



Key messages

- Municipalities are key players in climate action and can make significant contributions to Nepal's mitigation, adaptation and disaster risk reduction efforts.
- Rapidly urbanising Nepalese cities and towns need to prepare dedicated resilience strategies to address climate change impacts and challenges.
- The constitutional transformation of the country from a unitary to a federal structure has provided municipalities with greater opportunities to integrate climate and disaster planning into their annual plans.
- Local governments are facing several challenges in undertaking climate action due to lack of technical capacity among municipal staff, limited financial allocations and lack of clarity about the role of government agencies in supporting climate action.
- For climate resilience plans to be effective, they must be developed using tools and processes specific to local governments, and that support collaboration among and between all levels of government.

Authors:

Rahul, and Bedoshruhi Sadhukhan from ICLEI South Asia and Erica Udas, Nand Kishor Agrawal, Amina Maharjan and Pradyumna J. B. Rana from ICIMOD.

Climate resilience planning in mountainous regions in Nepal

Nepal is a nascent, fast-evolving democracy and yet many towns still have a distinctly rural character with an agro-based economy. The country is dealing with a rapidly increasing urban population in search of better socio-economic opportunities. Unplanned development and inadequate investment in basic services, coupled with the impacts of climate change, is exacerbating existing inequity and environmental degradation, making the region highly susceptible to climate hazards such as flooding and landslides.

Climate change and resilience building in Nepal

Nepal is already experiencing an increase in annual average temperature, including in the Hindu Kush Himalayan region. Even if global warming is limited to 1.5°C (the long-term temperature goal outlined in the Paris Agreement), projections show that temperatures may rise as much as 1.8°C in Nepal.¹ The country is the tenth most climate-affected in the world, according to the global climate risk index assessment for the 2000-2019 period.²

Extreme events such as flash floods and landslides due to intense and erratic rainfall, as well as droughts, are likely to become more frequent and severe,³ thereby increasing people's exposure and vulnerability. Flooding is exacerbated by improper drainage, blockage of drains by solid waste and encroachment, leading to loss of assets and even life. The presence of a large number of glaciers further heightens the country's vulnerability to glacial melt and flash floods.

Agriculture is one of the most vulnerable sectors, as more than 70% of Nepal's agricultural land is rainfed, which means droughts and floods could have serious implications for food security in the region.⁴ In addition, Kathmandu, Lalitpur and Bhaktapur are already facing a scarcity of clean water,⁵ and increased water demand is impacting peri-urban agriculture. These impacts are region-specific and disproportionate depending on geographic variations, local customs and traditions, systemic socio-political and economic inequalities.

Currently, Nepal has six metropolitan cities, 11 sub-metropolitan cities, 276 urban municipalities and 460 rural municipalities in seven provinces, under the new federal structure proposed by the constitution in 2015.⁶ These areas are rapidly growing and have high aspirations to develop, thereby providing an opportunity to move towards resilient and sustainable growth. By definition resilience is the ability to anticipate, prevent, absorb and recover from shocks and stresses,



in particular to those brought about by rapid environmental, technological, social and demographic change, and to improve essential basic response structures and functions.⁷

This policy brief looks at the climate risks being faced in Nepal's municipalities and the challenges of undertaking local climate mitigation and adaptation action. It presents recommendations to overcome these challenges through the development and mainstreaming of resilience plans.

Existing policy instruments on climate resilience

Nepal is an ambitious country in terms of climate action, with a number of policy instruments supporting climate resilience. As a party to the United Nations Framework Convention on Climate Change and a signatory to the Paris Agreement, Nepal has submitted its Second Nationally Determined Contribution, which commits to reducing its dependence on fossil fuels, and Greenhouse Gas (GHG) emissions by 28% from BAU levels (base year of 2011) by 2030. This will largely occur by increasing the share of renewable and clean energy in the electricity and transportation sectors,⁸ and enhancing solar and biogas energy use.

Furthermore, the government is committed to establishing 200 climate smart villages, and to preparing and implementing climate-resilient and gender-responsive adaptation plans by 2030.⁹ It plans to formulate a national climate finance strategy by 2022, and has established a Reducing Emissions from Deforestation and Forest Degradation (REDD) Forestry and Climate Change Cell to strengthen community forestry management for enhanced carbon sequestration.¹⁰

In September 2010, the Government of Nepal prepared the National Adaptation Programme of Action (NAPA) to address its immediate needs for climate action. To integrate climate adaptation into the national development process, the Ministry of Forests and Environment recently prepared National Adaptation

