social exclusion, (2) lack of self-esteem and dignity, (3) estrangement from most livelihood activities, (4) forced eviction from land, (5) insecurity within family and society, (6) ignorance and lack of information, (7) environmental disasters, (8) lack of access to legal aid services, (9) lack of access to government services. Social boycott and forced labour are often imposed on dalits as a means to control and exploit their labour.

Sixth Plan strategies: The Sixth Plan aims to include these disadvantaged individuals in the socio-economic realm and protect their rights through different strategies. First the Plan aims to cooperate with local bodies and NGOs to identify the disadvantaged people and enable them to participate in development activities. Then priority will be given to the disadvantaged communities in khas land allocation. Tea Garden owners will also be encouraged to assign some land within the estate to their extreme poor workers as a mean for them to build their own garden. Finally, all government functionaries will need to coordinate their activities at all levels to ensure the effective governance of this issue.

Implementation: The Government remains committed and highly sensitive to the needs of these marginalized groups. Legal provisions are in place to protect them against social and political discrimination. Yet the weakness in public administrative capacity and the absence of strong local governments has limited the implementation of government policies. The new National Social Security (NSSS) puts considerable emphasis to bring these marginalized groups under the umbrella of social protection. The adoption and eventual implementation of the NSSS would be a considerable step forward.

Sexual Minority Groups: These groups include people living with HIV/AIDS, female and male sex workers and transgender. All the sexual minority groups face different types of social exclusion which restrict their blending into the mainstream society. Stigma and discrimination against people living with HIV/AIDS is prevalent in Bangladesh and inhibits both the physical and mental well-being of those carrying the human immunodeficiency virus. Stigma also deters the strategies intended to prevent the AIDS epidemic from Bangladesh; it may lead to delayed testing, unwillingness to reveal HIV status to sexual partners and restricted uptake of prevention programmes.

Of all the types of social exclusion faced by the female sex workers, exclusion regarding their children is the most threatening one. Children, especially daughters, of sex workers are more prone

to becoming sex workers as well. In a broader perspective, a much bigger problem that is not only faced by the sex workers' children but by other groups as well is that they are discriminated in terms of opportunity to enter the mainstream society. The situation is even worse for transgender people. They face discrimination at every stage of their lives. Up until November 2013 they were not allowed to have voter ID cards, meaning they were not even considered eligible to have the most basic right as a citizen. However, hijra/transgender has been recognized as a third gender in 2013. Many of the sexual minority issues are in conflict with existing laws, e.g. sodomy is a punishable act under criminal penal code.

There are additional problems in case of availing social services. Transgender and sex workers are not considered for health insurance, while they probably need it more than others. Problems also prevail in case of attaining security and legal services from law enforcement authorities. Another big barrier for transgender people is that they are not considered for either formal or informal sector employment. All these factors contribute to pushing sexual minority groups away from the mainstream and into deeply entrenched marginalization and lack of societal identity.

The combination of a lack of knowledge, misinterpretation, incorrect information, religious condemnation, punitive laws and practices leads many sexual and gender minority people to experience confusion, a sense of worthlessness riddled with guilt. This in turn leads to negative health outcomes such as poor mental health, suicide inclination and greater vulnerability owing to lower self-esteem and higher risk taking behaviour.

Persons with Disabilities: It is estimated that approximately 9 percent of the total population, including 3 million children, are disabled in Bangladesh, of which half a million are multi-handicapped. Around one-third of all households have a disabled member. Disability on this scale represents not only a major health issue, but is also a prime cause of poverty and underdevelopment. The children of Bangladesh are the future of the country and children with disabilities are the most vulnerable children. Disability can occur at any stage of life, varying over the lifecycle and with a significant increase from around age 50. It is alarming that the total level of disability is increasing with an ageing population.

Persons with disabilities are handicapped in society due to physical, social and cultural barriers that prevent them from fully and equally participating in social, economic, political and cultural activities. Current schemes to address the needs of working age adults with disabilities are small, reaching only about 290,000 people, but it is estimated that there are 1.15 million people of working age with a severe disability.

Persons with disabilities are excluded from microfinance schemes, own less land and are less likely to be involved in any economic activity. The vast majority of them have to leave employment. 89 percent of children with disabilities are not in education. Although persons with disabilities are identified as a particularly vulnerable category of people, their own knowledge and perspectives are conspicuously absent from policy formulation and implementation.

Bangladesh has come a long way in terms of promoting and protecting the rights of persons with disabilities (PWD). Both the UN Convention on Rights of Persons with Disabilities and the Beijing Proclamation on the Full Participation and Equality with Disability in Asia and the Pacific Region have been ratified. A 5 year National Disability Action Plan in 2006 was also implemented, making all relevant ministries responsible for undertaking various initiatives to include and protect PWD. However challenges remain in terms of equal opportunities starting from education access to employment possibilities.

Sixth Plan strategies: Therefore to overcome these issues, a series of strategic actions have been formulated by the SFYP. These fall under 4 broad categories: education, health, inclusion and governance.

- Improve access to and achievements in education by 1) developing an integrated education Programme for visually impaired children, 2) expanding existing institutions for hearing impaired and mentally retarded children, 3) establishing new institutions to provide access to more children with disabilities at primary, secondary and tertiary levels and 4) collaborating with NGOs and private sector to develop and implement the improvements in the education sector.
- Implement a lifelong health support service by 1) strengthening early detection of symptoms of disability, 2) undertaking nutrition programmes for pregnant women, 3) appointing trainee doctors, nurses and other caregivers to deal with disability issues and 4) introducing support services of assistive devices and equipment at the health centres.
- Strengthen their inclusion in society by 1) taking measures to provide persons with disability access to all physical facilities, information and communication, 2) improving their decision making power at national and community level, and 3) introducing community based rehabilitation (CBR) programmes in rural areas.
- Develop the capacity of the ministries and divisions to protect and promote their rights by 1) amending the Bangladesh Disability Welfare Act to clarify definitions of disability and make it consistent with international standards and 2) strengthening the National Coordination Committee for PWD to monitor and coordinate activities of different ministries/divisions.

Implementation: In the FY2012, the Government conducted a “Disability Detection Survey” to map out the location, number and type of PWD. The survey’s intention was to allow for more informed policy, SPPs, health services and other projects aiming at enhancing PWD’s well-being and social inclusion. In addition to this, many of the recent policies and programmes aimed at improving Human Resource Development have made provisions for PWD, such as the National Education Policy, the PEDP 3 and the HPNSDP. Furthermore, the Department of Social Services (DSS) has introduced new projects and strengthened existing ones to improve the welfare of PWD. These include the Integrated Education Programme for the Visually Impaired project, the establishment of a hostel for visually impaired children, and the expansion of the PROYASH

institute dedicated to the wellbeing of persons and children with special needs. Finally, various centres were set up to provide one stop services for PWD, 35 for physically challenged persons were established, and mobile physiotherapy with necessary equipment centres have been made available for PWD located in rural areas. Even so, Human Resource Development progress is still limited for PWD. In terms of health, services are too costly for many households with a PWD to afford treatment, driving them further into poverty. With regards to education, very little has been done for students with disabilities and special needs. Financial incentives for students with disabilities to participate in the education system are too low with limited coverage.

Another very important advancement was the ratification of the 2013 Disable Persons Protection and Rights Act to protect PWD's rights. Amongst other things, this law bans educational institutions, enterprises and other organizations from discriminating against PWD. Organizations and individual will face fines and imprisonment if they discriminate against PWD, for instance by "creating obstacles to them in getting due share of inherited assets, giving negative impression of them in books, publications and media both directly and indirectly and forgery of identity cards". A national committee will also be established as per the Act to oversee and coordinate activities regarding PWD's rights and protection. Nevertheless, discrimination, exclusion and abuse of PWD and their household are still prevalent, as the laws are not being sufficiently enforced.

Inclusion Strategy for the Seventh Plan

The Seventh Plan strategy for inclusion is based on implementation of the Constitution of the People's Republic of Bangladesh that provides equal rights and opportunities to all citizens irrespective of race, religion, caste, creed or profession. It will build on the positive lessons of experience of the Sixth Plan while focusing special attention to those areas where progress has been more limited.

Strategy for the Children: The vision regarding children's advancement and rights is that all children in Bangladesh, irrespective of gender and socio-economic background, should be ensured access to essential services, including social security, health care, nutrition and education, and enjoy protection from all forms of violence, abuse and exploitation, to be able to reach their full potential and realize their rights.

The goals to be achieved are: (i) ensuring children's rights and advancement through the implementation of government policies and legislations; (ii) providing health services the children need; (iii) ensuring access to food and nutrition they need; (iv) providing access to girls to education, training and development opportunities; (v) ensuring access to urban poor children to early childhood development, education, sports and cultural activities providing knowledge and life skill; (vi) protecting children from all forms of abuse, exploitation and violence; (vii) providing access to children particularly in urban and remote settings to clean water and sanitation, and a healthy environment; (viii) ensuring participation of children in defining their needs, developing programmes, implementing interventions, and evaluating their success; (ix) ensuring support of

duty bearer, parents and other care givers on whom children have to depend; and (x) ensuring widespread public support for survival and development of children.

