

# National Framework on Local Adaptation Plans for Action



Government of Nepal  
**Ministry of Environment**  
**Climate Change Management Division**

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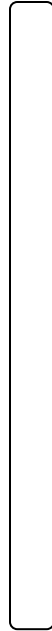
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# Government of Nepal

## Foreword

Climate change presents one of the global challenges of our time. The most vulnerable countries to the impacts of climate change are the Least Developed Countries, including Nepal. Atmospheric temperature is on the increase due to the anthropogenic emissions of the greenhouse gases. Uncertain, extreme and unpredictable weather events have added challenges to development, especially for those communities which are already vulnerable to climate stresses.

Climate-induced impacts are not limited to individual sectors and areas. Climate change affects all development sectors, natural resources, infrastructures and livelihoods as well. It is, therefore, necessary to develop and implement location and context-specific plans for action to enhance the adaptive capacity and resilience of the climate vulnerable communities. This requires the active participation and ownership of local communities in local adaptation planning.

As a Party to the UN Framework Convention on Climate Change and the Kyoto Protocol, Nepal is making every effort to benefit from these instruments through institutional strengthening, policy formulation and programme development. In this endeavour, the Climate Change Policy (2011) is under implementation. Efforts are underway to benefit from carbon trading. Nepal is drawing the attention of the international community to the impacts of climate change on mountain regions, and has called for more collaborative programme implementation. In response to international commitments and national needs, under the leadership of the

Ministry of Environment, Nepal has prepared a National Adaptation Programme of Action (NAPA) to support and help people adapt to the adverse impacts of climate change. Nepal has prepared this National Framework on Local Adaptation Plans for Action (LAPA) to implement NAPA priorities. It is expected that this Framework will contribute to avoided or reduced climate change impacts, for the security and welfare of the climate vulnerable communities.

The LAPA Framework will help provide adaptation services under NAPA priorities. We consider that the LAPA principles, preparation steps and tools in the Framework are practical and user-friendly. The Framework provides guidance on the preparation and implementation of LAPA, and the integration of adaptation options into sectoral and development plans. In this context, the role and leadership of local bodies is critical. The Ministry of Local Development is therefore committed to provide leadership on implementation, and will coordinate with other agencies to ensure support reaches the climate vulnerable poor.

We would like to express our sincere gratitude to Right Hon'ble Prime Minister and Chair of the Climate Change Council including the respected members. We are grateful to the members of the Multi-stakeholder Climate Change Initiatives Coordination Committee for their guidance during the refinement of this Framework. We deeply appreciate the study team, participants of the national and regional consultations, local communities including all the individuals and institutions for their active participation, suggestions and inputs throughout the Framework development process. We expect and believe that the Framework will contribute to the effective implementation of climate adaptation programmes.

Sheetal Babu Regmee  
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## Introduction

Industrialization, over consumption of fossil-fuels, decreasing use of bio- and environmentally-friendly technologies, skills and knowledge, deforestation and unplanned urbanization have accelerated greenhouse gas emissions, and thereby increased global atmospheric temperature. Along with temperature rise the timing, intensity and the form of precipitation has been variable and uncertain. Problem related to quality and adequacy of water required for human activities is increasing. Climate change has added challenges to livelihood related resources and physical infrastructures.

As natural resources, physical structures and development infrastructure are being affected by climate-induced disasters, implementation of sector and location-specific adaptation action plans are of immediate need for adapting to climate change and building community resilience.

Low income households, communities living in climate vulnerable areas and those dependent on climate-sensitive resources are likely to become more vulnerable due to climate change. Nepal's remoteness, undulating terrain, fragile landforms, extremely diverse landscape, and unevenly distributed resources will pose different levels of location and context-specific climate change impacts. Nepal is ranked and listed as the most climate vulnerable countries in the world. Climate change has been posing additional challenges to the country's socio-economic development.

Climate adaptation plans for action might be location-specific. Alternatively, it would be appropriate to integrate adaptation into mainstreamed development planning including sector-specific planning and implement accordingly. Local adaptation plans should be prepared and implemented taking into consideration the sector and location, resource availability and distribution system, community access to public services and facilities, and region and areas affected by climate change. The National Framework for

Local Adaptation Plans for Action (LAPA) is expected to provide the effective delivery of adaptation services to the most climate vulnerable areas and people.

