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Institutional Responses to Local-Level Climate Change Adaptation in Nepal

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ADAPTATION KNOWLEDGE PLATFORM

REGIONAL CLIMATE CHANGE ADAPTATIONKNOWLEDGEPLATFORM for Asia

This **Policy Research Brief** is part of the outputs from the pilot exercise, "Knowledge packaging for building the resilience of mountain people and local governments in Ramechhap, a vulnerable mid-hill district in central Nepal" that the Regional Resource Centre for Asia and the Pacific (RRC.AP) had supported under Regional Climate Change Adaptation Knowledge Platform for Asia (Adaptation Knowledge Platform).

Written in May and June of 2012, this Policy Research Brief draws on work in progress of Adaptation Knowledge Platform to disseminate and exchange adaptation knowledge among a wider audience.

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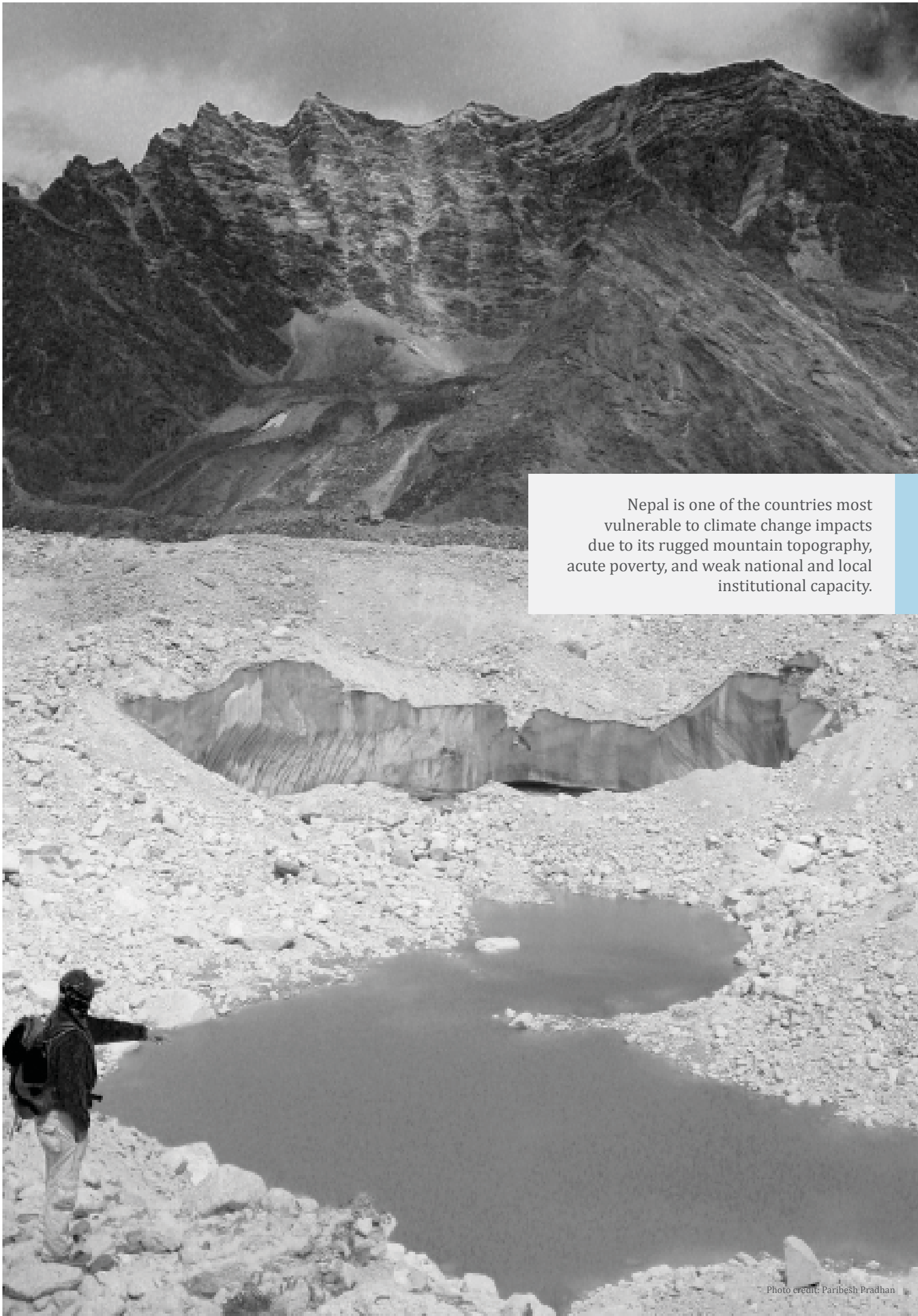


