Workshop Report

Government of Nepal

Ministry of Environment

National Adaptation Programme of Action (NAPA) to Climate Change

A brainstorming workshop on

Establishing a National Climate Change Knowledge Management Platform in Nepal

Monday, 18 January 2010

Hotel Himalaya, Lalitpur

Nepal

Table of Contents

1. Background

The brainstorming workshop on establishing a national climate change knowledge management platform on 18 January 2010 in Nepal brought together 90 representatives from government, media, civil society, international organizations, and development partners in order to:

1) Conduct a cursory identification of knowledge gaps in adaptation planning and action in Nepal
2) Map out the landscape of climate change knowledge generation and application in Nepal
3) Consult stakeholders on the design of the national climate change knowledge management platform in Nepal and the roles of participating institutions

The establishment of the platform in Nepal is being undertaken as part of the National Adaptation Programme of Action (NAPA) Project, which is being implemented with support from the Danish Development Agency (DANIDA), UK Department of International Development (DFID), Global Environment Facility (GEF), and United Nations Development Program (UNDP) Nepal.

As a first step towards establishing the climate change knowledge management platform, the Ministry of Environment (MoE) recognizes the need to consult widely on planning the details of the platform and to coordinate the activities with the many institutions and interest groups involved in climate change action in Nepal.

The NAPA project aims to enable Nepal to respond strategically to the challenges and opportunities posed by climate change. The project has three components, namely 1) preparation and dissemination of a NAPA document; 2) development and maintenance of a Climate Change Knowledge Management and Learning Platform for Nepal; and 3) development of a multi-stakeholder framework of action on climate change in Nepal. Component 1, the development of the NAPA document, will provide the basis for the development of a multi-stakeholder framework for NAPA implementation that is backed-up by dedicated knowledge management and learning support. In turn, the mobilization of multi-stakeholder support through components 2 and 3 will help ensure swift and well-coordinated implementation of the adaptation priorities identified in component 1. This provision puts the Government of Nepal in a strong position to not only submit a NAPA document at the end of the project duration but also have the institutional capacities in place to implement the priority adaptation actions in the NAPA and to address the adaptation needs of Nepal.

The workshop agenda is attached as Annex 1 and the list of participants is attached as Annex 2.

2. Opening session

The meeting was opened by Mr. Ritu Pantha, National Project Manager (ad interim) of the NAPA project. Mr. Purushottam Ghimire, Joint Secretary, MoE and National Project Director, NAPA project delivered the welcome remarks and explained the workshop objectives. He highlighted the importance of having a central information system to support adaptation to climate change.

Honorable Minister Thakur Prasad Sharma, Ministry of Environment, delivered the inaugural address. He said that adaptation requires assessment of vulnerability, coordination of different adaptation actors, and management of climate-relevant information. Hence it is very important to put in place a good knowledge management platform that will bring all these actors together and supply the information and knowledge requirements for adaptation planning, policymaking, and formulating adaptation programs.

While the knowledge platform is being established at the national level, he reminded participants that we should find innovative ways to connect this national platform to the communities because ultimately, adaptation has to happen in communities. He expressed his appreciation to the development partners who are supporting the NAPA, including the establishment of the knowledge management platform, and encouraged the various ministries and sectors to participate in order to make the platform relevant, active, and sustainable.

Honorable Minister Thakur Prasad Sharma, MoE (right) and Mr. Purushottam Ghimire, Joint Secretary, MoE and National Project Director, NAPA Project at the opening session.

3. Identification of knowledge gaps in adaptation planning and action

This session discussed the knowledge gaps in climate change which pose as barriers in conducting effective adaptation planning and implementing on-the-ground adaptation actions.

3.1. Knowledge gaps identified under the NAPA process

Mr. Gyanendra Karki, Technical Officer, NAPA Project presented the knowledge gaps identified under the NAPA process. He started by explaining that the overarching goal of the NAPA process is to mainstream climate change agenda into development to help achieve poverty reduction, livelihood improvement and diversification, and building resilience. The NAPA process in Nepal is country-driven with six government-led thematic working groups leading the preparation of stocktaking reports and thematic reports. Summarizing the findings of the six thematic working groups,[1] Mr. Karki presented the knowledge gaps encountered by the TWGs in carrying out their work. The common gaps identified are as follows:

Forest and Biodiversity

- Nature of shifts in snowline and tree lines
- Indicator species for moisture retention
- Key drivers of deforestation
- Co-benefits between mitigation and adaptation in forestry sector
- Uncertainty in terms of attributing biodiversity loss with climate change
- Multiple benefits from forestry interventions

Agriculture and food security

- Impact of climate change to productivity
- Cropping alteration
- Whether traditional practices in agriculture are sufficient to adapt or whether new interventions are required
- Integration with other sectors
- Crop genetics

Urban development and settlements

- Segregating direct impacts from associated impacts
- Assimilation of quantitative information into climatic vulnerability adaptation plans
- How to mainstream best practices in urban settlements

[1] Six thematic working groups (TWGs) have since been established under the NAPA, with around 15 members from government, civil society, academia and private sector, each led by a different line ministry. The knowledge gaps presented are identified by the TWGs during the process of preparing the thematic and stocktaking reports, which will form the basis for the identification and prioritization of adaptation activities for the NAPA document.

Climate-induced disasters

- Attributing disasters to climate change
- Disaster impacts on development interventions (beyond livelihoods)
- Assimilation of quantitative information into projecting climate related disasters
- Long-term impacts of climate change on disaster occurrence and frequency

Public Health

- Attributing seasonal diseases to climate change
- Segregating the role of non-climatic factors
- Integration with other sectors

Water and Energy

- Development of local hydrological models
- Assimilation of quantitative information to feed into national information system
- Changes in livelihoods due to climate change
- Long-term impacts of climate change

3.2. Barriers in mainstreaming climate change adaptation into development planning

Mr. Sohel Khan, Climate Change Specialist, NAPA Project discussed the common barriers in mainstreaming climate change adaptation into development. Some of the barriers encountered by different countries are:

1) Capacity development: Lack of understanding of climate change and adaptation and the distinction between adaptation and development among critical stakeholders; lack of understanding of climate change scenarios at the national and local level; absence of a systematic mechanism to identify adaptation need/plan
2) Issue of ownership: Climate change is often perceived as a scientific issue rather than as a cross-sectoral issue. As a result, there are few initiatives to bring research into development priority and action. A strong coordinating authority, back-up by a dedicated agency to provide data and tool support, is essential to mobilize all stakeholders into action.
3) Resource mobilization: Inadequate government investments on climate change research to support adaptation strategies; no systematic allocation of fund under regular development budget for climate change adaptation project implementation; no incentive for community to support local level adaptation project; donor commitment to support capacity building for mainstreaming adaptation.
4) Commitment issues: Integrate adaptation measures into other sectors and make it part of development planning; political will and commitment of state machinery is essential to mainstream adaptation. There is disconnect between policymakers and local-level reality; role of community and civil society is not very well-articulated.

5) Institutional aspects: Structural limitation of the political system and the bureaucracy; poor coordination among government agencies; rigid rules, regulations, and policies of government agencies; rigid donor policies offer few options to facilitate government agencies
6) Knowledge and information management: limited access to existing knowledge on climate change; inadequate research on climate change pattern, impacts and possible measures; need to translate complete scientific findings into easily understandable take-home messages; inadequate regional information or lack of consolidation of regional and national information

Discussion:

- It was suggested that Ministry of Education should be given a stronger role in the national climate change regime in Nepal. The MoE recognizes the important role of the Ministry of Education but education is not one of the thematic working groups in the NAPA process because it is not directly impacted by climate.
- It was noted that seasonal migration is one of the cross-cutting issues.
- It was recommended that the government has to look into investing more in establishing climatological stations in the country, and particularly in the regions.

4. Mapping the landscape of climate change knowledge generation and application in Nepal

This session mapped out the various sources of climate-related information and examined attempts to link them to users and communities by universities and non-governmental organizations. Presentations informed participants about data collection and research efforts conducted by selected organizations (both routine and project –based); the kinds of datasets and information collected; and procedures for accessing them. One presentation discussed the role of universities in addressing the gaps in local adaptation and another presentation discussed efforts to connect climate change knowledge to communities in the context of on-the-ground adaptation projects.

4.1. Department of Hydrology and Meteorology

Mr. Jagadishwor Karmacharya, Senior Meteorologist and Chief of Data Section at the Department of Hydrology and Meteorology (DHM) presented the products and services provided by DHM, the agency mandated by the Government of Nepal to monitor all the hydrological and meteorological activities in Nepal. In carrying out its mandate, DHM provides the following services to various institutions and to the public:

- Weekly and monthly weather summary
- Special weather event analysis

- Weather forecast for general public, mountaineer expedition, and aviation sector
- Water level information and flood forecast

The station network of DHM comprises of:

- 282 operational manual meteorological stations
- 16 automatic weather stations. These stations are mostly located in urban areas and regional centers. There has been a problem of theft and instrument maintenance
- Six snow and glacier stations
- 179 hydrological observation stations

DHM observes the one or more of the following parameters from its network of meteorological stations depending on type of station:

- Precipitation (rainfall)
- Temperature
- Relative humidity
- Sunshine duration
- Wind
- Evaporation
- Soil temperature
- Atmospheric pressure
- Atmospheric condition (weather, cloud, visibility etc.)

