

DISASTER RISK REDUCTION NATIONAL STRATEGIC PLAN OF ACTION 2018 – 2030



The Government of Nepal
Ministry of Home Affairs

July 2018

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2018 – 2030



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GOVERNMENT OF NEPAL
MINISTRY OF HOME AFFAIRS



Singh Durbar
Kathmandu, Nepal.

Ref No.:

Date: 12 Feb, 2019

Message

It is my pleasure that Disaster Risk Reduction and Management Strategic Action Plan (2018 – 2030), a legal based planning framework that covered entire cycle and stages of disaster risk management, endorsed by National Disaster Risk Reduction and Management Council meeting held on 18 June 2018 in line with the provision of the Disaster Risk Reduction and Management Act 2017 is being published.

This action plan has been formulated with the purpose of the sound management and guidance for an able and long-term disaster risk reduction, efficient and effective response as well as sustainable development oriented rehabilitation and reconstruction related actions and activities so as to succeed on the multi-dimensional aspects of disaster management.

I believe that this strategic action plan will be useful to guide the government agencies, development partners, NGO sector including private sector working at federal, province and local levels in the recent context of our country considering the requirement of integrated & need based revised policy and regulation related to disaster risk management.

It is expected that disaster resilient Nepal can be built with the effective implementation of the activities linked to the targets and priority actions of this action plan which is in line with the recent agenda agreed at international forum including Sendai Framework on Disaster Risk Reduction declaration for 2015 to 2030 and Sustainable Development Goals for 2015 to 2030.

I would like to thank ministries of Government of Nepal and other relevant stakeholders including development partners and private sector for their contribution in formulating this strategic action plan. Similarly, I would also express my thanks to the United Nations Development Program and its Comprehensive Disaster Risk Management Programme for their support to prepare and publish the Disaster Risk Reduction and Management Strategic Action Plan.



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Furthermore, I would like to appreciate the efforts of my colleagues including Ms. Indu Ghimire, joint secretary, Mr. Bamshi Kumar Acharya, under secretary for their coordination in publishing the strategic action plan.

I am confident that Disaster Risk Reduction and Management Strategic Action Plan (2018-2030) will be a milestone in providing complete and meaningful information on disaster risk reduction to identify the priorities and actions for the stakeholders, human resources and all communities working in this field for their dedicated actions on disaster risk management in the days ahead.

Prem Kumar Rai

Secretary



GOVERNMENT OF NEPAL
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Kathmandu, Nepal.

Ref No.:

Date: 12 Feb, 2019

Acknowledgement

Nepal has been facing various types of natural and non-natural disasters due to its geographical location, unplanned infrastructure development and growing urbanization. In this regard, I would like to express my happiness on the publication of the Disaster Risk Reduction and Management Strategic Action Plan (2018-2030) which was endorsed by the National Disaster Risk Reduction and Management Council meeting held on 18 June 2018 with the aim to address the all the cycle and stages of disaster risk management.

This action plan, 2018 has been prepared to manage and guide the actions and programmes to mainstream DRR into national development process on multidimensional aspects for disaster management to address effective long-term risk reduction, efficient and effective response. It also intended to adopt the approach of Build Back Better (BBB) after disaster for rehabilitation and reconstruction. I understand that this document will be useful to the government agencies, development partners, NGO sector including private sector working at federal, province and local levels for adopting effective process on development of infrastructure and construction work so as to achieve the Sustainable Development Goals to make disaster resilient Nepal.

The Sendai Framework for Disaster Risk Reduction declaration for 2015 to 2030 and Sustainable Development Goals for 2015 to 2030 are major frameworks on disaster management for multi-dimensional aspects recently agreed at international forum. It is expected that disaster resilient Nepal can be built with the effective implementation of activities linked to the targets and priority actions of this strategic action plan in line with the above-mentioned international framework and targets.

I would like to thank the officials and experts of six different thematic groups, the then joint secretaries Mr. Krishna Bahadur Raut and Mr. Kedar Neupane, under secretaries, section officers, representatives from DpNet and AINTGDM for their



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contribution in preparing this action plan. Similarly, I appreciate the efforts and contribution of Mr. Bamshi Kumar Acharya, undersecretary for his work in publishing the document. Finally, I would like to thank Mr. Vijaya Prasad Singh, United Nations Development Programme and Mr. Krishna Raj Kaphle from Comprehensive Disaster Risk Management Programme, representatives from technical support providing agency and Dr. Narayan Bahadur Thapa, national coordinator and Dr. Dilip Gautam lead technical expert for their thorough engagement & contribution in preparing, finalizing and publishing the action plan.

I am confident that Disaster Risk Reduction and Management Strategic Action Plan (2018-2030) will serve as disaster risk reduction related integrated & comprehensive information document to all active DRR stakeholders and public for their professional efforts and risk-informed actions on disaster management in the future.

Indu Ghimire

Joint Secretary

12 Feb. 2019

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ACRONYMS

AD	Anno Domini
AMCDRR	Asian Ministerial Conference on Disaster Risk Reduction
BCPR	Bureau for Crisis Prevention and Recovery
CBO	Community Based Organization
CCA	Climate Change Adaption
CDRRC	Central Disaster Rescue and Response Committee
DDC	District Development Committee
DDRC	District Disaster Relief Committee
DHM	Department of Hydrology and Meteorology
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
DOA	Department of Agriculture
DOF	Department of Forest
DOHS	Department of Health and Service
DOMG	Department of Mines and Geology
DSCWM	Department of Soil Conservation and Watershed management
DUDBC	Department of Urban Development and Building Construction
DWIDM	Department of Water Induced Disaster management
FAO	Food and Agriculture organization
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GDP	Gross Development product
GLOF	Glacial Lake Outburst Flood
GON	Government of Nepal
GPS	Global Positioning System
HFA	Hyogo Framework for Action

HFF	Himalayan Frontal Fault
ICIMOD	International Center for Integrated Mountain Development
INGO	International NonGovernmental Organization
LAPA	Local Adaptation
LAMP	Land Resource Mapping Project
LSGA	Local Self Governance Act
MBT	Main Boundary Thrust
MCT	Main Central Thrust
MOALS&C	Ministry of Agriculture, Land Management, and Cooperatives
MOFAGA	Ministry of Federal Affairs and General Administration
MOHA	Ministry of Home Affairs
MOFE	Ministry of Forest and Environment
MOUD	Ministry of Urban Development
NAPA	National Adaptation Program of Actions to Climate
NCA	Natural Calamities Act
NEA	Nepal Electricity Authority
NSDRM	National Strategy for Disaster Risk Management
DRRMA	Disaster Risk Reduction and Management Act
LGOA	Local Governance Operation Act
NUDS	National Urban Development Strategy
OPMCM	Office of Prime Minister and Council of Ministers
SAARC	South Asian Association for Regional Cooperation
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations International Children's Emergency
VDC	Village Development Committee
WECS	Water and Energy Commission Secretariat
WFP	World Food Program
WHO	World Health Organization



Chapter 1

BACKGROUND

BACKGROUND

1.1 Status of Disaster Risk

The average distance from the great Himalaya range in the north to the plain Terai in the South of Nepal is 170 KM. Within this short distance, Nepalese people are facing various types of dangerous hazards due to diverse geographical condition despite being rich in natural diversity. Since, Nepal is at risk from different disasters due to natural hazards, every year, in average more than 500 various disastrous incidents occur resulting loss of physical infrastructures and human life and affecting livelihoods. In last 45 years (1971 to 2015), more than 40,000 people have lost their life due to disasters. This number is more than two persons losing life every day. In addition to the high rate of casualties in the above-mentioned period, more than 75,000 people have been injured and about 3,000,000 have been affected. These disasters have become severe burden to the people and the community all over Nepal. In majority of the districts of Nepal, disasters occur recurrently, where more than 90 % of the populations are in at high-risk of death due to two or more than two types of disasters.

Among the major disasters, non-natural disasters are like epidemics, droughts, forest fire, insect and micro-organism havoc, animal and bird influenza, pandemic flu, snake bite, animal terror, mines, air, roads or industrial accidents, fire, poisonous gas, chemical or radiation leakage, gas explosion, consumption of poisonous food, environmental pollution, deforestation or physical infrastructure damage and accident during rescue and natural disasters are like snowstorm, hailstorm, avalanche, glacial lake outburst, heavy rainfall, famine, flood, landslide, inundation, droughts, windstorm, cold wave, heat wave, thunderbolt, earthquake, volcanic eruption, forest fire etc.

Nepal has been ranked in 11th position as the most risk prone country in the world in terms of earthquake, and 30th position in terms of flood and landslide. In addition, due to the increasing development process, Nepal has been facing non-natural disasters like environment pollution, deforestation, dam and embankment bursts, bridge collapse, mines, air, roads, water and industrial accidents.

During monsoon, various types of geophysical and climatic hazards occur nationwide because of geologically dynamic Himalayan range, steep topography, and fragile geographical structure. About 83% of Nepal lies in hill and mountain regions and 17% in the plain Terai. Hilly region is at risk of landslide and soil erosion whereas Chure and the Terai are at risk of flood, droughts, fire and epidemics. Himalayan region is at risk of avalanche and glacial lake outburst. All Nepal being in very active seismic zone, the mountain and Himalayan settlements are at high risk of earthquake. Besides these disasters, other human induced disasters also occur in the country. The major hazards causing disasters are the following.

1.1.1 Road Accidents

With the increasing trend of urbanization and expansion of road networks, the Road Accidents are increasing every year. The major causes of road accidents are negligence of the driver, drunk driving, high-speed driving, recklessness of pedestrians, unsystematic parking, poor road-crossing system, narrow roads, slopped roads, poor drainage and poor visibility at the bends.

According to the WHO report of 2014, the mortality rate by road accidents is 3.18 % of the total mortality rate. Adjusting this mortality rate with the mortality rate of different age group, it becomes 22.32 people in 100,000 people. Based on mortality rate caused by Roads Accident, Nepal has been ranked

in 50th country of the world. Assessing the data from 2001 till the date, the mortality rate by the Roads Accident is increasing. As per last five years data, every year about 10,000 Road Accidents occur in Nepal. Because of this, about 1,889 people lose their life whereas 13,000 get injured every year. Analysis of these data shows that per day 27 accident and death of more than 5 people occur in Nepal. Due to Road Accidents only, about 0.8 % of the total GDP is lost every year.

1.1.2 Epidemics

The people and the communities of Nepal are very insecure by the epidemic hazards. Many people lose their life because of the infectious diseases born out of water, insects, and micro-organisms. From 1971 to 2015, 16,564 people have lost their lives due to epidemics. Diarrhea, malaria, measles, hepatitis, influenza, typhoid, asthma, cholera, sexually transmitted disease, tuberculosis and leprosy are the common infectious diseases in Nepal.

From March to August 2008, the Mid-Western and Far-Western regions of Nepal were affected by diarrhea. About 282 persons lost their life. 19 districts were affected by the diarrhea. In Jajarkot district alone, 12,500 people were affected and 128 people lost their lives. Likewise, 46 people lost their life in Rukum district.

In January 2008, influenza (Bird Flu) was noticed in Nepal for the first time. The virus affected the poultry farm in Kakarbhitta, located in Jhapa district. 28,000 chickens of that area were killed to control the virus. Recently, influenza virus has been found spread in Kathmandu Valley, Chitwan, Kabhre, Hetauda, and in the other parts of the country. In addition, every year hundreds of people are facing a situation of losing their life due to epidemics in some parts of Nepal. It is necessary to develop a surveillance system for regular monitoring of epidemics including influenza virus that impact animal and human health.

1.1.3 Earthquake

Nepal is located on an active seismic belt. There are three main fault lines in Nepal which include the main central thrust on the base of Higher Himalaya adjoining the Middle Mountains south of Himalaya, the main boundary thrust at the confluence of Siwalik and Lesser Himalaya and the Himalaya Frontal Fault in the south of Siwalik. Every fault line is active from the east to the west, and therefore, the earthquakes of high and low intensity occur in Nepal. Geologists have the opinion that these fault lines are created due to the movement or sudden thrust of Indian plate diving underneath to the Eurasian plate.

Indian plate is moving 20 millimeters to the north every year and the lower part of Tibet (Southern border of Eurasia) collides with Asian plate, as a result the required energy is generated to push the Himalaya to the uppermost which causes the region to be the most unstable all over the world. The measurement, using geostationary satellites by global positioning system shows that the Himalaya, located at the middle of Nepal east of Kathmandu, is increasing by 7 ± 2 millimeter every year. Therefore, in Nepal, earthquakes of larger intensity had occurred in AD 1255, 1410, 1505, 1555, 1803, 1833, 1897, 1905, 1934, 1950, 2005, and 2015.

The April 25, 2015 Gorkha earthquake with the magnitude of 7.6 Richter scale caused great loss of human life and property. Subsequently, 7.3 Richter scale large aftershock centered around Sindhupalchok on May 12, 2015 along with other continuous small aftershocks increased additional loss of life and property. The earthquake created other disasters like avalanche, landslides and road blockage. 31 districts of Nepal had been impacted and 14 were declared as the most affected districts. Due to that earthquake, many settlements became risky to inhabit whereas historical areas and heritage sites of Kathmandu valley were destroyed.

8979 people lost their life and more than 22, 300 people were injured due to the earthquake. At least 498,852 private houses and 2,656 government buildings had been destroyed. Similarly, 256,697 private houses and 3,622 Government buildings were partially damaged. Besides this, more than 19,000 class rooms were damaged completely and more than 11, 000 classrooms were partially damaged.

1.1.4 Landslide

Since 1971 to 2015, 4,832 people have lost their life due to landslide in Nepal. There was a great loss of life and property in the eastern and central part of Nepal due to flood and landslide in B.S. 2050. More than 2000 landslides of small and large scale occurred in the highway and slopped hill. The inactive old landslide also became active. 42,995 hectares of agricultural land had been affected by heavy rain fall, landslide and flood. Many Irrigation system, highway, bridges and other physical infrastructures had been affected. The total estimated damage was about 5,000 million Nepalese rupees. 1,170 people lost their life and 500,000 were affected.

The highways like Prithvi, Arniko, Butwal - Pokhara and Narayangadh - Mugling including other important highways of Hilly area are facing landslides continuously. Due to heavy rainfall of July 2003, landslides had occurred in more than 70 places in 36 KM section of Narayangadh- Mugling road. Due to the disaster created by the devastating flood and landslide, some new learning and experiences have been gained through awareness for preventing them.

1.1.5 Flood

There are more than 6,000 rivers in Nepal of small and big size with total length of about 45,000 kilometer. These rivers are helpful for agriculture and

irrigation facilities and to sustain the life but when these rivers get flooded, the flood ruins most of the Terai and valleys. In Nepal, the drainage density is 0.3 km per square kilometer which shows that how close and flood sensitive the drainages are. In addition to damaging the crops, the flood causes great loss of humanitarian and physical assets and generally epidemics spread out after flood. Particularly, the poor people are the most unsafe from it. Since 1971 to 2015, a total of 4,344 people have lost their life due to flood.

Generally, flood occurs in Nepal due to high intensity rainfall, continuous rainfall for several days, glacial lake outburst and landslide lake outburst. We have an experience of flash flood and damages of life and property in the Mediumhill region of Nepal. Because of the deposition of huge sediment carried by the river flowing from the hilly area down to the plain Terai, especially the floodplains in the Terai are affected by the floods. When summer monsoon becomes very active, flooding occurs mostly in July, August and mid-September. Flash flood occurs due to outburst of the temporary lakes made by the glaciers and landslides also. Because of the flash flood caused by the rivulets originated from Chure hill, the Bhawar region is at risk. These rivers change their course frequently and bring too much sediment. After these sediments get deposited at the plains, the height of the river bed and bank increase continuously. When these rivers flow to the southern Terai, then inundation, bank erosion and deposition of sand in the agricultural field happen.

The Terai of Nepal gets inundated due to the congestion of drainage by the embankments constructed near the border between Bihar and Uttar Pradesh of India. The infrastructure development, especially construction of road near the border also obstructs natural drainage. When river bed rises, the communities become unsafe even on medium flow. For resolving such problem, preventive measures like clearing the natural drainages are necessary along with the specific activities for rescue and relief. The problem

of flood is also widespread in hilly areas where the Glacial Lake Outburst Flood may damage the lower part significantly.

1.1.6 Snowstorm and Avalanche

On 14 October, 2014, snow storm and subsequent avalanche occurred around Annapurna and Dhaulagiri areas in Manang and Mustang districts of Nepal. The storm was triggered by the Hudhud cyclone originated from the Bay of Bengal on 6th October of the same year. Due to snow storm and avalanche, at least 43 people including 21 pedestrians were killed. Approximately 50 persons were reported missing and 175 people were injured due to severe cold. About 400 people were rescued from different areas of Manang and Mustang. Such incidents affect tourism and national economy deeply. Such disaster risks can be prevented with the proper investment on developing a mechanism for shifting tourists and local community at safe places and on weather forecasting and early warning system.

1.1.7 Droughts

Every year drought impacts the agriculture, environment and ecosystem negatively in the Tarai and western hills of Nepal. December to June is relatively dry and drought like situation develops during monsoon season also if there is no rainfall for a long time. The Manang and Mustang districts located in the Trans–Himalayan range are very dry throughout the year and Terai and western hills are affected more in comparison to other areas.

It is experienced that drying of sources of water (mainly the source of groundwater) is increasing in the middle mountains. The Ministry of Agriculture, Land Management and Cooperatives has identified droughts as the most hazardous for agriculture. Long droughts can impact the agricultural production negatively and create the situation of food insecurity specifically,

when only 38% of agricultural land has the access of irrigation throughout the year and rest of the land depends on monsoon rain. About 5000 families living in the hills and Terai are affected by droughts every year in Nepal. The food production drops drastically due to droughts and the problem of famine may increase more.

There was severe decline in food production all over the country due to lack of rainfall in the winter of 2008. The production of wheat and barley was dropped by 14 and 17% respectively. In some districts of mid and far western Nepal, the food production dropped half from November 2008 to February 2009 due to rainfall less than half of the normal. The joint assessment of the Ministry of Agriculture, Land Management and Cooperatives, UN Food & Agricultural Organization and World Food Program showed that about 20 lakh people were at high risk of food insecurity and additionally 35 lakh people were badly affected due to inadequate food production. The report of those organizations revealed that there was food crisis due to droughts in 40 districts out of 75 districts of Nepal.

In addition to aforementioned major climatic, geological and health hazards, Nepal is also relatively insecure from the hazards like forest fire, thunderbolt, hailstorms, windstorm, glacial lake outburst flood, air pollution and water pollution.

The climatic change may cause the change in spatial and temporal patterns of extreme weather events. In recent years, it has been found that the monsoon pattern has been changed and the active monsoon duration is prolonged due to late withdrawal of monsoon. The spatial pattern of high intensity extreme rainfall is quite different from the annual or monsoon rainfall pattern. The Terai and Chure region where generally less annual rainfall and rainy days are expected, are suffering from high intensity extreme rainfall. The analysis of the trend of recent precipitation data from 1981 to 2010 of 210 stations shows

that pre-monsoon rainfall is increasing all over Nepal while post-monsoon rainfall is decreasing. Additionally, a significant increasing trend of continuous dry days and decreasing trend of rainy days are observed throughout Nepal which indicates increase in dry period nationwide. Generally, intensification of various rainfall indicators at different part of the country indicates location specific risk of flood, landslide and droughts.

Disaster is a result of hazard and vulnerability. The most vulnerable group consists of financially disadvantaged and poor families, marginalized and socially excluded communities, women, children, elderly and people with disability. Disaster risk depends on social, economic and political structure and interrelationship between them. Disaster risk can be reduced by reducing the exposure and vulnerability and increasing the resilience.



Chapter 2

A REVIEW ON
IMPLEMENTATION
OF NATIONAL
STRATEGY FOR
DISASTER RISK
MANAGEMENT,
2009 AND
EXISTING LEGAL
AND POLICY
FRAMEWORK

A REVIEW ON IMPLEMENTATION OF NATIONAL STRATEGY FOR DISASTER RISK MANAGEMENT, 2009 AND EXISTING LEGAL AND POLICY FRAMEWORK

2.1 Review of the implementation of National Strategy on Disaster Risk Management 2009

National Strategy for Disaster Risk Management (NSDRM) 2009 has adopted a disaster risk reduction oriented comprehensive approach from relief and rescue-oriented approach to in disaster risk management. The government agencies working in disaster risk management, development partners, national/international NGOs, the Red Cross movement, humanitarian organizations and community based-organizations had participated and supported the formulation and implementation of the strategy.