Intervention and actions as indicated below will be taken during the Seventh Plan, in line with provisions of the National Children Policy 2011.

Child health: Caring practices for women and children emerges as a most critical pathway in Bangladesh. The programme areas include arrangements for safe child birth, eradication of polio, elimination of measles and neonatal tetanus, improvement of nutrition and strengthening the school health programme. The actions will include maximizing the efficiency and cost-effectiveness of health expenditure and improving governance. The specific activities will include sensitizing primary and secondary students about critical child health and reproductive health issues, healthy practices and worm infestation, and supplying iron and folic acid tablets for schoolgirls. Necessary measures will be taken to include such issues in school syllabus. Activities will be undertaken to develop an adolescent health strategy including counselling, building awareness for adolescents on hygienic practices, nutrition, puberty, RTI/STD and HIV/AIDS. Regional variations will be taken into consideration for awareness building in using ORT for treating diarrhoea. Minimizing regional disparities in immunization coverage will be addressed to reduce disparities in vaccination coverage through effective programmatic interventions.

Food and nutrition: Nutrition related programme coverage will be expanded, including a nutrition-sensitive approach of the social security system and priority inclusion of poor households with children in social security programmes. Special attention will be given to improve the nutritional status of children aged 24 months and below. Provision of nutritional supplement for pregnant and lactating mother will be uncompromisingly implemented. To control vitamin A deficiency and contain the prevalence of night blindness, vitamin A supplements will be distributed to children with vitamin A deficiency, measles, persistent diarrhoea or severe malnutrition and to postpartum women within 6 weeks of delivery. Ongoing efforts to control iodine deficiency disorders through universal salt iodization will continue. Strategies to control anaemia will include iron-folate supplementation, anathematic treatment, fortification and BCC to increase the consumption of iron-rich foods and promoters of iron absorption. A strategy will be developed to address the health care needs of children with physical and mental disabilities.

Child education: The intervention for early childhood development will include an awareness raising programme for parents to make them aware of early childhood development benefits, promote community-based childcare centres for clusters of families where literate mothers are trained to become caregivers and design facilities for early learners. Pre-primary education (for children 3-5 years) will be expanded to make formal education more effective. Highest level priority will be given to increase enrolment rate and decrease dropout rate, train primary teachers, increase the attendance rate, increase contact hours, and maintain gender parity in access and achievement. Vocational and technical education will be accorded high importance, to create better

conditions for future gainful employment. Non-formal education will be provided to diverse types of children deprived of education, like un-enrolled or drop-out children and hard-to-reach children to enhance their employability and productivity through skill training.

Access to water and sanitation: The specific objectives are to mitigate arsenic problem in drinking water by providing alternative systems, increase rural and urban slum access to sanitary latrines, expand water and sanitation services to cover currently underserved Pourashava areas, provide improved water supply to underserved, un-served and difficult to reach areas. Primary schools will be ensured access to sanitation and safe drinking water.

Child empowerment: Children will be empowered to have a voice in the socio- economic decision-making process at family, society and national levels. In this respect, it would be necessary to create a national platform for allowing children to express opinions on their needs and expectations and means of addressing them.

Child protection: Measures will be taken to ensure right to protection from abuse, exploitation and violence for all children, particularly those who are vulnerable. The policies of existing NPA will be used against sexual abuse and exploitation of children and trafficking. Laws affecting children will be harmonized and enforced. Awareness amongst law enforcing officials and judicial officers and the development of a diversion scheme involving the courts, social workers and probation officers as an alternative to custodial sentences will be undertaken. A widespread social awareness campaign and community mobilization on protection issues will be undertaken to foster positive attitudes towards children, particularly girls, and bolster the positive attitude of parents and decision-makers on the need to protect children regardless of the socio-economic environment.

Birth registration and child marriage: The Municipal Corporations and Pourashavas will be mobilized to register all births. Awareness raising programmes through union Parishad members, and leaders of social opinion including Imams will be conducted to eliminate the practice of early marriage.

Child labour: Effective measures will be taken to reduce child labour, and eliminate worst forms of child labour with a particular focus on child domestic workers, migrants, refugees and other vulnerable groups. In this context, a policy for children in the formal sector focusing on those caught up in the worst forms of child labour will be formulated. Street children will be assisted in accessing their rights and protecting them from all forms of abuse and exploitation. Coordination between government agencies, NGOs working on child issues, parents and community people will be required for an effective rehabilitation and development of street children. Working children such as waste collectors, leather workers, brick breakers, auto-workshop workers and tempo helpers will have access to learning opportunities in formal and non-formal facilities. Extreme

poor households, where the occurrence of child labour is highest, will be covered by livelihoods interventions for adult earners.

Child abuse: To recover and remove children from abusive and exploitative circumstances, interventions will include developing community support for these children, providing livelihood alternatives, basic services and adoption, and implementing policies and legislation necessary for the prevention of abuse, discrimination, exploitation and violence. Steps will be taken to increase efficiency to combat sexual abuse, exploitation and trafficking of children through enhanced coordination and cooperation.

Management and coordination: The Ministry of Women and Children Affairs will conduct public advocacy and coordinate interventions for children's well-being and rights. An inter-ministerial coordination committee consisting of government ministries with children's portfolios and organizations representing children's mandate will be chaired by the Secretary of the Ministry of Women and Children Affairs and will coordinate implementation of the Children Act 2013, CRC, CEDAW, and the World Fit for Children Plan of Action.

Strategy for Ethnic Population: The government is committed to ensuring socio-economic and political rights, fundamental human rights, and social security, while enabling tribal people to retain their social, cultural, and traditional identities. The ethnic communities of the CHT will be ensured access to education, health care, food and nutrition, employment, and overseas employment, and protection of rights to land and other resources. They will be ensured alternative farm and non-farm based livelihoods. They will be protected from hazards caused by climate change and other natural calamities. Additional finance will be allocated as a priority for the implementation of projects that contribute to the development of the people of the CHT and to bridging the development gap between the hills and the plains. A Perspective Plan will be formulated for the development of the CHT through a consultation process with key stakeholders. Special measures will be taken to preserve the characteristics of the tribal region and the cultural identity of the tribal groups.

Strategic Goal and Policy Direction: Recognizing the special socio-cultural and geographic situation of the CHT, the following strategic goals and policy direction will be pursued:

The CHT Peace Accord signed in 1997 provides the basis for the development plans and activities in the CHT. Most of the provisions of the CHT Accord of 1997 have been implemented. The provisions of the Accord ensure transfer of subjects/departments in letter and spirit to the Hill District Councils for the development of the CHT. The government is committed to implementing the remaining provisions; all measures will be taken to implement the Peace Accord within the period of the 7th Five Year Plan. Decentralization and devolution will be further strengthened. The Ministry of CHT Affairs, CHT Regional Council (CHTRC), and three HDCs will support the development of the CHT. The Land Commission Act 2001 will be amended to make it functional and acceptable. The Government will make every effort to expedite the process

to resolve land disputes in the three districts of the CHT. Phased withdrawal of army camps will continue. A land survey will be carried out in consultation with the key stakeholders. The Government programmes will be tailored to meet the needs and concerns of the ethnic communities.

Areas of Future Action: The CHT has specific needs, requirements, and capabilities, and thus requires differentiated measures and approaches, and delivery mechanisms that are appropriate to the local cultural and social context.

- **UN Declaration:** The Government will consider implementing the UN Declaration on the Rights of Indigenous Peoples 2007 and ratifying the ILO Convention 1969.
- **CHT Peace Accord:** The Government will ensure full implementation of the CHT Peace Accord signed in 1997. The Ministry of CHT Affairs, CHT Regional Council, and three Hill District Councils will be strengthened to support the development of the CHT. As per the provisions of the CHT Peace Accord, the remaining subjects/departments will be transferred to HDCs in terms of administration, finance, and development fund in letter and spirit and with allocation of finance.
- **Land rights:** The Land Commission will resolve the land disputes in the CHT following the amended Land Commission Dispute Resolution Act 2001 to ensure the rights to land. Community ownership of land in the CHT will be honoured. A land survey will be carried out in consultation with the key stakeholders as per the provisions of the CHT Peace Accord. An appropriate land policy will be formulated which can deal with land disputes involving ethnic groups. A secure land tenure system will be introduced.
- **Empowering ethnic communities:** The Government will ensure participation of local people in development activities and management of natural resources and will recognize the traditional customs and knowledge of the various ethnic peoples. The Government will ensure community involvement in the adoption of technologies in line with the traditional food production system. The Government will provide appropriate training and support to people for development of their vocational skills and knowledge.
- **Access to Health, Nutrition and Population Services:** Steps will be taken to make Tribal Health, Nutrition and Population Plan (THNPP) more effective in order to ensure ethnic communities have access to the health, nutrition and population services in the ethnic sensitive way. The network of health services will be expanded so that people living in remote and inaccessible areas come under the coverage. Government will take measures to prevent malaria, diarrhoea and other diseases in hill tracts and provide sanitation facilities to the people.
- **Access to education, language, and culture:** A national language policy will be formulated to safeguard the languages of ethnic peoples. An action plan on mainstreaming the education of ethnic children will be implemented. Regular supervision and monitoring, especially for quality primary education, will be strengthened. The Government will ensure establishment of cluster-based residential primary and secondary schools for children of extremely poor parents in remote and inaccessible areas of the CHT. The Government will take action to expand

multilingual education for tribal students at primary school level. The Government will take measures to preserve and promote the culture and heritage of ethnic communities.