Systematic precipitation observation in Nepal started in 1940s while temperature observation started in 1950s but a few stations exist prior to this. All precipitation data have been digitized but daily temperature data prior to 1987 is yet to be digitized.

In order to make data accessible to users, DHM publishes climatological and agrometeorological records of Nepal on an annual basis. DHM charges nominal fee for digital data and publications but students and researchers may avail of discounted rates. Institutions with partnership or data exchange agreement with DHM may also obtain specific data free of charge. DHM participates in various workshops and information dissemination events.

Mr. Karmacharya noted that DHM's effort to monitor climate suffers not only from the high variable station density and sparseness of observation stations but also with respect to ensuring the quality of data. Hence he advocated that efforts to strengthen the hydrological and meteorological agency should not only focus on installing new stations but maintenance of data quality as well through improved monitoring, climate data management system, etc.

DHM has undertaken several climate change related studies in past. Few examples are:

- U.S. Country Study Program on Climate Change (1994)
- Snow and glaciers aspects of water resources management in the Himalayas - SAGARMATHA Project

- Initial National Communications of Nepal under the UN Framework Convention on Climate Change (2004)
- Enhancement of National Capabilities in Application of Simulation Models for Assessment of Climate Changes and its Impacts on Water Resources and Food and Agricultural Production (2005-07)
- Study on the Climate Change Impact on Glaciers in Khumbu Region and Identifying Impacts to Various Sectors (2005 – 07; in collaboration with World Wildlife Fund)
- Climate Change Impact on Koshi River Basin Flow
- Climate Change Impact on Discharge at Koshi River Basin and Analyzing Regional Climate Model (PRECIS) output and Extracting Meteorological Data in Appropriate Format for Input in Hydrological Model (2009)

It is also undertaking a number of ongoing projects including:

- Finnish-Nepalese project for increased capacity of hydrometeorological service in Nepal to promote the national and regional early warning system for natural hazards and provision of data and services to support the National Policy to Achieve the MDGs (2010-2011)
- Installation of telemetric system in Rapti and Babai Basin (2009-2011; W.B, WECS)
- Support to strengthen national capacity for flood risk reduction and adaptation to climate change (2009-2011; Bagmati basin; DANIDA, ADPC/RIMES)
- Impact of climate change on snow and glacier and on water resources in the Himalaya mountain range (Khumbu, Langtang and Dhaulagiri region of Nepal; 2008-2012; International Research Development, France)
- Glaciological Expedition of Nepal (Langtang, Khumbu; Since 1970; Nagoya University, Japan)

4.2. Water and Energy Commission Secretariat

Dr. Ravi Sharma Aryal, Joint Secretary, Water and Energy Commission Secretariat, presented various activities of the Water and Energy Commission Secretariat (WECS) as well as its special initiatives in the area of climate change.

WECS was established in 1975 in order to provide advice and suggestion to the Government and other concerned agencies in the formulation of policies relating to rational utilization, control, protection, management and development of water resources and energy. Its permanent secretariat was established in 1981.

A study has been done by WECS on the impact of climate change on water resources. The study aims to monitor the hydrological regime in the Himalayan region to monitor the impact of climate change, utilize data and information in the planning and design of hydro power plants and irrigation schemes, and design of adaptation measures to utilize the increased flow of water in the initial decades due to glacial melting.

WECS ongoing activities include:

- Implementation of Irrigation and Water Resource Management Project, which includes establishment of Water Resource Information Center and River Basin Offices.
    - ❖ The Water Resource Information Center is being established with the support of the World Bank. The idea is to have a functional water resource system that includes spatial and time series data on hydrology, meteorology, inventory of water uses, demography, land use data, and maps. WECS will maintain meta-data covering all water-related information about river basins. The data will be collected and maintained through relevant different agencies through the River Basin Offices.
    - ❖ River Basin Offices will be established in three large basins, namely Kosi, Gandak, and Karnali in Biratnagar, Bharatpur, and Nepalgunj. The River Basin Offices will conduct an inventory of the basin's water and land resources and support basin planning. A River Basin Office is already being initiated in Nepalgunj in cooperation with DHM to implement activities in Babai and West Rapti sub-basins as pilot projects.
- Preparation of strategic plan under the Kosi River Management Project in collaboration with WWF
- Formulation of a national energy strategy which envisages short term, medium term and long term strategies using integrated and coordinated approach for sustainable development of entire energy resources of the country
- Updating of water use inventory
- Mitigation and reduction of risk due to Glacial Outburst Flood (GLOF)

Since 1983, WECS has been maintaining a documentation center. The documentation center houses computerized databases, 5,000 books and an equal number of documents, subscribes to 20 technical journals, photos, albums, maps, audio-visuals on topics relating to water and energy resources, economic development, planning, electricity, environment, and legal issues.

Some of the recent studies completed by the WECS are as follows:

- National Water Resources Strategy (2002) and National Water Plan (2005)
- Studies on Glaciers and GLOF
- Water Use Inventory of all 75 districts of Nepal
- Micro Hydro Inventory of 25 districts of Nepal
- National Energy Profile

4.3. National Academy of Science and Technology

Dr. Dinesh Bhuju, Chief, Faculty of Science at the Nepal Academy of Science and Technology (NAST) presented NAST's climate change-related activities. NAST has an MOU with the Ev-K2-CNR Committee which included the installation of a Pyramid Laboratory/Observatory located

at 5,050 meters a.s.l. in Nepal at the base of Mount Everest. The Pyramid Laboratory's research areas are environment, biodiversity, earth sciences, medicine and human physiology, and clean technology. To date, more than 520 research expeditions have been carried out at the Pyramid Laboratory involving 220 researchers from 143 scientific institutions from several countries. NAST has also set up a Dendro-Laboratory to facilitate climate change study in Nepal Himalaya.

Climate change studies are one of the priorities of NAST. Current activities include:

- Baseline inventories on agro-biodiversity in 16 settlements, mushroom diversity, and herbaceous vegetation
- Dendrological method of scientific dating based on the analysis of tree-ring growth patterns studies that aim to understand the impact of climate change on the distribution of forest vegetation in the Himalaya thorough reconstruction of environmental history and relationship between temperature and vegetation shift. The study is being undertaken through setting up of permanent plots, tree inventory, and tree core collection and analysis. Two permanent plots are set up in the tree-line in Sagarmatha National Park. Samples have been collected from Langtang National Park, Manaslu Conservation Area, Manang and Kathmandu Valley for analysis. Preliminary analysis results, as well as baseline forest structure datasets, which are being continuously established from these studies, are now available. In the future, NAST plans to extend the study areas; strengthen the dendro-laboratory; and involve doctoral students.

4.4. Role of universities in addressing knowledge gaps for adaptation

The earlier presentations pointed out some of the critical knowledge gaps in carrying out adaptation. Dr. Krishna Raj Tiwari, Assistant Professor, Institute of Forestry in Tribhuvan University in Pokhara explained that universities should play the following roles in terms of addressing these gaps:

- Provide independent, critical voices in society useful for challenging the establishment and coming up with new ideas, theories and models for adaptation on climate change from national to local level.
- Provide policy-relevant knowledge and recommendations based on empirical research and build capacity to analyze relevant data and come up with theories and models that will assist the governments in making policy choices.
- Integrate adaptation principles into education
- Preparing professionals incorporate adaptation to climate change in their respective fields.
- Contribute to closing the knowledge gap between developed and developing countries.
- Offer programs at better economies of scale by using existing organizational, intellectual and financial resources and leverage university-based efforts as opportunities to attract donor involvement.

Dr. Tiwari noted that different aspects of climate, climate change, and adaptation are being taught to students in different universities in courses, such as climatology, forestry, agriculture, environmental science, watershed management, engineering, risk management in finance, business, IT and engineering sectors, biology, sociology, and political sciences. However, there is no single unified course that integrates all these three components together. He advocated that this gap should be addressed starting with priority sectors including agriculture, water resources, Himalayan environment, infrastructure, engineering, rural development, environmental risk management. It is important to have many Nepalese universities get the opportunity to develop capacity to address the many challenges facing the Himalayan environment and climate change by doing research, generating knowledge, and collaborating with academic institutions abroad.

Dr. Tiwari advised that designing adaptation education programs should be guided by the following principles:

- Avoid one-size-fits-all programs. There should be several programs targeted at specific sectors and subjects
- Adaptive (i.e. reviewed and revise at regular intervals to make sure that they stay current
- Flexible enough to rekindle innovation at the national/university level
- Practical and considers the existing resources
- Provides incentives to build capacity and mobilize resources to help implement the program
- Participatory and includes national education boards, human resource development ministries, etc.

As much as there is a need to strengthen high-level research and teaching activities, there is also a need to ensure the between the research generated and user requirements. Dr. Tiwari advocated the following measures:

- Inclusion of local needs in research agenda
- Implementation of concomitant efforts to ensure that there is demand for the results of research and that potential users have the capabilities to implement them
- Development of new assessment methods for university researchers that encourage research on local needs
- Provision of support for students and university staff to identify and commit to solving social problems

4.5. Linking climate change knowledge to communities

Ms. Rajju Malla Dhakal, Executive Director of Local Initiatives for Biodiversity, Research and Development (LI-BIRD), delivered a presentation on the experiences and challenges of linking climate change knowledge to communities.