There have been several significant achievements on policy and institutional arrangements in risk reduction sector through implementation of this strategy. New constructions following National Building Code and retrofitting programs of school and hospital buildings are important achievements in the risk reduction sector. Similarly, the local disaster risk management plans and district disaster preparedness and response plans implemented from district to the community level and emergency operation centers established and operated from the center to the district level are some significant efforts for risk reduction. Likewise, this sector has been benefitted by the programs related to capacity building of human resources involved in disaster risk management at national to local levels. The Early Warning Systems

established in some of the rivers and risk-prone glacial lakes have helped to reduce the loss of life and property by flood and inundation.

Despite some noticeable progress after implementation of National Strategy for Disaster Risk Management 2009, there hasn't been progress as expected on the first and second priority activities like institutional arrangements and risk assessment due to inability of making the governance activities risk sensitive as expected. The establishment and institutionalization of Geographic Information System (GIS)-based disaster information management system and development of actionable risk information and its effective dissemination mechanism are still at the initial stages. Additionally, mainstreaming of Climate Change Adaptation and Disaster Risk Reduction in the overall development process by integrating assessment of climatic and other risks have not been achieved. It is necessary to integrate and effectively implement the policy, institutional and legal arrangements related to Climate Change Adaptation and Disaster Risk Reduction so that limited resources could be well utilized. Though Nepal gained significant achievements in last ten years, there are still more to be done to accomplish the vision of the strategy as a disaster resilient Nepal.

2.2 Existing Legal and Policy Framework

Under the policies for protection, promotion and use of natural resources, the Constitution of Nepal 2015 has set the policy of early warning, disaster preparedness, rescue, relief and rehabilitation for preventing water-induced disasters, developing sustainable and reliable irrigation through river management and minimizing the risks from disasters caused by natural hazards. Schedule 7 of the constitution has enlisted natural and non-natural disaster preparedness, rescue, relief and rehabilitation activities in the concurrent powers of Federal and Provincial governments. Similarly, Schedule 8 has enlisted disaster management as sole responsibility of the

local government and Schedule 9 has included it in concurrent powers of Federal, Provincial and Local governments.

With the implementation of Natural Calamity (Relief) Act, 1982, Nepal embarked institutionalization of Disaster Management. This act established the Ministry of Home Affairs as a central agency for coordinating the activities to protect life and property through post-disaster rescue and relief. Similarly, other ministries, departments, academia, development partners, UN Agencies, international humanitarian organizations, non-governmental organizations and civil societies were given supporting role. The act has bestowed rights to the formation of Central Natural Disaster Relief Committee for formulation and implementation of policy at the central level and Natural Disaster Relief Committees in regional, district and local level for coordination and implementation.

As a result of international initiatives, with the adoption of Hyogo framework in 2005, the concept of disaster management in Nepal is developing towards “Disaster Risk Reduction”. In this context, the National Strategy for Disaster Risk Management, 2009 has aimed to develop the resilient community by identifying five priority areas for disaster risk reduction. In line with the Hyogo Framework (2005-2015), this strategy set a vision of “Disaster Resilient Nepal”. It has motivated to mainstream Disaster Risk Reduction in the process of formulation and implementation of sectoral development plans and encouraged for development and strengthening of institutional mechanism, capacity building, effective implementation of emergency preparedness, responses and recovery programs.

Sendai Framework 2015 has set four priority areas and a vision of developing disaster resilient community and nation by ensuring participation of all-of-the-society in disaster management. Nepal has also implemented Disaster Risk Reduction and Management Act, 2017 as per the international commitment,

experiences on past disasters and the Constitution of Nepal. The act has covered all aspects of Disaster Risk Reduction and Management. It has made an arrangement of “National Disaster Risk Reduction and Management Authority” as a specialized agency for Disaster Management and clarified the roles and responsibilities of Federal, Provincial and the Local level.

The Tenth Five Year Plan (2002-2007) has followed disaster management as an interrelated policy. The plan had highlighted on water induced disasters prevention, integrated management of natural and human induced disasters, policy improvement, development of institutional mechanism, disaster risk assessment and information dissemination, and disaster resistance construction practices.

Three Years Interim Plan (2007-2010) has accepted the necessity of Disaster Risk Management for sustainable development by identifying disaster a hindrance for achieving development goal. This plan had emphasized on the cooperation and coordination between the major agencies and the stakeholders. Additionally, prioritizing on disaster management, the 14th plan (2016 - 2018) has adopted the policy of conducting special program on capacity building for emergency search, rescue, treatment and immediate relief and, mainstreaming disaster risk reduction in all the dimensions and stages of development.

The Soil and Watershed Conservation Act 1982 has a legal arrangement to conserve soil and watershed by controlling natural hazards like flood, landslide and soil erosion. The Water Resources Act, 1992 has a provision to utilize the water resources without having a significant adverse effect on the environment due to soil erosion, flood, landslide or similar other reasons.

The Local Governance Act 1998 provided the rights to perform the activities related to disaster risk reduction to the then local agencies (Village

Development Committee, Municipality, and District Development Committees) and people as the most appropriate entry point to formulate and implement effective development plans at their areas. Additionally, it provided the rights to establish Environment Conservation and Disaster Management Fund at the District Development Committee, Village Development Committee, and Municipality level..

The Local Government Operation Act, 2018 has replaced the local governance act 1998. The Sub-section 2(p) of the Section 11 of Local Government Operation Act, 2018, has included functions of all stages of disaster risk reduction under the duty, responsibility and rights of rural and urban municipalities. This act has also included the activities related to the building construction permission, monitoring, and evaluation as per the National Building Code and Standard including the policy, plan, program formulation, implementation, monitoring, regulation and evaluation etc. related to safe community development under the duty, responsibility and rights of the rural and urban municipality. Similarly, the Building Act 1998 has a provision of forming a Building Construction Management Strengthening Committee to regulate the Building Construction work for reducing the possible damage on buildings by the earthquake, fire and other natural disasters.

National Agriculture policy, 2004 has aimed to protect, promote, and utilize the Natural Resource, Environment, and Bio-Diversity. It has mentioned the establishment and operationalization of monitoring system for natural hazards, extreme rainfall, droughts, disease, insects and other natural hazards assessment and mobilization of agricultural relief.. In order to make peasants resilient to climate change and disasters, the current Agricultural Development Strategy (2015- 2035) has prioritized the activities for the establishment of early warning system on weather and climate, research on drought and flood resistant seeds, establishment of Peasants Welfare Fund,

promotion of agricultural insurance, storage of food, seeds and fodder, establishment of Preparedness and Responses Fund etc.

In order to reduce the risk from fire in industries and businesses, Industry Policy, 2010 has made an arrangement of a modern fire brigade in industrial zone and corridor in coordination with rural / urban municipality, and rebate on income tax for the subsidy or financial help given by the industry during any natural disaster and social service.

The Guidance Note - District Disaster Preparedness and Response Planning, 2011 has clearly assigned responsibilities to the all government agencies, Red Cross, National/ International non-government organizations, and UN agencies involved in the process of formulating disaster preparedness and response plan at the district level. Based on this, Disaster Preparedness and Responses Plans have been prepared and implemented in all districts. Nepal Road Safety Action Plan (2013- 2020) has a vision of reducing loss of life and property through the provision of safe road infrastructures and services backed with effective post-crash responses. This action plan has set various activities under five pillars such as road safety management, safer roads and mobility, safer vehicles, safer road-users, and post-crash response.

National Disaster Response Framework, 2013 has clear arrangement for managing disaster preparedness, and post-disaster search, rescue and relief, assignment of responsibility and for effective coordination. The framework has also clear arrangement for the process of appealing international support for responses and its responsibility, its aspects to be considered, and the coordination of international support. The framework has also clear provision of clusters for sectoral coordination, mechanism for collection of disaster information and its impact, and mobilization during emergency. Identifying the priority activities of different timelines after disaster, it has identified post-disaster activities and assigned responsibilities.

Besides these, there are few other regulations or directives already in practice to guide the activities of preparedness, responses and recovery. Among them, the major legal arrangements are the National Strategic Action Plan for Search and Rescue, 2014, Disaster Rescue and Relief Standard, 2007, Disaster Victims Resettlement Procedure 2014, Prime Minister Disaster Relief Fund Operation Regulations 2006, Post Disaster Corpse Management Guidelines 2011, the Government's decision of 83 open areas in Kathmandu valley, 2012, and Fire Brigade Operation and Management Procedure, 2010.

National Health policy 2014, has adopted the holistic management policy for addressing health related negative impact caused by climate change through proper use of national network, mechanism and appropriate opportunity and preparation of a multi-sectoral plan to collaborate with all stakeholders as well as proper arrangement to coordinate and cooperate effectively with all stakeholders for the management of zoonotic and vector-borne diseases.

National Reconstruction and Rehabilitation policy, 2015 provides policy level guidance for the post-disaster recovery, reconstruction and rehabilitation. National Reconstruction Authority has been established to reconstruct the physical structures and settlements damaged by the April, 2015 earthquake, and for implementation plan formulation and coordination of reconstruction and rehabilitation program.

Water Induced Disaster Management Policy 2015 has presented various policies to reduce the loss of life and property through prevention of water induced disasters like flood and landslide by structural and non-structural technology and for sustainable use of infrastructures like natural resources, drinking water, water transport, irrigation, road transport etc. by conserving river, watershed and aquatic environment.

National Urban Development Strategy, 2016 has considered resilience among one of the five guiding principles for a balanced and prosperous urban future. This strategy has emphasized on integrating resilience in urban system and community plan formulation and development for building disaster risk adaptive city and community.

In September 2015, 193 member countries of United Nations endorsed the Sustainable Development Goals for 2030. The Government of Nepal has adopted those goals for inclusive long term development of the nation. The disaster risk reduction activities will support to achieve Sustainable Development Goals 2, 3, 6, 9, 11, 13 and 15 directly.

The Government of Nepal has prepared and implemented Climate Change Policy, 2011, National Adaptation Programme of Action to Climate Change 2010, and National Framework on Local Adaptation Plans for Action 2011, to address the impacts of extreme climatic events and climate change to implement adaptation actions and integrate climate change adaptation into the local development plan. The Climate Change Policy includes the issues for mitigating adverse effect of hazardous glacial lakes on priority basis based on the study of current situation of glaciers and glacial lakes, developing and implementing necessary mechanism and their regular supervision and strengthening of the working capacity for early warning and prevention by forecasting the water induced disaster and risk due to climate change.

In October 2016, the new urban agenda adopted by the UN Habitat III for the housing and sustainable urban development has also envisaged adopting and implementing the disaster risk reduction and management, lessening crisis situation, building resilience and response capacity on natural and human-induced disaster, and cities promoting the climate change reduction and adaptation.

In March 2015, 187 member countries of United Nations have adopted Sendai Framework for Disaster Risk Reduction 2015-2030 in the third world disaster reduction conference. It has set four priority areas and seven global targets for reduction of disaster risks and losses. Nepal also being a signatory state of Sendai Framework for Disaster Risk Reduction, has prepared this “Disaster Risk Reduction National Strategic Plan of Action 2018 - 2030.

2.3 Process of Formulating Strategic Action Plan

The Government of Nepal has realized the need for new roadmap to move forward by replacing National Strategy for Disaster Risk Management 2009 based on post-2015 global frameworks for disaster risk reduction and management. This National Strategic Plan of Action on Disaster Risk Reduction has been prepared based on the experience gained through the implementation of National Strategy for Disaster Risk Management, 2009, the experiences and lessons from the 2015 Gorkha earthquake, Paris Agreement on Climate Change, Sustainable Development Goals and Sendai Framework. This will ensure active participation of all stakeholders in its implementation by identifying and mainstreaming risk sensitive activities in the development process of federal, provincial and local level for risk reduction. .

A Working Committee led by the head of the Disaster Management Division of Ministry of Home Affairs was formed for the preparation of this strategic plan of action. It was comprised of the representatives from different government entities (Office of Prime Minister and the Council of Ministers, National Planning Commission, Ministry of Federal Affairs and General Administration, Ministry of Urban Development, Ministry of Health and Population, and Ministry of Forest and Environment) and development partners (Donor agency, Office of the UN Resident Coordinator, UNDP, Association of International Non-Governmental Organization Task Group on Disaster Management, Disaster Preparedness Network Nepal, Nepal Red Cross Society, and private sector).

The following six thematic working groups were formed under the working committee.

1. Productive Sector (Agriculture, Food Security and livelihood, Industry): Thematic lead - Ministry of Agriculture, Land Management and Cooperatives, Thematic co-lead - Ministry of Industry, Commerce and Supply.
2. Social Sector (Education, Health, Water Supply and Sanitation, Social Welfare): Thematic lead - Ministry of Education, Science and Technology, Thematic co-lead - Ministry of Health and Population.
3. Infrastructure Sector (Urban Development, Transportation, Irrigation, Energy, Housing and Cultural Heritage): Thematic lead - Ministry of Urban Development, Thematic co-lead - Ministry of Energy, Water Resources and Irrigation, Ministry of Culture, Tourism and Civil Aviation.
4. Natural Resource and Environment Sector (Land Use, Forest and Environment): Thematic lead - Ministry of Federal Affairs and General Administration, Thematic co-lead - Ministry of Forest and Environment.
5. Gender and Social Inclusion and Governance Sector: Thematic lead - National Planning Commission, Thematic co-lead - Ministry of Women, Children and Senior Citizen
6. Emergency Communication, Preparedness, Response and Recovery Sector: Thematic lead - Ministry of Home Affairs, Thematic co-lead - Ministry of Federal Affairs and General Administration

These Thematic Working Groups consisted of the representatives from other concerned agencies of the Government of Nepal, Development Partners, UN Agencies, National / International Non-Governmental Organizations, Disaster Preparedness Network Nepal, Nepal Red Cross society and private sectors. These Thematic Working Groups have recommended strategic activities related to their sector to include in this strategic action plan by collecting

the suggestions through different stages of discussion and consultation meetings.

As recommended by Sendai Framework, consultation workshops were organized at national, regional and district level with the participation of stakeholders of all sectors, where representatives from multi-stakeholders agencies provided recommendations to include in "National Policy and Strategic Plan of Action on Disaster Risk Reduction" based on learned issues and challenges from their best practices identifying main problems and solutions.

This strategic action plan has been given its final shape based on the views, advices and suggestions of all with broad discussion at different stages and level on the draft prepared by including the suggestions and recommendations of stakeholders' consultation meetings, workshops and Thematic Working Groups.



Chapter 3

STRATEGIC
ACTION PLAN
FOR DISASTER
RISK REDUCTION

STRATEGIC ACTION PLAN FOR DISASTER RISK REDUCTION

3.1 Introduction

The strategic action plan for disaster risk reduction is a national document of the Government of Nepal with commitment for disaster risk reduction and management to support accomplishing Sustainable Development Goals by building disaster resilient community. This action plan has emphasized on the comprehensive approach of "Risk Reduction" in Disaster Management. While preparing the action plan, it has incorporated a comprehensive approach of Risk Reduction in Disaster Management in accordance with the international declarations and commitments such as Sendai Framework for Disaster Risk Reduction 2015-2030, Asia Regional Plan adopted on Asian Ministerial Conference on Disaster Risk Reduction 2016, and the Cancun Declaration adopted by fifth meeting of Global Forum on Disaster Risk Reduction.

This strategic action plan takes into account of the experiences gained from the implementation of National Strategy for Disaster Risk Management 2009, experiences and lessons learned from recent major disasters including the Gorkha earthquake, and initiatives on Climate Change Adaptation and Sustainable Development Goals. The action plan has clearly defined four main priority areas, its supporting areas and strategic activities and assigned the responsibilities to various agencies.

3.2 Guiding Principles

The implementation of disaster risk reduction strategic action plan will be guided by the following principles:

1. The state has the primary responsibility to prevent, reduce and manage disaster risks. The state shall pursue international, regional and bilateral cooperation and partnership if deemed necessary.
2. The Government of Nepal shall pursue the disaster risk reduction and management work in participation and cooperation of its Federal, Provincial and Local level authorities, stakeholder organizations and communities, private sectors and international organizations..
3. Disaster Risk Management shall aim at protecting persons and their property, health, livelihood and productive assets, as well as cultural and environmental assets, while promoting and protecting all human rights, including the right to development.
4. Disaster risk reduction and management shall be pursued with an all-of-society engagement and partnership. It also includes empowerment and inclusive, accessible and non-discriminatory participation, paying special attention to people disproportionately affected by disasters, especially the poorest. A gender, age, disability and cultural perspective shall be integrated in all policies and practices, and women and youth leadership shall be promoted.
5. The state shall ensure full engagement of all institutions of executive and legislative nature at federal, provincial and local levels and a clear articulation of responsibilities across public and private stakeholders to ensure mutual outreach, partnership, complementary in roles and accountability.
6. Local authorities and local communities shall be empowered to reduce disaster risk, including thorough resources, incentives and decision-making responsibilities, as appropriate.
7. Disaster risk reduction requires a multi-hazard approach and inclusive risk-informed decision-making based on the open exchange and dissemination of disaggregated data, including by sex, age and

disability, as well as on easily accessible, up-to-date, comprehensible, science-based, non-sensitive risk information, complemented by traditional knowledge.

8. There shall be coherence between Sustainable Development Goals, Food Security, Health Security, Climate Change Adaptation, Environment Management and Disaster Risk Reduction.
9. Local and specific characteristics of disaster risks shall be considered for the determination of measures to reduce disaster risk.
10. Disaster risk-informed public and private investments shall be increased to address underlying disaster risk factors and to contribute to sustainable development.
11. In the post-disaster recovery, rehabilitation and reconstruction phase, “Build Back Better” approach shall be followed to prevent the creation of and to reduce disaster risk.
12. Public education and awareness of disaster risk shall be increased.
13. Application of science and technology shall be promoted and local resources, materials, knowledge, skills and labor shall be used optimally in disaster risk reduction and management.

3.3 Vision, Expected Outcome, Goal and Targets

Vision

The long-term vision of the strategic action plan is to build a safer, adaptive and resilient nation from disaster risk for sustainable development.

Expected Outcome

The expected outcome of the Strategic Action Plan shall be to reduce disaster mortality and number of affected people substantially, and to mitigate the disaster risk and losses in livelihoods, health, assets, businesses and communities.

Goal

The goal of the strategic Action plan is to prevent new and reduce existing natural and non-natural disaster risks and losses significantly in life and property, health, livelihood and means of production, physical and social infrastructure, cultural and environmental heritage through identification of various strategic activities and formulation and implementation of the periodic and annual plan that prevent disaster risk, increase preparedness for response, rehabilitation and reconstruction and strengthen resilience.

Targets

Analysis of last 45 years (1971- 2015) dataset maintained by the Ministry of Home Affairs, Government of Nepal revealed that about 900 people (except roads accident) lose their life each year due to disasters. Similarly, in average about 6, 40,000 people are affected annually by the disasters whereas about 30, 000 houses get damaged or destroyed. Due to the roads accident only, every year about 2000 people lose their life and 13,000 people get injured in Nepal.

The sectors more affected and damaged economically by the disaster are productive, social, and infrastructure. The analysis of the economic values of damage and losses during 1971-2010 showed that around 2% of GDP is lost every year due to disasters. Greater values of economic losses were reported by 1988 and 2015 earthquakes and floods of 1993, 2008 and 2017. About one-third GDP was lost due to 2015 Gorkha earthquake whereas 2017 Terai floods only resulted about 3% loss in GDP.

This Strategic Action Plan has set the following targets on reducing disaster loss considering the targets set by Nepal on Sustainable Development Goals 2030 and School Sector Development Plan as well.