- **Developing a Perspective Plan for CHT:** The Government will formulate a Perspective Plan for the development of CHT through a consultation process with key stakeholders. The basis of development planning and programmes in the CHT will be the CHT Peace Accord.
- **Accelerated development of CHT:** Additional finance will be allocated on priority basis for implementation of programmes/projects to reduce poverty and to attain middle income status by 2021. All funds of line Ministries for CHT development will be channelled through the Ministry of CHT Affairs. Representatives of the ethnic groups will be included in development projects undertaken in their areas.
- **Strengthening coordination of development work:** To avoid duplication and make any development sustainable, development work in the CHT needs to be well coordinated and integrated. Coordination of development works will be strengthened through the Ministry of Chittagong Hill Tracts Affairs.
- **Special Programmes for Achieving the Strategic Goals:** Recognizing the distinctive characteristics and special requirements of the CHT, major areas of interventions and special programmes will include:
 - **Agriculture research and development centres:** Realizing the differences in agricultural practices in the Chittagong Hill Tracts and need for hill specific research and development, the Government will establish Agriculture Research and Development Centres, hubs of knowledge and extension , in the three Hill Districts to introduce advanced varieties of fruits, vegetables, flowers, and medicinal plants that are suitable for growing in hilly terrain and also commercially profitable in local and international markets. The Government will introduce a special programme among farmers to popularize growing these fruits, vegetables, flowers, and medicinal plants, and will arrange micro-finance for farmers to create horticulture/vegetable gardens and home gardens. Development approaches will be designed based on area specific agro ecological potential and access to markets and other services.
 - **Rural development and non-farm economic activities:** Income generating activities through small and cottage industries, trading, poultry and livestock rearing, beekeeping, mushroom cultivation, and others will be expanded. The income of poor people will be enhanced through social forestry in hill areas, cultivation of fruits and medicinal plants, and expanding non-farm employment opportunities. Equal emphasis will be given to the farm and non-farm sectors including internal and external labour mobility to expand employment opportunities for the youth.
 - **Livelihood of jhum cultivators:** Special programmes/projects will be undertaken to promote alternative livelihoods options and reduce dependency on traditional livelihoods like jhum cultivation at a level that is sustainable and socially acceptable. Promotion of additional farm and non-farm economic activities for income generation towards attaining improved lifestyles will be ensured.

- **Marketing facilities:** Proper market infrastructure and rural road and market facilities will be developed so that farmers/producers can achieve a better price from selling their products. Measures will be taken to eliminate barriers so that agricultural and other local products have easy access to national and international markets. A special programme will be developed to strengthen post-harvest management, value chain development, processing, packaging, and market access, and to engage private sector market linkages. Private investment in processing, packaging, and marketing CHT products and services will be encouraged.
- **Human resource development programmes:** Existing human resource development programmes will be augmented to address the special needs of ethnic people and strengthen their vocational and social skills. Necessary training and support will be provided to the youth. Monitoring and supervision will be strengthened so that education, health and maternal child health services, social safety nets, and nutrition and housing facilities reach the ethnic people.
- **Labour mobility:** The Government will make special arrangements targeting ethnic communities to prepare them to take up the opportunities provided by national and global labour markets, including overseas employment, and thus enable them to increase their income. Appropriate skill development training and support will be provided to the youth of CHT, to provide vocational and social skills and networks.
- **Internet facility and ICT training:** The Government will provide effective internet facilities throughout the CHT region and will arrange ICT training for the youth of CHT to prepare them for better education and employment.
- **Electrification and telecommunication:** The national power grid and distribution system for electricity supply in the different upazilas of the hill districts will be expanded. The Government will expand electrification in rural and remote areas of CHT and will set up solar-based electric power stations in remote and inaccessible areas of the CHT.
- **Preferential access to social protection programmes:** Social protection assistance will be provided in hill districts to strengthen people's capacity to cope with any sudden decrease in income due to damage to jhum crops caused by floods and drought.
- **Expansion of micro-finance:** Micro-finance activities for poor people and farmers will be expanded (in place of micro-credit) and vocational training provided to the poor.
- **Development of tourism:** Tourism, especially ecotourism and community-based tourism will be encouraged as a means of income generation for the local people. Private local investment will be encouraged to develop sustainable tourist spots and facilities in Rangamati, Bandarban and Khagrachari by engaging tribal people. Care and caution will be taken so that tourism does not adversely affect the local culture and environment.
- **Adaptation to climate change:** Innovative and sustainable adaptation strategies and methods will be ensured to protect people and the environment from hazards caused by climate change. A fund will be provided for adaptation to climate change and disaster mitigation.

- **Village/mouza community forest:** Village/mouza community forest will be created and expanded in the CHT to conserve biodiversity and the watersheds and ensure that people have access to water.
- **Afforestation:** A massive effort will be undertaken involving the local communities for afforestation over the region. Measures will be taken to protect wildlife and biodiversity.
- **Creeks, falls and water bodies:** Special initiatives will be undertaken to ensure the flow of water in creeks, water bodies and waterfalls by preserving the natural sources and integrated watershed management.

Strategy for Dalits and Extreme Poor Groups: The vision of the Government is to erase the discrimination and exploitation faced by dalit communities in Bangladesh, so that they can take their place as full citizens of the country.

- The Government will uphold the right to education for children from dalit communities with the expectation to ensure schools becomes non-discriminatory and inclusive spaces for all children. This recognises the increased interest and conviction among the marginalised that education holds the key for socioeconomic mobility. In this regard, a special quota for dalit and other excluded students will be created in government schools and colleges, and access of dalit adolescents and youth to all government owned skill training institutions will be ensured.
- Local Government Institutions, i.e. Upazila and Union Parishads, along with NGOs will be involved to locate disadvantaged dalit people and help enable them to participate in development activities. Dalit representation in all committees of political parties at national and local level will be ensured.
- The Ministry of Land will give priority to allotting khas land to people of dalit communities for settlement under the Asrayan type housing project. For tea garden workers, planters/owners will be encouraged to earmark land within the estates so that they can build their own dwelling. Special programmes like construction of sweeper colonies will be implemented.
- Massive awareness raising to stop all kinds of discrimination and untouchability against dalits and excluded communities will be undertaken.
- The Government will form a special commission on dalits to evaluate current environment and level of discrimination and provide key recommendations on improving the socio-economic conditions of dalit communities in Bangladesh.
- The Government will review the allotment policy of colonies under every City Corporation and municipality and ensure that marginalized groups of dalits are allotted harassment free access to electricity, gas and water supply services.
- Dalits will be given preferential access to cleaning jobs in municipalities, including lease of public toilets of City Corporations to dalit sweepers.
- Proper resettlement will be provided for evicted dalit families.
- Dalit households will be given preferential access to social security programmes. Such affirmative action will be combined with capability enhancement and confidence building, to empower these groups to have a voice and make claims, and an effective grievance mechanism.

- Massive public education against discrimination and towards equity-inclusion will be promoted, building greater transparency through social audits and public hearings.

Strategy for Sexual Minority Groups: The vision is a society where sexual minority groups, i.e. transgender, can live with respect and dignity and enjoy tolerance and social justice. This includes an HIV/AIDS free society with zero new infections, zero discrimination and zero deaths.

- People infected and affected by HIV/AIDS will be given universal access to treatment, care and support services. This will include increased coverage of HIV testing and counselling. There will be increased coverage on interventions (basic educational, counselling, referral and legal supportive services) for key populations including people living with HIV, along with implementation of services to prevent new HIV infections. This will include opiate substitution therapy for people who inject drugs. The Government will inform about the availability of effective treatment for adequate and timely antiretroviral treatment, since unawareness may discourage people from getting tested.
- The Government will, in conjuncture with NGOs and the private sector, introduce provisions for skill building of transgender who prefer to build their lives around safer occupations in the form of either small entrepreneurship or small cooperative societies.
- Sexual minority groups will be integrated in the national social protection mechanisms including access to social health insurance or other transfers to ensure realization of human rights and fundamental freedom of those socially excluded that are most vulnerable.
- Coordination mechanisms and management capacity at different levels will be strengthened to ensure an effective multi-sector HIV/AIDS response. Also strategic information systems and research for an evidence based response will be strengthened.
- The Government will make laws and policies that facilitate the HIV response and work with uniformed services and health care workers to increase knowledge and tolerance.