Nepal is one of the countries most vulnerable to climate change impacts due to its rugged mountain topography, acute poverty, and weak national and local institutional capacity.

Photo credit: Paribesh Pradhan

ACRONYMS

AFESC	Agriculture, Forestry and Environment Sub-Committee
DCC	District Coordination Committee
DDC	District Development Committee
LAPA	Local Adaptation Plan for Action
LGCDP	Local Governance and Community Development Program
MoE	Ministry of Environment
MFSC	Ministry of Forests and Soil Conservation
MLD	Ministry of Local Development
MCCICC	Multistakeholder Climate Change Initiative Coordination Committee
NAPA	National Adaptation Plan of Action
NAST	Nepal Academy of Science and Technology
VDC	Village Development Committee

Photo credit: D Shrestha

INTRODUCTION

Nepal, a Least Developed Country, is considered to be one of the countries most vulnerable to climate change impacts due to various factors such as its rugged mountain topography, acute poverty, especially in rural areas, and weak national and local institutional capacity. Many communities in Nepal, particularly those inhabiting mid-hill and high mountains, already live in very poor conditions. Even a small change in climatic conditions adversely affects their lives and livelihoods.

Governments and communities are facing various constraints in managing the observed and anticipated impacts of climate change. One of the challenges to adaptation planning in the context of Nepal is to understand the complexity and uncertainty arising from the inherent dynamic nature of the climatic, ecological, socio-economic and political systems (Thapa et al, 2010). Continuous efforts have been made to tackle this challenge at national and international scales. For example, there has been a focus on building a sound scientific knowledge base for making climate projections and drawing vulnerability assessment methods. However, information collected from scientific research alone may not be sufficient for stakeholders to effectively respond to climate change impacts. Consideration should be also given to building an effective institutional mechanism through which the research results are utilized for making informed decisions on adaptation (Fowler and Wilby, 2007, cited in Thapa et al, 2010). Hence, what needs to be enhanced is knowledge and capacity that help to understand how and where existing adaptation planning and decision-making need to change. These will build the ability to adapt to future climate-related events (Adaptation Knowledge Platform, 2010).

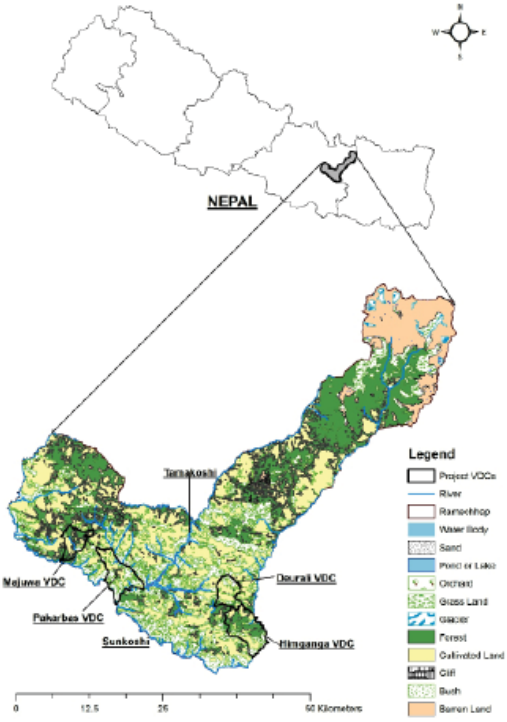
This policy brief was generated as part of the outputs from the pilot exercise "Knowledge packaging for building the resilience of mountain people and local governments in Ramechhap, a vulnerable mid-hill district in central Nepal", and addresses the institutional mechanisms that need to be strengthened for effective implementation of local-level climate change adaptation measures. Following are the key messages drawn from this policy brief:

- The mandate of the Ministry of Environment and the Ministry of Local Development (MLD) should be revisited for effective implementation of climate change adaptation at the district level.
- It is imperative to develop a two-way knowledge sharing mechanism between national and local-level agencies.
- Build the capacity of District Development Committees (DDCs) to implement the Local Adaptation Plan of Action.

CURRENT CLIMATE CONDITIONS AND LOCAL COMMUNITIES' RESPONSES: RAMECHHAP CONTEXT

The pilot exercise was carried out from February 2012 to April 2012 in Ramechhap district of central Nepal. Box 1 briefly describes the geographical location and socioeconomic status of the Ramechhap district. According to National Adaptation Plan of Action (NAPA) of Nepal, it ranks as the second most vulnerable district (vulnerability score 0.995 out of 1.000) in Nepal (Ministry of Environment, 2010b). The district is known for being drought prone, with 19 village development committees (VDCs) in its southern belt facing severe drought (DDC Ramechhap, 2010).

Box 1 Characteristics of Case Study Sites: Ramechhap District



Geographical location
Ramechhap district (Area: 1546 sq.km) lies in central Nepal, and is accessible by road from Kathmandu. It extends from sub-tropical valleys of the mid-hills as low as 369 meters to mountains as high as 7,000 meters (Mount Numbur-Chuli). The district is mainly covered by forests (about 44.0%) and agriculture land (39.4%) (NIDI, 2006).

Socio-economic status
Ramechhap district has a total population of 212,408 with a sharp discrimination between male and female literacy rates—58.3% males are literate as compared to only 26.6% females. The district is populated by diverse ethnic groups, the most dominant being Chhetri, Tamang, Newar, and Magar. Underprivileged groups such as Kami, Damai, Sarki and Majhi also have a good presence (10.15%) in the district. The major agricultural crops in the district are maize, rice and potato. The district also grows sweet oranges (junar) and lemons.

The community here has observed a noticeable deviation in the weather conditions, both in temperature and rainfall. Aridity is a historical problem in the area. But the locals reported that they had been experiencing an increase in temperature, and failure of regular monsoons for over last five years coupled with erratic rainfall. But the educated set comprising teachers, community workers, and VDC staff attribute the low rainfall to rain shadow effect created by the lofty Mahabharat range of mountains in the south. They believe that climate change may have already aggravated the problem or would do so in future.

These climate-related changes seem to have affected ecological systems, and subsequently, livelihoods, particularly those of farmers. Water sources for both agricultural and drinking purposes are being depleted; in some communities two-third of the kuwa (water holes) have dried up. Agricultural production has decreased with crop failure and high pest infestation. Flowering and fruiting times

have changed, mostly with early flush. Mortality rate of the farm animals has increased. Similarly, the incidence of forest fire is increasing and invasive weeds are proliferating, both implying a loss of biodiversity. The number of natural springs and wells has also decreased, forcing villagers to drink untreated river water and rainwater. This might further lead to a migration of villagers from this area [1].

Regardless of experience-based perception...it is important to remember that climate change may be one of the factors contributing to the vulnerabilities of ecological and human systems.

Regardless of the villagers' experience-based perception about changing climate and climate-induced problems, it is important to remember that climate change may be one of the factors contributing to the vulnerabilities of ecological and human systems. For example, reduction in the availability of water from springs and wells can be caused both by increased demand as well as reduced flows (Macchi et al, 2011). Decrease in agricultural production can be associated with socio-economic changes such as shortage of labor resulting from outmigration [2].