LI-BIRD - a research and development organization - maintains a knowledge management unit which is linked to environmental health service. Figure 1 shows the LI-BIRD model for linking climate change knowledge to people. At the heart of the model is a LI-BIRD-coordinated NGO network that serves as a mechanism for conducting adaptation planning and designing applications.

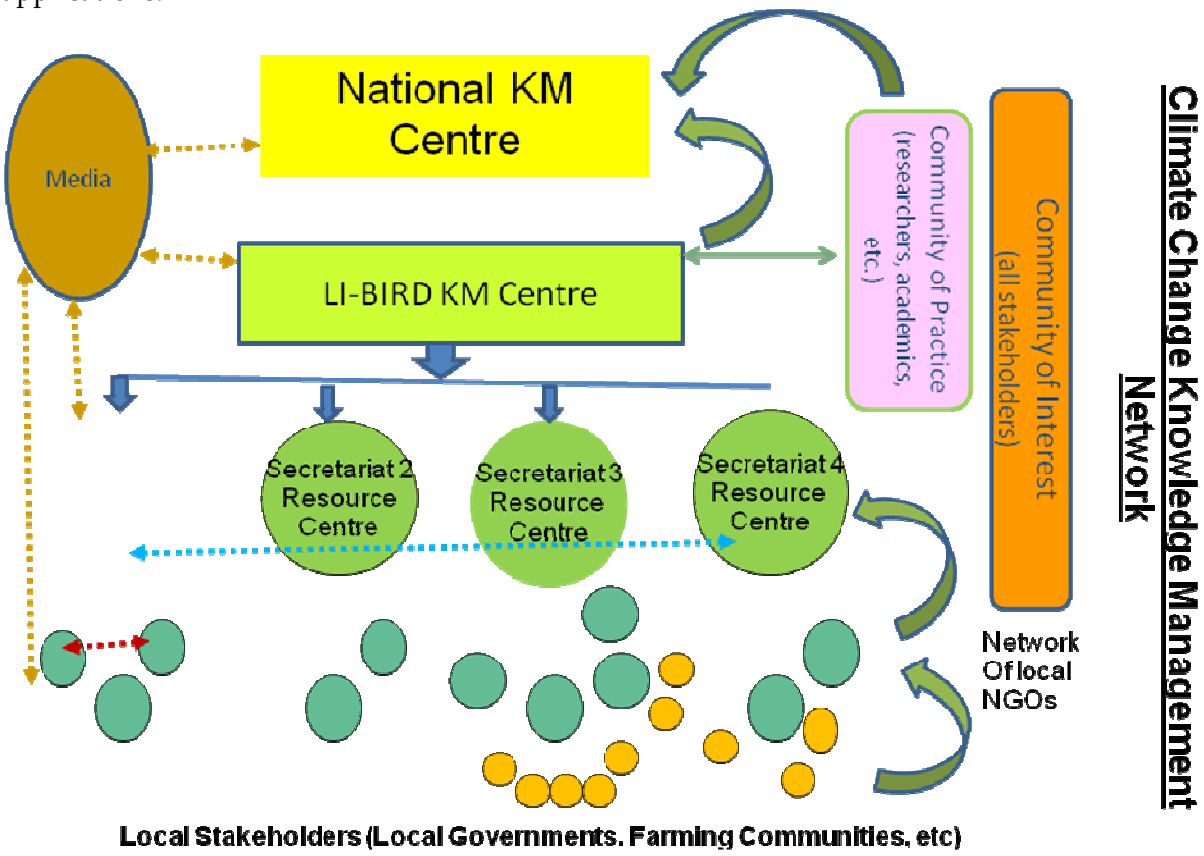

Figure 1: LI-BIRD model of connecting climate change knowledge to communities (Dhakal, 2009)

The Network is organized into four clusters. Each cluster is serviced by a secretariat, namely Ilam (NCDC) for Eastern cluster Dhangadi; (YAC) for Western cluster; Nepalgunj (DWO) for Mid-western cluster; and Pokhara (LI-BIRD) for Central and Western cluster. Since the members of the Network work directly with communities in disseminating information and conducting action research, a two-way process between the knowledge management system and the communities is ensured. To make information accessible, four resource centers are established in Ilam (NCDC), Kathmandu, Dhading (Dhading (Resource Management and Identification Society, Nepal RIMS – Nepal), and Pokhara.

The NGO network can be connected to the national knowledge management platform, which is being coordinated by the Ministry of Environment through the LIBIRD knowledge management centre. As LIBIRD is connected to national NAPA process through collaboration with Ministries (e.g. Ministry of Environment, Ministry of Agriculture and Cooperatives) and participation in NAPA thematic working groups, this should not be difficult.

Given the newness of the intervention and limited resources, at present, the members of the NGOs Network are undertaking the following activities:

- Integrating climate change issues into their projects
- Reaching out to local communities and building partnerships
- Learning /identifying local adaptation practices, local knowledge and skills, local innovations to cope with climate-related problems, and
- Action research on:
    - ❖ Vulnerability assessment
    - ❖ Promotion of agro-biodiversity (home garden)
    - ❖ Promotion of resilient crops (neglected and underutilized species)
    - ❖ Soil management techniques (integrated hedgerow)
    - ❖ Livelihood diversification strategies (conservation of local landraces, participatory plant breeding of stress tolerant varieties)

Believing that local knowledge is an important basis for learning and is fundamental to development/introduction of new knowledge and adaptation technologies, the members of the Network are actively piloting and documenting local climate risk management practices, such as:

- Use of biodiversity by farmers: Network members encounter farmers addressing climate change risks on their own by maintaining a portfolio of varieties and diversification of farming system, exchanging climate-stress tolerant local landraces, and procuring seeds of different varieties through traditional practices of seed saving and exchanging networks (mostly women farmers)
- Action research on vulnerability assessment, promotion of agro-biodiversity in home gardens, planting resilient crops, soil management techniques (integrated hedgecrow), and livelihood diversification strategies (conservation of local landraces, participatory plant breeding of stress tolerant varieties)

The Network will expand the scope of its current activities and plans to undertake the following activities in the future

- Providing adequate knowledge sharing and knowledge management tools and building capacity to use them effectively
- Building capacity of stakeholders to understand the vulnerability to climate change (which is the function of social, economic, political and environmental context people live in)
- Noting that climate change impacts vary across landscapes, location specific adaptation program should be developed informed by location-specific data analysis

The scope of the current intervention is subject to availability of funds. It can be very useful to scale up and scale out the program.

Discussion:

- Several studies have been conducted by DHM but it is difficult to access the final products of these researches. Hence DHM was requested to upload their research outputs to their website. DHM responded that they are very much willing to do this for free reports/publications but some publications/scientific papers become the property of the publishers.
- DHM clarified that the density of stations in Nepal is not poor (Kathmandu Valley itself has 16 stations) except in the Himalaya and the remote regions like the Northwest part of the country. DHM representative Mr. Karmacharya does not personally support merely establishing new stations if it is not possible to maintain and ensure data quality.
- Some but not all meteorological stations/data are problematic. Statistical analysis is commonly used by DHM for data quality control of some parameters.
- There was a request for the Water and Energy Commission Secretariat to inform what kind of data will be made available by the Water Resource Information Center, which is being established with the support of the World Bank.
- Universities are a part of a bigger sector so it was suggested that they should work closely with ministries, departments, and other sectors. Their role is not only to teach students but also translate knowledge into practice.
- Linking climate change knowledge to communities is accomplished primarily by 1) collecting and documenting information and sharing with other organizations; and 2) working with communities and sharing knowledge with them.

5. Consultation of the design and activities of the national climate change knowledge management platform

5.1. Proposed design of the national climate change knowledge management platform

Ms. Kareff May Rafisura, Climate Change Network Facilitator, NAPA Project presented the proposed design of the national climate change knowledge management platform. She explained that a knowledge management platform is a very important element of a country's adaptive capacity because developing effective climate change adaptation solutions – from policy to on-the-ground project interventions - requires drawing expertise and experiences from a wide range of sectors and disciplines. It requires a systematic blending of science and

traditional knowledge and involves various actors across governance levels from global, national, and local levels. The NAPA project provides a great opportunity to build this knowledge platform in Nepal that will have relevance beyond the project.

As a first step towards establishing a climate change knowledge management platform in Nepal, efforts under the NAPA project will undertake the following activities:

a) Knowledge generation activities primarily to address the critical knowledge gaps in the NAPA process
b) Establishment of physical climate change information centers which will be hosted by existing institutions
c) Mailing list on climate and development topics
d) Capacity building for knowledge intermediaries (primarily through media training)
e) Learning events on relevant topics
f) Web-based climate and development portal

She then explained the objectives of the platform, target audience, structure and participating institutions, activities knowledge themes, financing and sustainability strategy. Please refer to Annex 3 for the full discussion paper.