S.N.	Indicator	Baseline (average till 2015)	Short Term (by 2020)	Medium Term (by 2025)	Long Term (by 2030)
1. Substantially reduce national disaster mortality rate					
1.1	Annual average disaster mortality (except roads accident)	900	400	300	225
1.2.	Annual average mortality by roads accident	2,000	1,700	1,200	700
2. Substantially reduce the number of disaster affected people nationally					
2.1	Annual average number of families directly affected by disaster	132,000	110,000	80,000	65,000
2.2	Annual average number of injured people by disaster	1,800	1,600	1,100	900
2,3	Annual average number of people injured by road accident	13,000	11,000	8,000	5,000
2.4	Annual average number of houses damaged by disaster	30,000	25,000	20,000	15,000
3. Significantly reduce the direct disaster economic loss in national GDP					
3.1	Annual average direct disaster economic loss in national GDP	2%	0.5%	0.2%	0.1%

S.N.	Indicator	Baseline (average till 2015)	Short Term (by 2020)	Medium Term (by 2025)	Long Term (by 2030)
4. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, including through developing their resilience					
4.1	Developing resilience of health facilities by retrofitting		750	900	1200
4.2	Developing resilience of classrooms by maintenance and retrofitting		19,500	25,000	30,000
4.3	Developing resilience of school buildings by retrofitting		750	1,250	1,750
4.4	Developing the model schools for disaster risk reduction among the existing schools		500	1,000	1,500
4.5	Developing resilience of public and Government buildings by retrofitting		2,500	5,000	7,000
4.6	Developing resilience of cultural heritages by retrofitting		130	200	300
4.7	Developing resilience of airports by retrofitting		7	14	21

S.N.	Indicator	Baseline (average till 2015)	Short Term (by 2020)	Medium Term (by 2025)	Long Term (by 2030)
4.8	Developing resilience of existing power houses and dams by retrofitting		21	56	91
4.9	Developing resilience of power sub-stations		42	112	182
4.10	Developing resilience of water supply structures by repairing and renovation		3000	4500	6000
4.11	Percentage of the implementation of Integrated Water Resources Management Plan		25	40	60
4.12	Glacial Lake Outburst Flood risk reduction in high-risk glacial lakes (number)	2	3	5	7
4.13	Protection of riverbank by bio-engineering technique (KM)	1,675	4,500	7,225	10,000
4.14	Protection of Watersheds (Number)	3,346	3,900	4,448	5,000
4.15	Protection of lakes, Wetlands, and ponds (Number)	1,727	2800	3909	5000

S.N.	Indicator	Baseline (average till 2015)	Short Term (by 2020)	Medium Term (by 2025)	Long Term (by 2030)
4.16	Developing climate smart villages		50	113	170
4.17	Developing climate smart agriculture		150	333	500
5. Prepare disaster risk reduction strategy and action plan at provincial and local levels					
5.1	The percentage of province and local levels having DRR strategy and action plan		100	100	100
5.2	Percentage of development of mechanism to increase inter and intra coordination and partnership between federal, provincial and local levels and stakeholders		100	100	100
5.3	Percentage of Government agencies involved in resource management and implementation for recovery, rehabilitation and reconstruction based on “Build Back Better” principle		100	100	100

S.N.	Indicator	Baseline (average till 2015)	Short Term (by 2020)	Medium Term (by 2025)	Long Term (by 2030)
6. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments					
6.1	Percentage of the area that has established multi-hazards monitoring and early warning system in proportion to the total area of the country		50	70	100
6.2	Percentage of population receiving early warning via local or national information system in proportion to the population of disaster affected area	20	50	80	100
6.3	Percentage of local levels in disaster risk prone areas having forecast based preparedness plan		100	100	100

S.N.	Indicator	Baseline (average till 2015)	Short Term (by 2020)	Medium Term (by 2025)	Long Term (by 2030)
6.4	Percentage of local levels capable of disseminating locally useful disaster risks information and assessment to the general people		20	50	100
6.5	Percentage of population evacuated to safe places from disaster prone areas after receiving early warning	25	50	100	100

3.4 Priority Areas

The Strategic Action Plan has adopted holistic approach to support sustainable development by mainstreaming disaster risk reduction in the development process. Taking Sendai Framework for Disaster Risk Reduction as a main guidance, this action plan has identified 4 priority areas and 18 priority actions. Under each Priority Action, the following Strategic Activities are proposed for 2018 to 2020 as short-term, 2018 to 2025 as medium-term, 2018 to 2030 as long-term and continuous for those which are implemented regularly.

Priority Area 1: Understanding Disaster Risk

Priority Action 1: Hazard-wise Assessment of Risk

Priority Action 2: Inter-Agency Coordination for Multi-Hazard Risk Assessment

- Priority Action 3: Development of Effective Disaster Management Information System and Information Dissemination
- Priority Action 4: Capacity Building for Understanding Disaster Risk

Priority Area 2: Strengthening Disaster Risk Governance at Federal, Provincial and Local Level

- Priority Action 5: Establishing and Strengthening Organizational Structures
- Priority Action 6: Developing Legal and Regulatory Frameworks
- Priority Action 7: Capacity Building, Collaboration and Partnership for Disaster Risk Governance
- Priority Action 8: Ensuring Inclusiveness in Disaster Risk Reduction

Priority Area 3: Promoting Comprehensive Risk-Informed Private and Public Investments in Disaster Risk Reduction for Resilience

- Priority Action 9: Promoting Investment for Building Resilience
- Priority Action 10: Promoting Public Investment in Disaster Risk Reduction
- Priority Action 11: Promoting Private Investment in Disaster Risk Reduction
- Priority Action 12: Increasing Disaster Resilience through Risk Transfer, Insurance and Social Security

Priority Area 4: Enhancing Disaster Preparedness for Effective Response and to “Build Back Better” in Recovery, Rehabilitation and Reconstruction

- Priority Action 13: Strengthening Disaster Preparedness for Effective Disaster Response
- Priority Action 14: Development of Multi-Hazard Early Warning System for Disaster Preparedness
- Priority Action 15: Promoting Community-Based Disaster Risk Reduction

- Priority Action 16: Strengthening Communication and Dissemination System for Disaster Preparedness
- Priority Action 17: Capacity Building for Search and Rescue
- Priority Action 18: Promoting "Build Back Better" Approach in Recovery, Rehabilitation and Reconstruction

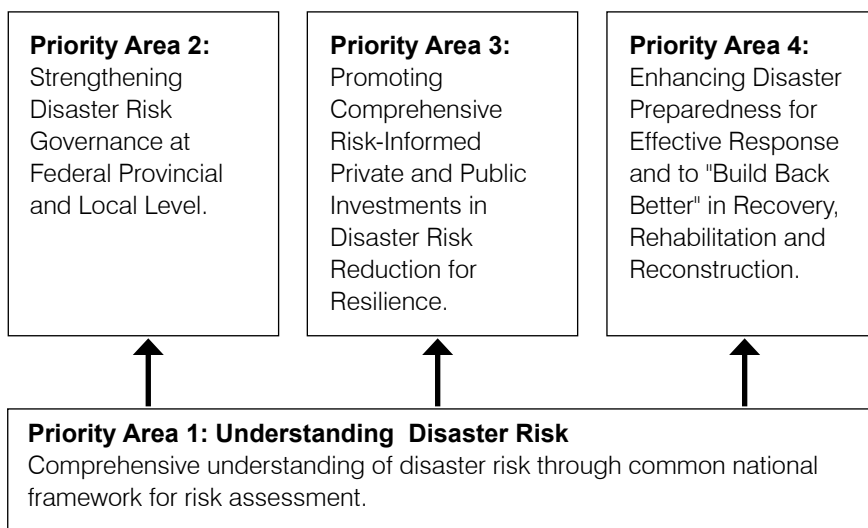


Figure 1 Priority Areas for Disaster Risk Reduction in Nepal

Right identification of disaster risk is a first step towards risk reduction. It will guide the decision processes related to disaster risk reduction in a proper way. In addition, it will rightly guide effective preparedness for responses. The Figure 1 presents priority areas for disaster risk reduction in Nepal and how comprehensive understanding of disaster risk guides other priority areas.



Chapter 4

PRIORITY AREA 1:
UNDERSTANDING
DISASTER RISK

PRIORITY AREA 1: UNDERSTANDING DISASTER RISK

Understanding disaster risks requires better information, especially how risks associated with natural and non-natural hazards interact with communities that are facing rising exposure to these hazards. Since most ministries, departments, provincial and local governments have very limited information about their exposure to natural and non-natural hazards and impact of risks, realizing the priority area on understanding risk, it is necessary to adopt new approaches that help to make decisions on reducing risks. For risk assessments and information, following internationally agreed approach in Nepal, it is necessary to include mainly three elements of risk: hazard, exposure and vulnerability.

Impact Modeling and Risk Assessment can be done for understanding disaster risk. Impact modeling is the estimation of an impact on individuals, structures, livelihoods etc. by any hazard while risk assessment is the aggregation of the impacts of all potential events. The risk assessment allows determining the annual average loss and probable maximum loss from individual or multiple hazards. The decision makers can take appropriate decision before any incident occurs based on the result of Impact Modeling. Impact models can be very useful for financial planning and protection, prioritizing investment for disaster risk reduction and cost-benefit analysis of various risk reduction options. They are the basis for preparedness, focus risk reduction investment, and formulate and implement policies that prevent the creation of new risks.

To undertake effective risk assessment, data must be open and easily available legally and technically. While analyzing such data using open source

technology, they must be able to be reused, reprinted, and redistributed without cost. Data needs to be collected, analyzed, and curated by the people facing the risks. Only through this process of having the data been available to all and curated by those who are potentially affected can behavior fully change.

As per the nature of hazard, it is necessary to conduct risk assessment and mapping in Nepal for each hazard including risk related information covering knowledge on vulnerability and capacity, and social, economic and demographic information. The disaggregated data should be collected based on gender, age, disability, and other indicators. Comprehensive database system on hazard, vulnerability, and capacity is still to be developed regarding at the national and local level. Similarly, integrated disaster risk information dissemination system, and capacities for judicial use of media and the modern information technologies have not been fully developed. Identification of disaster risk and its monitoring is still remained to be institutionally strengthened. Addressing these issues, for increased understanding of disaster risk, the strategic activities are selected for Short Term (2018-2020), Medium Term (2018-2025), Long Term (2018-2030) and Continuous for those activities that need to be done continuously under the following Priority Actions.

- a. Hazard-wise Risk Assessment
- b. Inter-Agency Coordination for Multi-Hazard Risk Assessment
- c. Development of Effective Disaster Management Information System and Information Dissemination
- d. Capacity Building for Understanding Disaster Risk

4.1.1. Hazard-wise Risk Assessment

In Nepal, based on the nature of hazard, it is necessary to conduct the exposure, vulnerability and risk assessment and mapping for each hazard and make them available publicly. Land use zoning based on Risk Sensitive Land Use Plan is also necessary. The following strategic activities are selected for the hazard-wise risk assessment.

Roads Accident Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Real Time Road Surveillance System in potential areas of roads accident	Real-time information on road accidents will be available	Continuous	Ministry of Physical Infrastructure and Transport of Government of Nepal	Concerned Ministries of Government of Nepal, Province and Local governments
Hazard Assessment, mapping and delineation of hazardous zone by identifying potential areas of road accident and make them available publicly	Hazard map of the road accident will be available	Short term	Ministry of Physical Infrastructure and Transport of Government of Nepal	Concerned Ministries of Government of Nepal, Province and Local governments

Epidemics Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Real Time Outbreak and Disease Surveillance System	Real-time information on epidemics will be available	Continuous	Ministry of Health and Population of Government of Nepal	Concerned Ministries of Government of Nepal; Province and Local governments
Hazard assessment, mapping and delineation of hazardous areas for epidemics prone areas and make them available publicly	Epidemic Hazard Map will be available for epidemic prone areas	Short Term	Ministry of Health and Population of Government of Nepal	Concerned Ministries of Government of Nepal; Province and Local governments
Assess the exposure and vulnerability on the basis of sex, age and disability in epidemic prone areas using geo- spatial technology and make them available publicly	Disaggregated data of epidemic exposure and vulnerability will be available	Medium Term	Ministry of Health and Population and Ministry of Home Affairs of Government of Nepal	Concerned Ministries of Government of Nepal; Province and Local governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Complete the epidemic risk assessment and mapping for epidemics prone areas and make them available publicly	Information on epidemic risk level(High, medium and average) in an open source format will be available publicly	Medium Term	Ministry of Health and Population and Ministry of Home Affairs of Government of Nepal, Province and local governments	Concerned Ministries of Government of Nepal

Earthquake Risk

Strategic Activities	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Expand and modernize nationwide network of Real-Time Earthquake Monitoring System	Continuous earthquake information will be available nationwide	Continuous	Department of Mines and Geology	Concerned Ministries of Government of Nepal
Assessment, Mapping and delineation of hazardous areas of earthquake hazard and make them available publicly	Earthquake hazard assessment and maps will be available at national and local level	Short Term	Department of Mines and Geology	Concerned Ministries of Government of Nepal, Universities, Province and Local Governments

Strategic Activities	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Assessment, Mapping and delineation of hazardous areas of soil liquefaction and make them publicly available	Soil liquefaction assessment and maps will be available at federal, province and local level	Short Term	Department of Mines and Geology, Department of Soil Conservation and Watershed Management	Concerned Ministries of Government of Nepal, Universities, Province and Local Governments
Assess geo- referenced earthquake exposure and vulnerability for earthquake prone infra-structures, and shelters based on sex, age and disability and make them available publicly	The disaggregated data of earthquake exposure and vulnerability will be available	Short Term	Department of Urban Development and Building Construction, Ministry of Urban Development, and the Department of Mines and Geology	Concerned Ministries of Government of Nepal, Province and Local Governments, Central Universities, Central Bureau of Statistics
Earthquake Risk Assessment and mapping of the earthquake vulnerable infrastructures, historical and cultural heritages, shelters, school, hospitals, health posts, and water supply structures and make them available publicly	Information on earthquake risk level (High, medium and low) in an open source format will be available publicly	Medium Term	Department of Urban Development and Building Construction, Ministry of Urban Development, Department of Mines and Geology and Department of Archaeology	Concerned Ministries of Government of Nepal, Province and Local governments

Strategic Activities	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare earthquake risk sensitive land- use plans and make them available publicly	The earthquake risk sensitive land use plans will be available	Medium Term	Ministry of Agriculture, Land Management and Cooperative of Government of Nepal	Concerned Ministries and departments of Government of Nepal, Province and Local governments

Landslide Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Real –Time Landslide Monitoring System and make it publicly available	Real-time information on landslide will be available	Continuous	Ministry of Energy, Water Resource and Irrigation of Government of Nepal, Department of Soil Conservation and Watershed Management, Department of Hydrology and Meteorology, Department of Mines and Geology	Concerned Ministries of Government of Nepal, Province and Local governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Hazard assessment, mapping and delineation of the major landslide prone areas and make them available publicly	Landslide hazard map will be available	Short Term	Ministry of Energy, Water Resource and Irrigation of Government of Nepal, Department of Soil Conservation and Watershed Management, Department of Hydrology and Meteorology, Department of Mines and Geology	Concerned Ministries of Government of Nepal, Universities, Province and Local governments
Assess geo referenced exposure and vulnerability of landslide prone infra-structures, and shelters based on sex, age, and disability and make them available publicly	Disaggregated data of landslide exposure and vulnerability will be available	Short Term	Ministry of Home Affairs of Government of Nepal/National Disaster Risk Reduction and Management Authority	Concerned ministries of Government of Nepal, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Hydrology and Meteorology, Central Bureau of Statistics, Universities, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Landslide risk assessment and mapping for vulnerable infra-structures, shelters, school, hospitals, health posts and water supply structures and make them available publicly	Information on landslide risk level (High, medium and low) in an open source format will be available publicly	Short Term	Ministry of Home Affairs of Government of Nepal/National Disaster Risk Reduction and Management Authority	Concerned ministries of Government of Nepal , Department of Water Induced Disaster Management, Department of Soil conservation and Watershed Management, Department of Hydrology and Meteorology, Central Bureau of Statistics, Universities, Research Centers, Province and Local Governments
Soil erosion assessment and, mapping for major watersheds and make them available publicly	Soil erosion maps of major watersheds will be available publicly	Short Term	Department of Soil Conservation and Watershed Management, Department of Forest	Concerned ministries of Government of Nepal, Universities, Research Centers, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare landslide risk sensitive land use plans and make them available publicly	Landslide risk sensitive land use plans will be available	Medium Term	Ministry of Agriculture, Land Management and Cooperative of Government of Nepal	Concerned ministries of Government of Nepal, Department of Water Induced Disaster Management, Department of Soil conservation and Watershed Management, Department of Hydrology and Meteorology, Province and Local Governments

Flood Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Expand and modernize Real- Time Water Level and Rainfall Observation System in major flood prone river basins	Real-time data on water level of major rivers and rainfall will be available	Continuous	Department of Hydrology and Meteorology	Concerned ministries of Government of Nepal , Department of Water Induced Disaster Management, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Flood hazard assessment, mapping and delineation of flood prone areas for major flood prone rivers and make them available publicly	Flood hazard maps of major flood prone rivers will be available	Short Term	Ministry of Energy, Water Resource and Irrigation of Government of Nepal	Concerned Ministries of Government of Nepal, Department of Hydrology and Meteorology and Water and Energy Commission Secretariat
Assess geo- referenced flood exposure and vulnerability for flood hazard prone infra-structures and shelters based on sex, age and disability and make them available publicly	Disaggregated data of flood exposure and vulnerability will be available	Short Term	Ministry of Home Affairs of Government of Nepal/ National Disaster Risk Reduction and Management Authority	Department of Water Induced Disaster Management, Central Bureau of Statistics, Universities, Province and Local Governments
Flood risk assessment and mapping for flood vulnerable infrastructures, shelters, schools, hospitals, health posts and water supply structures and provide them publicly	The information on flood risk level (High, Medium and Low) in an open source format will be available publicly	Medium Term	Ministry of Home Affairs of Government of Nepal/ National Disaster Risk Reduction and Management Authority	Concerned Ministries of the Government of Nepal, Department of Water Induced Disaster Management, University, Research Centers, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare and implement flood risk sensitive land use plans	Flood risk sensitive land use plans will be implemented	Long Term	Ministry of Agriculture, Land Management System of Government of Nepal	Concerned Ministries of the Government of Nepal, Department of Water Induced Disaster Management, Province and Local Government

Snowstorm, Avalanche and Glacial Lake Outburst Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Real Time Snow, Glacier and Glacial Lake Observation System	Real-time information on Snow storm, Avalanche and Glacial Lake will be available	Continuous	Department of Hydrology and Meteorology	Concerned Ministries of Government of Nepal, Province and local governments
Hazard assessment, mapping and delineation of the major Snowstorm, Avalanche and Glacial lake affected areas and make them available publicly	Hazard map on potential Snow storm, Avalanche and Glacial Lake Outburst will be available	Short Term	Department of Hydrology and Meteorology	Concerned Ministries of Government of Nepal, Province and local governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Assess geo-referenced exposure and vulnerability for the snowstorm, avalanche and glacial lake outburst hazard prone infra-structures and shelters based on sex, age and disability and make them available publicly	The disaggregated data on the exposure and vulnerability of Snowstorm, Avalanche and Glacial lake Outburst will be available	Medium Term	Ministry of Home Affairs of Government of Nepal/ National Disaster Risk Reduction and Management Authority	Concerned Ministries of Government of Nepal , Department of Hydrology and Meteorology, Province and Local Governments, Universities, Central Bureau of Statistics
Snowstorm, Avalanche and Glacial lake Outburst Risk assessment and mapping for vulnerable infra- structures, historical and cultural heritages, shelters, school, hospitals, health posts, and water supply structures and make them available publicly	The information on Snowstorm, Avalanche and Glacial lake Outburst risk level (High, Medium and Low) will be available in an open source format publicly	Medium Term	Ministry of Home Affairs of Government of Nepal / National Disaster Risk Reduction and Management Authority	Concerned Ministries of Government of Nepal , Department of Hydrology and Meteorology, Province and Local Governments, Universities, Research Centers
Prepare Snowstorm, Avalanche and Glacial lake Outburst risk sensitive land use plans and make them available publicly	The Snowstorm, Avalanche and Glacial lake Outburst risk sensitive land use plans will be available	Medium Term	Ministry of Agriculture, Land Management and Cooperative of Government of Nepal	Concerned Ministries of Government of Nepal, Department of Hydrology and Meteorology, Province and local governments