### **Need for local adaptation framework**

Nepal is a Party to the United Nations Framework Convention on Climate Change prepared nearly two decades back to address the challenges of climate change. The greenhouse gas emissions from Nepal is negligible but the effect of climate change is significant. As a Least Developed Country, Nepal has prepared the National Adaptation Programme of Action (NAPA) which was endorsed by the Government in September 2010 and is under implementation.

The Government of Nepal has started the implementation of the Climate Change Policy 2011 which has the goals of improving livelihoods by mitigating and adapting to the adverse impacts of climate change, adopting a low-carbon emissions socio-economic development path and supporting and collaborating in the spirit of the country's commitments to national and international agreements related to climate change. The Policy emphasises, *inter alia*, the implementation of activities related to climate adaptation and resilience. Both NAPA and the Policy have made mandatory provisions to disburse at least 80 percent of the available budget for the implementation of adaptation and climate change activities at the local level. This is expected to support the most climate vulnerable communities and people to adapt with climate change and improve livelihoods. The disbursement and expenditure procedures will be project and/or programme-based.

During the NAPA inception workshop in May 2009, participants suggested to formulate Local Adaptation Plans for Action (LAPA) for the effective implementation of NAPA. The National Framework for LAPA has been formulated in order to translate the suggestions into action and to assist identification of local adaptation actions with people's participation as prescribed in NAPA, development and implementation of action plans,

including support for the integration of climate change adaptation into sectoral and area-specific plans.

The LAPA was designed and piloted in 10 districts namely Ilam, Udaypur, Nawalparasi, Kapilvastu, Kaski, Dadeldhura, Pyuthan, Rukum, Achham, and Kalikot<sup>1</sup> in 2010. This LAPA framework will help to integrate climate adaptation and resilience aspects in local and national plans. For this, agriculture, forestry, health, water and sanitation, watersheds and micro-finance have been identified as the main entry points. Similarly, education, local infrastructure, disasters and other environment-related areas may also be taken as entry points. The Framework was refined to make it implementable with inputs from regional and national consultation processes<sup>2</sup> and the outcomes of harmonisation activities and learning among on-going adaptation related initiatives<sup>3</sup>.

### **Guiding principles of National Framework on LAPA**

The LAPA Framework ensures that the process of integrating climate adaptation and resilience into local and national planning is **bottom-up, inclusive, responsive and flexible** as the four guiding principles. **Bottom-up** planning ensures proper consideration of the needs and resources of the climate vulnerable people including knowledge, skill and practices of the local communities and stakeholders in adaptation planning. Communities can also be categorised based on climate vulnerability. **Inclusive** planning

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<sup>1</sup> Pilot districts were selected based on their vulnerability depicted by NAPA Vulnerability Map (2010).

<sup>2</sup> During August and September 2011, six National and Regional consultation workshops were conducted with above 400 participants representing government, civil society, community-based organisations, and academia. The draft LAPA Framework was presented at the consultations and feedback on proposed Steps, Actions and Tools were documented.

<sup>3</sup> Where possible and relevant, the vulnerability assessment tools and techniques developed by other institutions have been harmonised and included in the Framework.

ensures identification and integration of the needs of households and communities at most risk to climate change, economically poor, deprived of public services and socially disadvantaged households and communities into development planning. A responsive LAPA ensures immediate, efficient and effective delivery of adaptation services to climate vulnerable communities and households. A **flexible** LAPA ensures immediate delivery of administrative, financial and institutional services to implement adaptation actions effectively. The LAPA framework will support the following activities from local to national level planning:

- a. Identify the most climate vulnerable Village Development Committee (VDC), Municipality, wards and communities and their adaptation challenges and opportunities, including possible activities;
- b. Identify and prioritise adaptation actions in easy ways whereby local communities make the prioritisation decisions about their needs;
- c. Prepare Local Adaptation Plans for Action and integrate it into local and national plans in accordance with the Local Self-Governance Act;
- d. Identify and mobilise appropriate service delivery agents and necessary resources for the implementation of the Local Adaptation Plans for Action;
- e. Adopt and/or implement adaptation actions sequentially by the service providers in a timely and resource efficient manner;
- f. Conduct monitoring and evaluation by ensuring effective implementation of the plan for action; and
- g. Identify cost-effective adaptation alternatives for scaling up into local and national planning.