Plans (NAPs) for long-term strategic action focusing on a range of sectors from agriculture and food security to gender equality and social inclusion.¹¹ Furthermore, the National Climate Change Policy of 2019 authorised local governments to formulate policies, standards and plans for climate change mitigation and adaptation.¹² To effectively implement NAPA priorities at the local level, the Government of Nepal has developed the Local Adaptation Plan of Action (LAPA), which mobilises local institutions and community groups at the district level to respond effectively to the changing climate.¹³

On the other hand, the Disaster Risk Reduction and Management Act of 2017,¹⁴ aims to reduce disaster-related mortality and strengthen the resilience of local communities and critical infrastructure. It is the shared responsibility of federal, provincial and local governments. The Ministry of Home Affairs, which is the responsible ministry, has over the years moved from a responsive to a preparedness mode. In 2018, the ministry formulated the National Disaster Risk Reduction Policy, aligning it with the Sendai Framework for Disaster Risk Reduction (2015-2030). The policy envisions sustainable development through disaster risk reduction actions and climate change adaptation, and by promoting climate-resilient infrastructure.¹⁵ At the local level, disaster risk reduction is being implemented through local disaster risk management plans.¹⁶ Under the Ministry of Urban Development, a 15-year National Urban Development Strategy was developed in 2017, that envisages integrating sustainability, resilience and inclusiveness in urban systems such as water, sanitation, solid waste, transportation and housing.¹⁷

These policies do consider the integration of climate mitigation, adaptation and disaster risk reduction in development planning. However, they do not distinguish the responsibilities of local governments and regional governments in reducing GHG emissions or building resilience, leading to confusion over jurisdictions.

This creates several challenges in the planning and implementation of climate resilient strategies.

Challenges with integrating climate resilience into local development planning and practice

Global policies and agreements, such as the United Nations Sustainable Development Goals, the Paris Agreement and the Sendai Framework, recognise the vital role of local governments in climate-resilient development. Nepal's decentralisation through the new constitution and the three-tier federal structure offers significant opportunities to local governments that are now responsible for designing, planning and implementing resilient urban development. However, there are a number of challenges, outlined below.

Lack of clarity in responsibility to implement climate action:

The district offices of the Ministry of Federal Affairs and General Administration (formerly known as the Ministry of Federal Affairs and Local Development) were previously responsible for coordinating the implementation of LAPAs. The new federal structure has moved this responsibility to local municipalities and provincial governments as part of the decentralisation process.¹⁸ These entities are now tasked to act on climate through sensitisation of local communities, climate vulnerability assessments, LAPA formulation, and implementation and progress assessment as per the LAPA manual.¹⁹

However, the institutional mechanism for preparing and implementing LAPAs is not clear as the earlier district office implementing entities - the District Development Committee and Village Development Committee - had prepared district-level plans. But now, with their dissolution, the municipalities do not have the technical and human resource capacity to take on the responsibility of developing local action plans from the earlier district level ones.

Similarly, the National Policy for Disaster Risk Reduction does not clarify the role of local governments in planning and implementing risk reduction programmes.

Insufficient inter-ministerial agency coordination:

There are numerous institutions responsible for different aspects of climate change-related planning and implementation within government. The Ministry of Forests and Environment developed the NAPA and NAP for Nepal. The Ministry of Population and Environment (previously the Ministry of Science Technology and Environment) developed the LAPA framework in 2011, whilst the Ministry of Federal Affairs and General Administration, along with district offices, the District Development Committee and the Village Development Committee, was involved in LAPA implementation before the restructuring of the government in 2015.

The Ministry of Home Affairs is responsible for coordination of disaster management and risk reduction at the national level,²⁰ while the Ministry of Federal Affairs and General Administration is responsible for coordination, facilitation and monitoring of local governments, including their activities on disaster risk reduction and resilience.²¹ To further add to the complexity, the Ministry of Finance is the central ministry for climate finance in Nepal. With the set mandates, it is a challenge to coordinate with all the ministries.

Financial constraints: Financial resources for the implementation of the LAPA are limited.²² Adaptation actions identified in various LAPA documents have not been implemented due to financial constraints. The National Climate Change Policy commits to deliver 80% of the climate funds at the local level. However, certain enabling conditions are absent, such as a robust institutional structure to implement the LAPAs, and strong monitoring mechanisms for funds disbursed. This limits the flow of finance to the local level.

Limited technical capacity for planning and stakeholder engagement:

Local government officials and decision-makers often have a limited understanding of climate impacts on municipal services, infrastructure and urban development, and lack access to scientific information and tools for climate risk planning. As a result, there is limited technical capacity to plan and implement integrated climate-resilient development. Furthermore, municipalities often do not provide adequate opportunities to local stakeholders, particularly women or marginalised groups like Dalits or tribal communities, to engage effectively in the development or implementation of climate action.