Climatic Risks (Drought, Thunderbolt, Windstorm, Heat Wave, Cold Wave)

Strategic Activity	Expected Result	Time Frame	Responsible Agency	Supportive Agency
Expand and modernize Real- Time weather Observation System	Continuous Information related to weather will be available	Continuous	Department of Hydrology and Meteorology	Concerned Ministries of Government of Nepal, Province and local governments
Assessment, mapping and delineation of hazardous areas for the major climatic hazards and make them available publicly	The hazard map of major climatic hazards will be available	Short Term	Department of Hydrology and Meteorology	Concerned Ministries of Government of Nepal , Alternative Energy , Promotion Center, Water and Energy Commission Secretariat, Department of Agriculture, Province and local governments, Universities, Research Centers
Assess geo-referenced exposure and vulnerability for the climatic hazard prone infra-structures and shelters based on sex, age and disability and make them available publicly	Disaggregated data on climatic hazard exposure and vulnerability will be available	Medium Term	Ministry of Home Affairs of Government of Nepal/ National Disaster Risk Reduction and Management Authority	Department of Hydrology and Meteorology, Province and local governments, Universities, Central Bureau of Statistics

Strategic Activity	Expected Result	Time Frame	Responsible Agency	Supportive Agency
<p>Climatic risk assessment and mapping for vulnerable infrastructures (Irrigation, Industry, Agriculture, Hydropower, Energy, Livestock, Forest, Wetland, water reservoir, livelihoods, school, health post and water supply infrastructure etc.), population and shelters and make them available publicly</p>	<p>Information on Climatic risk level (High, Medium and low) will be available in an open source format</p>	<p>Medium Term</p>	<p>Ministry of Home Affairs of Government of Nepal/ National Disaster Risk Reduction and Management Authority</p>	<p>Concerned Ministries of Government of Nepal, Department of Hydrology and Meteorology, Province and local governments</p>
<p>Prepare and implement the Climatic Risk Sensitive Land Use Plans</p>	<p>The Climatic Risk Sensitive land-use plans will be implemented</p>	<p>Medium Term</p>	<p>Ministry of Agriculture, Land Management and Cooperative of Government of Nepal</p>	<p>Concerned Ministries of Government of Nepal, Department of Hydrology and Meteorology, Province and local governments</p>

Fire and Wildfire Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Real Time Fire Monitoring System	Real-Time Information related to fire will be available	Continuous	The local government, Department of Forest	Concerned Ministries of the Government of Nepal, Province Government, Department of Urban Development and Building Construction, Research Centers
Develop Information Kit for awareness raising against fire in the main infrastructure and services	Information related to fire and wildfire will be available	Continuous	Ministry of Home Affairs of Government of Nepal/ National Disaster Risk Reduction and Management Authority, Department of Forest	Department of Urban Development and Building Construction, Province and Local Government
o Hazard assessment, mapping and delineation of the hazard prone area related to fire, wildfire and animal terror and make them available publicly	Fire and Wildfire Hazard Maps for fire prone areas will be available	Short Term	Department of Forest	Concerned Ministries of the Government of Nepal, Department of Urban Development and Building Construction, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Assess Geo- referenced exposure and vulnerability for fire and wildfire prone infrastructure and shelters - based on sex, age, and disability and make them available publicly	Disaggregated data of fire and wildfire exposure and vulnerability will be available	Short Term	Department of Forest	Concerned Ministries of the Government of Nepal, Department of Urban Development, and Building Construction, Province Government, Local Government
Fire and wildfire risk Assessment and mapping for infrastructure, school, hospital, health post, government and private buildings, industrial structures and shelters and make them available publicly	Information on fire and wildfire risk level (high, medium and average) at open source format will be available publicly	Short Term	Department of Forest, Ministry of Home Affairs, Ministry of Agriculture, Land Management and Cooperative of the Government of Nepal	Concerned Ministries of the Government of Nepal, Department of Urban Development, and Building Construction, Province Government, Local Government
Prepare and implement fire and wildfire risk sensitive land use plans	Fire and wildfire risk sensitive land use plans will be implemented	Medium Term	Ministry of Agriculture, Land Management and Cooperative of the Government of Nepal, Department of Forest	Concerned Ministries of the Government of Nepal, Department of Urban Development, and Building Construction, Province Government, Local Government

Industrial (Chemical, Radiation) Risk

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Industrial hazard assessment, mapping and delineation of hazard prone areas and make them available publicly	Industrial hazard map will be available	Short Term	Ministry of Industry, Commerce and Supply of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government
Assess geo-referenced exposure and vulnerability for industrial hazard prone infrastructures and shelters based on sex, age and disability and make them available publicly	Disaggregated data on industrial hazard exposure and vulnerability will be available	Short Term	Ministry of Industry, Commerce and Supply of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, and Local Government
Industrial risk assessment and mapping for risky infrastructure, school, hospital, health post, government and private buildings, shelters, and industrial structures and make them available publicly	Information on Industrial risk level (High, Medium and Average) will be available in an open source format	Medium Term	Ministry of Industry, Commerce and Supply of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government, Universities, Central Bureau of Statistics

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare and implement the industrial risk sensitive land-use plans	The Industrial Risk Sensitive Land-use plans will be implemented	Medium Term	Ministry of Agriculture, Land Management and Cooperative, Ministry of Industry, Commerce and Supply of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government

4.2 Inter-Agency Coordination for Multi-Hazard Risk Assessment

In Nepal, the multi-hazard risks assessment and mapping based on multiple criteria aren't adequate. In this context, an inter-agency coordination mechanism is necessary for multi-hazard risk assessment and mapping. The following strategic activities are selected for this.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop a system to institutionalize Common National Framework for Multi-hazard Risk Assessment	Means, methodology, institutional arrangement and guidelines for Multi-hazard Risk Assessment will be available	Short Term	Ministry of Home and Affairs of the Government of Nepal/National Disaster Risk Reduction and Management Authority	Concerned Ministries and Departments of the Government of Nepal, Water and Energy Commission Secretariat, Province Government, Universities, Research Centers
Establish inter-agency mechanism for uniformity on data collection related to hazard, exposure, vulnerability and risk	Uniformity on data collection related to hazard, exposure, vulnerability, and risk will be established	Short Term	Ministry of Home of the Government of Nepal/National Disaster Risk Reduction and Management Authority	Concerned Ministries of the Government of Nepal, National Planning Commission, Community based organizations, Department of Mines and Geology, Department of Urban Development and Building Construction, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Conduct comprehensive multi-hazard risk assessment and mapping at Federal, Province and the local level for infrastructures (Housing, Irrigation, Industry, Agriculture, Road, Airport, hydropower, Energy, Livestock, Forest, Wetland, Water Reservoir, Livelihoods, School, Hospital, Health Post, Water Supply Infrastructure etc.), shelters, and population</p>	<p>Information on Multi-Hazard Risk Assessment for the important infrastructure and housing will be available publicly in an open source format</p>	<p>Short Term</p>	<p>Ministry of Home and affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration</p>	<p>Concerned Ministries of the Government of Nepal, Province Government, Local Government, Department of Urban Development and Building Construction, Department of Mines and Geology, Department of Hydrology and Meteorology</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare multi-hazard risk sensitive land use plans and make them available publicly	Multi hazard risk sensitive land use plans will be available	Medium Term	Ministry of Agriculture, Land Management and Cooperative, Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority	Concerned Ministries of the Government of Nepal, Province Government and Local Government

4.3 Development of Effective Disaster Management Information System and Information Dissemination

It is necessary to work effectively in Nepal for the development of integrated information dissemination system and building the capacity for the proper use of media and modern information technology. The following strategic activities are determined for this.

Strategic Activity	Expected Output	Time Frame	Responsible Agency	Supporting Agency
Utilize different media (social, print, electronics, audio visual) effectively to disseminate the existing and emerging disaster risk	Information on Disaster Risk will be disseminated extensively	Continuous	Ministry of Communication and Information Technology of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government, Nepal Telecommunications Authority, Newspapers, FM Radio, Television

Strategic Activity	Expected Output	Time Frame	Responsible Agency	Supporting Agency
Collaborate with government organizations, community based organizations, non-governmental organizations, political parties and their sister organizations, Red Cross movement and media for disaster risk information sharing from national to local level	Extensive collaboration for disaster risk information sharing will be established	Continuous	Ministry of Home Affairs of the Government of Nepal/National Disaster Risk Reduction and Management Authority	Concerned Ministries of the Government of Nepal, Province Government, Local Government, Nepal Telecommunications Authority, Community based organizations, Development partners, non-governmental organizations, political parties and their sister organizations, Red Cross movement and media
Prepare communication and dissemination strategy and procedures for disaster risk information sharing (including application of technologies such as mobile apps, website, SMS, radio, television) at national, provincial and local level	Disaster risk information will be disseminated effectively at all levels	Short Term	Ministry of Communication and Information Technology of Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government, Nepal Telecommunications Authority

Strategic Activity	Expected Output	Time Frame	Responsible Agency	Supporting Agency
<p>Prepare communication and dissemination strategy and procedures for risk information sharing with women, children, elderly and disabled people, students and other vulnerable groups</p>	<p>Risk information will be shared with women, children, elderly and disabled people, students and other vulnerable groups</p>	<p>Short Term</p>	<p>Ministry of Communication and Information Technology of Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal, Province Government, Local Government, Nepal Telecommunications Authority</p>
<p>Establish authoritative, open, geographic information system based Disaster Risk Information Management System based at national, provincial and local level</p>	<p>Disaster Risk Information Management System will be available for disaster risk information at all levels</p>	<p>Medium Term</p>	<p>Ministry of Home Affairs of the Government of Nepal/National Disaster Risk Reduction and Management Authority</p>	<p>Concerned Ministries of the Government of Nepal, Province Government, Local Government</p>
<p>Promote bilateral, regional, and international cooperation in disaster risk information sharing</p>	<p>Risk information will be available across the border</p>	<p>Long Term</p>	<p>Ministries of Home Affairs, Ministry of Foreign Affairs</p>	<p>Concerned Ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Water Induced Disaster Management</p>

4.4 Capacity Building for Understanding Disaster Risk

Various activities like studies, teaching, research and training programs are needed to build capacity for understanding disaster risk in Nepal. It is necessary to enhance capacity of existing training centers and to establish training and research centers for disaster risk reduction from national to the local level. The following strategic activities are decided for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Institutionalize the study, teaching, and research system building discipline wise, subject wise and inter-disciplinary curriculum of different aspects of Disaster Risk Reduction and Management from school to the university level curriculum	Understanding on Disaster Risk will be increased with development of skilled human resources in the area of Disaster Risk Reduction and Management	Short Term	Ministry of Education, Science and Technology of the Government of Nepal, Universities	Concerned ministries of the Government of Nepal, province Government, Local Government
Conduct regular roads safety education programs for professional drivers	Capacity of the professional drivers will be developed to reduce road accident	Short Term	Ministry of Physical Infrastructure and Transport	Concerned Ministries of the Government of Nepal, Province Government and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Conduct training programs by developing curriculum related to disaster risk reduction for Dalit, women, children, elderly persons, disabled people, vulnerable communities, and all concerned stakeholders</p>	<p>Capacity of vulnerable communities, and all concerned stakeholders will be developed on understanding disaster risk</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration</p>	<p>Concerned Ministries of the Government of Nepal, Province Government and Local Government</p>
<p>Disseminate information about the role of students, parents, teachers, health workers, drinking water service provider, community based organizations, and consumers, in Disaster Risk Reduction, provide training and exchange experiences at different level</p>	<p>Capacity of students, parents, teachers, health workers, drinking water service provider, community based organizations, and consumers will be developed on understanding Disaster Risk</p>	<p>Short Term</p>	<p>Ministry of Home Affairs, Ministry of Education, Science and Technology, Ministry of Health and Population, Ministry of Federal affairs and General Administration, National Disaster Risk Reduction and Management Authority</p>	<p>Concerned ministries of the Government of Nepal, Province Government, Local Government, community based organizations, non-governmental organizations</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Orient the members of political parties and their sister organizations, elected people's representatives, focal persons of the line agencies, organizations working on Disaster Risk Reduction about Disaster Risk Reduction and Management Act, regulations, policy, strategic action plan</p>	<p>Decision making process will be effective with comprehensive knowledge on legal and regulatory arrangement for Disaster Risk Reduction and Management</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration</p>	<p>Concerned Ministries of the Government of Nepal, Province Government, Local Government</p>
<p>Collaborate with community based organizations, non-government organizations and other stakeholders for developing and implementing the awareness rising programs on disaster risk reduction</p>	<p>Disaster risk related awareness rising activities will be conducted with widespread collaboration</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration</p>	<p>Concerned ministries of the Government of Nepal, Province Government, Local Government, community based organizations, non-governmental organizations and other stakeholders</p>
<p>Provide training to the businessmen, professionals, entrepreneurs, and industrialists about disaster risk reduction and encourage them for accountability, participation and responsibility</p>	<p>The private sector will be responsible being well informed about disaster risk</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration</p>	<p>Concerned ministries of the Government of Nepal, Province Government, Local Government, Nepal Chamber of Commerce and Industry</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop and implement comprehensive national and local level programs for awareness rising and training on disaster risk	Awareness will be increased on disaster risk	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration	Concerned ministries of the Government of Nepal, Province Government, Local Government, community based organizations, non-governmental organizations and other stakeholders
Strengthen capacity of existing training centers on disaster risk reduction and management	Capacity of the existing training centers will be strengthened in disaster risk reduction and management	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration, Ministry of Urban Development	Concerned ministries of the Government of Nepal, Province Government, Local Government, Nepali Army, Armed Police Force, Nepal Police, training institutes
Develop capacity of driving schools	Capacity of the driving schools will be strengthened to reduce road accidents	Short Term	Ministry of Physical Infrastructure and Transport of Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Conduct capacity development program for stakeholders and professionals on hazard, vulnerability and risk assessment; interpretation and updating, risk sensitive land-use plan preparation and disaster impact assessment at the Federal, Provincial and Local level</p>	<p>Capacity will be strengthened on risk assessment, interpretation and updating</p>	<p>Long Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority</p>	<p>Concerned Ministries of the Government of Nepal, Province Government, Local Government Department of Hydrology and Meteorology, Department of Mines and Geology, Department of Water Induced Disaster Management, Water Management, Water and Energy Commission Secretariat, Department of Soil Conservation and Watershed Management, Universities, research centers</p>
<p>Conduct research and development on the issues, problems and solutions of Disaster Risk Reduction and Climate Change Adaptation</p>	<p>New Technology and Approach will be developed for Disaster Risk Reduction Adaption and Climate Change Adaptation</p>	<p>Long Term</p>	<p>Universities, Institute of Engineering, Nepal Academy of Science and Technology, Nepal Agricultural Research Council</p>	<p>Concerned ministries of the Government of Nepal, Nepal Administrative Staff College, Local Development Training Academy, Department of Urban Development and Building Construction, Department of Hydrology and Meteorology</p>



Chapter 5

PRIORITY AREA 2:
STRENGTHENING
DISASTER RISK
GOVERNANCE
AT FEDERAL,
PROVINCIAL AND
LOCAL LEVELS

PRIORITY AREA 2: STRENGTHENING DISASTER RISK GOVERNANCE AT FEDERAL, PROVINCIAL AND LOCAL LEVELS

Strengthening disaster risk governance is considered as cornerstone of the efforts to understand, reduce and manage the risks. Disaster risk governance entails mechanisms, institutions and processes for citizens to articulate their interests, exercise their legal rights and obligations, and mediate their differences in disaster risk reduction and management. This means ensuring that sufficient levels of capacity and resources are made available to prevent, prepare for, manage and recover from disasters. The Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030 identifies disaster risk governance at different levels which is of great importance for an effective and efficient management of disaster risk. It also requires clear vision, plans, competence, guidance, and coordination within and across all sectors as well as participation of relevant stakeholders. Strengthening the disaster risk governance system is necessary to foster the collaboration and partnership for the implementation of disaster risk reduction and sustainable development. It is necessary to emphasize on the following to strengthen disaster risk governance.

- a. Mainstream and integrate disaster risk reduction within and across all sectors and promote the coherence and development of relevant laws, regulations and public policies. It must guide both the public and private sectors that clearly spells out the roles and responsibilities. It must address Disaster Risk in publicly owned, managed, or regulated services and infrastructures. It must encourage actions by persons, households, communities or businesses. It has to enhance relevant

mechanism and initiatives for disaster risk transparency. It must put in place coordination and organizational structures.

- b. Adopt and implement disaster risk reduction strategies and plans, across all levels.
- c. Carry out assessment of the technical, financial and administrative disaster risk management capacity to deal with the identified risks at different levels.
- d. Promote necessary mechanisms and incentives to ensure high levels of compliance with the existing safety-enhancing provisions of sectoral laws and regulations, including those addressing land use and urban planning, building codes, environmental and resource management and health and safety standards, and update them, where needed.
- e. Develop and strengthen mechanisms to periodically review and assess the progress on various disaster management plans as well as encourage institutional debates including by people's representatives, parliamentarians and relevant officials, on disaster risk reduction plans.
- f. Assign clear roles and tasks to community representatives for disaster risk management through relevant legal frameworks and clear responsibilities.
- g. Establish and strengthen government coordination forum composed of relevant stakeholders at the national and local levels, such as national and local platforms for disaster risk reduction.
- h. Empower local authorities to collaborate and coordinate with civil society, communities, political parties and their sister organizations, indigenous people and migrants in disaster risk management at the local level.
- i. Promote discussion and debate with parliamentarians for relevant legislation and budget allocation for disaster risk reduction.
- j. Promote the development of quality standards, such as certifications and awards for disaster risk management, with the participation of the private sector, civil society, professional associations, scientific organizations and United Nations.

- k. Formulate relevant public policies and laws aimed at addressing issues of prevention or relocation, where possible, of human settlements in disaster risk zones.

Pursuing this Priority Area entails successfully reducing risk by implementing the Climate Change Adaptation and Disaster Risk Reduction in an integrated manner, within development sectors, social and economic development planning processes and practices, in order to reduce the existing risks, and to prevent creation of new risks or loss and damage. Additionally, this priority area will contribute to strengthening resilient development providing incentives for safer development in low risk areas and dis-incentives for high-risk areas.

Achieving this will include development of integrated disaster and climate risk screening method for its use in development project. These methods are intended to help ensure that all projects are adequately protected against natural hazards and they do not create new forms of disaster risk or exacerbate existing ones. They are intended to promote a systematic approach to analyze disaster and climate risk at the development project level.

Nepal is one of the least urbanized but the fastest urbanizing countries in the world. It is necessary to update and implement building codes to reduce risk in urban areas. Additionally, provision of drainage system should be mandatory in urban development projects.

It is necessary to establish and strengthen responsible agencies as per the Disaster Risk Reduction and Management Act, 2017 to prepare national programs, and establish a system to promote and guide the stakeholders from federal to the local level for disaster risk reduction. The policy related to Disaster Risk Management needs to be revised in accordance with context

and utility. The formulation of preparedness and emergency response plans and capacity development are necessary at all levels.

Addressing the above mentioned needs to strengthen disaster risk governance in Nepal, the following priority actions are determined under this priority area.