The extent and the magnitude to which climate and socio-economic changes affect the ecosystem and livelihoods of Ramechhap communities are unknown. It's also not known whether the measures being undertaken by the communities are effective enough to reduce the current and future impacts of climate change as it would again depend on climate change scenarios and socio-economic changes. Regardless of this, local communities have taken autonomous adaptation measures, which include cultivation of maize instead of paddy, rearing of small livestock like goats instead of big ruminants like cow and buffalo, supply of water through poly-pipes from nearby creeks and rationing of drinking water. These should be interpreted as responses to the changing living conditions, aggravated by climatic and socio-economic changes (ibid) as majority of villagers were unaware about the causes and impacts of climate change. In surveys and consultations, the locals expressed their need for support to manage water supply for drinking and irrigation. The communities are too weak to set up institutions for making their voice heard by the district headquarters and central-level government agencies.

CURRENT INSTITUTIONAL RESPONSES TO CLIMATE CHANGE ADAPTATION AT RAMECHHAP DISTRICT

When told about the predicament of the villagers, some VDC officers indicated that they could take community messages to the District Development Committee (DDC), the district-level governing entity, and organize educational activities if resources were made available. They expressed their helplessness to include climate change activities in the fiscal year's budget in the absence of relevant guidelines.

DDCs receive financial and technical assistances from the Ministry of Local Development (MLD) for their local development projects. Some part of their annual budget is allocated to VDCs. In the case of Ramechhap District, over 60% of the budget was spent on infrastructure development, livelihood uplift, and social

1 Villagers in the communities surveyed, particularly from hard-hit areas, expressed their intention of a permanent relocation to valleys like Manthali. Young women also seek to escape from it by marrying men living elsewhere.

2 This study did not focus on the assessment of socio-economic changes and their effects on livelihood.

security in particular, without any consideration of climate change adaptation measures. There had been no program on climate change adaptation or budget allocation for it in the last five fiscal years [3]. Environment issues in general have been low on priority for MLD. The Ramechhap DDC has encouraged the formation of a sub-committee called Agriculture, Forestry and Environment Sub-Committee (AFESC) under each of the 19 VDCs to address the issues of agriculture, forestry and environment. However, the AFESC activities receive meager support as DDC does not prioritize the environmental sector.

GAPS IN ADDRESSING CLIMATE CHANGE ADAPTATION IN LOCAL PLANNING PROCESSES

Described below are several gaps identified at both the district and national levels that possibly prevent DDCs and VDCs from addressing climate-related issues in their local planning process.

Local-Level Gaps

Gaps in institutional arrangements

Though some district-level officers are aware of the Local Adaptation Plan of Action (LAPA) mandate to use 80% of the budget at local level, they are not adequately informed about ways to receive the fund. The current guideline that the DDCs are provided for their annual program formulation does not include the thematic area of climate change. In the absence of a concrete program guideline, DDCs pay scant attention to climate-related problems.

In addition, there are lapses of communication among the line agencies at the district level (such as the offices of the departments of forest, agriculture, livestock service, soil and watershed management, etc.). Their development activities are rarely coordinated, thus multiplying the environmental problems. As environmental issues, including climate change impacts, are multi-sectoral in nature, it is important to set up a common forum to coordinate these activities [4].

Suspension of elections for local bodies since 2005 also keeps climate-related problems or environmental issues in general away from DDCs' agenda setting. No development programs have been formulated by a political body comprising representatives of major political parties in the district. Most of the participants at the consultation workshop in the district headquarters of Manthali, including representatives of political parties, expressed their ignorance about the National Adaptation Programme of Action to Climate Change (NAPA), and its categorization of Ramechhap as the second most climate change vulnerable district in the country.