Strategy for the differently abled: The differently abled persons with disabilities will be brought into the mainstream of the development process. The Government will promote and protecting rights of persons with disabilities to facilitate their full participation in mainstream social, political and cultural lives. They will be enabled to lead productive and meaningful lives through access to education, health care, food and nutrition, employment and protection and security in society. The Government is strongly committed to the advancement and rights of persons with disabilities by virtue of the Constitution of the People’s Republic of Bangladesh, which enshrines equal rights and status for every citizen, and by signing the UN Convention on Rights of Persons with Disabilities and the Beijing Proclamation on the Full Participation and Equality with Disability in Asia and the Pacific Region. The proposed actions for the Seventh Plan include:

The Rights of the Persons with Disabilities and their Protection Act 2013 will be implemented to ensure international standards on disability rights as set out in the Act. The National Coordination Committee for Persons with Disabilities will be strengthened to monitor and coordinate activities

of different ministries/divisions in implementation of the Act. Requirements of the poor and vulnerable, including women and children, will be prioritized in all activities and implemented.

The Government will ensure that every child certified as having a severe disability will be provided with a regular transfer, known as the Child Disability Benefit. This will extend the current Child Disability Grant that is managed by the Ministry of Social Welfare. The Government will develop a mechanism to identify severe disability among children, which will not only include children with physical disability but also other disabilities like autism, cognitive, mental, sensory impairment, etc. Furthermore, early screening will be ensured for early detection of child autism and other disabilities. It is estimated that there will be around 350,000 children eligible for the scheme. Mechanisms will also be established to remove children with disabilities from the street, making the Child Disability Benefit conditional on children not involved in begging. A system of penalties will be introduced for those who employ children as beggars.

The current disability grant managed by the Ministry of Social Welfare will be reformed into a scheme that provides a regular transfer to all poor and vulnerable citizens of Bangladesh with a severe disability. The scheme will be accessible by all poor and vulnerable people aged 19-59 years with a severe disability and, at 60 years, they will transition to the Citizens' Pension. The Government will design robust measures for identifying severe disability and will establish an appeals mechanism for those who feel that they have been unfairly excluded.

The introduction of a reformed Disability Benefit will mark a significant change in the lives of the disabled citizens who are poor. They will be better able to enter the labour market and access credit so that they can invest in small businesses. The Ministry of Social Welfare will complement the Disability Benefit by providing additional support to recipients by ensuring access to vocational education and small business schemes and eliminating discrimination in the labour market.

Along with an expansion of integrated education Programme for visually impaired children, existing institutions for hearing impaired and mentally retarded children will be expanded. New institutions will be established to provide access to more children with disabilities at primary, secondary and tertiary levels. A collaborative effort involving the government, NGOs and the private sector will be encouraged to expedite an expansion of existing institutions, establish new institutions and undertake teachers' training on disability.

Action will be taken in the health sector to: (i) strengthen early detection of symptoms of disability and provide primary medical rehabilitation; (ii) undertake a nutrition programme for pregnant women; (iii) appoint trainee doctors, nurses and other caregivers to deal with disability issues; and (iv) introduce support services of assistive devices and equipment at health centres.

Measures will be taken so that persons with disabilities can have access to all physical facilities and information and communication. Inclusion of persons with disabilities in various national and community level decision making processes that affect their lives will be ensured. Services like early detection and timely medical intervention, fitment of artificial aids and appliances,

educational services in special and integrated schools, vocational rehabilitation including micro-credit will be provided to persons with disabilities through community based rehabilitation programmes.

As persons with disabilities are predominantly poor and marginalised in society, it is necessary to support the organising of people with disabilities in order to make them ‘visible’ and to empower them to make their voices heard. Some persons with disabilities require specialised support services, assistive devices and job modifications but, more importantly, the right to decent work needs to be recognised. Such approach can ensure meaningful participation of persons with disabilities in the development process.

14.6 GENDER EQUALITY

Women make up almost half of the population of Bangladesh; however they remain one of the most at risk social groups of the country. Although strides have been taken to advance women’s position in society, they continue to have lower economic, social and political opportunities. For instance, in 2008, women held less than 20% of parliament seats and in 2010 the female share of the labour force was less than 40%. This underprivileged position leads to a higher threat of poverty for women as a social group. It also subjects them to other risks such as physical and emotional violence, exploitation, and natural disasters.

It is recognized that women are a heterogeneous groups such that their situations, deprivations, and needs vary according to their locations within various communities, religions, and regions. Thus, along with promoting rights and entitlements of women, Sixth Plan envisaged to cater to all these differential and specific requirements ensuring equal access of women to political, economic and social space.

Progress in the Sixth Plan

The Sixth Plan called for a two-pronged approach for empowering women and ending gender-based discrimination. First, gender will be mainstreamed into all sectoral interventions. Second efforts will be taken to remove all biases against women in society but also in policies, programmes, institutions. The strategies adopted in the Sixth Plan to improve women’s empowerment and social participation consisted of:

- **Political and legal empowerment** will be ensured by 1) addressing women’s advancement and rights issues taking into account the Constitution of the People’s Republic of Bangladesh and other commitments to international forums and 2) ensuring participation and representation of women in all national and local political institutions.
- **Economic empowerment** will be addressed by 1) increasing and improving the opportunities for women’s employment; 2) providing an enabling work environment; and 3) strengthening

women's economic decision making power by promoting women producers, women trade unions and women entrepreneurs .

- **Social empowerment** requires 1) eliminating gender health and education disparities, 2) prioritizing women in social programmes, loans and microcredit, 3) eliminating violence against women through adequate reporting of incidents, and medical, legal and psychological treatment, 4) recognizing the multitude of social identities women can have: ethnic, religious, wealth groups, disabilities and taking it into account when formulating policies and programmes to address their needs and 5) promoting women's statuses through media.

A set of targets were articulated to monitor the extent to which gender equality and women empowerment has been achieved during the plan's execution. (Table 14.2)

Implementation

Table 14.2 shows considerable progress has been made in further improving gender quality in a number of areas. Bangladesh already stands out among comparable per capita income countries in terms of achieving parity in primary and secondary school enrolment. Solid progress has also been made in reducing the large gap between male and female students at the tertiary level. Other indicators also show commendable improvement, although there is still a gap in the area of formal employment.

Table 14.2: Progress with Women Empowerment in the Sixth Plan

Objective	Performance Indicators	Baseline FY(2010)	Target FY 2015	Actual FY2015
Women and men should enjoy equal social, political and economic opportunities	Ratio of girls to boys in tertiary education	32%	60%	50%
	Seats held by women in national parliament	18.6%	33%	20%
	Ratio of literate females to males (percent of ages 20-24)	85%	100%	86%
	Share of women employed in the non-agricultural sector	20%	50%	32%

Source: Sixth Plan

In addition to endorsement of all international conventions for the protection of women's rights, Bangladesh took many new legal and policy measures during the Sixth Plan to uphold the rights of women. An important step was the reformulation of the National Women Development Policy (NWDP) 2011, and the National Action Plan to implement the Policy. Laws formulated include the Domestic Violence (Prevention and Protection) Act, 2010, the Domestic Violence Prevention and Protection Rules 2013, Prevention and Suppression of Human Trafficking (PSHT) Act 2012, Hindu Marriage Registration Act 2012 and National Children's Act 2013. Conducive rulings were given by the High Court included directives concerning women and children development. Some sectoral laws that were enacted ensuring protection and benefits of women such as, Overseas

Employment and Migration Act 2013 and the Pornography Control Act 2012. Similarly, some policies formulated addressed specific gender needs that include among others, National Children Policy 2011, National Education Policy 2010, and National Skill Development Policy 2011. Several acts and policies formulated before the beginning of Sixth Plan, which incorporated provisions for participation and protection of women’s rights were in effect, such as the Citizenship (Amendment) Act, 2009 and the laws governing the local government institutions. The People’s Representation Ordinance on representation in political parties and in national parliament was revised in 2013.

On the policy front, the most important step has been to ratify the National Women Development Policy (NWDP) in 2011. Its vision is to “create a society where men and women will have equal opportunities and will enjoy all fundamental rights on an equal basis”. A list of 20 goals was formulated in order to empower women in all aspect of life: socially, legally, economically and politically.