5.2. Role of regional organizations/initiatives in supporting the climate change knowledge management platform in Nepal

5.2.1. International Centre for Integrated Mountain Development (ICIMOD)

Mr. Tek Jung Mahat, Node Manager of the Asia Pacific Mountain Network, managed by ICIMOD, presented the role of ICIMOD in supporting the national climate change knowledge management platform in Nepal. He started by pointing out that climate change and knowledge management are cross-cutting issues in ICIMOD's work.

ICIMOD's planned actions with regard to supporting climate change adaptation strategy and action include:

- Production of a coherent body of high quality information and analysis that identifies the key regional water and ecosystem related adaptation challenges
- Formulation of a package of good practices on how these challenges can best be addressed through research and outreach to provide dynamic adaptation and resilience outcomes
- Identification of innovative and effective dissemination strategies for research outputs to improve the adaptation skills at different levels as per the need
- Generation and documentation of evidence of the information and new knowledge required by national policy makers to influence policy change;

- Strategies for skills and knowledge exchanges to strengthen the capacity of member country partners resulting in the development of a 'critical mass' of research expertise.

ICIMOD sees knowledge-sharing initiatives as a source of inspiration, innovation, and questioning. ICIMOD's Integrated Knowledge Management (IKM) Programme comprises three divisions, namely the Mountain Environment and Natural Resources Information System (MENRIS), Information Technology and Communication (IT+C) and Knowledge Management Support and Development (KMSD), which are supported by the Human and Institutional Development (HID) unit. IKM is responsible for providing support to increase the potential for success and efficiency of strategic programmes (lessons learned, impact); use tools and approaches that improve communication and exchange with and among others in the region; and serve as clearing house and platform for geo-information and earth observation data.

In terms of supporting the initiatives of member organizations, such as the emerging knowledge management platform in Nepal, ICIMOD offers its thematic expertise on climate change issues, knowledge sharing platforms, knowledge management tools and capacity building, and expertise in mapping available knowledge.

5.2.2. Regional Climate Change Adaptation Knowledge Platform for Asia (UNEP/SEI)

Dr. Kai Kim Chiang, Research Coordinator, Stockholm Environment Institute – Asia Centre and Ms. Roopa Rakshit, Knowledge Management Officer, UNEP Regional Resource Center for Asia Pacific, presented the recently-initiated Regional Climate Change Adaptation Knowledge Platform for Asia (hereinafter referred to as "Adaptation Knowledge Platform") in which Nepal is one of the participating countries.

The Adaptation Knowledge Platform, is a three-year program that supports research on climate change adaptation, policy making, capacity building and information sharing to help countries in Asia adapt to the challenges of climate change. The Adaptation Platform also seeks to facilitate climate change adaptation at local, national and regional levels and to strengthen adaptive capacity of countries in the region while working with existing and emerging networks and initiatives. Through its work, the Adaptation Knowledge Platform is working towards building bridges between current knowledge on adaptation to climate change and the governments and agencies that need it.

In order to achieve this goal, the Adaptation Knowledge Platform brings together policy-makers, adaptation researchers, practitioners, and business leaders and works through three components:

Regional knowledge sharing system: To promote dialogue, improve exchange of knowledge, information and methods (e.g. annual fora, thematic workshops and trainings, interactive on-line sharing mechanism)

Generation of new knowledge: To facilitate the generation of new climate change adaptation knowledge promoting understanding and providing guidance relevant to the development and implementation of national and regional climate change adaptation policy, plans and processes (e.g. downscale and/or interpretation of climate data); and

Application of existing and new knowledge: Synthesis of existing and new climate change adaptation knowledge to facilitate its application in sustainable development practices at the local, national and regional levels (e.g. climate narratives, risk envelope communication exercises).

Ms. Rakshit pointed out that the timing is right for both the national platform in Nepal and the regional platform. There will be benefits from coordinating the activities of the two platforms since knowledge is the core components of both initiatives with specific focus on knowledge assimilation, generation, management, and dissemination. At the national level, the Adaptation Knowledge Platform will facilitate and support the following activities:

- Assess knowledge sharing process, flow, protocol and priority through a scoping study
- Support existing national programmes on adaptation knowledge
- Facilitate (/establish) "adaptation knowledge hubs"
- Strengthen publishing and dissemination of knowledge products
- Promote electronic publishing and dissemination of knowledge products
- Enhance IT supported infrastructure
- Enhance networking and communication
- Build capacity
- Expand multilingualism
- Support knowledge translation (address the "know–do" gap)

Dr. Chiang presented the activities that were carried out in Nepal in 2009:

- Missions end July and end August to identify and engage stakeholders, expertise, gaps, projects, events, summary of NAPAs/National Communication and past consultations
- Brainstorming Workshop on Climate Change Adaptation in Mountain Ecosystems (29th-31st July 2009, Kathmandu)
- Stocktaking of projects for Google Adaptation Layer
- Development of online adaptation database
- Linking of Google Adaptation Layer with database, external website, and other existing web resources
- Conduct of training course on "Adaptation Principles and Planning" and "Climate Information for Adaptation and Risk Communication"

Discussion:

- It was suggested that the climate change knowledge management platform should be used to improve the welfare of the communities.
- The use of community and FM radios was suggested in order to broaden the reach of information.
- There are many things that are not documented. Therefore, it is important to conduct intensive knowledge harvesting to make sure that un-documented knowledge is incorporated in the knowledge platform.
- The national climate change knowledge management platform can build on ICIMOD's experience in running a structural knowledge network (e.g. ICIMOD is hosting the Asia-Pacific Network).
- It has been noted that studying climate impacts on health is difficult because health-related data are not available.
- Uploading to the web portal on climate and development will be decentralized but will be governed by an editorial policy to ensure the authenticity of the source of information.

6. Workshop Recommendations

Four focused group discussions were formed to elicit ideas on the key aspects of establishing the knowledge management portal, namely (1) knowledge generation and harvesting group; (2) knowledge dissemination and application; (3) policymaking and government-led adaptation action: and (4) sustainability. The guide questions are attached as Annex 4. The groups discussed for one hour and presented their outputs in the plenary. Forty seven participants took part in group discussions. The following is a summary of group outputs:

<u>Group 1: Knowledge generation and harvesting</u>

- As institutions that generate knowledge and information, the members of the group will contribute to the national platform and make sure that the knowledge and information being generated are made available to the user group
- In order to do knowledge harvesting effectively, a meta-data of research and information available should be created and workshops and e-networking should be conducted amongst various professional groups
- Closer interaction amongst researchers, policymakers, and other stakeholders in the climate change issue should be encouraged in order to align knowledge generation with policymaking and application.
- There are several constraints in knowledge generation and harvesting that should be urgently addressed, such as lack of human and financial resources for doing knowledge generation and harvesting, absence of a sharing culture, lack of infrastructure. Making available research grants for graduate students will help address the lack of human resources.

Group members: Bechu Kumar Yadar, KR Tiwari, Maheswar Rupakheti, Rijan Kayastha, Deepak Paudel, Meena Tash, Meghnath Dhimel, G. Malla, GP Gorkhaly, Joyce Mendez, Bal Krishna Gurung, Jagadishwar Karmacharya

Participants divided into four discussion groups to formulate recommendations on various aspects of knowledge management platform establishment.

<u>Group 2: Knowledge dissemination and application</u>

- The most critical barriers in knowledge dissemination are the lack of a sharing culture; lack of knowledge generation; plagiarism (lack of acknowledgement, citation, and referencing); unspecified target user groups; absence of an institution which can steer the institutionalization of knowledge dissemination and application; terminologies are difficult to understand.
- The lack of incentives and proper implementation strategy in policies and projects are some of the most critical knowledge application barriers.
- Knowledge dissemination mechanisms, such as sharing of documentation and publications, events, and social networking tools should be strengthened.
- More efforts should be exerted in terms of bridging science and society.

- The national climate change platform should work with existing institutions and networks in disseminating information using a cluster-based approach along the thematic working groups under the NAPA. Among those identified are:
    - Forest and biodiversity – FECOFUN, Rangers Association, IUCN
    - Public Health – National Health Research Council
    - Agriculture and Food Security – FIAN
    - Climate-induced disasters – DPNet, DimMin, AIN-TGDM
    - Water Resources – WECS, SOHAM
    - Urban development and settlements – no institution/network identified
- As one component of the national climate change knowledge management platform, local climate change resource centers will be established in two locations outside of Kathmandu. The criteria for selecting host institutions should include 1) reliable work on climate change; 2) previous work experience in knowledge management; 3) thematic expertise relevant to climate change; and 4) accessibility to the public.
- In order to connect knowledge to communities, there is a need to understand the farmers' language and transfer knowledge to them using language that they are familiar with.
- Establishing an institutional mechanism and establishing an interactive portal will help align climate change research agenda with the application requirements.
- The different thematic working groups under the NAPA could be used as a mechanism for knowledge sharing.

