

Climate Change Policy, 2011

1. Background of the Policy

Climate change is a natural phenomenon. Anthropogenic climate change has been accelerated by the emission of greenhouse gases (GHGs), primarily from industrialization, deforestation and increased use of fossil fuels for transport. Scientific evidence, as cited by the Inter-governmental Panel on Climate Change (IPCC), clearly indicates the wide scale of climate change. Accordingly, the United Nations General Assembly adopted a resolution to develop an international legal instrument to address this global problem. In accordance with this, the Inter-governmental Negotiation Committee met several times and the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in May 1992. This Convention was opened for signature at the UN Conference on Environment and Development in Rio de Janeiro, Brazil in June 1992. Nepal signed this Convention on 12 June 1992 and became Party to it in 1994.

The IPCC Fourth Assessment report clearly indicates that anthropogenic activities have accelerated the process of global climate change. Increasing GHG emissions has contributed to the increase in the atmospheric temperature, resulting in location-specific impacts. There have been changes in rainfall patterns (high, low, and intensive rainfall) and seasons due to climate change. These have direct and indirect impacts on water resources, agriculture, forests and biodiversity, health, infrastructure development, tourism, and livelihoods. Recognizing this, the international community is actively engaged in minimizing the current effects and likely future adverse impacts through effective implementation of the UNFCCC provisions.

The impacts of climate change are vivid in least developed, landlocked, and mountainous countries. Nepal is also highly affected by climate change. It has been an urgent necessity to address the issue of climate change by formulating a policy and implementing relevant programmes to minimize the existing effects and likely impacts in different ecological regions—from the Southern plains to the middle hills and to the high Himalayan mountains in the north, and their peoples, livelihoods, and ecosystems.

2. Past Efforts

As a Party to the Convention and being a Non-Annex I country, Nepal prepared the Initial National Communication in 2004 (B.S. 2061)¹ and shared with the Parties through the Convention Secretariat. Between 1996 and 2006, the then Ministry of Population and Environment (now the Ministry of Environment) was the designated focal point to implement the provisions of the UNFCCC. The then Ministry of Environment, Science and Technology (now Ministry of Environment) was entrusted as the Designated National Authority (DNA) to promote the development of projects for the Clean Development Mechanism (CDM). A few public awareness raising programmes were organised during this period. Similarly, the 2003 Sustainable

¹ Refers to the Nepal calendar year, Bikram Sambat

Development Agenda for Nepal and the 2001 Millennium Development Goals initiatives have also addressed the issue of climate change to a certain extent.

Between 2007 and 2009, in the process of implementing the Convention, Nepal has: (i) prepared the action plan related to capacity building under the National Capacity Needs Self Assessment Project in order to implement the Rio Conventions (Climate Change, Desertification and Biological Diversity); (ii) issued CDM project-approval processes and procedures to benefit from the provisions of the Kyoto Protocol; (iii) started preparing the National Adaptation Programme of Action (NAPA); (iv) started preparing the Second National Communication (SNC); and (v) implemented a project on strengthening capacity for managing climate change and the environment. Prior to the 15th Session of the Conference of the Parties (COP 15) to the UNFCCC, held in Copenhagen in 2009, the Government of Nepal organized a Cabinet Meeting at Kalapatthar, near the base camp of the Mount Everest, and issued the “Kalapatthar Declaration.” In addition, the South Asian Regional Climate Change Conference “from Kathmandu to Copenhagen” was held and a Memorandum of Understanding was signed by 14 donors and development partners to support Nepal on climate change activities. A status paper for COP 15 was also prepared. In July 2009, a 25-member Climate Change Council, including eight experts, was constituted under the Chairmanship of Right Honorable Prime Minister. Similarly, the Right Honorable Prime Minister, during COP 15, stressed the need for addressing the impact of climate change in the mountains, and that decisions and negotiations of the Convention must consider this issue very seriously. From this, climate change appeared in 2009 as national development agenda. In addition, the Interim Constitution of Nepal (2007) and Three-Year Interim Plan (2008-2010) have also addressed the issue of environmental management and climate change.