In terms of results, progress has been most advanced in education (as noted earlier) and in the area of political empowerment. Rapid expansion of female education is changing social norms in urban areas and slowly but surely in rural areas. Although follow up data is not available since the 2013 Labour force Survey, it is quite likely that the labour force participation of women as increased from its low level of 33.5 percent in 2013. Anecdotal evidence suggests that more educated women are now entering the formal labour market. Regarding political empowerment, in the past 20 years, the percentage of female parliamentarians has increased from 12-13 percent in the 1980s to 20 percent now. This was facilitated by the reintroduction of quotas in 2004, allowing 45 parliament seats to be reserved for women with a further increased to 50 in 2011. According to the Gender Gap Report (GGR) of the World Economic Forum 2014, Bangladesh ranked 10th out of 142 countries for women political empowerment (Table 14.3).

Table 14.3: Global Gender Index (Political Empowerment)

Country	Gender Gap Score	Gender Ranking
Iceland	0.6554	1
Bangladesh	0.4055	10
India	0.3855	15
UK	0.2698	33
Sri Lanka	0.1965	50
USA	0.1847	54
China	0.1506	87
Japan	0.0583	104
Brunei Darussalam	0.0000	142

Source: World Economic Forum Gender Gap Report 2014; Scores range from 1 (equality) to 0 (inequality).

Through the multitude of new laws noted above, the Government is trying hard to change the socio-cultural norms that may hinder women’s status and empowerment within the society through

adopting laws to ban child marriage, acid throwing, violence against women, eve teasing, dowry etc. The Domestic Violence (Prevention and Protection) Act of 2010 was passed in accordance to international commitments to enable women to file legal complaints against all form of domestic violence. The act provides a very wide definition of domestic violence which includes not only physical and sexual abuse, but also psychological (harassment, controlling behaviour and verbal abuse) as well as economic abuse (forceful deprivation of financial and economic resources). Another project that has been executed to eliminate violence against women is the third phase of the Multi-Sectoral Programme on Violence against Women, implemented jointly by the Government of Bangladesh and the Government of Denmark. Eve teasing is a serious offense in Bangladesh with adequate legal and social sanctions.

Other projects and programmes have been implemented to protect and empower women. Amongst these the “Multipurpose Rehabilitation Centre for Destitute Age-Old People and Socially Disabled Adolescent Girls” project, to rehabilitate elderly women and disabled girls through skill training and the “Bangladesh Mohila Samity Complex Building for the Underprivileged Women in the Society” to create a space for undertaking women development programmes in a safe and proper environment. The Government has carried out various initiatives to help promote women employment and their economic empowerment. Training centres have been established to provide women with different income generating skills (e.g. ICT, entrepreneurial, food processing).

Finally, steps have also been taken to incorporate gender dimensions in the formal budgeting process. In 2005, the GoB introduced Gender Responsive Budgeting (GRB) in an effort to mainstream gender issues at all policies and decision making levels. In FY2013, 25 of the ministries were undergoing GRB. A set of guidelines has also been issued to ensure that development projects are prepared and reviewed in a gender sensitive way.

Nevertheless, despite progress, there is unfinished agenda. The main challenges are:

- The implementation of social laws remains a major challenge. The Government’s monitoring capacity of domestic violence against women and domestic aid is a constraint.
- Progress in the area of economic equality is lagging behind. With regards to women accessing important factors of production such as land and credit, Bangladesh scores low in the GGR 2014. Despite progress during the Sixth Plan, the women’s labour force participation rate still remains low by international norms. When included in the labour market, women still face different forms of discrimination. They are more prone to under-employment and wage and occupational gender gaps remain significant. According to GGR 2014, women receive only 57% of the male wages for equal work, and less than a third of professional and technical workers are women.
- Lack of gender responsive working environment including inadequate facilities of child care, transport, occupational health and safety discourage women from accessing the job market. Women workers in the informal sector have no legal protection against abuse, discrimination, irregular employment, low wages, and long work hours. Although policy measures are in place

and the Government has granted women 6 months maternity leave, often this is not followed by the private sector or the NGOs.

Gender Strategy for the Seventh Plan

The gender vision of the 7th Five Year Plan is that of establishing “a country where men and women will have equal opportunities and rights and women will be recognized as equal contributors in economic, social and political development”. The mission is to ensure women’s advancement as self-reliant human beings and reduce discriminatory barriers by taking both developmental and institutional measures. Gender equality and women’s empowerment agenda for the 7th FYP is based on pursuing strategies and actions that not only enhance women’s capabilities and access to resources and opportunities but also address the control over resources, decision making, reducing the barriers in structures and institutions and aim at changing social norms and protecting their rights are critical to integrate within the plan. Establishing monitoring, oversight and accountability mechanisms is equally important.

The framework for women’s empowerment and gender equality comprises of 4 areas of strategic objectives:

Improve women’s human capabilities: This deals with women’s and girls’ access to health care, life expectancy, nutrition, reproductive health, education, information, training, and other services that enables women to achieve better health and educational outcomes. This also includes women’s freedom from violence and coercion.

Increase women’s economic benefits: This relates to women’s access to or control over productive assets, resources, services, skills, property, employment, income, information, technology, financial services, and other economic opportunities including community resources like land, water, forest etc.

Enhance women’s voice and agency: This pertains to women’s role as decision makers in public and private spheres including politics and promotion of their leadership is considered here. Changed attitudes on women’s and girls’ rights, women’s enhanced knowledge of their rights and increasing their bargaining power are reflected on.

Create an enabling environment for women’s advancement: The socio-political environment, legal and policy support, and congenial social norms are the key in this area. Oversight, enforcement of laws, regular collection of sex-disaggregated data, gender and social analysis skills including the capacity to develop, implement, and monitor gender strategies, understanding of gender issues in the sector are the key areas.

To implement these strategic objectives, seven action areas have been identified that will contribute in achieving results in these four areas.

1. Increase access to human development opportunities
2. Enhance access to and control over productive resources
3. Increase participation and decision making
4. Establish conducive legal and regulatory environment
5. Improve institutional capacity, accountability and oversight
6. Increase protection and resilience from crisis and shocks
7. Promote positive social norms

Increase access to human development opportunities

Building the human capital of women to foster equality of opportunity is essential. Early and continuous investments in human development for girls are necessary for equitable economic growth. Education, health, nutrition, freedom from violence and such others are considered enabling human development opportunities. To implement this strategic objective, the Seventh Plan will focus on the following areas.

Life cycle based disease prevention and curative healthcare services: Considering the current realities of women in Bangladesh, a lifecycle based healthcare system including tertiary care should be accessible to women within affordable cost. The health care system would be made more responsive to differential needs of women and men aiming at reducing discrimination and ensuring equal benefits. One important initiative will be to undertake information and motivational campaigns to inform households, both women and men about the need and availability of preventive care and screening services. Coverage of the existing low cost health care services will be expanded to include the poor of the remote and vulnerable areas. The ongoing primary health care services would ensure equal immunization support for both girls and boys who are not covered yet. Similarly, immunization, maternal and ante-natal care for pregnant women and post-natal care for both mother and child would be ensured through increased facilities as well as information and motivation both in rural and urban areas. Reproductive and sexual health care services including counselling would be expanded. Expansion of women friendly hospitals in all districts by enhancing services in all sadar hospitals and medical college hospitals including outputs of reproductive health care will be done. The system for registration and tracking of services for women and children at the community clinics and all hospitals would be made more effective. HIV testing and counselling would be scaled up among key populations and high risk groups and awareness amongst migrant labourers and their spouses need be promoted. Prevention of Mother to Child Transmission services will be scaled up for HIV infected women.

Equal access to nutrition: The high rate of malnutrition among children and women calls for a multidimensional approach to address the intergenerational health impact. It would include awareness on child/women nutrition, food value and food diversity. Together with this, the ongoing iron acid supplementation during pregnancy to cover iron-deficiency anaemia, postpartum vitamin A supplementation, treating intestinal parasites, distribution of albendazole

tablets, and vitamin A campaign for children and separate deworming Programme would be strengthened and expanded. Campaign through media on obesity and overweight, and the importance of physical work and healthy food would be undertaken. Ensuring salt iodization through BSTI and compulsory physical exercise in schools are essential. Target specific food fortification for micronutrients would be promoted with local producers. Food security and safety net programmes including the maternal health vouchers and allowance to cover women's/girls' nutritional deficiencies particularly in the calamity/poverty prone areas would be continued and expanded. Promotion and expansion of homestead gardening and poultry in the rural and remote areas particularly amongst the poor introducing climate tolerant varieties will be done to ensure protein and vitamin consumption.

Modern reproductive health and family planning services: Counselling on population control and reproductive health and behaviour would be continued and expanded in all health care centres. Community based family planning services would be continued and expanded to cover urban poor women and men. Motivational work in urban slums and remote areas for use of modern contraceptives and availability of modern contraceptives at a low cost especially in remote areas would be ensured.

Women's decision-making over reproductive health: Information and education is necessary to enhance women's control over their own reproductive health. Counselling services would be made available in all health care centres for men, women and couples.