Group members: Roopa Rakshit, Keshav Kumar Sharma, Sarba Rak Khadka, Prabin Man Singh, Pankaj KC, Ravi S. Aryal, Gopi Prasad Paudel, Abhisek Shrestha, Deepak Paudel, Purnima Sharya, Rebati Bhandari, Parvati Shrestha, Suresh Bhattarai

Group 3: Policymaking and government-led adaptation action

- Information/knowledge on national economic capacities should be given priority while making policy decisions rather than on climate change
- Information needs for policymaking and formulating government-led adaptation action are not adequately met. Climate scenario for short and long-term has to be provided by the climate change knowledge management platform to decision makers as inputs to making long-term policies.
- Different institutions for data collection/acquisition, data processing/documentation/analysis should come together and give regular updates and feed information to the national platform, which will in turn give feedback to stakeholders in the climate change issue.
- Adaptation policy/plans should be framed based on national economic capacity rather than donor driven funding. The country must have its own resource to do this.
- National policy on climate change should be based on the 1) social ecology; 2) science; and 3) national economic capacity. Political instability in the country is a critical factor that should be taken into account.

- In order to ensure its sustainability and effective operations, it should be emphasized that the national climate change knowledge management platform will be financed and internalized by the government as a regular program rather than a donor-funded initiative.
- There should be a policy provision to create an interactive forum between scientific (social scientist/natural/physical scientists) and policymaker communities for sharing knowledge and formulation of common climate vision. This forum should include both public and private institutions.

Group members: Toran Sharma, Salil Devkota, Amrit Man Tuladhar, Kedlar Rijal, Bharat Sharma, Krishna Tuladhar, Dhruba Prasad Acharya, Shreekamal Dwiredi, Maksha Ram Maharjan, Raju Pandit Chettri, Ngamindra Dahal

Group 4: Sustainability

- There are potential threats to the sustainability of the knowledge management platform, including absence of a sustainable financial mechanism; uncertain future of the platform if the institution managing the platform is merged with other institutions or if there is any change in mandate; not enough capacity to manage the platform; and inability to foster a knowledge sharing culture.
- Opportunities should be exploited in order to help sustain the knowledge platform, including 1) tapping from the LDC Fund; 2) making it obligatory to get all the concerned institutions to provide information to the knowledge platform; 3) develop a cross-cutting project in line with the six NAPA thematic areas; and 4) consider charging user fees for customized information requested from the platform.
- Partnerships should be formed with various ministries, departments, central and local government agencies, intergovernmental and regional organizations, NGOs, academia, and private sector in order to sustain this platform.
- In order to create incentives for knowledge providers to align knowledge generation with application and improve public access to information, research grants should be provided; contributions should be properly acknowledged; media campaign covering multi-lingual radio, TW, newspaper clips, discussion on cross-cutting issues, and talk shows should be conducted.
- In order to sustain the sustainability of the knowledge platform, the following should be ensured: 1) generation of core fund from diverse sources; 2) proper coordination amongst partners; and 3) provision of long-term IT and technical support to the unit at the Ministry of Environment that will manage the knowledge platform.
- In order to ensure the quality of information coming out of the knowledge there should be a dedicated technical group consists of thematic experts who will do validation, screening, and processing of knowledge and information.

Group members: Sanot Adhikari, Dinesh Ghimire, Deepak Rijal, Anil Pokhrel, Kedar Chandra Sharma, Tek Jung Mahat, Ravi Sharma Aryal, Babukaji Baniya, Hari Prasad Ghimire, Kareff Rafisura

7. Closing Session

Mr. Vijaya Singh, Assistant Resident Representative for Environment, Energy, and Disaster Management, UNDP Nepal synthesized the workshop discussions. He pointed out that although crisis and hardship situations make people's lives very difficult, they also bring a lot of opportunities and offer an opportunity to depart from old ways of thinking. This analogy applies to responding to the climate change challenge and need to create a new institution as a common platform for everyone. It is necessary to reflect the kind of institution that we should set up in order to bring together information and knowledge from various sources, identify the information that we should generate, and the ways of extracting knowledge in order to feed into policymaking.

Mr. Singh summarized the key points from group discussions:

1) Create a knowledge management platform that we can sustain on our own resource and which could be funded from internal sources in the long run. If this is something that is useful, it has to be realized and funded by the government.
2) Institution should facilitate stakeholders' access to knowledge. It should create incentives for creating and disseminating knowledge. The information people receive should have meaning.
3) Finding out a sustainable financing modality for an institution like Climate Change Knowledge platform is important and making it market-based could be considered. Based on the clients need the institution can cater its services.
4) In climate change policy discussion, we should not leave economic policies aside. We should not just talk about climate change policy in isolation but equal focus should also be given on economic growth, poverty reduction, and arresting the decline of productivity in the context of climate change.
5) We cannot have a climate change adaptation strategy without risk reduction strategy. We should bring risk reduction related discussion and subject into the climate change platform.
6) There are opportunities for research and policy dialogue. For example, the National Academy of Science and Technology (NAST) is producing a lot of biodiversity information that we can use for policymaking. Recent study done by NAST on plant ecology presents a strong knowledge base for further study to assess the impacts of climate change on biodiversity.
7) How should the information system look like? How do we make sure that no information is left out? A lot of information from various sectors can be pulled into a common hub. ICIMOD has a lot of capacity and is doing a similar initiative at the regional level. As regional institutions, UNEP and ICIMOD should support the national platform.
8) There is an impetus to move forward on the knowledge management platform initiative and every little contribution that participants and the institutions that they represent would mean a lot in moving forward this initiative.

Mr. Batu Uprety, Deputy Director General, Department of Plant Resources, and member of Least Developed Countries Expert Group (LEG) expressed his appreciation to the participants for their participation in this very important event that marked the beginning of the collaboration of various institutions in establishing the climate change knowledge management platform in Nepal.

He noted that knowledge management is a very wide area and different actors, such as farmers and policymakers, have different information requirements. There is a need to identify what is required by whom and to create categories in order to serve information requirements of the users satisfactorily. There is also a need to translate information for local people. While the workshop discussions focused on adaptation, there is also a need to bring in other aspects of climate change.

He commended the working groups for presenting sound recommendations which will become the building blocks of the future work on climate change knowledge management platform. While the knowledge management platform cannot do everything in the beginning, he pointed out that we can start the process of establishing and consolidating this platform. This stakeholder consultation initiated by MoE is an important step in order to make all stakeholders aware of the direction that the climate change knowledge management platform is going to take.

Mr. Vijaya Singh, Assistant Resident Representative, UNDP, Mr. Purushottam Ghimire, Joint Secretary, MoE and National Project Director, NAPA Project, and Mr. Batu Uprety, Deputy Director General, Department of Plant Resources and member of Least Developed Countries Expert Group at the closing session.

Mr. Purushottam Ghimire, Joint Secretary, Ministry of Environment and National Project Director, NAPA Project expressed his appreciation for the participants and presenters. He also noted that the presence of the regional partners, ICIMOD and UNEP is a good beginning. Since the objectives are complementary, there should be cooperation between MoE and regional organizations with respect to establishing the knowledge management platform.

He reminded participants about Nepal's successful experience in establishing telecenters. Under the Government of Nepal and UNDP ICT 4 Development project, there was a plan to establish 15 telecenters on a pilot basis but only nine to 10 centers were established because the circumstances were not very favorable. However, there are now more than 100 telecenters all over the country. He said that this is an example of how an initiative was scaled up because of the demand of the users. He expressed his hope to work with participants both as individuals and as institutions. Finally, he thanked everybody for participating in the workshop.

Annex 1: Workshop Agenda

Government of Nepal
Ministry of Environment

Establishing a national climate change knowledge management platform in Nepal: A brainstorming workshop

Monday, 18 January 2010, Hotel Himalaya, Kopundole, Lalitpur, Nepal

1. BACKGROUND

Nepal is undertaking the development of its National Adaptation Programme of Action (NAPA) with support from the Danish Development Agency (DANIDA), UK Department of International Development (DFID), Global Environment Facility (GEF), and UNDP Nepal. The NAPA project aims to enable Nepal to respond strategically to the challenges and opportunities posed by climate change. The project has three components:

Component 1: Preparation and dissemination of a NAPA document
Component 2: Development and maintenance of a Climate Change Knowledge Management and Learning Platform for Nepal; and
Component 3: Development of a multi-stakeholder Framework of Action on Climate Change in Nepal

Component 1, the development of the NAPA document, will provide the basis for the development of a multi-stakeholder framework for NAPA implementation that is backed-up by dedicated knowledge management and learning support. In turn, the mobilization of multi-stakeholder support through components 2 and 3 will help ensure swift and well-coordinated implementation of the adaptation priorities identified in component 1. This provision puts the Government of Nepal in a strong position to not only submit a NAPA document at the end of the project duration but also have the institutional capacities in place to implement the priority adaptation actions in the NAPA and to address the adaptation needs of Nepal.

2. OBJECTIVES

As a first step towards establishing the climate change knowledge management platform, the Ministry of Environment (MoE) recognizes the need to consult widely in planning the details of the platform and to coordinate the activities with the many institutions and interest groups involved in climate change action in Nepal. This workshop is convened in order to:

4) Conduct a cursory identification of knowledge gaps in adaptation planning and action in Nepal

a. What are the required knowledge and tools in conducting adaptation planning and designing on-the-ground applications?
b. To what extent is information reaching key stakeholders who need it?
c. What are the information barriers in conducting evidence-based climate change adaptation planning and action in Nepal?