The Government of Nepal established the Climate Change Management Division in the Ministry of Environment (MoE) in the first quarter of 2010. The MoE prepared the National Adaptation Programme of Action, which was endorsed by the Government on 28 September 2010. Local Adaptation Plans of Action (LAPAs) are being prepared to implement adaptation programmes. In the process of implementing the statement made by Right Honorable Prime Minister during COP 15, the Mountain Alliance Initiative has been launched, international expert consultations were organized, and relevant reports were prepared. To coordinate climate change activities and implement collaborative programmes, a multi-stakeholder Climate Change Initiatives Coordination Committee (MCCICC) has been formed with representation from relevant ministries and institutions, international and national nongovernment organizations, academia, private sector, and donors. Similarly, with a policy to make the country’s economy and infrastructure climate-resilient, the National Planning Commission has initiated climate-resilient planning tools in the fiscal year 2010-11. It is evident that institutional, collaborative and programmatic activities have been expanded to address the issue of climate change in recent years. Efforts to mobilise funds to implement the programmes on climate change are under way. In addition, private sector and civil society continued to organize programmes and activities to raise public awareness and promote adaptation and use of renewable energy.

3. Present Situation

Nepal has experienced an average maximum annual temperature increase of 0.06⁰C. This rate of increase is higher in the mountains than in other regions. Despite having only 0.4 percent of the

total global population and being responsible for only 0.025 percent of total GHG emissions in the world, Nepal will be affected disproportionately, especially from increasing atmospheric temperature. Changes in the annual rainfall cycle, intense rainfall and longer droughts have been observed. Similarly, both days and nights are presently warmer. The number of days with 100 mm of heavy rainfall is increasing. The timing and duration of rainfall is changing. As glaciers recede from rapid snow and ice melting, glacier lakes are expanding. The adverse impacts of climate change have been noticed in agriculture and food security, water resources, forests and biodiversity, health, tourism and infrastructures. Climate-induced disasters and other effects have caused damages and losses to life, property, and livelihoods.

Millions of Nepalese are estimated to be at risk to climate change. In the past 90 years, a glacier in the Sagarmatha region has receded 330 feet vertically. Because of glacier melting, new glacier lakes have formed. Although there will be an increase in river flows until 2030, this is projected to decrease significantly by the end of this century. The problems arising due to climate change are increasing over the years. Nepal has to implement adaptation programmes even if it is not being responsible for climate change. Hence, Nepal has considered climate adaptation as a national agenda and has taken several initiatives for implementing different programmes for risk reduction in the recent years.

4. Problems and Challenges

4.1 Problems

There are very few studies about the effects and likely impacts of climate change in Nepal. Scientific evaluations are yet to be carried out to understand the types and degrees of impacts on specific geographical region and development sector. Activities related to climate modelling and assessing the ongoing effects and likely impact of climate change in natural resources, including water resources and other economic sectors from the mountain and hill regions to the plains in the south, have not been carried out due to inadequate human and financial resources and lack of appropriate equipment. Detailed studies, surveys and monitoring of snow and glacier melting and glacier lake outburst floods (GLOFs) have yet to be conducted. The detailed impacts from climate change on agriculture, water resources, forests and biodiversity, public health, disaster incidence, tourism and other related sectors has yet to be assessed. Similarly, programmes for avoiding, minimizing or adapting to the changing climate by developing appropriate technologies for risk reduction and disaster preparedness have also yet to be implemented. The major challenge is the lack of an effective framework for addressing the adverse impacts of climate change; such a framework should consider the UNFCCC provisions and decisions of the Conference of the Parties, including adaptation, mitigation, finance, technology development and transfer, capacity building, and climate resilience. Although climate change has become an issue of global importance, there is a lack of institution which can examine climate change from the perspectives of science and technology.

4.2 Challenges

- a) National efforts to make the socio-economic sectors climate-resilient is a great challenge due to the lack of knowledge, scientific data and information related to the science of climate change and its impact on different geographical and socio-economic development sectors and use of climate modelling to assess likely impacts.