Quality formal education: Education is key to empowerment and formal education is often a precondition for decisions making positions in both public and private sectors. Quality and gender sensitivity of primary and secondary education would be ensured for girls and boys through teachers' education and training, curriculum improvement (including subjects to promote equality and equity by gender, ethnicity, class, physical ability etc.), and introduction of extra-curriculum activities to build confidence and to overcome the limitations in learning outcomes. Transition from primary and completion of secondary education for both boys and girls would be ensured with continued support from poverty focused stipend, free education, books, and so on. Girls' participation at the tertiary level and technical education would be increased through increased community motivation to change social norms on girls' education, providing scholarships, special quota provisions, infrastructure including accommodation, transport, hygienic sanitation for girls and such support. Other actions would include increasing the percentage of women teachers and teachers' training on inclusive education and making the education environment safe for girls.

Marketable technical and vocational education including ICT: One of the key requirements for employment of women equally with men is marketable education and skills. It is essential to reform the educational curriculum to cater to the needs of the country and the changing global requirements based on labour market analysis and future projections. It should also include measures for proficiency in ICT. Modernization of trade skills education; increasing different language proficiency; hands on training; standardization of courses in consistency with

international needs; establishing globally acceptable certification system; and improved qualification of teaching staff are the needs of the day. This is also necessary for professional migration. Market need assessment and adjustment of curriculum should be a regular phenomenon.

Safe water and sanitation services: Easy access to safe water for drinking and household use facilitates women's empowerment by reducing time spent on searching for safe water and thereby allowing them to be engaged in productive endeavours. Access to water and sanitation services is also essential for household health care. It can save the family from additional expenses and women from care services. These services, both at home and in public places would be expanded to facilitate women's participation in economic and political activities. Arsenic and saline screening would be ensured and traditional filtering methods would be disseminated widely. Also water conservation Programme for the Northern region and coastal belt is important to ease water stress and protect from salinity. Arrangement of safe drinking water and accessible toilet facilities would be there for the women and people with disability in rail station, bus stand, and launch terminal.

Freedom from violence: One of the most prevalent human rights abuses, which has enormous impact on all aspects of women's lives, is violence at home and outside. Multipronged actions are essential to curb violence against women (VAW) including motivation of family, enhancing community support, enforcement of legal provisions, improving women's human capabilities, access to low cost prosecution services and economic self-reliance of women. The ongoing initiatives under the multi-sectoral Programme and institutional mechanisms would be expanded in more areas. It is necessary to take women's safety into account and promote various supports and services, i.e. one-stop crisis centre, forensic DNA laboratory, trauma counselling centre, women support centre, 24 hours toll free helpline (10921) for women and children victims of violence under multi-sectoral programmes. However, prevention would be emphasized and women's and community awareness of the economic, social and health impact of VAW would be enhanced. Information and support services for women in accessing legal support, shelter, and counselling would be expanded and support for women's economic self-reliance should continue. Private and public institutions would be instructed to formulate and enforce policies to protect women from sexual abuse at work places/ educational institutions and other public places. Accountability mechanism would be developed and implemented for the law enforcing agency members in addressing VAW.

Ending child marriage: Child marriage is prevalent and is a barrier to girls' ability to reach their potential, fulfil their aspirations and contribute to their communities. In Bangladesh 33% girls are already mothers by age 19, posing significant risks to their health as well as the increased probability of children becoming stunted. This will require action in multiple areas. The existing age at marriage for girls and boys would be strictly enforced. Compulsory registration after birth of a child will be ensured. The revised Child Marriage Restraint Act 2013 would include penal provisions for both guardians and registers. Civil society movements against child marriage would

be strengthened, community orientation improved and support for continuation of education at secondary levels will be ensured to eliminate child marriage.

Participation in sports and culture: Women's participation in sports and cultural activities would be ensured from school to build self-confidence amongst girls. Extra-curriculum activities would be encouraged and supported in educational institutions and outside.

Protection and development of differently abled women: As almost 10% population is differently abled, the upcoming disability survey would identify extent and types of disability disaggregated by sex. Based on the new National Social Security Strategy (NSSS), appropriate social protection measures would be extended and expanded to cover more such persons, especially women. The needs of this group would also be addressed within human development and economic development agenda as well.

Enhance access to and control over productive resources

Increased access to and control over productive resources enhances women's self-reliance and income. It is important to enhance women's capacity to enter the labour market for income. Three important areas facilitating income are, job creation; connecting with productive jobs being created or get help to create own jobs in self-employment; and increasing women's productivity of the existing jobs.

Short and long term access to decent and harassment free employment: Implementation of the growth and employment strategy of the Seventh Plan will create new jobs for the growing labour force. The private sector will be regulated and monitored in enforcing equal wage and benefits for women and men as per Labour laws and the ILO Conventions. The implementation of NSSS will be a major step forward to encourage women participation in the formal work force.

Secure employment in public and private sectors –domestic and abroad: Filling up of the existing vacant positions in the public sector will allow additional employment for a large number of women and men where women with right qualifications may be given preference to increase women's share of employment. Improvements in working conditions are needed to attract more women to the civil service. Recruitment of women; timely promotions, especially at senior levels; addressing safety and security concerns at field levels; gender sensitivity and elimination of discriminatory attitudes among management will enhance women's participation. Institutional weaknesses and constraints should be removed through transparent human resource management functions.

Opportunities for higher-value self-employment: Self-employment is often a critical avenue to empower women by ensuring economic self-reliance. The large number of micro-finance users, the unemployed school graduates and dropouts, and the unpaid family labourers are the main groups who will contribute to family and for growth, if they are introduced to simple time saving and green technology, information about markets, source of finance and training. Those

opportunities will increase women's participation in non-farm activities. Ensuring support from private sector, NGOs, business associations and media is also important.

Financial and business development services for entrepreneurship: Women entrepreneurship needs to be supported and entrepreneurs are to be prepared to qualify for institutional finance, i.e. they have to be prepared with required paper work, business planning, financial management and such other. Bangladesh Women Chambers of Commerce and Industry and some others are working to develop business capacity of women entrepreneurs and linking them with the banks and PFIs. All chambers and associations would be encouraged to take similar initiatives for entrepreneurs at the district levels. Business incubator services would be expanded by the chambers and associations. Opportunities to participate in trade fairs and higher levels of the value chains would be created. Scope for women at different levels of the value chain of different products would be identified, disseminated and supported with technology and inputs. Ethnic crafts would be promoted.

Reduce and prevent violence and sexual harassment in workplaces and public spheres: Community orientation and motivation by using communication methods and media would be used to create public opinion against VAW in public places. Steps would be taken to enact legislation to address sexual harassment. Full prosecution of VAW committed at public places will be done and results publicized help curb the offense. Emphasis will be given to orientation on the laws and establishing accountability of the members of law enforcing agencies in implementation and enforcement of the legal provisions.

Access to support services: Infrastructure and support services are key to increase women's participation in public spheres. Safe and affordable transport system is necessary to increase women's mobility. The public transport system would be made more frequent, safe and affordable. Public and private transport companies would be encouraged through budgetary incentive to run more buses with reserved seats for women or women only buses during peak period. Employers who employ more women in factories will be provided loan facilities to operate transport services for their women employees. A policy to increase bus services at least for girls' schools and colleges in all cities of the country will be reviewed for implementation. Safety and security (lighting, police patrols, safe toilets, waiting rooms) measures in public transport stations would be a compulsory part of transport management. Road safety would be ensured through enforcement of traffic rules and laws. Cleaning of foot paths, compulsory use of over bridges for road crossing, increased public transports are some other measures to support women's mobility. Training/orientation on the importance of traffic safety would be provided to both public and private service providers using media and also in schools is necessary. Commuter train services between Dhaka and nearby cities, like Narayanganj, Gazipur, Tongi, and Narshingdi would be introduced/increased with ladies compartments at peak hours. Similarly workplace safety and security concerns, child care, housing and toilet facilities, etc. would be addressed by ensuring regulatory provisions with private sectors and also by encouraging private sectors to develop low cost housing and child care facilities.

Access to markets and productive assets (land, seeds, fertilizers and extension services): The extension services of all the government agencies (livestock, fisheries, agriculture etc.) would take specific measures in reaching women with support for training on technology, market information, production techniques, sources of raw materials, etc. Employing women as extension workers is useful in reaching women and opening new employment opportunities for women. The distribution of seeds and fertilizer through women farmer groups will help grassroots level women who are gradually being responsible for farming. Partnership with NGOs has proven to be effective and should be continued.

Increased ownership of land and productive resources: The current practice of distribution of khas land in the name of both spouses would continue. Similarly access to forestry resources through women co-management groups would continue and expand. Micro-finance operations need to combine vocational skills, markets, information. Community orientation on giving women due share of their inherited property is often missing, which would be promoted and enforced. In case of river erosion or such disaster induced migration, women would be considered as a special group for housing or land support.