- a. Establishment and Strengthening of Institutional Structures
- b. Formulation of Legal and Regulatory Framework
- c. Capacity Building, Collaboration and Partnership for Disaster Risk Governance
- d. Ensuring Inclusiveness in Disaster Risk Reduction

5.1 Establishment and Strengthening of Institutional Structures

It is becoming challenging to bear the increased responsibilities for disaster risk reduction and management by the existing limited structure of Disaster Management Division under the Ministry of Home Affairs. According to the Disaster Risk Reduction and Management Act 2017, it is necessary to establish a high powered Disaster Risk Reduction and Management Authority for Disaster Risk Reduction, and restructuring and strengthening of organizational structures of sectoral ministries and departments. In the context of adequate rights provided by the constitution to the local level, the local level has also to be made more responsible in disaster risk governance. The following strategic activities are determined for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting agency
Establish National Disaster Risk Reduction and Management Authority for Disaster Risk Reduction and Management	An institutional arrangement at national level will be available for disaster risk reduction, preparedness and response.	Short Term	Office of the Prime Minister and Council of Ministers, Ministry of Home Affairs of the Government of Nepal	Concerned ministries of the Government of Nepal

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting agency
Formulate and implement time bound action plan at provincial and the local level to develop Disaster Risk Management Committee and institutional structure	Institutional structures and working capacity will be developed at province and local level in disaster risk governance.	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration	Concerned ministries of the Government of Nepal, Province Government, Local Government
Establish coordination mechanism at federal, provincial and local level to integrate and implement the concept of Disaster Risk Reduction and Management in every sector	A coordination mechanism will be established with clear responsibility in each sector	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority	Concerned ministries of the Government of Nepal, National Planning Commission, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting agency
<p>Establish special fund and monitoring mechanism for retrofitting of the existing risky public service, means of livelihood, and physical infrastructures (public, government and private buildings, hydraulic structures, urban infrastructures, school and hospital, stadium, theaters, shopping malls, etc.)</p>	<p>Financial arrangement and accountability will be established in retrofitting infrastructures.</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Ministry of Finance, Department of Urban Development, and Building Construction</p>	<p>Concerned ministries of the Government of Nepal, National Planning Commission, Province Government, Local Government</p>
<p>Assign a focal person, section or division for disaster risk reduction in Sectoral Ministries and Departments</p>	<p>A dedicated central unit will be available in every sectoral ministry and department for disaster risk reduction,</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority</p>	<p>Concerned Ministries of the Government of Nepal, Departments, and other agencies</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting agency
Establish Disaster Risk Management Committees in schools and hospitals	Disaster Risk Management in schools and hospitals will be effective.	Short Term	Ministry of Education, Science and Technology of the Government of Nepal, Ministry of Health and Population	Concerned Ministries of the Government of Nepal, Province Government, Local Government
Establish Emergency Operation Center at Province and the Local Level	The disaster preparedness and emergency responses will be effective at the province and local level.	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority	Concerned Ministries of the Government of Nepal, Province Government, Local Government
Establish Health Emergency Operation Center at Province and the Local Level	Emergency health service will be effective at the province and local level.	Short Term	Ministry of Health and Population of the Government of Nepal	Concerned ministries of the Government of Nepal, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting agency
<p>Improve and strengthen the organizational structure of major departments, and ministries directly involved in Disaster Risk Reduction and Management</p>	<p>Disaster Risk Reduction and Management will be effectively institutionalized</p>	<p>Short Term</p>	<p>Department of Hydrology and Meteorology, Department of Mines and Geology, Department of Soil Conservation and Watershed Management, Department of Urban Development and Building Construction, Department of Water Induced Disaster Management</p>	<p>Concerned Ministries of the Government of Nepal</p>
<p>Establish and activate a National Road Safety Council</p>	<p>An institutional arrangement will be available for monitoring and coordination of road safety activities.</p>	<p>Short Term</p>	<p>Ministry of Physical Infrastructure and Transport of the Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal</p>
<p>Establish load monitoring and control mechanism for trucks and passenger vehicles</p>	<p>A load Monitoring and Control Mechanism will be established for trucks and passenger vehicles.</p>	<p>Short Term</p>	<p>Ministry of Physical Infrastructure and Transport of the Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal, Province Government, Local Government</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting agency
<p>Establish Road Safety Units in Department of Local Infrastructure Development and , Agriculture Roads, Department of Transport Management, Traffic Police and Local level</p>	<p>Institutional arrangement will be available at the Department of Local Infrastructure Development and Agriculture Roads, Department of Transport Management, Traffic Police, and Local level</p>	<p>Short Term</p>	<p>Department of Local Infrastructure Development and Agriculture Roads, Department of Transport Management, Traffic Police, Local Government</p>	<p>Concerned Ministries of the Government of Nepal, Province I Government</p>

5.2 Formulation of Legal and Regulatory Framework

Feeling the necessity of contemporary legal and policy arrangement, the legislative parliament has enacted Disaster Risk Reduction and Management Act, 2017 to address the multiple dimensions of disaster risk reduction and management taking into account the experiences based on activities performed following the past legal and policy arrangements, and managing all activities of disaster management in a collaborative and effective manner to protect life, public and private property, cultural assets, and physical structure from natural and non-natural disaster. Implementation of the act requires the formulation of a regulation for Disaster Risk Reduction and Management. There is a need of legal and regulatory framework to be developed for Disaster Risk Reduction at different sectors. The following strategic activities are presented for this.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Disaster Risk Reduction and Management Regulations for the effective implementation of Disaster Risk Reduction and Management act, 2017	Regulations will be prepared for managing and strengthening Disaster Risk Reduction and Management governance	Short Term	Ministry of Home Affairs of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Disaster Risk Reduction and Management action plan at province and local level	Effective Disaster Risk Reduction and Management action plan will be prepared at Province and Local level	Short Term	Province Government, Local Government	Concerned Ministries of the Government of Nepal
Prepare National Road Safety strategy and update the road safety action plan	National Road Safety Strategy will be prepared and road safety action plan will be updated.	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government, private sector, non-governmental organizations, Red-Cross movement
Prepare Road Safety Audit manual	Road Safety Audit manual will be prepared	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government, Universities, research centers

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Design Guideline for Safer Roads	Design Guideline for safer roads will be prepared	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments, Universities, Research centers
Revise and develop Nepal Road Standard and Nepal Roads Safety Codes (for 3 different ecological zones)	New codes and standard will be prepared for safer roads	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned ministries of the Government of Nepal, Province and the Local Governments, Universities, Research Centers
Enforce the use of seat belt, helmet, and rules of public transport safety strictly and develop comprehensive code of conduct for all road users	Road accident will be reduced due to aware and disciplined road users	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Update and enforce The Building Act, revise Building Code for urban and rural areas, and prepare regulation for the building construction at rural and urban municipality	Policy arrangement for flood and earthquake resistant building construction will be in place	Short Term	Ministry of Urban Development of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments
Review and revise existing standard and codes (Earthquake Code, Planning norms) for Infrastructure Plan Design and Preparation	Upgraded code, standard and Guidelines will be prepared for the Infrastructure Plan design and formulation	Short Term	Concerned Ministries of the Government of Nepal, Province and Local Governments	Universities, Research centers
Prepare guidelines for retrofitting of risky infrastructures (Residential Buildings, Hotel, Apartment, Industrial Building, historical and cultural heritages, school, hospital, community building, shelter etc.)	Retrofitting Guidelines for Disaster Risk Reduction of risky infrastructures will be available	Short Term	Ministry of Urban Development of the Government of Nepal, Department of Urban Development and Building Construction	Concerned Ministries of the Government of Nepal, province and local governments, Universities, Institute of Engineering

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop guidelines for mainstreaming disaster risk reduction into sectoral development plans	Guidelines for mainstreaming Disaster Risk Reduction into sectoral development plans will be prepared	Short Term	National Planning Commission, Ministry of Finance, Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned Ministries of the Government of Nepal, Provincial and Local Governments
Incorporate Disaster Risk Impact Assessment into Environment Protection Act and Environmental Impact Assessment Guidelines	Disaster Risk Impact Assessment will be included into Environment Protection Act and Environmental Impact Assessment Guidelines	Short Term	Ministry of Forest and Environment of the Government of Nepal	Concerned Ministries of the Government of Nepal, Provincial and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Prepare and incorporate Initial and Comprehensive Risk Assessment Framework for development projects for the selection of major projects based on the disaster and climate change risk related knowledge</p>	<p>Comprehensive Risk Assessment Framework will be prepared for including climate and disaster risk resistant technology in major projects</p>	<p>Short Term</p>	<p>National Planning Commission, Ministry of Finance, Ministry of Federal Affairs and General Administration of the Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal, Province and Local Government</p>
<p>Incorporate Disaster Risk Reduction in Natural Resource and Management related various programs and action plan</p>	<p>Disaster Risk Reduction will be incorporated in Natural Resource Management related various programs and action plan</p>	<p>Short Term</p>	<p>Ministry of Forest and Environment, Ministry of Federal Affairs and General Administration of the Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal, Province and Local Government</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish a system of rewarding the employees for their special contribution in Disaster Risk Reduction and Management	The performance of employees will be improved due to a system of rewarding the employees for their special contribution in disaster risk reduction and management	Short Term	Ministries of Home Affairs, Ministry of Federal Affairs and General Administration, Province and Local Governments	Concerned Ministries of the Government of Nepal
Prepare a regulations and standard operating procedures for Emergency Fund and Food Bank at Province and Local Level	Standard operating procedures for Emergency Fund and Food Bank will be available at Province and Local Level for accountability ,	Short Term	Province and Local Governments	Concerned Ministries of the Government of Nepal
Prepare and implement guidelines for the security of vulnerable groups and prevention of gender violence during emergency	The guidelines will be prepared and implemented for the security of vulnerable groups and prevention of gender violence during emergency	Short Term	Ministry of Women, Children and Senior Citizens, National Planning Commission, Ministry of Home Affairs	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare guidelines for mobilization of volunteers for disaster response at the community level	A guideline will be available to facilitate mobilization of volunteers during disaster	Short Term	Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments, Community Based Organizations, Non-Governmental Organizations and other stakeholders
Revise the Guidelines for mobilization of non-governmental organizations for Disaster Preparedness, Responses, Recovery, Reconstruction and Rehabilitation	Mobilization of non-governmental organization in disaster Management will be effective and transparent	Short Term	Ministry of Home Affairs of the Government of Nepal	Concerned Ministries of the Government of Nepal, province and Local Governments
Prepare guidelines for wreckage and various other wastage management during disaster	A guideline will be prepared for wreckage and wastage management during disaster.	Short Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Revise the Standard Operating Procedures of National Emergency Operation Center and prepare Standard Operating Procedures for Emergency Operation Centers at province and local level	The Standard Operating Procedures of Emergency Operation Centers will ve updated	Short Term	Ministries of Home Affairs, Ministry of Federal Affairs and General Administration, Province and Local Governments	Concerned Ministries of the Government of Nepal
Prepare Standard Operating Procedures for Health Emergency Operation Centers at Province and Local level	Standard Operating Procedures will be available for Health Emergency Operation Centers at Province and Local level	Short Term	Ministry of Health and Population, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local Government	Concerned Ministries of the Government of Nepal
Prepare guidelines developing standards for effective Post Disaster Search and Rescue	Guidelines will be available for effective Search and Rescue	Short Term	The Ministry of Home Affairs, Nepali Army, Nepal Police, Armed Police Force	Concerned Ministries of the Government of Nepal, Province and Local Governments, Communities

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare and regularly update the Local Disaster Risk Management Plans for Provincial, Local and Community Disaster Management Committees	Standard Operating Procedures will be prepared for Effective Disaster Preparedness and Emergency Responses at local level	Short Term	Province and Local Governments	Concerned Ministries of the Government of Nepal
Prepare integrated guidelines of local level Disaster Risk Management and Climate Change Adaptation Guidelines and Directives (CAPA, LDRMP, LAPA, DPRP)	Integrated guideline will be available for local level Disaster Risk Management and Climate Change Adaptation	Short Term	Ministries of Federal Affairs and General Administration, Ministry of Forest and Environment of the Government of Nepal, Province and Local Government	Concerned Ministries of the Government of Nepal
Develop new codes and standards to design infrastructures for disaster risk reduction incorporating new technologies	New code, standard and technology will be available	Medium Term	Universities and research centers, Ministries and Departments related to infrastructures	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Master plan for river management and watershed conservation in major river basin on the basis of disaster risk assessment	Master plan for Water Induced Disaster Risk Reduction will be prepared	Medium Term	Water and Energy Commission Secretariat, Ministry of Energy, Water Resource and Irrigation of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments
Prepare guideline for disaster risk reduction on the basis of Green Infrastructure and Ecosystem Based Adaptation	A guideline will be prepared for disaster risk reduction on the basis of Green Infrastructure and Ecosystem Based Adaptation	Medium Term	Ministry of Forest and Environment, Ministry of Home Affairs, Ministry of Federal Affairs and General Administration, Ministry of Urban Development	Concerned Ministries of the Government of Nepal, Province and Local Governments
Prepare the Directives and Guidelines for search and rescue of an individual, vehicle and goods affected by road accident	The directives and guidelines for search and rescue of an individual, vehicle and goods affected by road accident will be prepared	Medium Term	Ministry of Physical Infrastructure and Transport	Concerned Ministries of the Government of Nepal, Province and the Local Level Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Directives and Guidelines for constructing hydraulic structures to reduce flood risk	Directives and Guidelines will be prepared for constructing hydraulic structures to reduce flood risk	Medium Term	Water and Energy Commission Secretariat, Ministry of Energy, Water Resource and Irrigation of the Government of Nepal	Concerned ministries of the Government of Nepal, Province and the Local Level Governments
Develop a provision for regulation, encouragement, and discouragement for the implementation of risk sensitive land use plan	The plans will be prepared at all local level for housing and productive use on the basis of identification of high, medium and low risk areas	Medium Term	Ministry of Agriculture, Land Management and Cooperatives, Department of Urban Development and Building Construction, Ministry of Urban Development, Local Government	Concerned Ministries of the Government of Nepal, Province Government
Integrate Disaster Risk Management in private sector's management practices	Disaster Risk Management will be followed in private sectors	Medium Term	Ministry of Industry, Commerce and Supply, Federation of Nepalese Chambers of Commerce and Industry, Ministry of Culture, Tourism and Civil Aviation	Concerned ministries of the Government of Nepal, Province Government, Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare guidelines for birds and animals care during disaster	Guidelines for birds and animals care will be prepared	Medium Term	Ministry of Agriculture, Land Management and Cooperatives, Ministry of Home Affairs of the Government of Nepal	Concerned ministries of the Government of Nepal, Province Government, Local Government
Prepare guidelines to manage cold wave and heat wave	Guidelines for effective management of cold wave and heat wave will be prepared	Long Term	Ministry of Home Affairs of the Government of Nepal, Department of Hydrology and Meteorology	Concerned Ministries of the Government of Nepal, Province Government, Local Government
Prepare guidelines for Natural and Climatic Disaster Management	Guidelines for effective management of Natural and Climatic Disaster will be prepared	Long Term	Ministry of Agriculture, Land Management and Cooperatives of the Government of Nepal, Department of Hydrology and Meteorology	Concerned Ministries of the Government of Nepal, Province Government, local Government

5.3 Capacity Development, Collaboration and Partnership for Disaster Risk Governance

In the context of transformation of the country's governance system to the federal structure, it is necessary to transform the disaster risk management governance system also into federal structure and develop the concept of partnership and collaboration at federal, provincial and local level. It is necessary to build the capacity by reviewing and evaluating the existing capacity in disaster risk governance at federal, provincial and local level. The collaboration with neighboring countries in disaster risk reduction needs to be enhanced. In addition, it is necessary to develop collaboration and partnership with the national/international non-governmental organizations and research institutes that are involved in disaster risk management. The strategic activities for it are given below.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Conduct capacity building programs identifying the governance capacity in disaster risk reduction at the federal, province and the local level	Capacity in disaster risk governance will be developed through the implementation of capacity development programs	Short Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned ministries of the Government of Nepal, Province, and local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish the network of the government and non-government agencies involved in disaster risk reduction and Red Cross movement at the federal, province and the local level	Wider stakeholder's participation will be achieved at all levels for disaster risk reduction thorough instituting the network of government and non-government agencies	Short Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned ministries of the Government of Nepal, Province, and local Government, non-governmental organizations, international non-governmental organizations, Red Cross movement, Research Institutions
Conduct training on Climate and Disaster Risk Impact Assessment method	Human resource will be developed for the Climate and Disaster Risk Assessment by conducting training	Short Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration, Ministry of Forest and Environment of the Government of Nepal, Province and Local Governments	Concerned ministries of the Government of Nepal, national and international non-governmental organizations, Red Cross movement, Universities and research centers

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Strengthen National Disaster Risk Reduction Platform and expand it in province and local level	The extensive participation of stakeholders will be achieved in Disaster Risk Reduction and Management	Short Term	Ministry of Home Affairs of the Government of Nepal, Province and local Government	Concerned ministries of the Government of Nepal, Government agencies, non-governmental organizations, international non-governmental organizations, Red Cross movement, research institutes
Collaborate with national and international non-governmental organizations, Universities and research centers, United Nations, donor agencies, and others stakeholders in disaster risk reduction and management	The extensive collaboration will be developed in Disaster Risk Reduction and Management	Medium Term	Ministry of Home Affairs of the Government of Nepal, Province and local Government	Concerned ministries of the Government of Nepal, national and international non-governmental organizations, Red Cross movement, Universities and research centers, United Nations, donor agencies and other stakeholders
Promote the trans-boundary and international cooperation in Disaster Risk Management	The information across the border will be available on impending disaster	Medium Term	Ministry of Foreign Affairs of the Government of Nepal, Office of the Prime Minister and Council of Ministers	Concerned ministries of the Government of Nepal

5.4 Ensuring Inclusiveness in Disaster Risk Reduction

Women, children, senior citizen, persons with disability, and economically and socially marginalized community and individuals are the most affected by the disasters. There is a need to ensure inclusiveness of these groups by increasing their accessibility, representation and meaningful participation in various processes of disaster risk reduction and management. The following strategic activities have been adopted for it.

Strategic Activity	Expected Outcome	Time frame	Responsible Agency	Supporting Agency
Implement gender sensitive and inclusive approach in all the processes of Disaster Risk Management	Every sector will have pursued gender sensitive and inclusive disaster risk reduction approach	Short Term	Ministry of Women, Children and Senior Citizen, Ministry of Home Affairs of the Government of Nepal	All concerned ministries of the Government of Nepal, Province Government, Local government, non-government organizations, Red Cross movement
Establish and institutionalize disaster risk concern groups to promote their empowerment and partnership by increasing participation of the most affected, weak in resilience and highly vulnerable groups in disaster risk governance activities	Participation of disaster victims, and vulnerable person, family and community will be ensured by establishing concern groups and their networking at the community level	Short Term	Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned Ministries of the Government of Nepal, National Planning Commission, Province and Local government, Nepal Red Cross Society, Non-Governmental Organizations, Community Based Organizations, Political Parties and their Sister Organizations

Strategic Activity	Expected Outcome	Time frame	Responsible Agency	Supporting Agency
<p>Prepare Gender Equality and Social Inclusion action plan for Disaster Risk Reduction and Management at each level and sector</p>	<p>The action plan will be available for gender equality and social inclusion</p>	<p>Short Term</p>	<p>Ministry of Women, Children and Senior Citizen of the Government of Nepal, National Planning Commission</p>	<p>Concerned ministries of the government of Nepal, Province and Local government, Non-Governmental Organizations, Red Cross movement</p>
<p>Conduct the social mobilization programs at local level for accessibility, representation and effective participation of the citizens and people at-risk in the formulation of disaster risk management programs and policy</p>	<p>Social mobilization programs will have been conducted at the local level for disaster risk management</p>	<p>Short Term</p>	<p>Ministry of Federal Affairs and General administration of the Government of Nepal, local government</p>	<p>Concerned ministries of the government of Nepal, Province Government, Nepal Red Cross Society, non-governmental organizations, community based organizations, political parties and their sister organizations</p>
<p>Develop and implement special programs on disaster risk reduction on the basis of priority for the highly vulnerable groups such as the marginalized groups of society, women, people with disability, children, and elderly persons</p>	<p>Disaster risk of women, children, elderly persons, persons with disability and vulnerable community will be reduced through implementation of special programs</p>	<p>Long Term</p>	<p>Ministry of Women, Children and Senior Citizen of the Government of Nepal, National Planning Commission, National Disaster Risk and Management Authority</p>	<p>Concerned ministries of the government of Nepal, Province and Local government, non-governmental organizations, Red Cross movement</p>



Chapter 6

PRIORITY AREA 3:
PROMOTING
COMPREHENSIVE
RISK-INFORMED
PRIVATE AND PUBLIC
INVESTMENTS IN
DISASTER RISK
REDUCTION FOR
RESILIENCE

PRIORITY AREA 3- PROMOTING COMPREHENSIVE RISK-INFORMED PRIVATE AND PUBLIC INVESTMENTS IN DISASTER RISK REDUCTION FOR RESILIENCE

Private and public investments are important in disaster risk prevention and mitigation through structural and non-structural measures in order to increase physical, economic, social, health and cultural resilience of the persons, community and nation. Such investment not only promotes disaster risk reduction and resilience but also develops infrastructure, increases production, and creates employment. These measures are also important for post-disaster rapid recovery and rehabilitation. Conservation of heritages like forest, water resources and land and retrofitting of the structural assets like schools, health services, private and public infrastructures increase disaster resilience. Risk sharing, poverty alleviation, promotion of income generation and the means of livelihoods are important for risk reduction and increasing resilience.