- b) It is also a challenge to assess the effects and likely impacts of climate change, to identify the vulnerable sectors and enhance their adaptive capacity, and to develop a mechanism for reducing GHG emissions.
- c) It is necessary to create an enabling environment for technical and financial opportunities at the national and international level in the process of addressing climate change impacts.
- d) It is equally necessary to make the country's socio-economic development climate-friendly, and to integrate climate change aspects into policies, laws, plans and development programmes, and implement them.
- e) Current and likely adverse impacts of climate change have to be established between upstream and downstream areas so as to promote regional cooperation.
- f) In order to achieve the U.N. Millennium Development Goals and avoid or minimize the impacts of climate change on mountain environments, people and their livelihood, and ecosystems, the country should be able to take full advantage of the international climate change regime.
- g) There is a need to effectively enhance the capacity of public institutions, planners and technicians, private sector, NGOs and civil society involved in development work.
- h) It is equally important to give attention to develop a capable organizational structure with necessary financial and human resources for addressing climate change issues.

5. The Need for a New Policy

In order to face the challenges and solve the problems mentioned above, succeed in current efforts and maximize the benefits from the Climate Change Convention, formulation of a new policy with the following aspects is urgently required:

- a) To inform Parties to the UNFCCC about the implementation of the Convention along with institutional development, capacity enhancing, technology development and utilization, fund flow and GHG measurement, and updating data and information;
- b) To promote climate adaptation, mitigation and carbon sequestration; to mobilise the financial resources and make it accessible for expanding activities in technology development and transfer and capacity building for the formulation, implementation, monitoring and evaluation of programmes;
- c) To implement adaptation programmes according to the national development agenda and to ensure at least 80 percent of the total funds available for climate change activities flow to the grassroots level;
- d) To make natural resources management climate-friendly for socio-economic development and climate-resilient infrastructure development;
- e) To increase public awareness, enhance capacity and promote negotiation skills through multi-stakeholder participation; and
- f) To manage and mobilise additional technical and financial resources from clean and renewable energy development, carbon trade and other mechanisms related to reducing the impacts of climate change.

Hence, it is urgently required to formulate and implement a national policy in order to utilize the opportunities created from the climate change phenomenon for reducing poverty and achieving sustainable development.

5.1 Vision

This policy envisions a country spared from the adverse impacts of climate change, by considering climate justice, through the pursuit of environmental conservation, human development, and sustainable development--all contributing toward a prosperous society.

5.2 Mission

The mission of this policy is to address the adverse impacts of climate change and utilize the opportunities created from it to improve livelihoods and achieve climate-friendly physical, social and economic development.

6. Goal

The main goal of this policy is to improve livelihoods by mitigating and adapting to the adverse impacts of climate change, adopting a low-carbon emissions socio-economic development path and supporting and collaborating in the spirits of country's commitments to national and international agreements related to climate change.

The quantitative targets of this policy are as follows:

- 6.1 Establishment of a Climate Change Center within one year for conducting climate change research and monitoring, and regularly providing policy and technical advice to the Government of Nepal;
- 6.2 Initiation of community-based local adaptation actions as mentioned in the National Adaptation Programme of Action (NAPA) through managing financial resources by 2011.
- 6.3 Preparation of a national strategy for carbon trade in order to benefit from the Clean Development Mechanism by 2012.
- 6.4 Formulation and implementation of a low carbon economic development strategy that supports climate-resilient socio-economic development by 2014.
- 6.5 Assessment of losses and benefits from climate change in various geographical areas and development sectors by 2013.
- 6.6 Promotion of climate adaptation and adoption of effective measures to address adverse impacts of climate change through technology development and transfer, public awareness raising, capacity building and access to financial resources.
- 6.7 Development of a reliable impact forecasting system to reduce the adverse impacts of climate change in vulnerable areas of the mountain, hill, Churiya, and Terai and in natural resources and people's livelihood.

7. Objectives

The objectives of this policy are as follows:

- 7.1 To establish a Climate Change Center as an effective technical institution to address issues of climate change and also strengthen existing institutions;
- 7.2 To implement climate adaptation-related programmes and maximize the benefits by enhancing positive impacts and mitigating the adverse impacts;
- 7.3 To reduce GHG emissions by promoting the use of clean energy, such as hydro-electricity, renewable and alternative energies, and by increasing energy efficiency and encouraging the use of green technology;

- 7.4 To enhance the climate adaptation and resilience capacity of local communities for optimum utilization of natural resources and their efficient management;
- 7.5 To adopt a low-carbon development path by pursuing climate-resilient socio-economic development;
- 7.6 To develop capacity for identifying and quantifying present and future impacts of climate change, adapting to climate risks and adverse impacts of climate change; and
- 7.7 To improve the living standard of people by maximum utilization of the opportunities created from the climate change-related conventions, protocols and agreements.