Access to, and decision-making over, community resources (water body, land, forest): Women's participation in accessing and taking decisions regarding community resources would be ensured by provisions of women's participation under the Social Forestry Rules, Water Management Policy, Forestry Sector Policy, WATSAN Policy and so on. Similar practice would be integrated in all relevant sectors. Women's participation in relevant associations and groups would be ensured and monitored.

Access to technology and information (a2i): Access to modern technology related to business and jobs would be expanded at a low cost. Women's access to information related to markets, employment, and production or business opportunities would be increased through using media and ICT. Increased access to mobile phones, internet and radio etc., will help women in accessing information. The a2i to reach young girls should be strengthened and be responsive to the needs of less educated persons.

Access to energy: Women's expanded access to renewable energy would be ensured in both grid and off-grid areas to facilitate their economic gains as well as conservation of resources. The energy policy would consider and enhance women's access to solar power, bio-gas, improve cook-stoves etc. Women's access to rural market corners and such infrastructure have proved to be beneficial and can be expanded in collaboration with the local government institutions (e.g. municipalities, city corporations). Some municipalities have already taken such initiatives in urban areas, and the others should be encouraged.

Increase participation and decision making

Participation in national politics and local government: Women's participation in national Parliament and local government has increased but the evidence of women raising their voices on behalf of women rights is limited. Women's political orientation would be enhanced through apprenticeship, training, and campaigns and by establishing support and monitoring mechanisms to increase their participation as contestants in regular seats. Some projects have introduced training of women public representatives and citizens and monitoring of women's role in different committees. Steps should be taken so that these approaches are uniformly practiced. The provisions of RPO 2013 related to women's participation and representation in political parties would be ensured by enforcing it within the registration criteria

Strengthened knowledge and capability to participate in public sphere: Training, orientation and knowledge development would be provided to all women employed in the public sector. The capacity of the existing training institutions would be increased with experienced faculty and other resources in the area of gender mainstreaming to both women and men. Leadership training and performance monitoring against defined results would be available to women on a priority basis.

Representation/ leadership in public institutions, business and trade: Women's representation together with appropriate training and capacity building support would be institutionalized in public institutions. Private sector institutions and trade bodies would also be instructed to develop their own gender strategies and ensure more women's representation at different levels. It could be considered as criteria for qualifying for different incentives by the private sector. Women's participation in delegations and committees for trade and other important negotiations and development initiatives would be made mandatory and private sector to be encouraged /incentivised to have women on the Boards. Such legislation might also be considered.

Enforcement of targets / quotas for women's representation at all levels: The existing quota provisions for women's representation in different services will be enforced and/or increased by taking specific measures, especially as the availability of qualified women increases with improvements in women's educational attainments. Also an assessment of the quota provisions for different groups, the performance of these groups and, future possibilities would be considered.

Membership and leadership in associations and decision making forums: Memberships in different sectoral committees and associations would be enforced, such as in, water management associations, sanitation committees, water supply committees, which are formed as per the policies/rules for sectoral ministries and agencies. Similar initiatives by others sectors are necessary. This would be supported by clear TOR and orientation and training for women on their roles in such bodies as well as orientation of their male counterparts.

Establish Conducive Legal and Regulatory Environment

Removal of all discriminatory provisions in all laws and policies: Some laws and policies are yet to incorporate provisions to ensure women's participation and equal rights and these need review and revision. Some of the laws, such as the Citizenship Act 2009 is still to ensure equal rights of

both spouses in ensuring citizenship of spouse of foreign nationality and need to be revised. As another example, the Renewable Energy Policy of Bangladesh did not consider participation or benefit of women though women are involved, which would be reviewed to integrate women's perspectives and benefits. Also, punitive and discriminatory laws and policies related to HIV response need to be addressed for an enabling legal environment for access to HIV services. It is essential that all sectoral policies are also reviewed from a gender lens in order to make them more conducive to women's participation and empowerment. MOWCA's capacity would be improved to provide technical support to line ministries in reviewing such laws. Partnership with women groups would be promoted for this.

All laws effectively enforced to uphold rights of women and girls: The enforcement of the legal and policy provisions would be ensured through establishing effective mechanisms and accountability. Some good practice examples are available in other countries, which include, independent Commission on Women, Oversight of Human Rights Commission and Audit Commissions, which may be considered for adaptation. Women's access to the legal system would be ensured through expansion of support from Legal Aid Fund, simplification of legal procedures, removal of discriminatory procedures and retention of legal practitioners to support poor women. Capacity of judiciary and law enforcement agencies to deal with such cases would be strengthened. A separate tribunal for dealing with human trafficking cases would be formed.

Rights of the girl child recognized and upheld in laws and policies: Girls as a distinct group would be recognized and their rights and advancement would be upheld in all relevant policies and laws. All new laws and policies would be reviewed by the Ministry of Women and Children's Affairs (MOWCA) before their approval and enactment. Partnership with child rights groups would be promoted for the purpose.

Accountability of law enforcers: A transparent accountability mechanism for the law enforcing agencies would be in place so that they are accountable to take action fast on offences related to VAW and women's human rights. Additionally, human resources for the agencies would be provided sufficient orientation and training to make them gender sensitive.

Increased Protection and Resilience from Crisis and Shocks

Social protection addressing gender inequalities and gender dimensions of poverty and shocks: The new NSSS is designed to addressing the specific concerns and vulnerabilities of women at different stages of the life cycle. So its sound implementation will be an essential complement to addressing gender-specific life cycle risks. The introduction of the proposed social insurance is particularly important mitigation measure for risks faced working women.

Climate change adaptation, resilience, food security and livelihoods: Adaptation capacity against climate change impacts will be augmented amongst community including women by investing in DRR and building resilience. Women equally with men would be oriented in dealing with hazards, including forest conservation to reduce probabilities of landslides and flooding; land

use planning to minimize exposure to hazards; early warning systems and livelihood diversification into more resilient and empowering occupations. Resources would be allocated for full implementation of the Climate Change Gender Action Plan of the Government. Women's capacity to play effective role in DRR related committees should be strengthened. Women's livelihood services would continue to ensure food security (e.g. low gestation and less water intensive crops, food storage and preservation technology, and food preservation during calamities) amongst vulnerable groups, including climate induced migrants to urban areas. Providing women with greater access to employment guarantee schemes, skills development, technology, entrepreneurship support and training would continue.

Mitigation measures of involuntary resettlement, and for preventing environmental degradation: Women would be given due compensation for loss of livelihoods and assets for involuntary resettlement during land acquisition and construction of infrastructure through resettlement plans. Also women's engagement in climate change mitigation measures would be increased, such as, knowledge of technology with low carbon emission, such as, forest and bio-diversity conservation, water management, access to renewable energy (solar, wind, bio-gas), and scientific waste management, where women also can become entrepreneurs or workers in these areas.

Information services for livelihood and to strengthen resilience to climate change, calamities and shocks: Early warning about calamities and information related to services, shelters, livelihood support etc. would be disseminated to women and men through community radio and strengthening community networks. Water, flood refuge and sanitation facilities would be expanded with designs that address women's needs including that for child care, delivery and such other, and address women's safety and security concerns.

Influencing Social Norms and Changing how Women and Girls are Valued

Portrayal of positive image of girls / women as equal human beings in all media: Portrayal of women's positive image will be promoted. The news/feature contents would advocate against VAW, dowry, child marriage and such evils. Negative projection of women as well as portrayal as commodity would be prevented, and positive portrayal promoted through mass awareness among the media personnel, including for the media owners. Regulatory measures will also be enforced for positive portrayal in promotional for consumer products and establishing ethical values.

Programme for men to change mind-set about men and women's roles: More programmes would include active engagement of men in all spheres to promote women's advancement and curb men's involvement or support of harmful practices. Sharing of unpaid household and care work by men to reduce double or triple burden. Men would be informed and involved in promoting gender equality as they often control or influence social behaviour, women's mobility outside home and access to reproductive health care. It is also important to develop groups of men as

advocate to change social behaviour, prevent VAW, share household responsibility, promote gender equality and hold other men accountable for discriminatory behaviour.

Working with children and adolescents to develop norms of more egalitarian relationships: As gender socialization of both boys and girls begins early at home and community, it is important to initiate change processes at a young age to shape attitudes and transform behaviours. Early initiation and continued investment in children and adolescents is critical through education curriculum, sports and culture, social behaviour, media and all other means to promote the culture of equality between girls and boys and their equal human rights is necessary, so that men do not grow up with a discriminatory view towards women. Establishing clubs for the adolescents all over the country will create awareness to reduce sexual harassment, child marriage, and other gender based violence, i.e. eve teasing. A young population of age group 15 to 24 years comprises nearly nine percent of the country's population, who can be useful strength. Girl-centred programmes equipping adolescent girls with knowledge and skills can build their confidence and contribute to the efforts to end inter-generational poverty, illiteracy, ill health, and gender inequality.