The practice of disaster risk insurance is at initial stage in Nepal. The systems in practice elsewhere in the area of risk and compensation (for example, micro-insurance, reserved fund, risk grouping and social mobilization, micro-finance system, social security etc.) have not been established in Nepal, and hence the poor and marginalized families and groups are in high risk. Various financial mechanisms, for instance, annual budget allocation, emergency fund and insurance mechanism can be used to increase disaster resilience.

This priority area will address the following:

1. Reduce existing disaster risk by investment in increasing resilience
2. Prevent future risks by promoting private and public investment in disaster risk reduction

The following priority actions are stated in this priority area:

- a. Promoting Investment in Increasing Resilience
- b. Promoting Public investment in Disaster Risk Reduction
- c. Promoting Private Investment in Disaster Risk Reduction
- d. Increasing Disaster Resilience Through Risk Sharing, Insurance and Social Security

6.1 Promoting Investment in Increasing Resilience

The physical infrastructure, educational and health institutions, natural resources, livelihood means and skills, and production equipment, property and investments are affected by each disaster. Disaster vulnerability is increasing in Nepal due to long term losses of the means of livelihood of the poor, deprived, landless, marginalized and individual and family depended on daily wages. The disaster resilience can be increased by increasing investment in public services, means of livelihood, and construction and retrofitting of physical infrastructures. The following strategic activities are stated for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Invest in programs and trainings related to employment, skill development and health services as per the interest and necessity of women, children, and other backward communities for raising their living standard	Disaster resilience of vulnerable community will be increased	Short Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local Governments	Concerned Ministries of the Government of Nepal, Non-governmental organizations, Red Cross movement, Development Partners

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Invest in the programs increasing the market access of the goods and services produced by the economically weak, marginalized and deprived communities of disaster risk area	Disaster resilience of the community of disaster risk area will be increased	Short Term	Ministry of Agriculture, Land Management and Cooperatives, Ministry of Federal Affairs and General Administration of the Government of Nepal, Local Government	Concerned Ministries of the Government of Nepal, Province Government, Non- governmental organizations, Red Cross movement, Development Partners
Give special attention to improve Social security, Basic health, Reproductive health, Child health, Adolescents health and nutrition in disaster risk area	Disaster resilience of the community of disaster risk area will be increased	Short Term	Ministry of Health and Population, Ministry of Women, Children and Senior Citizens of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government, Non- governmental organizations, Red Cross movement, Development Partners

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Formulate a clear plan for retrofitting and other alternatives by identifying the most essential services and structures during emergency and managing resources for their structural and operational continuity	Disaster Resilience plan will be available for essential emergency services and structures	Short Term	Ministry of Home Affairs, Ministry of Health and Population of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government
Clean the drainage and water courses before monsoon	Cleaning drainage and water courses will be increased for flood resilience	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal, Local Government, Ministry of Urban Development	Concerned Ministries of the Government of Nepal, Province Government
Encourage the safety provisions in vehicles providing the financial incentives including tax rebate	Vehicles will have security provisions	Short Term	Ministry of Finance, Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province, and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Construct overpasses, underpasses for road crossing by the pedestrians	The road crossing structures (overpasses, underpasses) will be constructed for resilience to road accident	Medium Term	Ministries of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Government
Construct Safety barriers, Steel guard-rails, Road-humps, Rumble strips, Reflective Road markings, Signals etc. in roads having potentiality of accident	Various structures will be constructed for resilience to road accident	Medium Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Government, development partners
Build up capacity of all schools of the country as the strongest structure by constructing, reconstructing and retrofitting including making capable of providing the safer emergency residential services	Schools will move forward to disaster resilience	Medium Term	Ministry of Education, Science and Technology, Ministry Urban Development, Ministry of Federal Affairs and General Administration of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare and implement a handbook for the protection, maintenance and operation of historical and cultural heritages and places	A handbook will be prepared and implemented for resilience of historical and cultural heritages and places	Medium Term	Department of Archaeology, Department of Urban Development and Construction	Concerned Ministries of the Government of Nepal, Province and Local Government
Increase investment to reduce the glacial lakes outburst risk of the potential hazardous glacial lakes	Resilience will be increased by reducing risk from Glacial Lake Outburst	Medium Term	Department of Hydrology and Meteorology	Concerned Ministries of the Government of Nepal, Province and Local Government
Construct ponds to conserve water and collect rain water and develop efficient technology for water use	The loss caused by flood, droughts, and fire will be reduced	Medium Term	Ministry of Physical Infrastructure and Transport, Ministry of Energy, Water Resource and Irrigation of the Government of Nepal, Local Government	Concerned Ministries of the Government of Nepal, Department of Soil Conservation and Watershed Management, Province Government
Construct a fire line in the forest of dry areas	The loss by fire will be reduced	Medium Term	Ministry of Forest and Environment of the Government of Nepal, Local Government	Concerned Ministries of the Government of Nepal, Province Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Promote the local resource based Green Infrastructure at province and local level	Disaster and Climate Change resilience will be developed by the construction of green infrastructure	Medium Term	Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local Governments	Concerned Ministries of the Government of Nepal
Increase investment in conserving Lake, Wetlands and Ponds	The losses by flood, drought, and landslide will be reduced by conserving Lake, Wetlands and Ponds	Long Term	The Ministry of Forest and Environment of the Government of Nepal, Local Government	Concerned Ministries of the Government of Nepal, Department of Soil Conservation and Watershed Management, Province Government
Promote alternative energy at the Federal, Province and Local level to reduce environmental degradation and disaster risk	Disaster and climate change resilience will be developed by the use of alternative energy	Long Term	Alternative Energy Promotion Center, Province and Local Government	Concerned Ministries of the Government of Nepal
Build emergency treatment capacity of hospitals and all health services	emergency treatment capacity will be increased in all health services for disaster resilience	Long Term	Ministry of Health and Population of the Government of Nepal	Concerned Ministries of the Government of Nepal, big and regional hospitals, Province and local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish model schools for disaster risk reduction	Disaster resilience will be increased in education sector	Long Term	Ministry of Education, Science and Technology of the Government of Nepal, Local Government	Concerned Ministries of the Government of Nepal, Province Government
Retrofit of main, sub-ways and highways identifying their emergency strategic importance assessing their risk and disaster resilience. Clearly identify, prioritize and construct alternative ways	Transport system will move forward to be disaster resilient	Long Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned Ministries of the Government of Nepal, Provincial and local Governments
Undertake structural and operational capacity building and retrofitting of the existing airports	Airports will progress towards disaster resilience	Long Term	Ministry of Culture, Tourism and Civil Aviation of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government
Construct the newly under-construction international and regional airports earthquake and flood resistant	Airports will be disaster resilient	Long Term	Ministry of Culture, Tourism and Civil Aviation of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Increase investment for retrofitting of risky infrastructures (schools, hospitals, health posts, water supply structures, government and private buildings, historical and cultural heritages, hydropower houses, power sub-station, hydraulic structure etc.)</p>	<p>Risky infrastructures will be safe</p>	<p>Long Term</p>	<p>Ministry of Education, Science and Technology, Ministry of Health and Population, Ministry of Urban Development of the Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal, Province and Local Governments</p>
<p>Encourage with the incentives of tax rebate, and low interest credit for retrofitting of risky private residence, hotel, shopping mall, business and industrial buildings</p>	<p>Private structures will be safe</p>	<p>Long Term</p>	<p>Department of Urban Development and Building Construction, Province and Local Governments</p>	<p>Concerned Ministries of the Government of Nepal</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Construct the government offices, community buildings, schools, hospitals and shelters friendly to children, elderly and disabled persons	Disaster Resilience of children, elderly and disabled persons will be increased	Long Term	Ministry of Education, Science and Technology, Ministry of Health and Population, Ministry of Urban Development of the Government of Nepal, Local Government	Concerned Ministries of the Government of Nepal, Province Government
Promote alternative means of livelihood, flood resistant agricultural system, flood resistant food and seed storage etc.	Disaster resilience will be increased in the means of livelihood	Long Term	Ministry of Agriculture, Land Management and Cooperatives of the Government of Nepal, Nepal Agriculture Research Council	Concerned Ministries of the Government of Nepal, Province and Local Governments, non- governmental organizations, Red Cross movement
Promote climate smart agriculture	Climate risk will be reduced in agriculture	Long Term	Ministry of Agriculture, Land Management and Cooperatives of the Government of Nepal, Nepal Agriculture Research Council	Concerned Ministries of the Government of Nepal, Province and Local Governments, non- governmental organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Promote bio-dykes, afforestation, forest conservation, watershed protection etc. for flood and landslide risk reduction	Flood and landslide risk will be reduced through environment conservation	Long Term	Ministry of Agriculture, Land Management and Cooperatives, Ministry of Forest and Environment of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments, non-governmental organizations, Red Cross movement
Pursue the structural measures for flood risk reduction (for example, embankment, reservoir, check-dam etc.)	Flood risk will be reduced through the structural measures	Long Term	Ministry of Energy, Water Resources and Irrigation of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments
Pursue the structural measures for landslide risk reduction (for example, slope stabilization, geometry modification, surface erosion control, improved drainage etc.)	Landslide risk will be reduced through the structural measures	Long Term	Ministry of Energy, Water Resources and Irrigation, Ministry of Forest and Environment of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop climate smart villages and cities	Climate risk will be reduced in villages and cities	Long Term	Ministry of Federal Affairs and General Administration, Ministry of Urban Development of the Government of Nepal, Province and Local Governments	Concerned Ministries of the Government of Nepal
Construct urban drainage system and improve the existing drainage system	Urban flood risk will be reduced	Long Term	Ministry of Urban Development of the Government of Nepal, Province and Local Government	Concerned Ministries of the Government of Nepal

6.2 Promoting Public Investment in Disaster Risk Reduction

On the basis of disaster risk assessment, public agencies need to allocate an adequate budget for disaster risk reduction pursuing annual and periodic plans. It is necessary to arrange a fund for disaster risk reduction and management from federal to the local level. The following strategic activities are stated for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Make a provision to utilize Prime Minister Natural Disaster Relief Fund in preparedness before disaster	Disaster preparedness and responses will be effective	Short Term	Office of Prime Minister and the Council of Ministers, National Planning Commission, Ministry of Home Affairs, Ministry of Finance	Concerned Ministries of the Government of Nepal, Province and Local Governments
Make a provision to allocate minimum 5% of annual budget by all sectoral agencies for disaster Risk reduction	Sector wise investment for disaster risk reduction will be ensured	Short Term	Ministry of Finance of the Government of Nepal, National Planning Commission	Concerned Ministries of the Government of Nepal, Province and Local Governments
Make a provision to allocate minimum 10% of cost of road construction for road safety	Investment for reducing road accident risk will be ensured	Short Term	Ministry of Physical Infrastructure and Transport, Ministry of Finance of the Government of Nepal, National Planning Commission	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Make a provision to spend Roads Board Fund in roads safety	The investment for reducing road accident risk will be ensured	Short Term	Ministry of Physical Infrastructure and Transport of the Government of Nepal, Roads Board, Ministry of Finance, National Planning Commission	Concerned Ministries of the Government of Nepal, Province and Local Governments
Follow Gender Responsive Budgeting System while preparing the program and budget for disaster risk reduction at Federal, Province and Local level	Gender equality in disaster risk reduction will be established following Gender Responsive Budgeting System	Short Term	Ministry of Finance of the Government of Nepal, National Planning Commission, Province and Local Governments	Concerned Ministries of the Government of Nepal
Allocate adequate budget including Gender Equality and Social Inclusion in annual programs by all sectoral agencies	The budget will be available for Gender Equality and Social Inclusion in Disaster Risk Reduction	Short Term	Ministry of Finance of the Government of Nepal, National Planning Commission	Concerned Ministries of the Government of Nepal, Province and Local Governments
Establish a procedure to permit for budget transfer from the development projects to utilize in post disaster reconstruction	Investment for reconstruction will be available	Medium Term	Ministry of Finance of the Government of Nepal, National Planning Commission	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Peasant's Welfare Fund as per the Agricultural Development Strategy	Disaster resilience of peasants will be increased through establishing Peasant's Welfare Fund	Medium Term	Ministry of Agriculture, Land Management and Cooperatives, Ministry of Finance of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments
Establish Eco Disaster Risk Reduction and Management Fund from Federal to Local and community level	The fund will be available for environment friendly disaster risk reduction	Long Term	Ministry of Finance of the Government of Nepal, National Planning Commission, Ministry of Home Affairs, Ministry of Forest and Environment, Province and Local Government	Concerned Ministries of the Government of Nepal

6.3 Promoting Private Investment in Disaster Risk Reduction

It is necessary to prepare and implement a business continuity plan on the basis of disaster risk assessment in businesses and industries. Investments by private sectors, banks, cooperatives and community organizations for disaster risk reduction need to be made easy. The strategic activities for it are stated below.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Encourage to prepare and implement a business continuity plan during disaster by small business and industries	Private businesses will be operational during disaster due to preparation and implementation of business continuity plan	Short Term	Federation of Nepalese Chambers of Commerce and Industry, private sector, Ministry of Industry, Commerce and Supply	Concerned Ministries of the Government of Nepal, Province and Local Governments
Encourage the tax rebating as an incentive to promote resource mobilization by private sectors in disaster risk reduction activities	Private investment will be available for disaster risk reduction in infrastructure	Short Term	Ministry of Finance of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop and promote alternative and Innovative Financial Instruments, for example, Forecast Based Financing, micro investment, micro credit, insurance, reinsurance etc. for disaster Risk reduction	Humanitarian fund will be mobilized based on the scientific data. In addition, involvement of the private sector in disaster Risk reduction will be increased	Medium Term	Ministry of Finance of the Government of Nepal, Nepal Rastra Bank, Insurance Board, Rastriya Beema Sansthan, Private Sector	Concerned Ministries of the Government of Nepal, Province and Local Governments
Establish an arrangement of Microfinance, interest-free loan, conditional cash transfer etc. for disaster affected individual and community	Disaster recovery of disaster affected individual and community will be enhanced	Medium Term	Nepal Rastra Bank, Cooperatives	Concerned Ministries of the Government of Nepal, Province and Local Governments
Increase private investment in Post Disaster Recovery and Reconstruction through the program of Corporate Social Responsibility	Private investment will be increased in Recovery and Reconstruction	Medium Term	Federation of Nepalese Chambers of Commerce and Industry, Ministry of Finance of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop public-private resource mobilization system for reconstruction of the buildings and places that are enlisted in the world, national and local heritages	Public-private resource will be available for reconstruction of heritage buildings and places	Medium Term	Ministry of Finance, Ministry of Culture, Tourism and Civil Aviation of the Government of Nepal, Federation of Nepalese Chambers of Commerce and Industry	Concerned Ministries of the Government of Nepal, Province and Local Governments
Promote joint public-private investment in disaster risk reduction preparing National Disaster Risk Investment and Insurance Strategy	Private investment will be available in Disaster Risk Reduction	Long Term	Ministry of Finance of the Government of Nepal, National Planning Commission, Private Sector	Concerned Ministries of the Government of Nepal, Province and Local Governments
Make easy arrangement for investment in Disaster Risk Reduction by the Bank, Cooperatives and community based organizations (Forest Users Group, Dairy Cooperatives)	Disaster Risk and Loss will be reduced	Long Term	Nepal Rastra Bank, National Cooperatives Development Board, Federation of Community Forestry Users Nepal, Poverty Alleviation Fund	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Mobilize bilateral, multi-lateral and international resources for reconstruction of important infrastructures and heritage buildings	International resources and investment will be available for reconstruction of important infrastructures and heritage buildings	Long Term	Ministry of Finance, Ministry Foreign Affairs of the Government of Nepal, National Planning Commission	Concerned Ministries of the Government of Nepal, Province and Local Governments, Development Partners

6.4 Increasing Disaster Resilience through Risk Transfer, Insurance and Social Security

It is necessary to develop risk sharing mechanism like agriculture and livestock insurance, micro insurance, emergency fund, loan/ credit with nominal interest. Despite having sufficient social security programs, the accessibility of such programs is uneven in different geographical regions. Such social security programs are needed to be linked with disaster resilience. The following strategic activities are stated for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Arrange a provision for life insurance of the disaster vulnerable groups and individual and communities involved in Disaster Risk Reduction and Management	Disaster resilience of the disaster vulnerable groups and individual and communities involved in Disaster Risk Reduction and Management will be increased	Short Term	Insurance Board, Rastriya Beema Sansthan, Nepal Insurers Association	Concerned Ministries of the Government of Nepal, Province and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Review the existing practice of risk sharing in Agriculture and Livestock Insurance	Appropriate Insurance system will be identified for agriculture and livestock in Nepal	Short Term	Ministry of Agriculture, Land Management and Cooperatives, Ministry of Finance of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and the Local Government, Development Partners
Establish agriculture insurance, farmer's benefit program and food and seeds storages to address increasing disaster (Flood, Drought, Cold wave) risks in agriculture and the challenge of food insecurity	Disaster resilience in agriculture sector will be increased	Short Term	Ministry of Agriculture, Land Management and Cooperatives, Ministry of Finance of the Government of Nepal, Insurance Board	Concerned Ministries of the Government of Nepal, Province and the Local Government
Enforce the third party coverage insurance in life insurance, motor vehicles insurance etc.	Various types of disaster risk insurance will be available for road accident	Short Term	Insurance Board, Rastriya Beema Sansthan, Ministry of Finance, Nepal Insurers Association	Concerned Ministries of the Government of Nepal, Province and the Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop and implement the plans for community based, contribution based, micro insurance, livestock insurance, farming insurance, Farmer's reserved fund, risk grouping	Community based various forms of Disaster Risk Insurance plan will be available	Medium Term	Ministry of Finance, Ministry of Agriculture, Land Management and Cooperatives of the Government of Nepal, Insurance Board	Concerned Ministries of the Government of Nepal, Province and the Local Government
Promote Public-private partnership to attract participation and investment of private sector in Disaster Risk Insurance, Risk sharing programs (e.g. Micro Insurance, emergency fund, low interest credit plan)	Policy provision for public-private partnership in risk sharing will be implemented	Medium Term	National Planning Commission, Ministry of Finance, Insurance Board, Ministry of Home Affairs, Ministry of Urban Development, Ministry of Agriculture, Land Management and Cooperatives of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and the Local Government
Expand contribution-based insurance system to protect means of livelihood, skill, equipment and investment from disaster	Disaster resilience of means of livelihood will be increased through insurance	Medium Term	Insurance Board, Rastriya Beema Sansthan, Ministry of Finance, Nepal Insurers Association	Concerned Ministries of the Government of Nepal, Province and the Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Make a provision for disaster affected families living below the poverty line to activate insurance benefit automatically if impacted by the disaster by developing an integrated record system of poor, landless, and deprived families</p>	<p>Disaster resilience of the families living below the poverty line will be increased through insurance</p>	<p>Medium Term</p>	<p>Rastriya Beema Sansthan, insurance companies, Ministry of Finance</p>	<p>Concerned Ministries of the Government of Nepal, Province and the Local Government</p>
<p>Review the accessibility and benefit status of the various programs of social security of targeted group, community, and geographical areas and link these programs to disaster resilience</p>	<p>Disaster resilience will be increased through social security program</p>	<p>Medium Term</p>	<p>Ministry of Women, Children and Senior Citizens of the Government of Nepal, National Dalit Commission, Women Commission, Ministry of Education, Science and Technology</p>	<p>Concerned Ministries of the Government of Nepal, Province and the Local Government</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Promote disaster insurance for public buildings, schools, hospitals, health posts, and critical infrastructures (hydraulic structure, heritage buildings, bridges, water supply and sanitation system, hydropower structure, canals transmission line, sub-station, and airport) and review existing relevant insurance policies</p>	<p>Disaster risk insurance will be effective</p>	<p>Long Term</p>	<p>Rastriya Beema Sansthan, insurance companies, Ministry of Urban Development</p>	<p>Concerned Ministries of the Government of Nepal, Province and the Local Government</p>



Chapter 7

PRIORITY AREA
4: ENHANCING
DISASTER
PREPAREDNESS
FOR EFFECTIVE
RESPONSE
AND TO “BUILD
BACK BETTER”
IN RECOVERY,
REHABILITATION AND
RECONSTRUCTION

ENHANCING DISASTER PREPAREDNESS FOR EFFECTIVE RESPONSE AND TO “BUILD BACK BETTER” IN RECOVERY, REHABILITATION AND RECONSTRUCTION

This priority area covers disaster preparedness, response, recovery, rehabilitation and reconstruction. The preparedness mainly consists of disaster risk forecasting, early warning system, emergency preparedness plan, collection and storage of emergency items, safe evacuation, and – mock drills. Response covers the activities of disaster emergency service and assistance during or immediately after the disaster. Saving human life and preventing the additional physical loss are the priority actions of this stage. Search, rescue, relief, emergency health services, temporary shelter, safe drinking water and sanitation, and arrangement of food are the other priority activities of this stage. After the completion of emergency phase, the recovery activities such as improvement and normalization of disaster affected services and facilities, income generation and other livelihood activities need to be pursued. The campaign to “Build Back Better” in rehabilitation and reconstruction also begins in this phase with the activities like raising people’s awareness, strong plan, institutional strengthening and coordination.