5) Map out the landscape of climate change knowledge generation and application in Nepal
   a. What kinds of data collection and research activities are being undertaken by various institutions in Nepal that are relevant to climate change adaptation planning?
   b. What kind of datasets are available and where?
   c. What are the initiatives related to generating climate change knowledge and connecting them to users?
6) Consult stakeholders on the design of the national climate change knowledge management platform in Nepal and the roles of participating institutions
   a. How do we best deliver the required knowledge and tools in carrying out adaptation planning and action?
   b. How do we strengthen the linkages between research and policymaking between research and on-the-ground applications?
   c. What role should regional knowledge management platforms play in supporting the development of a national knowledge management platform in Nepal?

3. OUTPUTS

1) Mapping of climate change knowledge providers in Nepal, including the available climate-related datasets and information
2) Agreement on the institutional design of the knowledge management platform and the role of participating institutions
   a. Roles of knowledge providers, intermediaries, and users, and scope for regional support
   b. Sustainability strategy

4. AGENDA

8.30-9.00	Breakfast and registration
OPENING SESSION	
9.00-9.30	**Introduction** Mr. Ritu Pantha, National Project Manager, NAPA Project **Welcome Address and Overview of Workshop Objectives**

	Mr. Purushottam Ghimire, Joint Secretary, Ministry of Environment & National Project Director, NAPA Project **Inaugural Address** Honorable Minister Thakur Prasad Sharma Ministry of Environment
Session Chair: Mr. Purushottam Ghimire	
Objective 1 session: Identification of knowledge gaps in adaptation planning and action	
In this session, presenters will discuss the knowledge gaps in climate change which pose as barriers in conducting effective adaptation planning and implementing on-the-ground adaptation actions.	
9.30-10.00 *(10 mins discussion)*	**Knowledge gaps identified under the NAPA process and barriers in mainstreaming climate change adaptation into development planning** Mr. Gyanendra Karki, Technical Officer & Mr. Sohel Khan, Climate Change Specialist NAPA Project
Objective 2 session: Mapping the landscape of climate change knowledge generation and application in Nepal	
This session will map out sources of climate-related information and examine attempts to link them to communities. Presentations will inform participants about data collection and research efforts conducted by selected organizations (both routine and project –based), the kinds of datasets and information collected, and procedures for accessing them. One presentation will discuss efforts to connect climate change knowledge to communities in the context of on-the-ground adaptation projects.	
10.00-10.30 *(10 mins discussion)*	Mr. Jagadishwor Karmacharya Senior Meteorologist & Chief of Data Section Department of Hydrology and Meteorology
10.30-11.00 *(10 mins discussion)*	Dr. Ravi Sharma Aryal Joint Secretary, Water and Energy Commission Secretariat
11.00-11.30	Dr. Dinesh Bhuju Chief, Faculty of Science, National Academy of Science and Technology

11.30-11.50	**TEA BREAK**
11.50-12.20 *(10 mins discussion)*	**The role of universities in addressing knowledge gaps in local adaptation** Dr. Krishna R. Tiwari Tribuvhan University/Institute of Forestry
12.20-12.50 *(10 mins discussion)*	**Linking climate change knowledge to communities** Ms. Rajju Malla Dhakal, Executive Director, Li-Bird
12.50-1.50	LUNCH BREAK
Objective 3 session: Consultation of the design and activities of the national climate change knowledge management platform In this session, the proposed design of the national climate change knowledge management platform will be presented, including the roles and responsibilities of participating institutions and the supporting role of regional institutions. The purpose of this session is to elicit comments and inputs from the participants on the design, activities, and sustainability strategy of the platform.	
1.50-2.20 *(10 mins discussion)*	**Proposed design of the national climate change platform in Nepal** Kareff Rafisura Climate Change Network Facilitator, NAPA Project
2.20-2.50 *(10 mins discussion)*	**The role of ICIMOD in supporting the climate change knowledge management platform in Nepal** Mr. Tek Jung Mahat Node Manager, Asia Pacific Mountain Network, International Centre for Integrated Mountain Development
2.50-3.20 *(10 mins discussion)*	**Role of the Regional Climate Change Adaptation Knowledge Platform in supporting the national climate change knowledge management platform in Nepal** Dr. Kai Kim Chiang /Ms. Roopa Rakshit Research Coordinator, Stockholm Environment Institute/Knowledge Management Officer, UNEP Regional Resource Center for Asia-Pacific
3.20-4.30	**Brainstorming on the design, activities, and sustainability strategy of the national climate change knowledge management platform** *(please refer to the next page for discussion mechanics and guide questions)*

	Briefing on group discussion mechanics and guide questions: Mr. Sohel Khan, Climate change Specialist, NAPA Project Working tea break
4.30-5.10 (10 mins each group)	**Group Presentations**
5.10-5.20	**Discussion summary** Mr. Sohel Khan
5.20-5.30	Information sharing on funding opportunities for ecosystem services and poverty reduction research **Practical Action**
5.30-5.45	**Wrap up and closing remarks** Mr. Vijaya Singh Assistant Resident Representative, Energy, Environment and Disaster Management Unit UNDP Nepal
5.45-6.00	**Final Remarks** Mr. Purushottam Ghimire, Joint Secretary, Ministry of Environment & National Project Director, NAPA Project
6.00	**Dinner**

Annex 2: List of participants

GOVERNMENT			
SN	**Name**	**Organization**	**Designation**
1	Dr. Ravi Sharma Aryal	Water and Energy Commission Secretariat	Joint Secretary
2	Krishna Tuladhar	Central Bureau of Statistics	Director
3	Jagadishwar Karmacharya	Department of Hydrology and Meteorology	Senior Meteorologist
4	Padam Raj Bhatta	Population Division, MoHP	Joint Secretary
5	D.P. Acharya	Department of Irrigation	Senior Divisional Engineer
6	Dr. Dinesh Raj Bhuju	National Academy of Science and Technology	Chief, Faculty of Science
7	Batu Uprety	Ministry of Forest and Soil Conservation	Joint Secretary
8	Neem Pradhan	Ministry of Forest and Soil Conservation	Undersecretary
9	Megmath Dhimal	National Health Research Council	Research Officer
10	GP Gorkhaly	Department of Urban Development and Building Construction	Joint Secretary
11	Amrit Man Tuladhar	Department of Urban Development and Building Construction	Senior Divisional Engineer / Section Chief
12	Mr. Purna Bhakta Tandukar	Ministry of Environment	Undersecretary
13	Mr. Hari Prasad Ghimire	Ministry of Environment	Undersecretary
14	Mr. Arjun Kumar Thapa	Ministry of Environment	Undersecretary
15	Ms. Sushma Upadhayay	Ministry of Environment	Undersecretary
16	Mr. Babu Kaji Baniya	Ministry of Environment	Undersecretary
17	Mr. Bhai Raja Manandhar	Ministry of Environment	Undersecretary
18	Mr. Mira Joshi	Ministry of Environment	Undersecretary
19	Shreekamal Dwiredi	Department of Water Induced Disaster Prevention	Engineer-Geologist
20	Binod Prakash Singh	Ministry of Local Development	Undersecretary
21	Bharat Raj Sharma	Ministry of Women, Children and Social Welfare	Statistical Officer

22	Bechu Yadav	Department of Forest	Forest Ranger
23	GS Malla	National Agriculture Research Council	
24	SD Sheti	Ministry of Environment	
25	Kedar Chandra Sharma	Ministry of Environment	
26	Prachandra Shreshta	MTB	
27	Dr. Narayan B. Shrestha		Advisor to Minister
28	Bishel Bhardai		

NGO, MEDIA, AND ACADEME			
SN	**Name**	**Organization**	**Designation**
1	Pankaj KC	Clean Energy Nepal	Program Director
2	Indra Raj Pandey	Center for Environmental and Agricultural Policy, Research, Extension, and Development (CEAPRED)	Program Coordinator
3	Dharam R. Uprety	Forest Action Nepal	Project Coordinator
4	Dr. Rijan Bhakta Kayastha	Himalayan Cryosphere, Climate and Disaster Research Center - Kathmandu University	Assistant Professor
5	Mr. Kumud Raj Kafle	Kathmandu University	Assistant Professor
6	Rajju Malla Dhakal	LI-BIRD	Executive Director
7	Abishkar Subedi	LI-BIRD	Assistant Program Director
8	Apar Poudyal	LI-BIRD	Program Officer
9	Prabin Man Singh	Oxfam GB	Climate Change Researcher
10	Tapas Neupane	Practical Action	Country Assistant
11	Keshav Sharma	Practical Action	Policy Advocacy Officer
12	Alexis Morcrette	Practical Action	
13	Kamalesh Adhikari	South Asia Watch on Trade, Economics, and Enviromment	Research Director
14	Dr. Krishna R. Tiwari	Tribuvhan University - Institute of Forestry	Professor
15	Moon Shrestha	WWF Nepal	Programme Officer