Implementation of Seventh Plan Gender Strategy

The gender agenda for the Seventh Plan is large and priorities for the next five years will have to be set. Priority areas would be chosen on the basis of contribution towards both economic growth and women's empowerment and actions that can facilitate results in more than one area. The key areas would be to ensure equal benefit from quality formal education; marketable skills to maximize productivity and potential of women; narrowing of wage gap between similarly qualified male and female workers; elimination of all types of biases against female staff at the work place; nutrition and lifelong health care; infrastructure that facilitates women's human development, mobility and economic gains; and actions that enhances positive social norms and reduces VAW and other harmful practices. An assessment of geographic areas that lag behind national average as measured by different gender equality indicators would be prioritized for resource allocation and closing the gender gap in the identified areas. Enforcement of laws and policies and effective monitoring should be ensured for good administration and governance. The available resource envelop for 7th FYP would be reviewed, resource requirements to address gender equality objectives and targets should be estimated and additional resources should be sought, as needed. .

Mainstreaming of gender would continue and all macro-economic and sectoral policies would integrate gender as a crosscutting theme. Action plans should be drawn with a view to reduce inequality and promote an equal relationship between sexes. To ensure results from actions related to gender equality all reporting of national progress including those related to Post 2015 agenda would be based on sex disaggregated data to allow a better understanding the progress in the area of gender equality and women's empowerment. Partnership and cooperation with Civil Society Organizations (CSO) including development and advocacy groups and private sector would be

strengthened to promote their role and support in implementation and monitoring of actions and to achieve good results. Development and advocacy initiatives on gender equality issues and to form public opinion against harmful practices would be pursued jointly and they should be partners in better delivery of services, especially in rural and remote areas.

More specifically, the gender implementation arrangements will be strengthened through the following actions:

Effective and strong institutional mechanism: The existing institutional mechanism for women's advancement will be made more effective with accountability, capacity and authority. Regular guidance from NCWCD, functioning of the committees and the WID Focal Point mechanism would be ensured. Capacity of the key institutions like MOWCA including DWA and PLAU, IMED, BBS, OAG and Planning Commission would be strengthened in performing their roles as per mandate in design, review, implementation, and monitoring of gender equality and women's advancement related actions and their results. MOWCA would be geared more towards an oversight role like other regulatory ministries with review of its mandate to promote its roles to monitor gender equality with allocation of adequate resources. The BBS will be tasked with generating gender disaggregated data synchronized with the national and sectoral indicators and the reporting needs for CEDAW, SDG and such others. IMED would have accountability to monitor gender equality results and the Office of the Auditor General (OAG) should be given responsibility of auditing gender budget expenditure. Similarly Bangladesh Institute of Development Studies (BIDS) can be assigned to necessary gender equality research and BMET strengthened for analysis of labour markets at home and abroad.

Sufficient financial and human resources for gender mainstreaming: Generally there is a lack of resources for agencies in implementing and monitoring activities for advancing women's rights and gender equality. Similarly, there is a general lack of capacity and allocation of human resources to work in this area. Projects/programmes generally lack resources for the identified gender related actions. Often functions in this area are consultant dependent. It is therefore important to allocate both financial resources as per targets of each agency and projects and human resources in the institution with capacity development support. The National Action Plan would be used as a reference point while allocating resources for women's empowerment and gender equality.

Adequate technical knowledge and support services: It is important to increase the number of technically competent persons who can carry out gender analysis, assessment, planning, implementation and monitoring. Though Dhaka University and some institutions have initiated courses, the education institutions should be encouraged to initiate additional courses to develop technical knowledge on how to address gender in different sectoral operations. The capacity of PLAU and DWA should be enriched so that their staff are able to monitor performance and can guide other agencies and ministries, if needed. Gender analysis training should be part of all staff training.

Transparent monitoring mechanisms established and implemented to measure impact of public policies and programmes: The review of 7th FYP programmes should incorporate monitoring of gender equality results. IMED monitoring should integrate monitoring of progress of women's empowerment and gender equality based on project/ Programme targets. More rigorous monitoring of the gender budget is essential across agencies, sectors and field level. The OAG should be assigned to monitor expenditure and results in the area of gender equality. Transparent procedures at different levels would include holding open meetings, issuing publicly available financial disclosure statements, and conducting budget review.

Capacity to develop, implement, and monitor gender strategies across government and sectors: Building the capacity of women and men in institutions to understand gender issues and developing their motivation to bring about changes within their own domain and act accordingly. Orientation of the policy makers and training and capacity building of existing staff contingent in different institutions has to be continued and expanded. All training programmes of different institutions should integrate gender issues that are relevant to the sectors' or departments' operation with specific actions identified and monitoring of the same. Private sectors should be encouraged to incorporate gender perspectives in their operation and employ gender specialists, if needed.

Defined national and sectoral gender equality results: The indicator of the government's performance on gender will be defined besides measuring growth, investment, deficit etc. A compilation of defined gender equality results with indicators would be integrated in the plan document for all sectors for monitoring purpose. At the national level, a list of gender equality indicators would be identified, agreed and monitored. The poverty assessment and income data would be gender disaggregated in all wealth groups so that women's poverty reduction is effectively measured.

Accountability for gender equality results: Accountability for the achievement of gender equality targets and results must be ensured. The Project/Programme management should ensure utilization of resources for gender equality as stated in the project documents, and be accountable for any failure. Reallocation of resources from gender equality objectives to other action areas should be restricted. Performance assessment criteria of projects/programmes should ensure assessment of gender equality targets and results. At country level accountability means that the Government, private sector, parliaments, local development actors, civil society including women's organizations, private sector and national women's machineries make transparent and binding commitments and that they all should work for gender equality in their own area and be accountable. The Government would provide guidelines, ensure oversight and establish partnership for ensuring accountability.

Monitoring and evaluation: For establishing good monitoring and evaluation (M&E) mechanism, it is critical to have a list of agreed gender equality indicators at the national level for measuring the progress of gender equality. These may include employment in formal sector, tertiary

education, reduction of VAW and child marriage, reduction of maternal mortality and malnutrition, reduction of poverty of female headed households and such other key areas. These should be consistent with the probable indicators of the Sustainable Development Goals (SDG). At the sectoral level, a few key performance indicators (KPI) in each sector would be identified and monitored. The GED of the Planning Commission would finalize the indicators with support from sectoral ministries. All relevant stakeholders working in the sector should be informed of the expected results and indicators so that they are also active in implementing actions and monitoring for those results.

14.7 DEVELOPMENT RESOURCE ALLOCATION IN THE 7TH PLAN

Poverty reduction, income inequality, gender equality, social inclusion and social protection are all cross-cutting themes and involve a range of Ministries in delivering related activities. Total resources required for implementing the underlying strategies are also not easy to identify due to the cross-cutting and over-arching nature of these themes. In the case of social protection, the Government provides a separate allocation, mostly from the current budget, that has amounted to about 2.0% of GDP during the Sixth Plan. There was an expectation that this allocation will grow to 3.0% of GDP by the end of the Sixth Plan. This was not possible owing to resource constraint. For the Seventh Plan, the top most priority is to implement the NSSS. However, the Seventh Plan also projects to increase the average spending on social protection from 2.0% of GDP to 2.3%.

Against the backdrop of the above, there are some specialized line Ministries that oversee and provide specific services to support gender equality, social inclusion and social protection. These are: The Ministry of Social welfare; the Ministry of Women and Children Affairs; Ministry of Disaster Management and Relief; and the Ministry of Liberation War Affairs. The development budget allocations for these ministries in constant (FY2016) prices and in current prices are shown in Tables 14.4 and 14.5 respectively.

Table 14.4: Seventh Plan ADP Allocations for Social Protection

(Taka billion, FY2015/16 prices)

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Social Welfare	2.0	6.5	7.5	8.4	9.6
Ministry of Women and Children Affairs	1.5	3.7	4.2	4.7	5.2
Ministry of Liberation War Affairs	4.4	4.3	4.9	5.4	6.1
Ministry of Food	6.3	8.6	9.7	10.7	12.0
Ministry of Disaster Management and Relief	23.3	24.0	27.0	30.1	33.6
Sector Total	37.5	47.1	53.3	59.4	66.6

*Source: Seventh Plan projections***Table 14.5: Seventh Plan ADP Allocations for Social Protection**

(Taka billion, current prices)

Ministry	FY2016	FY2017	FY2018	FY2019	FY2020
Ministry of Social Welfare	2.0	6.9	8.4	10.0	11.9
Ministry of Women and Children Affairs	1.5	4.0	4.7	5.5	6.5
Ministry of Liberation War Affairs	4.4	4.6	5.5	6.4	7.5
Ministry of Food	6.3	9.1	10.8	12.7	14.9
Ministry of Disaster Management and Relief	23.3	25.4	30.3	35.5	41.6
Sector Total	37.5	50.0	59.7	70.1	82.5

Source: Seventh Plan projections, GED