Developing climate-resilient plans at municipal levels

Integrated municipal planning is essential to ensure that mitigation, adaptation and disaster risk reduction measures are not short-term and reactive, but rather are effective over the long term.²³ Municipalities must understand the fragility of existing infrastructural, social and ecological systems (for example water supply

systems, healthcare facilities and urban forests) to plan for and adapt to future climate risks.²⁴

Even simple resilience-planning tools can be very useful in helping municipalities to develop climate-resilient cities and villages. National and international agencies have developed several tools to help local governments develop resilience action plans, including:

- The City Resilience Profiling Tool by UN-Habitat for urban resilience²⁵
- The Urban Adaptation Support Tool by the Covenant of Mayors for Climate and Energy²⁶
- ICLEI Asian Cities Climate Change Resilience Network (ACCCRN)²⁷ toolkit
- Climate Resilient Cities Action Plan methodology by ICLEI²⁸ (Box 1)
- How to make cities more resilient: A handbook for local government leaders, by the United Nations Office for Disaster Risk Reduction²⁹

Box 1: Climate Resilient Cities Action Plan (CRCAP) methodology

The CRCAP methodology is a step-by-step guidance toolkit developed by ICLEI South Asia to help local governments plan for mitigation and adaptation for climate resilience. The methodology helps local governments review their existing municipal systems, identify the city’s climate vulnerabilities, assess the emissions scenarios and local policies such as solid waste management, wastewater management and vehicular emissions, among others. Based on the assessment, resilience action plans are developed and integrated into local development plans. The methodology further works to help local governments implement and monitor the impacts, and ensure collaboration with peers and partners. This tool has supported 12 cities in the Himalayan ranges in Bhutan and India to develop climate resilience action plans.³²



Box 2: Resilient Mountain Solutions (RMS) framework

The RMS framework was developed to co-design context-specific, largely nature-based and resilient solutions in the Hindu Kush Himalayas. It combines local knowledge and science-based evidence to address community-specific fragility and marginality through simple, affordable and gender-friendly solutions. It focuses on three interlinked dimensions:

- Resilience building, including climate resilience, through solutions related to farming systems, renewable energy and socio-economic resilience;
- Infrastructure development and capacity building; and
- Future resilience, through solutions emphasising financial security, digital services and disaster preparedness.



Promote an integrated approach to climate mitigation, adaptation and disaster risk reduction: Presently, local governments prioritise adaptation and disaster risk reduction activities, while mitigation actions are largely limited to the national level. Under the new federal structure, municipalities are still in the process of preparing development plans, providing a good opportunity to integrate climate and disaster planning into their annual plans. Integrating mitigation, adaptation, and disaster risk reduction through low-cost, gender-responsive, inclusive and nature-based solutions can contribute to national and global sustainability commitments and build resilience.

Strengthen the capacity of local governments: It is important to strengthen the technical capacity of municipal staff to review, analyse, monitor and report on GHG emissions, conduct basic risk and climate vulnerability assessments, and use available scientific climate data and projections for preparing action plans. The aforementioned 'resilience cell' can facilitate the training of municipal officials on tools and technologies that support local climate resilience actions with the help of technical experts.

- A guide to climate change adaptation in cities by the World Bank³⁰
- Resilient Mountain Solutions (RMS) framework by ICIMOD³¹ (Box 2)

Recommendations

The LAPA framework offers an excellent opportunity to integrate climate resilience in local development. However, local resilience plans need to address specific challenges faced by each municipality, as socio-economic conditions, geography and coverage of municipal services vary widely. For mountainous municipalities that are largely agriculture-based and severely at risk of landslides caused by heavy rainfall, both climate and non-climate disasters should be considered in resilience plans. Thus, based on this short assessment and discussions with prominent stakeholders, the following recommendations have been made.

Build synergy and coordination among government institutions: It is important to develop synergies among different ministries and with

local implementing bodies to build stronger resilience to climate change impacts. For example, to bring more clarity to the responsibility of local governments for implementing the LAPA, a 'resilience cell' could be set up. This could coordinate with all relevant ministries to avoid duplication of efforts and report to the national government. It could furthermore provide a platform for local stakeholders such as women or other marginalised groups to discuss and participate in climate action.

Increase financial availability: Financing local climate action is a challenge in Nepal. The government does have a national climate budget code to allocate funds to central ministries, however a similar budget marker at the local level could help ensure more funds are available for local climate action. Minimum conditions and performance measures and local public hearings have helped to enhance accountability and performance in planning and budgeting. However, there is a need to integrate climate and environmental indicators in these performance measures.



Photo: Local people at the Kathmandu Darbar Square, Nepal. © CDKN

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