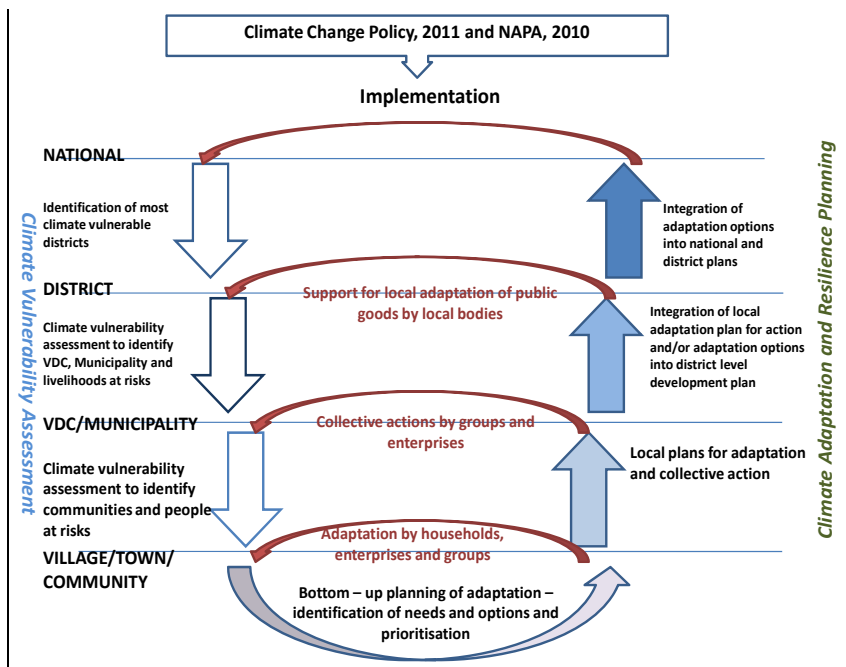
The VDC and the municipality have been considered the most appropriate unit for integrating climate adaptation and resilience into local and national development planning processes. The citizen ward forum and information centre formed by the local bodies should be involved in local adaptation planning processes. The VDC and/or the municipality, as administrative and

geographic units will support in prioritisation of location or community-specific adaptation activities. Integration at these units will ensure both top-down and bottom-up processes to prepare appropriate adaptation plan. The VDC or the Municipality as **operational units** also refer to the Village and/or Municipality Development Councils. Whilst the Council is responsible for executive decision-making, Village Development Committees or Municipalities are responsible for planning, coordination, monitoring and evaluation, and service delivery by integrating LAPA into sectoral, and Village and Development planning processes as well. This framework has been developed with the understanding that the Village Development Committees and Municipalities are capable to consolidate and channel budgets and implement climate adaptation activities.

# National Framework on Local Adaptation Plans for Action

The aim of the LAPA is to integrate climate adaptation activities into local and national development planning processes and to create a situation for climate resilient development. The LAPA Framework facilitates formulation of the LAPA at local bodies such as VDC, Municipality and District Development Committees (DDC). Integration and harmonisation of climate adaptation and resilience action into the local and national development planning has been depicted in the following figure.

**Figure 1: Integrating Climate Change Adaptation and Resilience into Local and National Development Planning**



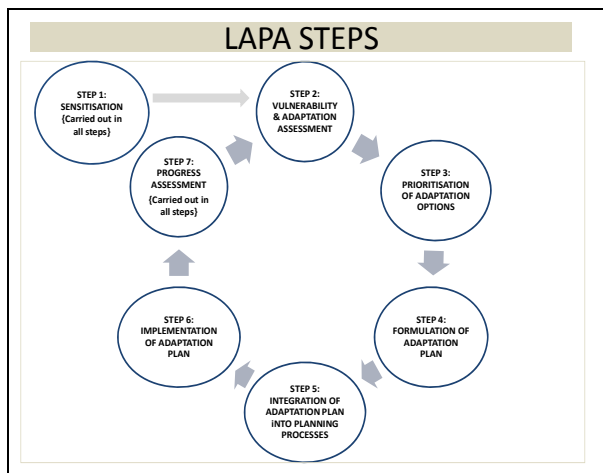
## The LAPA STEPS

The LAPA Framework consists of the following seven steps for its (LAPA) formulation and implementation. Ultimately, the LAPA framework should ensure integration and implementation of climate adaptation and resilience actions into sectoral plans, programme and project, and ensure people, community and their resources are adaptive to climate change.