16	Syam Sundar Jnavaly	Action Aid Nepal	APM
17	Adarsha Pokhrel	ADAPT-Nepal	Chairperson
18	Dr. Kai Kim Chiang	Stockholm Environment Institute Asia Center	Research Coordinator
19	Dr. Maksha R. Maharjan	CARE Nepal	Natural Resource and Climate Change Advisor
20	Rebati Bhandari	NIDS	Secretary
21	Samita Ghimire	NIDS	Coordinator
22	Raju Pandit Chhetri	United Mission Nepal	Advocacy Advisor
23	Suresh Bhattarai	United Mission Nepal	Disaster Management Advisor
24	Dr. Tara Nidhi Bhattarai	Nepal Development Research Institute	Program Coordinator, Natural Hazard and Engineering Geology
25	Gopi Paudel	NORMS	
26	Purnima Shakya	Municipal Association of Nepal	Networking Coordinator
27	Bal Krishna Gurung	Nepal Institute of Development Studies	Senior Program Officer
28	Dr. Sarba Khadka	Rural Reconstruction Nepal	Director
29	Deepak Paudel	DPNet	Board Member
30	Anand Gurung	ABC Television	Reporter
31	Poorna Adiga	NWF/JUS	
32	Nitesh Shrestha	ADAPT-Nepal	Research Associate
33	Abhisek Shrestha	CMYCA	
34	Sanot Adhikari	Central Department of Environmental Science – Tribuvhan University	Focal person
35	Dinesh Ghimire	Central Department of Environmental Science - Tribuvhan University	Student
36	Keelar Rijal	Central Department of Environmental Science - Tribuvhan University	
37	Deepak Mahat		
38	Shyam Joshi		

REGIONAL AND INTERNATIONAL ORGANIZATIONS AND DEVELOPMENT PARTNERS			
SN	**Name**	**Organization**	**Designation**
1	Joyce Mendez	ICIMOD	Knowledge Management Communication Specialist
2	Tek Jung Mahat	ICIMOD	Node Manager, Asia Pacific Mountain Network
3	Roopa Rakshit	UNEP-RRCAP Bangkok	Knowledge Management Officer
4	Maneshwar Rupakheti	UNEP-RRCAP Bangkok	Senior Programme Officer Network Support
5	Bimal Regmi	UK Department of International Development	Climate Change and Natural Resources Advisor
6	Shiva Sharma Paudyal	Embassy of Denmark	Sr. Programme Officer
7	Anil Pokhrel	Asian Development Bank	Consultant
8	Ngamindra Dahal	Asian Development Bank - Technical Assistance	Training and Communications Specialist
9	Anupa Lamichane	UNDP Nepal	Programme Officer
10	Vijaya Singh	UNDP Nepal	Assistant Resident Representative
11	Bidya Banmali Pradhan	ICIMOD	Environment Specialist

NAPA Project			
SN	**Name**	**Organization**	**Designation**
1	Purushottam Ghimire	MoE/NAPA Project	Joint-Secretary, Ministry of Environment and National Project Director
2	Ritu Pantha	MoE/NAPA Project	National Project Manager (ad interim)
3	Gyanendra Karki	NAPA Project	Technical Officer
4	Sohel Khan	NAPA Project	Climate Change Specialist
5	Deepak Rijal	NAPA Project	Facilitator-Agriculture and Food Security TWG

6	Usha Gautam	NAPA Project	Facilitator-Climate-induced Disasters TWG
7	Parvati Shrestra	NAPA Project	Facilitator-Public Health TWG
8	Dr. Toran Sharma	NAPA Project	Facilitator-Water and Energy TWG
9	Salil Devkota	NAPA Project	Facilitator-Urban Development and Settlements TWG
10	Kareff Rafisura	NAPA Project	Climate Change Network Facilitator

Annex 3: Discussion Paper on Establishing a Climate Change Knowledge Management Platform in Nepal

Discussion paper for a brainstorming workshop on
Establishing a National Climate Change Knowledge Management Platform in Nepal
18 January 2010, Himalaya Hotel, Lalitpur, Nepal

Background

1. Developing effective climate change adaptation solutions – from policy to on-the-ground project interventions - requires drawing expertise and experiences from a wide range of sectors and disciplines. It requires a systematic blending of science and traditional knowledge and involves various actors across governance levels from global, national, and local levels. One way to integrate efforts, expertise and experiences across disciplinary, sectoral, and governance boundaries is through an information and knowledge management platform.
2. An information and knowledge management platform is therefore a critical element of a country's adaptive capacity.[1] A good information and knowledge management system ensures that knowledge is reaching the relevant key stakeholders who need it. As the saying goes "knowledge management is all about getting the right knowledge, in the right place, and at the right time."
3. The Government of Nepal (GoN) is implementing the National Adaptation Programme of Action to Climate Change Project (NAPA). The project is being coordinated by the Ministry of Environment (MoE) with the participation of various ministries and support of development partners, namely DANIDA, DFID, GEF, and UNDP. In support of the NAPA process, the GoN has mobilized co-financing for the establishment of a dedicated climate change knowledge management and learning platform. This provision puts Nepal in a strong position to not only submit a NAPA document at the end of the project duration but also help ensure that it has the institutional capacities in place to implement the priority adaptation actions in the NAPA and to address the adaptation needs of Nepal.

Objectives of building the platform

4. The objectives of establishing a knowledge management platform in Nepal are to:
    a) Build an institutional memory of the NAPA process through capturing, codifying baseline information and lessons learned from the NAPA process, and making sure that they are available for related planning and policymaking processes

[1] World Resources Institute. "The National Adaptive Capacity Framework: Key Institutional Functions for a Changing Climate. November 2009.

b) Create knowledge repositories which serve action-oriented communities of practice and support adaptation planning and formulation of adaptation actions (e.g. policy, operational projects)
c) Form a basis for adaptive planning, monitoring, and evaluating adaptation interventions and investments
d) Strengthen climate change communities of practice by providing a venue for collaboration and exchange of information
e) Enhance coordination amongst various actors who are implementing concurrent climate change initiatives.

Target audience

5. During previous consultations, information access issues were noted as greatest for government and community-based organizations. Hence policymakers, line ministries, and community-based organizations will be the primary target users of the climate change knowledge management platform for adaptation applications, such as adaptation planning, policymaking, and designing adaptation actions. The secondary tier of user groups will consist of civil society organizations, development partners, and international organizations operating in Nepal.

Platform structure and participating institutions

6. The knowledge management platform will connect knowledge from all sources to various users and to establish a two-way system to enable knowledge users to give feedback to knowledge providers. In the long-run, this is expected to result in the alignment of research agenda and knowledge requirements for applications. Figure 1 provides a schematic diagram of how the participating institutions are linked under the platform.
7. The platform will be coordinated and managed by a platform hub that will connect the knowledge partners, communities of practice, and local information centers. Under this arrangement, the participating institutions will have the following roles and responsibilities.

   Platform hub: The Ministry of Environment will act as the platform hub whose primary responsibility is the overall coordination and management of the platform. Its roles are to: 1) collaborate and regularly consult with participating institutions in establishing the national platform to ensure participation and full ownership; 2) create and sustain an institutional mechanism that will connect the various participating institutions; 3) create an enabling environment for encouraging pooling of expertise and exchange of data/information/knowledge amongst institutions; 4) collaborate with various institutions and networks for providing technical assistance and capacity building to the participants of the platform; and 5) stimulate the formation of communities of practice.

Knowledge partners: Will be the primary providers of knowledge to the platform. A knowledge partner could be government organizations, government-based research centers, non-profit research centers, universities, research institutes, civil society organizations, or any institutions that generate data, information, and knowledge products that have relevance to addressing climate-related risks. The roles of the knowledge partners are to: 1) share information and knowledge products to the platform so they can be disseminated widely; 2) coordinate with the national hub and with other participating institutions; and 3) provide technical and capacity building support as per mutually agreed terms.

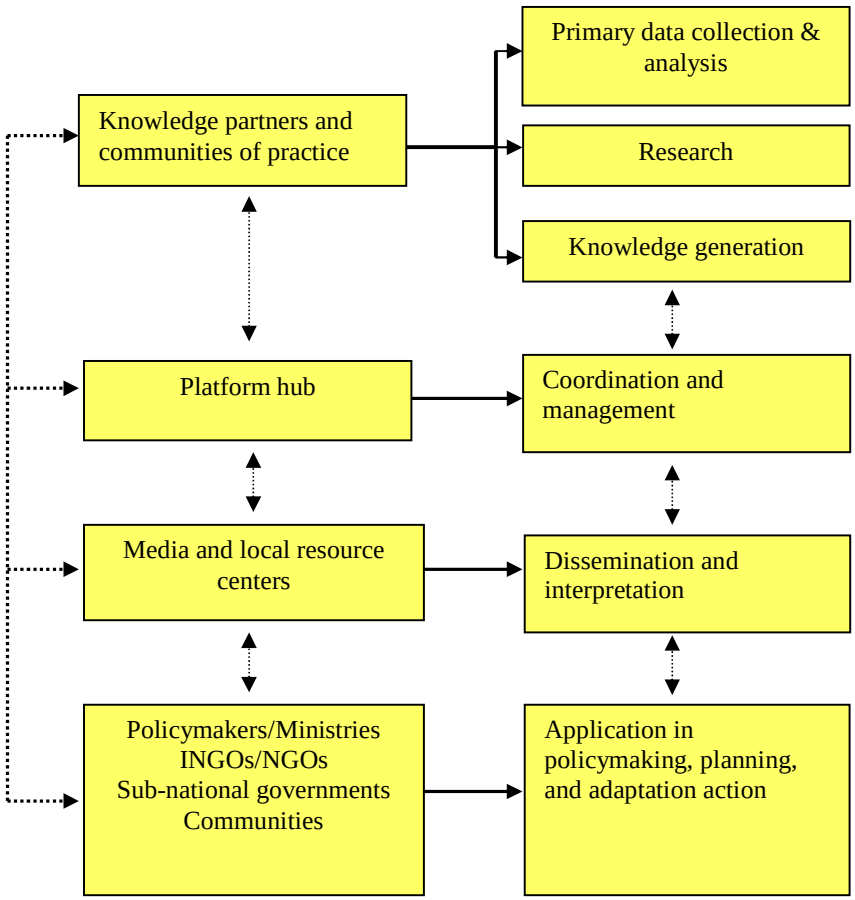

Figure 1: Structure of the climate change knowledge management platform in Nepal

Local information centers: Will serve as the main link of the platform to communities and to organizations that are implementing on-the -ground adaptation projects. The roles of the local information centers are to: 1) maintain the physical climate change resource centers; 2) initiate learning events that would deliver adaptation knowledge to communities and community-based organizations; 3) initiate harvesting of knowledge