Lack of data, understanding, and capacity required to respond to climate change impacts at local level

Climate model-based research and vulnerability assessment are important steps for developing appropriate adaptation strategies as the former predicts long-term biophysical future scenarios, and the latter provides qualitative analysis of the short and long-term state of ecological and social systems. The DDC members

3 Based on the analysis of the annual reports of Ramechhap DDC.
4 In response, a committee was formed under the coordination of Dr NB Shrestha, Office Head of Livestock Service and a local resident.

said they did not have any meteorological data to demonstrate causalities between climate variability and water shortage in the district. The consultation meeting unanimously confirmed community survey findings that water shortage was the key problem of the area, and that impending erratic rainfall pattern would worsen the situation. Unfortunately, there is no meteorological station in the district headquarters to verify these observations. In addition, it was noticed that the DDC officers were unaware that vulnerability needed to be considered for defining the adaptive capacity to climate change. The DDC does have VDC profiles that provide the baseline information on socioeconomic and cultural conditions, physical infrastructure, forest and environment, institutions and natural disasters. However, this information is not utilized to analyze and identify the underlying causes of vulnerabilities to the effects of climate change. Nor are these disseminated among stakeholders, including VDCs.

Neither the DDC nor any line agency has the resources or capacity to conduct a study on planning the where and how of adaptation at the district level. However, all these agencies can cooperate if there is a research initiative that encourages collaboration among political parties, academia, media, and field offices. Such research findings would help formulate long-term planning to address climate change issues.

National-Level Gaps

Insufficient commitment of national-level agencies to local-level CCA implementation

- The Climate Change Council is the apex government authority for coordinating climate agenda. It is headed by the Prime Minister and has ministers of all major ministries. Its resolutions, however, do not seem to percolate to the implementing level. The Climate Change Policy 2011 officially set a number of targets for adaptation, including initiation of measures for community-based adaptation by April 2012. But none of these have been met as yet.
- The Ministry of Environment (MoE), which endorsed the NAPA, is the focal point for overseeing the execution of climate change initiatives at the national level. It oversees and coordinates with sectoral ministries, who are mandated to design and execute programs on adaptation at local as well as national levels. As the MoE has no offices of its own at district or regional levels, it has not been able to pay adequate attention to communicating and supporting climate change adaptation at the local level.
- Meanwhile, the Local Adaptation Plan for Action (LAPA) framework aims to implement NAPA at the local level (MoE, 2011). The framework proposes that District Coordination Committees (DCCs) be formed within DDCs to implement the LAPA at district level, involving all district-level offices, NGOs, CBOs and other local services providers. However, to date, the government[5] has failed to provide DDCs with guidelines on the role and working modalities of DCCs and the process through which climate change related budget and programs can be incorporated into the annual planning process.
- The Ministry of Local Development (MLD) is the key ministry for providing guidance to any local-level development projects, including those on climate change, through regular communications with DDCs. The MLD also provides some budget directly to VDCs. The NAPA stipulates that LAPA commit an expenditure of not less than 80% at the local level (MOE, 2010a). This will require heavy coordination between the national- and local-level government agencies. However, the MLD has been virtually overlooked by NAPA.

5 There is no clear policy on the ministry governing DCCs, its roles and working modality.

- At central level, there is a provision for a Multistakeholder Climate Change Initiative Coordination Committee (MCCICC) responsible for overseeing climate change initiatives undertaken by various stakeholders at national as well as local levels. However, MCCICC lacks the concomitant structure at the local level. Thus, there is no effective flow of information at local level.

Shortcomings in climate change policy frameworks focused on locality

- NAPA's vulnerability assessment provides vulnerability indices and categorizes vulnerability at different levels such as most vulnerable, vulnerable, and less vulnerable. The district-wise categorization, however, ignores the sensitivity to ecological factors and the real vulnerable communities are excluded when they fall under a 'less vulnerable' district.
- The sectoral approach of NAPA tends to be comprehensive in listing all the vulnerable elements at the local level, but does not precisely list water stresses as a core problem. Water scarcity clearly appears to be at the center of climate-born vulnerabilities in some districts like Ramechhap.
- The LAPA intends to investigate local vulnerability within vulnerable districts identified by the NAPA, and to eventually design and implement appropriate adaptation measures. It recommends the following sequential steps: climate change sensitization, climate vulnerability and adaptation assessment, prioritization of adaptation options, LAPA formulation, its integration into the planning process, the actual implementation, and progress assessment. The Tool Kits for Community Based Vulnerability Assessment, which are being drafted, are expected to be utilized as a locality vulnerability assessment method. However, the Tool Kits are characterized by 1) lack of explicit guidelines, i.e. no details on assessment methods required for each step; and 2) lack of an experiential base.