1. Climate change sensitisation
2. Climate vulnerability and adaptation assessment
3. Prioritisation of adaptation options
4. LAPA formulation
5. LAPA integration into planning processes
6. LAPA implementation
7. LAPA progress assessment

The steps involved in preparing and implementing LAPA are shown in Figure 2:

**Figure 2: LAPA Steps in cyclic order**



## **LAPA Step 1: Climate Change Sensitisation**

In order to address the effects and impacts of climate change and develop user-friendly and effective local adaptation plans, local planners, climate vulnerable households and communities and decision-makers require information related to scale and magnitude of the effects of climate change, potential impacts, existing adaptation options and challenges, and ways of accessing resources for adaptation. Sensitizing stakeholders to the impacts of climate change and to adaptation options is an essential starting (entry) point for adaptation planning. Climate change sensitisation also supports in identifying institutions that will implement and/or assist the implementation of LAPA or adaptation programmes. The likely institutions may include District Energy and Environment Sections or Units, District Disaster Risk Reduction Committees, village level Monitoring and Evaluation Committees etc. Effective participation of these institutions would contribute to enhance knowledge and skills, formulate LAPA, and integrate and implement adaptation actions into village and district level plans.

**Objective:** Climate change sensitisation has the following two objectives:

1. Raise the awareness of stakeholders at household, community, Village Development Committee (VDC), Municipality, District Development Committee (DDC) and national level, around the impacts of climate change and the means to address these impacts, so that climate change adaptation can be integrated into development planning; and
2. Strengthen and establish institutions and organisations that will drive local adaptation planning.

**Actions:**

1. At the outset of LAPA formulation, hold climate change sensitization related interaction, workshop and seminar at community, village, town and district levels. The following information could be



imparted taking into consideration the following target groups or stakeholders:

- Provide information on climate change science, causes and consequences, impacts, adaptation options, technologies, NAPA, relevant policies, plans and strategies, and programmes; and
  - Involve vulnerable communities, local bodies, political parties, academic institutions, service providers, experts and the public.
2. Ensure information flow and awareness raising throughout the LAPA process to support learning and feedback; and
  3. Facilitate integration of adaptation actions, and formulate and implement them at community, VDC, Municipality and DDC levels.

Active participation of the local level civic society organizations, non-governmental organizations and community-based organizations will help the climate sensitization objective, and formulation of LAPA and integration of adaptation options in other plans easy and implementable.

**Table 1: Tools for Sensitisation**

CORE TOOLS	ADDITIONAL TOOLS
<ol style="list-style-type: none"> <li>1. Shared learning dialogue,</li> <li>2. Gateway systems analysis (of resources distribution system and community access)</li> <li>3. Visuals and stories (posters, pamphlets, video, street theatre, games, songs and road dance, radio and television)</li> <li>4. Climatic hazard trend analysis</li> <li>5. Seasonal Calendars</li> </ol>	<ol style="list-style-type: none"> <li>1. Climate adaptation capacity assessment and opportunities identification</li> <li>2. Cause and effect analysis (problem tree)</li> <li>3. Envisioning climate scenarios</li> <li>4. Hazard and impact risk analysis</li> <li>5. Hazard and response analysis</li> <li>6. Mapping: hazards, vulnerability (social, economic, physical), resources (social, natural etc)</li> <li>7. Timeline history regarding changes</li> <li>8. School level awareness raising tools: essay competition, quiz contest, scout, eco-club etc</li> </ol>

## LAPA Step 2: Vulnerability and Adaptation Assessment

Identification of a intervention options, appropriate technology and measures are required to integrate climate adaptation into local and national development planning and its implementation, and aid vulnerable communities to adapt to climate change effects and impacts. For this, it is necessary to understand and collect information on: (i) **Who** are the most vulnerable communities, and where they live? (ii) **Why** are they vulnerable? And (iii) **What** approaches and interventions will reduce their vulnerability?