8. Policies

In order to achieve the above objectives, the following policies have been adopted.

8.1 Climate adaptation and disaster risk reduction

- 8.1.1 Implementing priority actions identified in the National Adaptation Programme of Action (NAPA), and identifying and implementing medium- and long-term adaptation actions in the climate impacted and climate-induced disaster-prone areas, communities, and people;
- 8.1.2 Linking and implementing climate adaptation with socio-economic development and income-generating activities to the extent possible;
- 8.1.3 Monitoring the status of glaciers and glacier lakes through studies and implement adaptation activities in priority vulnerable glaciers;
- 8.1.4 Forecasting water-induced disasters and risks created from climate change and providing early warning information, developing necessary mechanism for the implementation of preventive measures and ensuring regular supervision, and enhancing capacity;
- 8.1.5 Identifying the people, communities and areas impacted by climate change and implementing adaptation and impact mitigation measures based on local knowledge, skills and technologies;
- 8.1.6 Formulating and implementing integrated programmes taking into consideration the objectives and the provisions of the conventions related to climate change, desertification and biodiversity;
- 8.1.7 Developing a necessary mechanism for forecasting and preventing vector-borne, infectious and communicable diseases induced by climate change; and
- 8.1.8 Developing and expanding bilateral and multilateral cooperation for risk reduction and adaptation to address the effects of climate change in the international trans-boundary areas.

8.2 Low carbon development and climate resilience

- 8.2.1 Adopting a low carbon emissions and climate-resilient development path for sustainable socio-economic growth;
- 8.2.2 Formulating and implementing the necessary strategies, guidelines and working procedures to support a socio-economic development that is climate-friendly and resilient;
- 8.2.3 Expanding the scope of carbon sequestration through scientific management of the forests, formulating and implementing land use plans and controlling deforestation;

- 8.2.4 Reducing GHG emissions through additional development and utilization of clean, renewable and alternative energy technologies and formulating and implementing plans to address adverse impacts of climate change;
- 8.2.5 Providing incentives to develop appropriate technology, its transfer and utilization for reducing the emissions of air pollutants, at source, that increase the atmospheric temperature;
- 8.2.6 Auditing the energy intensity of industries every two years to promote energy efficiency and submitting the audit to the designated authority for climate change;
- 8.2.7 Developing and promoting transport industries that use electricity (electric train, rope way, cable car etc.);
- 8.2.8 Formulating and implementing design standards for climate resilient construction of bridges, dams, river flood control and other infrastructure; and
- 8.2.9 Encouraging low carbon emission by providing financial and technical support and incentives.

8.3 Access to financial resources and utilization

- 8.3.1 Establishing a Climate Change Fund for mobilizing the financial resources from public and private, internal and external sources to address the issues of climate change.
- 8.3.2 Generating financial resources by promoting carbon trade and Clean Development Mechanism;
- 8.3.3 Generating financial resources through the implementation of the "polluter pays principle" and the payment for environmental services concept;
- 8.3.4 Managing the financial resources from current and future multilateral and bilateral support for climate change activities and the Climate Change Fund;
- 8.3.5 Utilising the benefits accrued from mechanisms for mitigating and adapting to climate change and for reducing poverty and promoting sustainable development;
- 8.3.6 Utilizing the financial resources available from national and international sources for climate adaptation, adverse impacts mitigation and low carbon development activities, as well as for food, health and livelihood security of victims of water-induced disasters, such as floods, landslides and droughts;
- 8.3.7 Formulating and implementing necessary strategies, guidelines, and working procedures for replenishment and utilization of the Climate Change Fund;
- 8.3.8 Allocating at least 80 percent of available funds for field-level climate change activities; and
- 8.3.9 Managing the fund and making it easily accessible for the climate adaptation, resilience and other climate change-related programmes.