RECOMMENDATIONS

The mandate of MoE and MLD should be revisited.

- Equip the MoE both in terms of staffing and capacity to allow it to instruct the relevant sectoral ministries to execute their mandates on project development and budget allocation for climate change adaptation at the local level. One possible solution could be setting up of an exclusive climate change adaptation unit to address overall climate change issues—the Ministry of Forests and Soil Conservation (MFSC) has established a similar unit to promote climate change adaptation within the ministry.
- While it is useful to consider the LAPA framework as a guideline for implementing agencies at local level, one central agency should be made responsible for monitoring the CCA implementation process. The MLD could be the appropriate agency to take up this charge, given the fact that local development plans submitted by all sectoral agencies at the local level are examined and approved by DDCs, which are under the jurisdiction of MLD. Ideally, the MLD should categorically instruct DDCs to incorporate climate change adaptation programmes into their annual budget and programmes by issuing relevant guidelines.
- As the current NAPA has not recognized the issue of water stress, LAPA must do this at the local level and tailor an adaptation strategy to tackle it. A national-level agency with concomitant local-level structures with explicit responsibility for ensuring water conservation and supply must be put in

place. While doing this, the first priority must be given to the vulnerable areas. Moreover, given that vulnerability changes over small distances; and the vulnerability assessment under NAPA was not necessarily done with adequate empirical data, NAPA should not be the only basis for deciding priority areas for adaptation action though it can be used as an initial reference point.

A two-way knowledge sharing mechanism between national and local-level agencies must be established.

- The two-way knowledge sharing mechanism between national and local agencies must be consolidated to ensure that knowledge collected at national and international levels, such as climate change science, national adaptation policy-making processes, will be disseminated and implemented at the local level; and that the knowledge collected at the local level, such as local imperatives, opportunities, and constraints to adaptation, will be shared and integrated at the national level.
- An important complementary mean to ensure effective two-way knowledge sharing is to re-craft the MCCICC structure in a way that it does not simply 'hang' at the apex level, but gets its 'roots' in different niches at the local level. MCCICC can play a major role in helping to build the resilience of local communities against climate change by obtaining knowledge and experiences from outside Nepal and disseminating them to local agencies working on climate change adaptation. Similarly, they could collect and share experiences of local communities in Nepal with regional and international knowledge management organizations. Moreover, community organizations formed by the Local Governance and Community Development Program (LGCDP) could provide an interface between communities and local government institutions.

The capacity of DDCs to implement LAPA should be built.

- DDCs must be trained to build their capacities to handle the adaptation agenda under the LAPA. As proposed by the NAPA, DCCs should be formed immediately within DDCs with full mandate for implementation of adaptation programmes at the local level. The central government's budget should be allocated to DDCs through the NAPA process, particularly for the formulation and operation of DCCs.
- Community-based 'learning by doing' or a purposive 'community-based climate learning school' should be used as the method for implementing adaptation measures, including the ones that will be identified through the LAPA process. It aims to a) document local knowledge on how local people have adapted to changing climate; b) practice adaptation measures suggested and document the results; and c) enhance overall awareness of local communities and government officers about climate change adaptation issues. First, the school should be piloted in small catchment communities and can be replicated as it grows. This attempt should be implemented by DDCs/DCCs with technical assistance from national institutions such as the MLD and the Nepal Academy of Science and Technology (NAST). Sectoral agencies, universities and Non-Governmental Organizations (NGOs) based at the local level should be advisory board members. The approaches to be taken are: a) participatory process-oriented toward long-term community empowerment rather than a technical, model-based approach; and b) focused on vulnerable communities than being blind to vulnerability.

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