Vulnerability and Adaptation (V&A) assessment carried out during LAPA formulation enables to take a systematic approach to identifying climate vulnerable hotspots and vulnerable communities, people within these hotspots, and to identify adaptation practices and actions that will reduce vulnerability to current and future climate change impacts. Such assessment help depict:

- Status and quality of the resources and systems that vulnerable communities and individuals rely on, and on assessing access to the services provided by these systems and resources.
- Access to the services provided by such systems and resources would help to build adaptive capacity to climate change impacts.
- Adaptation practices and actions that enable households and communities to switch livelihood strategies during times of climate-induced stress are effective in reducing vulnerability to current and future climate change.

The ability to switch livelihood strategies depends on the *status* and *quality* of systems and resources at the ward level, and on *access* to such services provided by them. For instance, access to timely and accurate climate information services allows households to adopt innovative and robust livelihood strategies; access to micro-insurance services allows households

to adopt risk reduction options; access to resilient transport services enables mobility and livelihood diversification opportunities, and access to clean and sustainable water resources will secure the well being of people in times of climate-induced risks.

The vulnerability and adaptation assessment combines local vulnerabilities with regional and/or national level assessments and analysis. For instance, a top-down approach helps in assessing the status and quality of systems and resources at the village and ward level and a bottom-up **community based vulnerability assessment** approach helps to assess the extent to which vulnerable communities and households can access climate resilient services provided by these systems and resources.

VDC, Municipality, village and communities with inadequate and weak quality systems and resources should be categorised as the most vulnerable hotspots. Similarly, the communities and households with the least access to climate resilient services and with the least coping capacity are identified as the most vulnerable. After identifying the most vulnerable communities or the areas, it helps for appropriate adaptation actions that will reduce vulnerability of systems and livelihoods to current and future climate change impacts.

**Objective:** The objectives of carrying out a vulnerability and adaptation assessment are to:

1. Identify climate vulnerable VDCs, Municipalities, wards and vulnerable communities, households and individuals within these wards;
2. Identify adaptation practices and actions that will reduce vulnerability to current and future climate change; and
3. Support identification and efficient mobilization of resources.

**Actions:**

This step involves two actions, (i) identifying vulnerable communities and (ii) identifying adaptation practices and actions.

## **1. Identify climate vulnerable communities and households**

a. ***Identify vulnerable VDCs, Municipalities:*** The entry point for the top-down assessment is the district (the NAPA Vulnerability Maps can be used as a starting point).

- Priority climate vulnerable districts are identified on the basis of exposure to climate hazards, sensitivity and adaptive capacity.
- Within most vulnerable districts, collate information on resilience of the enabling systems and resources that people depend upon to adapt in each VDC, Municipality; and
- Rank VDCs and Municipalities with least resilient systems and resources as the most climate vulnerable.

b. ***Identify Vulnerable Wards:***

- Collate information on resilience of enabling systems and resources to current and future climate change in each ward; and
- Rank wards with least resilient enabling systems and resources as most vulnerable

c. ***Identify Vulnerable households/communities:***

- Identify communities with least access to services provided by systems and resources;
- Identify community's capacity to cope with impacts on enabling systems and resources; and
- Rank communities with least access and coping capacity as the most vulnerable.

## **2. Identify adaptation practices and actions**

- a. Identify adaptation practices and actions that will enhance access to and quality of enabling systems and resources; and
- b. Identify adaptation practices and actions that local people can implement.

The Government and other organisations may facilitate information collection and ranking exercises.

**Table 2: Tools for Climate Vulnerability and Adaptation Assessment**

ACTIONS	CORE TOOLS	ADDITIONAL TOOLS
Tools for vulnerability assessment	<ol style="list-style-type: none"> <li>1. Gateway systems analysis</li> <li>2. Hazard mapping, vulnerability mapping and resource mapping</li> <li>3. Hazard and impact risk analysis</li> <li>4. Envisioning climate scenarios</li> <li>5. Disaggregated vulnerability matrix</li> <li>6. Climate adaptation capacity assessment</li> </ol>	<ol style="list-style-type: none"> <li>1. Cause and effect analysis</li> <li>2. GIS mapping</li> <li>3. Hazard and response analysis</li> <li>4. Seasonal calendars</li> <li>5. Livelihoods impacts analysis</li> <li>6. Climatic hazard trend analysis</li> <li>7. Mapping of service provider /institutional analysis</li> </ol>
Tools for identifying adaptation practices and actions	<ol style="list-style-type: none"> <li>1. Visioning high adaptive capacity</li> <li>2. Vulnerability assessment</li> </ol>	<ol style="list-style-type: none"> <li>1. Adaptive capacity assessment (based on livelihood and 5 'ka' - what, when, where, how and who)</li> <li>2. Climate adaptation technology identification</li> </ol>