Multi-hazard early warning systems are proven very effective in enhancing disaster preparedness. In order to implement the early warning system, it requires institutionalized arrangements for adequately timed early warning of the impact of probable disaster events. The effectiveness of early warning systems has been proven by the benefits provided by flood early warning

systems to reduce loss of human life and property in recent flood incidents in some of the flood prone river basins. The current experience on flood early warning system needs to be expanded to other major and small river basins. This requires investment in developing, operationalizing and strengthening multi-sectoral impact based, multi-hazard forecasting and early warning systems.

Multi-hazard early warning system at the federal, province and local levels need to be developed through participatory process, using the information obtained by assessing the social and cultural requirements, particularly the needs of women, elderly persons and children including the requirements of the users. For this, mobile apps and web portal can also be developed.

The following priority actions are provided under this Priority Area for enhancing disaster preparedness and to “Build Back Better” in recovery, rehabilitation and reconstruction.

- a. Strengthening Disaster Preparedness for Effective Disaster Response
- b. Development of Multi-Hazard Early Warning System for Disaster Preparedness
- c. Promotion of Community Based Disaster Risk Reduction
- d. Strengthening Communication and Dissemination for Disaster Preparedness
- e. Capacity Building for Search and Rescue
- f. Promoting “Build Back Better” Approach for Recovery, Rehabilitation and Reconstruction

7.1. Strengthening Disaster Preparedness for Effective Disaster Response

There is a need of institutional, policy and program related capacity building for disaster preparedness at the local level. It is necessary to strengthen the existing emergency operation centers, and expand and operate emergency operation centers from province to the local level. The federal, provincial and local level governments need to establish storage houses and store an adequate amount of food, water, medicine, and other relief items, including rescue equipment. The following strategic activities are stated for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop institutional, policy and programs related capacity at the local level to insure the priority of Disaster Risk Reduction and Management in its working areas	Disaster Management will be effective at local level due to increased institutional, policy and program related capacity	Short Term	Local Government	Concerned Ministries of the Government of Nepal, Province Government
Develop and implement Integrated National Disaster Response System	Disaster response will be uniform nation wide	Short Term	Ministry of Home Affairs of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province Government, Local Government

Establish the emergency operation centers at Province and Local levels	Disaster response will be effective at Province and Local levels by the establishment of emergency operation centers	Short Term	Ministry of Home Affairs of the Government of Nepal, Province and Local Government	Concerned Ministries of the Government of Nepal
Identify the evacuation route and the area of assembly in each public, government, and corporate buildings and mark and demarcate these	Public buildings and areas will be prepared for disaster response	Short Term	Ministry of Home Affairs, Ministry of Urban Development of the Government of Nepal, Province and Local Governments	Concerned Ministries of the Government of Nepal, Private Sector Governments
Update National Disaster Response Framework and District Disaster Preparedness and Response Plan for forecast based emergency preparedness and response	Standard operating procedures will be updated for Forecast based Emergency Preparedness and Response	Short Term	Ministry of Home Affairs of the Government of Nepal, Department of Hydrology and Meteorology	Concerned Ministries of the Government of Nepal, Province and the Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Immigration Emergency Action Plan	Immigration areas will be prepared for emergency response	Short Term	Ministry of Home Affairs of the Government of Nepal, Civil Aviation Authority	Concerned Ministries of the Government of Nepal, Province and Local Government
Strengthen disaster preparedness at airports and practice simulations and mock drills regularly on "Get Airports Ready for Disaster"	Airports will be ready for emergency response	Short Term	Ministry of Home Affairs, Ministry of Culture, Tourism and Civil Aviation of the Government of Nepal, Civil Aviation Authority	Concerned Ministries of the Government of Nepal, Province and Local Governments
Establish adequate human and livestock shelters at the local level	Safer places will be available for shelter during disaster at the local level	Short Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local Governments	Concerned Ministries of the Government of Nepal
Establish the logistics facilities including the emergency communication system at provinces	The response will be effective at the province level by establishing the facilities	Medium Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province Government	Concerned Ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non-governmental organizations, UN Agencies, Humanitarian organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Arrange reliable water, land, air and other transport services and logistics management mechanism and increase access to remote areas	Services will be available due to effective logistics management	Medium Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province Government, Local Government	Concerned Ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non- governmental organizations, UN Agencies, Humanitarian organizations
Develop infrastructure and other structures including essential communication facilities and accommodation in various touristic destinations of the country to reduce disaster risk based on the concept of Safer Trekking System	Disaster risk will be reduced in touristic destinations by arranging the communication facilities and accommodation	Medium Term	Ministry of Culture, Tourism and Civil Aviation of the Government of Nepal, Department of Tourism, Nepal Tourism Development Board, Nepal Tourism Association, Local Government	Concerned Ministries of the Government of Nepal, Province Governments
Establish Disaster Management and High Mountaineering School and Rescue Center for mountain climbing and trekking in high altitude of mountain region	Disaster risk will be reduced for the mountaineering and trekking in high altitude	Medium Term	Ministry of Culture, Tourism and Civil Aviation, Ministry of Home Affairs, Ministry of Defense of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Trauma Care Centers in major cities	Adequate facilities will be available for the treatment of wounded	Medium Term	Ministry of Health and Population of the Government of Nepal, Province Government, Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society
Establish storage or warehouses for food, water, medicine, and other relief materials and rescue equipment at Federal, Province and Local Level	Storage houses for relief and rescue materials will be available in disaster sensitive places	Long Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province Government, Local Government	Concerned Ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non- governmental organizations, UN agencies, Humanitarian organizations
Store adequate amount of food, drinks and non-food items, seeds, animal feeds including emergency rescue equipment (boat, life jacket, fire engine, ambulance, stretcher etc.) at federal, province and local levels	Relief and rescue materials will be available in disaster sensitive places	Long Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province Government, Local Government	Concerned Ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non- governmental organizations, UN agencies, Humanitarian organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Store adequate amount of essential special food, medicine, sanitary material and auxiliary equipment needed to women, pregnant women, children, elderly and disable persons, and patients at local level storage houses	In emergency, special needs of the vulnerable groups will be addressed	Long Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province Government, Local Government	Concerned Ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non- governmental organizations, UN agencies, Humanitarian organizations

7.2 Developing Multi-Hazard Early Warning System for Disaster Preparedness

It is necessary to strengthen existing forecasting and early warning systems and establish early warning systems for major hazards. Capacity building of the concerned organizations and agencies is needed for forecasting major hazards. The Awareness raising and training programs need to be conducted for taking further steps after getting the early warning information. Preparing the standard operating procedure of early warning systems, the roles and responsibilities of various agencies need to be made clear. The following strategic activities are determined for it.

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Update and upgrade the existing operational flood and glacial lake outburst flood early warning systems	Existing early warning systems will be improved	Continuous	Department of Hydrology and Meteorology	Concerned ministries of the Government of Nepal, Province and local government

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Produce and disseminate early warning information by analyzing and forecasting data of major hazards	Early warning information will be produced and disseminated	Continuous	Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Department of Hydrology and Meteorology, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Health Service/ Health Emergency Operation Center, Department of Mines and Geology	Concerned ministries of the Government of Nepal, Province and local government
Place essential signs and equipment for early warning system in potential accident areas of every roads network	Essential signs and equipment will be in place for early warning in potential accident areas of every roads network	Continuous	Ministry of Physical Infrastructure and Transport of the Government of Nepal	Concerned ministries of the Government of Nepal, Province and local government

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
<p>Conduct awareness raising and training programs on the steps to be followed after receiving the early warnings for different hazards</p>	<p>Appropriate activities will be ensured to be taken after getting early warning information</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government</p>	<p>Concerned to ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Mines and Geology, Department of Health Services, non-governmental organizations, Red Cross movement</p>

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
<p>Prepare Standard Operating Procedure to guide the operation of early warning system and the process of early warning information dissemination between different organizations involved in disaster Management</p>	<p>Standard operating procedure will be available for operating early warning system</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government</p>	<p>Concerned ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Health Services, Non- Governmental organizations</p>

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
<p>Ensure the access, representation and effective participation of women, children, elderly persons, disabled people, indigenous and vulnerable community in early warning, system</p>	<p>Early warning system will be inclusive</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government</p>	<p>Concerned ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Health Services, Non- Governmental organizations, Red Cross movement, Political parties and their Sister Organizations</p>

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Utilize knowledge, skills, experience and traditional practices of senior citizens and indigenous people in early warning system	Indigenous knowledge and experience will be included in early warning system	Short Term	Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government	Concerned ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Health Services, Non- Governmental organizations, Red Cross movement, Political parties and their Sister Organizations
Incorporate Early Warning System in trainings and educational curriculum related to Disaster Risk Management	There will be study and teaching on Early Warning System	Medium Term	Universities, Educational Institutions, training centers	Concerned ministries of the Government of Nepal, Province and local government, Non-Governmental organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Develop and install smoke detector and fire alarm in all public buildings, schools, hospitals, and important infrastructures at the Federal, Province and Local level,	Loss due to fire disaster will be reduced with Fire Early Warning System	Medium Term	Department of Urban Development and Building Construction, Ministry of Education, Science and Technology, Ministry of Health and Population, Province and Local Governments	Concerned ministries of the Government of Nepal
Develop and operate mathematical forecasting models for major hazards	The forecasting will provide extended lead time for early warning	Medium Term	Department of Hydrology and Meteorology, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Forest, Department of Health Services	Concerned ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
<p>Develop information materials (book, brochure, notice, electronic message etc.) on early warning system for vulnerable target communities (women, children, elderly persons disabled people, indigenous, Dalit, deprived)</p>	<p>Targeted groups will be well informed about early warning system</p>	<p>Medium Term</p>	<p>Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government</p>	<p>Concerned ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Mines and Geology, Department of Health Services, educational Institutions, Non-Governmental organizations, Red Cross movement</p>

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Conduct awareness programs on Early Warning System by workshops, meetings and mass media	Awareness will be increased on Early Warning System	Medium Term	Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government	Concerned ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Mines and Geology, Department of Health Services, educational Institutions, Non-Governmental organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Conduct regular tests and exercises regarding the effectiveness of Early Warning Dissemination and Response	Effectiveness of early warning dissemination and response will be tested	Medium Term	Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Provincial and Local Government	Concerned ministries of the Government of Nepal, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Mines and Geology, Department of Health Services, educational Institutions, Non-Governmental organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
<p>Extend existing flood, and glacial lake outburst flood Early Warning System to other river basins and establish an operational Early Warning System for the major hazards like landslide, drought, thunderbolt, windstorm, heat wave, cold wave, fire, and epidemics</p>	<p>Disaster loss will be reduced due to early actions based on early warning for major hazards</p>	<p>Long Term</p>	<p>Ministry of Home Affairs of the Government of Nepal/ National Disaster Risk Reduction and Management Authority, Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Soil Conservation and Watershed Management, Department of Health Services/Health Emergency Operation Centers, Province and Local Government</p>	<p>Concerned ministries of the Government of Nepal, Non-Governmental organizations, Red Cross movement</p>
<p>Build up capacity on weather and flood forecast</p>	<p>The lead time and reliability of flood and weather forecasts will be increased</p>	<p>Long Term</p>	<p>Department of Hydrology and Meteorology</p>	<p>Concerned ministries of the Government of Nepal, Province and Local Government, Universities, Research Centers, non-governmental organizations, Red Cross movement, Development Partners</p>

Strategic Activity	Expected Outcome	Time line	Responsible Agency	Supporting Agency
Conduct research on the application of physical and mathematical models to understand and forecast natural hazards	Hazard forecasting capacity will be increased	Long Term	Universities, Research Centers	Concerned ministries of the Government of Nepal, Province and Local Government, non-governmental organizations, , Red Cross movement, Development Partners

7.3 Promotion of Community Based Disaster Risk Reduction

It is necessary to establish, expand and network community based organizations capable of working in the community on disaster risk, hazards and vulnerability, increasing awareness, and informing and mobilizing people all the time for effective disaster preparedness and response. For this, the following strategic activities are determined.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Strengthen existing Community based Disaster Risk Reduction and Management System	The communities will be empowered in disaster risk reduction	Short Term	Province and Local Government	Ministry of Federal Affairs and General Administration and concerned ministries of the Government of Nepal, non-Governmental Organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish, expand and network the community based organizations for Disaster Risk Reduction and Management	Disaster Risk reduction and Management will be effective by establishing, expanding, and networking the community based organizations at the local level	Short Term	Province and local Government	Concerned ministries of the Government of Nepal, Nepali Army, Armed Police Force, Nepal Police, Nepal Red Cross Society, Non-Governmental Organizations
Form disaster response, and search and rescue teams at local level	Local level search and rescue works will be effective	Short Term	Province and local Government	Concerned ministries of the Government of Nepal, Nepali Army, Armed Police Force, Nepal Police, Nepal Red Cross Society, Non-Governmental Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Develop and enforce guidelines for collaboration between local authority and non-governmental organizations to promote partnership between community based groups (Locality/ Tole Development Organization, Ward Citizen Forums, Citizen Awareness Centers, Mother's Groups, Youth Club, Child Club), local non-governmental organizations and civil society organizations (senior citizen forum) for addressing local concerns, interest and participation in Disaster Risk Reduction and Management</p>	<p>Local concerns and interest in disaster risk reduction and management will be addressed in partnership between the local authority, and local community based and non-governmental organizations</p>	<p>Medium Term</p>	<p>Province and local Government</p>	<p>Concerned ministries of the Government of Nepal, Non-Governmental Organizations, Red Cross movement</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop community based early warning system for each hazard at local level	Disaster loss will be reduced by strengthening preparedness through the community based early warning system	Medium Term	Local and Provincial governments	Concerned ministries of the government of Nepal, Department of Hydrology and Meteorology, Nepali Army, Armed Police Force, Nepal Police, Nepal Red Cross Society, Non-Governmental Organizations
Develop the mechanism of community based trained, formerly practiced first responders volunteers and build its capacity	Trained first responders volunteers will be available in the community	Medium Term	Provincial Government, Local Government	Concerned ministries of the government of Nepal, Nepali Army, Armed Police Force, Nepal Police, Red Cross Society, Non-Governmental Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Ensure access, representation and effective participation of women, children, elderly and disable people, and vulnerable community in the programs and policy formulation of the community based organizations for disaster risk management</p>	<p>Community based disaster risk management will be inclusive</p>	<p>Medium Term</p>	<p>Provincial Government, Local Government</p>	<p>Concerned ministries of the government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations, political parties and their sister organizations</p>
<p>Prepare Monitoring and Evaluation Plan and Procedure at the local level</p>	<p>, Accountability will be established at local level in Disaster Risk Management</p>	<p>Medium Term</p>	<p>Province Government, Local Government</p>	<p>Concerned ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations</p>

7.4 Strengthening Communication and Dissemination System for Disaster Preparedness

Despite the progress by the country in mass communication and information technology sector, its application in disaster awareness raising, early warning system, disaster preparedness and response is still remained to happen as expected. It is necessary to follow a special procedure of communication and dissemination to increase the accessibility of vulnerable groups in disaster information. For this, the following strategic activities are determined.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish community information centers	Community will be informed about disaster risk	Short Term	Province and Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop institutional, policy and programmatic partnership to link mass communication and modern information technology (printing, radio, television, social network, SMS, mobile phone) with disaster risk awareness raising and Early Warning System in a managed way	Mass communication and modern information technology will be used effectively in disaster risk information and early warning system	Short Term	Ministry of Home Affairs of the Government of Nepal, Ministry of Communication and Information Technology, Ministry of Education, Science and Technology	Concerned Ministries of the Government of Nepal, Province and Local Government, Radio Nepal, F.M. radios, Nepal Television, Nepal Telecommunication Authority, NCell, Nepal Red Cross Society, Non-Governmental Organizations
Follow Communication and dissemination procedure (e.g. Radio, TV, Phone, SMS, siren, shouting, messenger, flag raising etc.) as per the need and suitability of the local community	There will be effective communication and dissemination at local level	Short Term	Province and Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Follow special type of communication and information dissemination procedure for vulnerable groups (Illiterate, blind, deaf)	Access of vulnerable groups will be increased in disaster information	Short Term	Ministry of Communication and Information Technology of the Government of Nepal, Ministry of Home Affairs, National Disaster Risk Reduction and Management Authority, Ministry of Federal Affairs and General Administration, Province and Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations
Use and promote mass modern science and technology (Web portal, Mobile Apps, SMS-CB, IVR) to improve the effectiveness of communication and dissemination system for Disaster Preparedness and Responses	Improved communication and dissemination system will be available and used	Medium Term	Department of Hydrology and Meteorology, Department of Forest, Department of Water Induced Disaster Management, Department of Mines and Geology, Department of Health Services/ Health Emergency Operation Center, Province and Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish a Disaster Risk Reduction Web Portal at Province and Local Level	Information on disaster risk and loss will be available through web portal at Province and Local Level	Medium Term	Province and Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations
Develop rapid assessment system for rehabilitation and reconstruction applying modern information technology	The information on disaster loss will be available immediately	Medium Term	Province and Local Government	Concerned Ministries of the Government of Nepal, Nepal Red Cross Society, Non-Governmental Organizations

7.5 Capacity Building of Search and Rescue

Responsibilities in post-disaster search and rescue are scattered across authorities. In spite of the fact that three security agencies are involved in emergency search and rescue, and coordinating for post-disaster search and rescue, there is a need of an integrated institutionalized arrangement with skillful working capacity, means and resources. Due to lack of integrated use of post-disaster self-awareness, humanitarian motive and relief assistance, there has been seen a state of confusion, hesitation and internal conflict at each time. In order to avoid the duplication in collection and mobilization of post disaster relief, it is necessary to prepare and implement a Guideline/Standard Operating Procedure. There is slackness of continuous drill for developing a practice to work in emergency. Since the hazards like fire and wildfire are recurrently occurring, it needs the services well-trained, full of means and resources to be guaranteed to prevent fire. The following strategic activities are stated for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare Standard Operating Procedure of Federal, Province and Local level Emergency Operation Centers and orient the policy makers and professionals at the Federal, Province and Local level	Standard Operating Procedures for Emergency Operating Centers will be available	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Province Government, Local Government	Concerned Ministries of the Government of Nepal, Non-Governmental Organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Build capacity of emergency operating centers	The capacity of the Emergency Operation Centers will be developed	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Province and Local Governments	Concerned Ministries of the Government of Nepal, Non-Governmental Organizations, Red Cross movement
Conduct a pre-monsoon disaster preparedness workshop and post-monsoon review workshop every year with participation of all stakeholders	Disaster preparedness and responses will be tested	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Department of Hydrology and Meteorology, Province and Local Government	Concerned Ministries of the Government of Nepal, Non-Governmental Organizations, Red Cross movement
Pursue one door system to check duplication in relief collection and mobilization	Disaster responses will be uniform and transparent and duplication will be avoided	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Province and Local Governments	Concerned Ministries of the Government of Nepal, Non-Governmental Organizations, Red Cross movement