from communities and making sure that they are disseminated widely and exchanged with other communities; and 4) provide a mechanism that would enable communities to articulate their information/knowledge needs to the participating institutions.

Climate change communities of practice[2]: The existence of the platform will be underpinned by the communities of practice around it, which could be formal or informal. The roles of the communities are to: 1) make sure that research insights and learning from projects and other initiatives related to addressing climate problems are shared widely; 2) advocate for open sharing and exchange of information; 3) collaborate with the participating institutions in keeping the platform alive and relevant to the needs of various users; and 4) bring new information and knowledge products to the attention of the platform hub for wider dissemination.

Platform Activities

8. A knowledge management system has both a collecting and a connecting dimension.[3] Feedback from various consultations, including outputs from the NAPA Project Inception Workshop in May 2009, reinforced the observation that although there are critical knowledge gaps, there is already a wealth of information being generated which are relevant to understanding and addressing climate-related problems but the problem is they are highly fragmented and scattered. Therefore during the initial phase, the activities of the platform will put more emphasis on establishing an institutional mechanism for consolidating, sharing, and improving access to knowledge and information.

9. As a first step towards establishing a climate change knowledge management platform in Nepal, efforts under the NAPA project will undertake the following activities:
    g) Knowledge generation activities primarily to address the critical knowledge gaps in the NAPA process
    h) Establishment of physical climate change information centers which will be hosted by existing institutions
    i) Mailing list on climate and development topics
    j) Capacity building for knowledge intermediaries (primarily through media training)
    k) Learning events on relevant topics (e.g. research-policy forums/adaptation practitioners forums, community-level learning events)
    l) Web-based climate and development portal that will have the following features:

[2] Communities of practice are groups of people who share a passion for something that they know how to do, and who interact regularly in order to learn how to do it better. In Etienne Wenger. "Knowledge management as a doughnut: Shaping your knowledge strategy through communities of practice." Ivey Business Journal. January/February 2004.

[3] International Fund for Agricultural Development (IFAD). "Guidelines on Knowledge Management." Available at http://www.ifad.org/operations/policy/cosop/guidelines/appendix14.htm

i. A one stop repository of carefully selected information on climate change science, impacts, mitigation, and adaptation.
ii. A dedicated section on NAPA which will contain the NAPA document and the various reports that are generated throughout the NAPA preparation process (e.g. transect, thematic working groups, workshop reports, etc).
iii. Information about the different databases/datasets held by various ministries/institutions and information on how to access the data. Databases that are relevant for climate research include but are not exclusive to cryosphere, meteorology, land surface, hydrology, agriculture, socio-economic, forests, and health-related data.
iv. A registry of ongoing and completed climate-related projects in Nepal
v. Calendar function featuring key climate-related events in Nepal
vi. Collaboration tools and discussion boards
vii. Mailing list management
viii. Linkage with national, regional and global knowledge management platforms, such as the UNDP Adaptation Learning Mechanism, IISD's Climate-L, and the upcoming Regional Climate Change Adaptation Platform being developed by UNEP Bangkok

Knowledge Themes

10. The knowledge themes that will be exchanged through the platform will include climate science, impacts, tools and methodologies for adaptation planning, adaptation actions, international policy, and financing and technology transfer. Table 1 presents an indicative listing of specific topics under each theme:

Table 1: Adaptation knowledge themes that will be exchanged through the platform

Climate Science	Impacts & Vulnerability	Tools and methodologies for adaptation planning	Adaptation actions	International Policy	Financing and Technology Transfer
• Analysis of past climate trends • Climate projections • Generation of climate informatio	• Agriculture and food security • Climate-induced disasters • Forest and biodiversit y	• Cost benefit analysis • Multi-criteria analysis • Adaptation targets methodolo	• National policies • Community-based adaptation • Case studies/lessons learned from on-the-ground adaptation projects • Case studies on autonomous	• UNFCCC • COP decisions • GEF guidelines/strat egies	• Investments on adaptation • Financing sources • Donor policies • Call for proposals

n of all timescales • Climate monitoring • Forecasting extreme climate events	• Health • Water and energy • Urban development and infrastructure • Women and marginalized groups	gy • Etc.	adaptation/indigenous technology • Co-benefits with mitigation (e.g. securing energy sources; afforestation/reforestation)		

Financing and sustainability strategy

11. The establishment phase of the platform is supported under the NAPA Project. In order to ensure sustainability of initiatives beyond the NAPA project, the following strategy is envisaged:
    a. Forge cooperation and partnership with national and regional institutions to elicit support for specific platform activities.
    b. Develop a project profile on sustaining the knowledge management platform as one of the priority crosscutting projects in the NAPA, subject to the concurrence of the NAPA Thematic Working Groups.
    c. Develop follow up project proposals for support to specific platform component according to donor priorities and objectives.
    d. Funding for the platform will be gradually integrated as part of MOE's annual budget and work plan. The management of the platform will be included in the routine work of the Climate Change Division which will be soon established within the Ministry. The development of the portal will include tutorial/capacity building for Climate Change Division staff who will take over the updating and maintenance of the portal.

Annex 4: Brainstorming session mechanics and guide questions

Four groups will be formed, namely (1) Knowledge generation and harvesting group; (2) Knowledge dissemination and application; (3) Policymaking and government-led adaptation action: and (4) Sustainability. The groups will have 1 hour and 40 minutes for discussion. Please designate a presenter to present a 10-minute summary of your group discussion at the plenary session.

Guide questions

Group 1: Knowledge generation and harvesting group
Recommended group members: Representatives from organizations that generate information/knowledge. Researchers, knowledge management specialists are also encouraged to join this group.

1) How can we contribute to the national platform being coordinated by MoE? What is the best modality for connecting our individual organizational efforts to this platform?
2) Are we doing enough knowledge harvesting? Or is some knowledge lost in the process? How do we strengthen knowledge harvesting?
3) What are the mechanisms for accessing the knowledge that we generate? How do we enhance access to the information that we generate noting the differential access amongst users?
4) What kind of mechanisms/structures should be in place in order to align knowledge generation with policymaking and application?
5) What are the general constraints in knowledge generation and harvesting? How do we address these constraints both in our individual organizations and under the national platform?

Group 2: Knowledge dissemination and application
Recommended group members: Representatives from media and organizations doing awareness raising and advocacy and on-the-ground projects that aim to address climate related problems.

1) What are the barriers in knowledge dissemination and application? What are the ways of addressing these barriers? Is there differential access to information? How do we address this?
2) What are the good practices in knowledge dissemination and application that are worth supporting/continuing?
3) How can the national platform work with existing networks in disseminating information?

4) What should be the selection criteria for choosing the organizations that will host the local climate change resource centers?
5) How can we best connect knowledge to communities?
6) How do we best align climate change research agenda with application requirements?
7) How can we support the efforts initiated under the national climate change knowledge management platform?

Group 3: Policymaking and government-led adaptation action
Recommended group members: Representatives from PM office, NPC, and line ministries

1) What are our information/knowledge requirements in policymaking and designing government-led adaptation actions? Are they being adequately met?
2) What mechanisms/features should the national knowledge management platform have in order to make it relevant to our information/knowledge needs?
3) How can we support the efforts under the national climate change knowledge management platform?
4) What mechanisms should be in place to enable us to connect to researchers and knowledge providers and make sure that there is an alignment between research and application?
5) How can we support the efforts initiated under the national climate change knowledge management platform?

Group 4: Sustainability group
Recommended group members: Regional organizations, donors, and participants who have experience in sustaining development initiatives beyond project duration

1) What are the potential threats to the sustainability of the national knowledge management platform? How do we address these threats from the very beginning?
2) What are the opportunities that we can tap that can help the sustainability of the national platform?
3) What partnerships should we forge and with whom to ensure the sustainability of the platform?
4) What incentives do we create for knowledge providers to align knowledge generation with application and to improve public access to information?
5) What are the ways of ensuring the sustainability of this platform?