### LAPA Step 3: Prioritisation of Adaptation Options

After identification and ranking of local adaptation actions, they should be prioritized with due consideration of climate problems and challenges. Plans for action prepared for communities, settlements, wards, VDC or Municipality, or adaptation actions that address the needs of most vulnerable communities should be prioritised for implementation.

**Objective:** This step aims at prioritising the most urgent and cost-effective adaptation actions for implementation.

**Actions:**

1. Identify and prioritise the most urgent and important adaptation actions for the most vulnerable people, community, VDC and Municipality; and
2. Prioritise the actions based on social, environmental, technological and economic costs and benefits.

This step requires skills, time and facilitation. Costs should be understood in terms of social, environmental and economic costs.

**Table 3: Tools for Prioritisation**

CORE TOOLS	ADDITIONAL TOOLS
1. Multi-criteria ranking	1. Impact implementation matrix
2. Participatory cost-benefit analysis	2. Pair wise ranking
	3. Scenario tool for identifying energy pathways

## LAPA Step 4: LAPA Formulation

Local adaptation plans for action should be formulated to ensure the implementation of prioritised adaptation options and actions. The following 7 'ka' approach can be used to develop an adaptation plan:

1. What actions?
2. Where to implement?
3. What approach to use?
4. Who will implement?
5. When to implement?
6. What will it cost?
7. How to monitor progress?

**Objective:** The objective of this step is to build a roadmap showing the adaptation journey with milestones, targets and monitoring.

### **Actions:**

1. Formulate plans of action for identified and prioritized adaptation actions taking into consideration the above 7 'ka';
2. Identify areas to implement adaptation actions and plan for action;
3. Identify competent service providers and involve them for the implementation of the adaptation actions and the plan for action based on their competitiveness;
4. Ensure appropriate sequencing of actions to achieve incremental and effective outcomes;
5. Estimate the costs for identified actions and allocate for the implementation of identified adaptation actions and plan for action;
6. Integrate progress monitoring into the plan for action, and include procedure for monitoring of each action

**Table 4: Tools for LAPA Formulation**

CORE TOOLS	ADDITIONAL TOOLS
<ol style="list-style-type: none"><li>1. Service provider analysis</li><li>2. Information collection on what, when, how, who and where for plan formulation</li></ol>	<ol style="list-style-type: none"><li>1. Logical framework</li><li>2. Inclusion sensitive budgeting (for example gender and indigenous people-sensitive budget)</li></ol>

## LAPA Step 5: LAPA Integration into Planning Process

Integration of adaptation actions and plans into sectoral, local and national development planning is needed to address the effects and impacts of climate change. Internalisation and integration of adaptation actions into local and national development planning processes allows climate vulnerable households, communities, wards, VDCs or Municipalities to articulate their adaptation priorities, and **draw down** on government, non-government and private sector resources for effective implementation. Integration of adaptation plans into different levels of planning processes can be appropriate also to address climate-induced problems or challenges effectively in the long-term.

**Objective:** Integrating local adaptation actions or LAPA into the local and national planning has the following objectives:

1. Support the integration of climate adaptation and resilience into sectoral and cross-sectoral development plans;
2. Support the integration of locally developed climate adaptation plans or identified adaptation actions into public, private and NGO planning processes; and
3. Institutionalise formulation and integration of LAPA in planning processes.



**Actions:**

1. Prepare a plan for settlement and ward level adaptation actions and integrate into a VDC or Municipality plan;
2. Identify entry points for integrating LAPA into local development planning processes or apply entry points described in this framework;
3. Align local adaptation actions with local development planning processes;
4. Submit LAPA to the local bodies for necessary ratification (acceptance); and
5. Submit feedback and learning regularly to departments, ministries and National Planning Commission to ensure integration of climate adaptation and resilience aspects into national development planning.