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Community based Search and Rescue team at local level	Community based Search and Rescue team will be established at local level,	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Province Government, Local Government	Concerned ministries of the Government of Nepal, Nepali Army, Armed Police Force, Nepal Police, Nepal Red Cross Society, Non-Governmental Organizations
Prepare trained First Responders at ward level	Trained First Responders team will be prepared at ward level	Short Term	Local Government	Concerned ministries of the Government of Nepal, Nepali Army, Armed Police Force, Nepal Police, Nepal Red Cross Society, Non-Governmental Organizations, Political Parties and their Sister Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Make a network of the ambulance services based on adjacent to the major Highway, Urban and Rural roads</p>	<p>Ambulance services will be easily available during disaster</p>	<p>Short Term</p>	<p>Ministry of Health and Population, Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority</p>	<p>Province and Local Governments, Nepal Red Cross Society, Non-Governmental Organizations</p>
<p>Provide training to each level of health workers (primary, secondary, and high) for skill development in treatment of road accident</p>	<p>The capacity of health workers will be increased in treatment of road accident</p>	<p>Short Term</p>	<p>Ministry of Health and Population/ Health Emergency Operation Center, Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority</p>	<p>Province and Local Governments, Nepal Red Cross Society, Non-Governmental Organizations</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Establish Light and Medium Search and Rescue team at federal level and build their capacity	Search and Rescue teams of federal level will be capable	Short Term	Ministry of Home Affairs of the Government of Nepal, Ministry of Defense, National Disaster Risk Reduction and Management Authority, Armed Police Force, Nepali Army, Nepal Police	Province and Local Governments, Nepal Red Cross Society, Non-Governmental Organizations
Establish Search and Rescue Team and provide necessary equipment and manpower to the federal, province and district level units of Armed Police Force, Nepali Army and Nepal Police	Armed Police Force, Nepali Army and Nepal Police will be capable of search and rescue	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Nepali Army, Nepal Police, Armed Police Force	Concerned Ministries of the Government of Nepal, Province and Local Governments, Nepal Red Cross Society, Non-Governmental Organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Build capacity of Search and Rescue teams of Armed Police Force, Nepali Army and Nepal Police	Armed Police Force, Nepali Army and Nepal Police will be capable for search and rescue	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Nepali Army, Nepal Police, Armed Police Force	Concerned Ministries of the Government of Nepal, Province and Local Governments
Establish unified command of search and rescue teams and develop it as per the standard of International Search and Rescue Advisory Group	Unified command of search and rescue will be established	Short Term	Ministry of Home Affairs of the Government of Nepal, Ministry of Defense, National Disaster Risk Reduction and Management Authority, Nepali Army, Nepal Police, Armed Police Force	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Follow Core Humanitarian Standard in assisting disaster affected individuals and community	Humanitarian assistance will be of high quality	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Province and Local Governments	Concerned Ministries of the Government of Nepal
Develop Rapid Assessment Procedure for loss and damage using modern information technology and collect disaggregated data for loss and damage	Emergency responses will be efficient and effective by applying rapid assessment procedure	Short Term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority	Concerned Ministries of the Government of Nepal, Province and Local Governments
Ensure an arrangement of education, health, nutrition, and drinking water during post-disaster emergency	Post-disaster emergency management of education, health, nutrition, and drinking water will be in place	Short Term	Ministry of Education, Science and Technology, Ministry of Health and Population, Ministry of Water Supply of the Government of Nepal	Concerned Ministries of the Government of Nepal, Province and Local Governments

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Ensure increase in the preference and accessibility of vulnerable and deprived class in post-disaster relief, rescue and rehabilitation services provided by Government and Non-governmental sectors</p>	<p>The deprived class will have access in relief, rescue and rehabilitation services</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, Ministry of Federal Affairs and General Administration, Province and Local Governments</p>	<p>Concerned Ministries of the Government of Nepal, Non-Governmental Organizations, Nepal Red Cross Society Political Parties and their sister organizations</p>
<p>Prepare Disaster Preparedness and Response Plan at Province and Local Level</p>	<p>Disaster preparedness and response plan will be available at local level</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, Ministry of Federal Affairs and General Administration, Province and Local Governments</p>	<p>Concerned ministries of the Government of Nepal, Non-Governmental Organizations, Red Cross movement</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Practice mock drills regularly at different levels (Federal, Province, Local, Community) and sectors (School, hospital) for effective preparedness and response	With the practice of mock drills preparedness and response will be effective	Short Term	Ministry of Home Affairs of the Government of Nepal, Ministry of Federal Affair and General Administration, Province and Local Governments	Concerned Ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non-Governmental Organizations, UN agencies, Humanitarian Organizations
Establish an integrated fire control group and build its capacity through resource, means and training	Fire control capacity will be increased	Short Term	Ministry of Federal Affair and General Administration of the Government of Nepal, Province and Local Governments	Concerned Ministries of the Government of Nepal, Nepal Fire Brigade, Nepal Rescue and Fire Fighter Association, Red Cross movement

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop trained human resources for search and rescue and response at all levels	, Search and rescue and response will be effective at all levels	Medium Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the government of Nepal, Province and Local Government	Concerned ministries of the Government of Nepal Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non-Governmental Organizations, UN agencies, Humanitarian Organizations
Develop trained, and skilled human resource to promote the post-disaster essential social counseling and mental health	Skilled human resource will be available for the promotion of social counseling and mental health	Medium Term	Ministry of Health and Population of the Government of Nepal, Tribhuvan University, Central Department of Psychology, Nepal Red Cross Society	Concerned Ministries of the Government of Nepal, Province and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Strengthen Cluster approach for effective response from Federal to Local level ,	Response will be effective at all level	Medium Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local Government	Concerned ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non-Governmental Organization, UN agencies, Humanitarian Organizations
Make special arrangements for security and other requirements of women, children, elderly and disabled people during search, rescue and response	Vulnerable groups will be safe during disaster	Long Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local Government	Concerned ministries of the Government of Nepal, Nepali Army, Nepal Police, Armed Police Force, Nepal Red Cross Society, Non-Governmental Organization, UN agencies, Humanitarian Organizations, Political parties and their sister organizations

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Develop capacity of the community Organizations (Child Club, Youth Club, Mothers Group, Senior Citizen Forum, Citizens Concern Center, Forest Users Group etc.) for disaster preparedness and response	Disaster response capacity of community organizations will be developed	Long Term	Local Government	Concerned ministries of the government of Nepal, Province Government, Nepal Red Cross Society, Non-Governmental Organization

7.6 Promoting “Build Back Better” Approach in Recovery, Rehabilitation and Reconstruction

There needs to develop a culture of supplying standard construction materials and rendering disaster resistant construction to realize the possibility of “Build Back Better” in reconstruction and rehabilitation after disasters. The capacity of professionals and technicians involved in construction works need to be developed. By classifying land on the basis of disaster risk, construction works need to be prohibited in high risk areas. It requires research and development of modern technology to promote “Build Back Better” approach. The following strategic activities are stated for it.

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare and enforce resettlement guidelines for resettlement and rehabilitation of infrastructure of disaster affected families	Resettlement and rehabilitation of infrastructure will be implemented by preparing guidelines	Short Term	Ministry of Urban Development of the Government of Nepal, Department of Urban Development and Building Construction, Province and Local Government	Concerned ministries of the Government of Nepal
Prepare Guidelines on “Build Back Better” in Recovery, Rehabilitation, and Reconstruction	Guidelines on “Build Back Better “ will be available	Short Term	Ministry of Urban Development of the Government of Nepal, Water and Energy Commission Secretariat, Ministry of Physical Infrastructure and Transport	Concerned ministries of the Government of Nepal, Province and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Incorporate disaster risk reduction activities in recovery, rehabilitation and reconstruction	Future disaster risks will be reduced	Short Term	Ministry of Urban Development of the Government of Nepal, Province and Local Government	Concerned ministries of the Government of Nepal
Develop and utilize local resources, means, labor, technology, knowledge and skill in rehabilitation and reconstruction	Rehabilitation and reconstruction will be economical and sustainable	Short Term	Ministry of Urban Development of the Government of Nepal, Province and Local Government	Concerned ministries of the Government of Nepal
Develop policy and institutional structure to make reconstruction works disaster resistant and "Build Back Better" after major disaster	Policy and institutional arrangement will be made to build reconstruction better	Short Term	Ministry of Home Affairs of the Government of Nepal, Ministry of Urban Development, National Disaster Risk Reduction and Management Authority	Concerned ministries of the Government of Nepal, Secretariat of the National Planning Commission, Province and Local Government
Review and revise the current Post Disaster Response Framework 2013 taking the experience on policy, institution, resource mobilization and coordination from post-earthquake reconstruction campaign	Post-disaster recovery will be effective	Short term	Ministry of Home Affairs of the Government of Nepal, National Disaster Risk Reduction and Management Authority, Secretariat of National Planning Commission	Concerned ministries of the Government of Nepal, Province and Local Government

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Address special needs of women, children, elderly and disabled people in reconstruction and renovation of physical infrastructure at disaster affected areas for example, retirement home, orphanage, and community building</p>	<p>physical infrastructure for example, retirement home, orphanage, and community building will be friendly to women, children, elderly and disabled people</p>	<p>Short Term</p>	<p>Ministry of Home Affairs of the Government of Nepal, Ministry of Urban Development, National Disaster Risk Reduction and Management Authority, Province and Local Government</p>	<p>Concerned Ministries of the Government of Nepal</p>
<p>Develop and distribute Training Manual, Information, Education, and Communication (IEC) materials on building construction, retrofitting, and renovation</p>	<p>Training materials on building construction, retrofitting, and renovation will be developed and distributed</p>	<p>Medium Term</p>	<p>Department of Urban Development and Building Construction, Universities, Institute of Engineering</p>	<p>Concerned Ministries of the Government of Nepal, Province and Local Government</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Promote research and development of construction technology, materials, infrastructure design, and management for “Build Back Better” in disaster risk reduction and reconstruction and climate change adaptation</p>	<p>With development of improved technology, the reconstruction will be better and stronger</p>	<p>Medium Term</p>	<p>Universities, Institute of Engineering, Department of Urban Development and Building Construction, Department of Water Induced Disaster Management</p>	<p>Concerned Ministries of the Government of Nepal, Province and Local Government</p>
<p>Build capacity of Engineer, builders, carpenters, mason, contractors and suppliers through training and awareness raising program for disaster resistant and better reconstruction</p>	<p>Capacity for “build back better” in reconstruction will be developed</p>	<p>Medium Term</p>	<p>Ministry of Labor, Employment and Social Security, Ministry of Urban Development, Ministry of Federal Affairs and General Administration, Ministry of Physical Infrastructure and Transport of the Government of Nepal</p>	<p>Concerned Ministries of the Government of Nepal, Province and Local Government, Federation of Contractor’s Association of Nepal</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Prepare and conduct awareness raising programs on disaster resistant construction procedures and disaster risk reduction through national and local level radio, TV, Print and online media	Awareness level will be increased on disaster resistant construction procedures and disaster risk reduction	Medium Term	Ministry of Communication and Information Technology, Ministry of Home Affairs, Ministry of Federal Affairs and General Administration of the Government of Nepal, Province and Local governments	Concerned Ministries of the Government of Nepal, Media
Pursue Earthquake, flood, landslide and other natural disaster resistant construction procedures in Reconstruction	Structures will be resistant to natural disasters	Medium Term	Ministry of Urban Development of the Government of Nepal, Province and Local governments	Concerned Ministries of the Government of Nepal
Pursue the principle of green development and “build back better” in reconstruction	Reconstructed structures will be stronger and environment friendly	Medium Term	Ministry of Urban Development of the Government of Nepal, Province and Local governments	Concerned Ministries of the Government of Nepal

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
<p>Make arrangement of joint monitoring system to ensure upholding building code and use of qualitative construction materials in infrastructure and building reconstruction</p>	<p>Reconstructed structures will be stronger</p>	<p>Medium Term</p>	<p>Ministry of Urban Development of the Government of Nepal, Province and Local governments</p>	<p>Concerned Ministries of the Government of Nepal</p>
<p>Prohibit housing development, large scale construction, and establishing industry at high risk areas and revise the land use policy to make an arrangement for adopting disaster risk and vulnerability as basis in land classification</p>	<p>Land classification will be based on disaster risk and structures will not be constructed at high risk areas</p>	<p>Medium Term</p>	<p>Ministry of Agriculture, Land Management and Cooperatives, Ministry of Law, Justice and Parliamentary Affairs, Ministry of Urban Development, Ministry of Federal Affairs and General Administration, Province and Local governments</p>	<p>Concerned Ministries of the Government of Nepal</p>

Strategic Activity	Expected Outcome	Time Frame	Responsible Agency	Supporting Agency
Resettle the internally displaced people at low risk areas	Resettled areas will be safe from disaster risk	Medium Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration, Ministry of Agriculture, Land Management and Cooperatives of the Government of Nepal, Province and s Local governments	Concerned Ministries of the Government of Nepal
Relocate settlements of high risk areas to the low risk areas	Settlements of high risk areas will be safe from disaster risk	Long Term	Ministry of Home Affairs, Ministry of Federal Affairs and General Administration, Ministry of Agriculture, Land Management and Cooperatives, Ministry of Urban Development of the Government of Nepal, Province and Local government	Concerned Ministries of the Government of Nepal
Develop integrated settlements with planning of physical infrastructures in reconstruction	Reconstruction will be better with the development of planned settlements	Long Term	Ministry of Urban Development, Province and Local government	Concerned Ministries of the Government of Nepal

Note: The above-mentioned ministries and departments may be changed in accordance with the changes made by the Government of Nepal



Chapter 8

FINANCING FOR
IMPLEMENTING THE
STRATEGIC ACTION
PLAN

FINANCING FOR IMPLEMENTING THE STRATEGIC ACTION PLAN

Arrangement of financial resources will be made in the following ways for the effective and efficient implementation of this Strategic Action Plan.

1. Process of formal resource allocation
 - a. Regular budget allocation of sectoral Ministries and Departments
 - b. Budget for the projects/programs on disaster risk reduction and management in sectoral Ministries and Departments
 - c. After the major disaster events, special arrangement for budget in each department for recovery and reconstruction
 - d. “Budget Transfer Mechanism” after major disaster event to allow budgetary allocation from project funds to be used in recovery and reconstruction for the same sector
2. Public expenditure management at Provincial and Local level
 - a. Budget for the projects/programs on disaster risk reduction and management at provincial and local levels
 - b. Achievement-based grant on the disaster risk reduction and management sector
 - c. Additional grant for extra expenditure on Disaster Risk Reduction
3. Resources from regulatory processes
 - a. Regulation on urban and regional plan, land plotting and other physical and environmental plan
 - b. Conditions of construction rules, construction codes and licensing of construction Industry
 - c. Conditions of Procurement Agreements

- d. Advertisement fees from Educational Curriculum and Public Information Campaign
 - e. Conditions of Insurance, Banking Transaction and Loan
 - f. Tax on Property evaluation and, purchase and sale
 - g. Royalty from Natural Resources (Forest, wild animals, birds, water utilization, gravel, sand, mines, and minerals, fish)
4. Dedicated "Disaster Risk Reduction and Management Fund" at Federal, Provincial, Local and Community level
 5. Investment by private institutions, Federation of Nepalese Chambers of Commerce and Industry, cooperatives, banks, financial institutions, and insurance companies
 6. Assistance from development partners (bilateral, multi-lateral, UN agencies)
 7. Wide coverage and easy access of insurance facilities including fast settlement for post-disaster claims
 8. Tax incentive for upholding Building Construction Code and retrofitting based on the approach of "Build Back Better" and Green Development
 9. Tax and levy in the petroleum products for financing the activities for Disaster Risk Reduction and Climate Change Adaptation
 10. Support from private sectors through the Corporate Social Responsibility and other initiations
 11. Project/program Budget of International Non-Governmental Organizations and Red Cross movement
 12. Global climate financing mechanism such as Green Climate Fund
 13. Development aid from development partners, such as Asian Development Bank, World Bank
 14. Support from Inter-government organizations –(for example, International Center for Integrated Mountain Development (ICIMOD), South Asian Association for Regional Cooperation (SAARC), Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES) etc.)



Chapter 9

IMPLEMENTATION,
MONITORING, REVIEW
AND REVISION OF
STRATEGIC ACTION
PLAN

IMPLEMENTATION, MONITORING, REVIEW AND REVISION OF STRATEGIC ACTION PLAN

There is a need of common efforts of the Government, Governmental and Non- Governmental stakeholders, development partners, political parties and their sister organizations, and private sectors for Disaster Risk Reduction and Management. Being a part of development process, all government agencies concerned to development need to coordinate and cooperate for Disaster Risk Reduction and Management. Disaster risk reduction activities should be integrated in the periodic plan and programs and progress should be regularly monitored. The following redresses shall be followed in the implementation of Strategic Plan of Action for Disaster Risk Reduction.

1. This plan of Action will be enforced for its planned implementation preparing periodic and annual plan. Additionally, it will be implemented expanding it in the form of a project.
2. While preparing and implementing programs of sectoral Ministries and departments, this plan of action will be considered as a guideline.
3. Resources will be managed for the continuous implementation of programs and projects on disaster risk reduction following multi-year program and budget based on the priorities.
4. Sectoral Ministries and Departments will be restructured based on the organization and management study report for ameliorating the implementation and management practice of this Plan of Action.

5. Necessary policy will be formulated for the implementation of this Plan of Action. In addition, the sectoral strategy and action plans will be revised to harmonize with this plan of action.

Federal, provincial and local level organizations having their envisioning and special roles in establishment of resilient community, implementation of this disaster risk reduction strategic action plan and its effectiveness depend on the qualitative and quantitative assessments of the efforts made by various organizations that promote resilient community building at the federal, provincial and local level. As such, monitoring at different levels would be required.

Post-disaster reconstruction effort needs to be linked to the reduction of future potential disaster risk by applying the build-back-better approach. At federal level, monitoring of implementation of Strategic Plan of Action will be conducted through “Annual Report and Monitoring System”. The National Council formed in accordance with the Disaster Risk Reduction and Management Act, 2017 will conduct monitoring and evaluation of the progress of implementation of this plan of action. The National Disaster Risk Reduction and Management Authority will coordinate Disaster Risk Reduction, Recovery, Rehabilitation and Reconstruction.

An effective preparedness plays a vital role to make disaster responses effective and to reduce loss of life and property. Therefore, disaster response needs to be linked with disaster preparedness. The executive committee, formed in accordance with Disaster Risk Reduction and Management Act, 2017 will coordinate disaster preparedness and responses.

These high-level committees, at least once a year in February, shall organize a meeting to review the annual progress on the implementation of this Strategic Plan of Action. The disaster management committees formed at provincial

and local level, will conduct monitoring, evaluation and coordination for the implementation of this strategic action plan at provincial and local level.

In principle, monitoring should be conducted by the third party for independent and impartial assessment. The concept of monitoring by third party can be undertaken by appointing a short-term adviser.

The Strategic Plan of Action will be revised in every five years. It will be updated if deemed necessary as per the changing context to make it relevant. All concerned stakeholders will participate in revision of the strategic action plan. The Strategic Action Plan will be updated in the following situations:

- In case of changes in law and policy of the Government
- In the necessity of harmonization with Global Framework and Development
- In the need of including learning after major disaster event
- On the basis of conclusion and recommendation of five-yearly review

This Strategic Plan of Action has been enforced by the sanction of the Executive Committee as per the Disaster Risk Reduction and Management Act, 2017, Section 8(c).

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