8.4 Capacity building, peoples' participation and empowerment

- 8.4.1 Updating information and building capacity from local to policy level on climate adaptation, impact mitigation, low carbon growth, technology development and transfer, and carbon trade;
- 8.4.2 Ensuring the participation of poor people, *Dalits*, marginalized indigenous communities, women, children and youth in the implementation of climate adaptation and climate change-related programmes;

- 8.4.3 Implementing local climate change-related programmes through local institutions by enhancing their capacity;
- 8.4.4 Enhancing the adaptive capacity of food grains, species, ecosystem and health from probable effects of climate change;
- 8.4.5 Publishing and distributing targeted knowledge-related materials, such as data, information, success stories related to climate change;
- 8.4.6 Building the capacity of media to ensure the dissemination of climate change-related information;
- 8.4.7 Increasing the participation of local institutions, expertise-based federations, NGOs and civil society for information dissemination and capacity building of common people by involving them in awareness raising, training and empowerment-related activities;
- 8.4.8 Developing and mobilizing skilled manpower as a means to increasing the access to technical and financial resources for climate change activities;
- 8.4.9 Improving teacher training materials by including climate change in formal and informal education, distant education and open learning programmes;
- 8.4.10 Collecting, publishing, disseminating and utilizing climate adaptation and adverse impact mitigation-related traditional and local knowledge, skills, practices, and technologies; and
- 8.4.11 Establishing an annual national climate change award for institutions and persons who have made significant contributions to responding to climate change.

8.5 Study and research

- 8.5.1 Conducting climate change-related research to expand the implementation of measures for adapting to adverse impacts and benefiting from positive impacts;
- 8.5.2 Establishing and maintaining a state-of-the-art database of sector- and theme-based research knowledge, data and reports;
- 8.5.3 Preparing and utilizing regional climate models and other models for research;
- 8.5.4 Carrying out regular research and monitoring of risks related to climate change impacts;
- 8.5.5 Utilizing the results obtained from research for the formulation and implementation of policy, strategy, and programmes;
- 8.5.6 Encouraging bio-fuel research, promotion of bio-fuels without adverse impacts on food security;
- 8.5.7 Identifying geographical areas and sectors that are vulnerable to climate change impacts through participatory studies and identifying mitigation measures; and
- 8.5.8 Expanding the network of climate observation centers for identifying the impacts and climate change processes in different geographical regions of the country, and developing real time data acquisition system and analyzing them.

8.6 Technology development, transfer and utilization

- 8.6.1 Identifying and developing appropriate technologies for mitigating the adverse impacts of climate change;
- 8.6.2 Identifying and documenting climate-friendly traditional techniques, indigenous skills and knowledge and their utilization and make necessary improvements in traditional techniques and technologies for their practical use;
- 8.6.3 Developing modern water conserving technologies as an alternative to flood irrigation systems;

- 8.6.4 Developing and increasing the sustainable utilization of clean and green technologies;
- 8.6.5 Developing and expanding low methane emitting agricultural technologies;
- 8.6.6 Emphasizing the acquisition, transfer and sustainable use of climate-friendly technologies and enhancing capacity for their utilization;
- 8.6.7 Identifying, developing and utilizing agricultural varieties/species that can tolerate drought (too little water) and floods (too much water); and
- 8.6.8 Developing and utilizing technologies through necessary research for constructing climate-resilient structures and infrastructure.

8.7 Climate-friendly natural resources management

- 8.7.1 Developing and implementing a scientific land use system;
- 8.7.2 Proper utilization, promotion, conservation of forest resources as a means of alternative livelihoods;
- 8.7.3 Prioritizing and implementing programmes on the sustainable management of forests, agro-forestry, pasture, rangeland, and soil conservation that can address the impacts of climate change;
- 8.7.4 Encouraging investments in clean energy sources with priority on hydropower from national, regional, and international sources.
- 8.7.5 Conserving soil and water through measures such as source protection, rain water harvesting, and environmental sanitation;
- 8.7.6 Encouraging carbon sequestration and investing some of the benefits from the use of forest products for controlling forest fires and conserving forests;
- 8.7.7 Developing a mechanism for optimal utilization of international, regional and local funding sources, including reducing emissions from deforestation and forest degradation (REDD); and
- 8.7.8 Adopting a basin approach for water management through regular monitoring of water resource availability.

9. Strategy and Working Policy

In order to implement the above policies effectively, the strategies and working policies are as follows:

- 9.1 Developing, promoting and implementing climate change-friendly technologies and measures through human resources development;
- 9.2 Formulating and implementing an action plan for climate adaptation and low GHG emission by ensuring public-private partnership;
- 9.3 Implementing existing air quality standards and developing and implementing new standards to support low carbon and climate-resilient development.
- 9.4 Prohibiting the development of human settlements in climate-vulnerable areas (landslide-prone areas, flood-prone river banks, etc.);
- 9.5 Emphasizing the participation of government, semi-government, NGOs and user groups in formulation and implementation of programmes related to climate adaptation, GHG mitigation, capacity building, technology development and extension;
- 9.6 Managing solid waste as a resource;
- 9.7 Emphasizing the implementation of preparedness programmes to fight against disaster and epidemics;

- 9.8 Emphasizing the regular implementation of public awareness and capacity building programmes;
- 9.9 Preparing appropriate climate forecasting models for Nepal and regularly updating it based on regional climate models;
- 9.10 Introducing agriculture and disaster insurance in climate change-affected areas;
- 9.11 Encouraging the private sector, through capacity building and promotional activities, to take advantage of the CDM;
- 9.12 Promoting the plantation of multi-purpose tree species in private fallow land, areas affected by soil erosion, landslides and sloping land;
- 9.13 Creating a favourable condition, through financial and technical facilitation, for communities involved in carbon sequestration to yield the maximum benefits from those activities; and
- 9.14 Committing at least 80 percent of total funds available for climate change-related programmes at the community level.

10. Institutional Structure

- 10.1 Strengthening existing institutions whose work relates to climate change issues;
- 10.2 Coordinating all climate change programmes by the Climate Change Council at policy level and by the Ministry of Environment at functional level;
- 10.3 Establishing a Climate Change Centre as a semi-autonomous technical institution for the formulation and implementation of climate change-related programmes and research;
- 10.4 Expanding the function of existing climate-related institutions to implement policies and programmes; and
- 10.5 Formulating working groups for the implementation of policies and programmes.

11. Financial Aspect

- 11.1 Establishing a separate Climate Change Fund for implementing programmes related to climate adaptation and resilience, low-carbon development, risk identification, research, and development and utilization of technologies;
- 11.2 Managing the finances in the Climate Change Fund, which are provided by the Government of Nepal, bilateral and multilateral agencies, national and foreign individuals and organizations, and funds established under UNFCCC and programmes to support climate change activities; and
- 11.3 Allocating at least 80 percent of the total budget from Climate Change Fund directly to programme implementation at the community level.

12. Legal Aspect

Formulation of new laws and necessary revision of existing ones will be done as required for the effective implementation of climate change related conventions and protocols.

13. Monitoring and Evaluation

The Ministry of Environment (MoE) will primarily be responsible for monitoring and evaluating the implementation of this policy.

The MoE will prepare and implement monitoring and evaluation indicators. Concerned ministries, departments or agencies will be responsible for maintaining work progress and resolving implementation issues. The local institutions will implement, monitor and evaluate the local level programmes in a prescribed format and report to the MoE. The budget, annual programme and progress of the projects/programmes related to climate change will be submitted to the Climate Change Council and related agencies, and made public.

14. Risk

Climate change and its challenges are clearly visible in recent days. Water resources, agriculture, forestry, biodiversity, physical infrastructures, public health, tourism and livelihood are highly vulnerable to climate change. The following are potential risks to the implementation of this policy:

- No priorities set for the identification of community climate adaptation and impacts mitigation measures, or the formulation and implementation of programmes at national and local levels;
- Lack of a mechanism that can deliver reliable general, sectoral and theme-based information;
- Lack of coordination for the implementation of policies and programmes, inability to manage necessary technical and financial resources, and no prioritization of technology development and utilization and capacity building of human resources;
- No laws for the implementation of policies;
- No initiation, support and participation of national and local governments, private sector, NGOs and user groups for programme formulation and implementation;
- Limited reach of climate adaptation and capacity building programmes to targeted communities and groups;
- Limited capacity building of focal point of UNFCCC and related institutions; and
- Lack of coordination among existing institutions.

The above risks seem to be manageable. Hence, given the present political will and commitment of the Government of Nepal, the climate change policy can be implemented effectively.

15. Cancellation

This is a new policy.