Local bodies are the best entry points for integrating climate adaptation options into sectoral planning. District level agencies need to develop a mechanism to assess climate change impacts on its own development activities and ensure individual sectors to develop adaptation plans or integrate adaptation actions into sectoral plans from a climate change perspective.

**Table 5: Tools for Integrating LAPA into Local and National Planning Processes**

<b>CORE TOOLS</b>	<b>ADDITIONAL TOOLS</b>
<ol style="list-style-type: none"><li>1. Shared learning dialogue</li><li>2. Policy and institutional analysis to identify entry points and/or adopt entry points included in this framework</li></ol>	<ol style="list-style-type: none"><li>1. Sharing best practices and lesson learned with plan decision-makers</li></ol>

## **LAPA Step 6: LAPA Implementation**

Implementation of LAPA prepared at VDC or Municipality level is important to bridge the gap between assessment of adaptation opportunities and adaptation actions, programmes and plans. If the adaptation plan has been prepared in a logical way to address location-specific problems, its effective implementation alongside institutional and independent monitoring and evaluation (M&E) would provide reliable information on appropriate adaptation measures. Effective participation of stakeholders both in formulation and implementation of adaptation plans is essential.

**Objective:** The objective of this step is to implement the LAPA.

### **Actions:**

1. Implement LAPA with stakeholders involvement;
2. Establish the organizational structure and communication channels to ensure clear responsibility for oversight and coordination of stakeholders;
3. Refine monitoring indicators for adaptation actions, and define responsibilities of different institutions for carrying them out;
4. Implement the plans logically and sequentially, but ensuring a flexible approach that can be responsive to additional information or changing contexts identified through monitoring and evaluation, including budget allocation for monitoring; and
5. Commission and contract the services providers through competitive process based on needs, expertise and skills

## **LAPA Step 7: LAPA Progress Assessment**

Climate change is a newly identified challenge, and there is a low level of knowledge on what actions will be effective to address them. Similarly, there is uncertainty at present on actions that address climate change impacts, and strengthen adaptive capacity.

The LAPA implementation, and its monitoring and evaluation support the development planning process in dealing with uncertainty by collecting evidence and evaluating the progress and outcomes of LAPA. Similarly, the M&E provides opportunities for learning, reflection and feedback to support LAPA.

Data received from effective monitoring and evaluation helps to analyse changes understood by the target group.

**Objective:** The objective of monitoring and evaluation is to address reflection and learning that will guide responsive and iterative adaptation planning.

**Actions:**

1. Define adaptation challenges for effective monitoring and evaluation of LAPA;
2. Develop and monitor the implementation of a monitoring plan that contains indicators, baselines and targets;
3. Monitor change, progress and effectiveness; and
4. Ensure integration of feedback and learning.

**Table 6: Tools for Assessing LAPA Progress**

ACTIONS	CORE TOOLS	ADDITIONAL TOOLS
Defining challenges	<ol style="list-style-type: none"> <li>1. Visioning high adaptive capacity</li> <li>2. Service providers analysis</li> <li>3. Behavior change journals analysis</li> <li>4. Disaggregated vulnerability matrix</li> </ol>	<ol style="list-style-type: none"> <li>1. Mapping hazards, risks and vulnerability</li> <li>2. Envisioning Climate Scenarios</li> <li>3. Logical frameworks</li> </ol>
Setting indicators, baselines and targets	<ol style="list-style-type: none"> <li>1. Mapping (risks, vulnerability, and service providers</li> <li>2. Visioning high adaptive capacity</li> <li>3. Climate adapted well-being</li> </ol>	<ol style="list-style-type: none"> <li>1. Hazard trend analysis</li> <li>2. Seasonal calendars</li> <li>3. Hazard response analysis</li> </ol>

	assessment 4. Self-monitoring and evaluation	
Monitoring the changes	<ol style="list-style-type: none"> <li>1. Mapping</li> <li>2. Climate adapted well-being assessment</li> <li>3. Self-monitoring and evaluation</li> <li>4. Most significant change analysis</li> <li>5. Behavior change journals analysis</li> </ol>	<ol style="list-style-type: none"> <li>1. Hazard trend analysis</li> <li>2. Seasonal calendars</li> <li>3. Hazard response analysis</li> <li>4. Gateway systems analysis</li> </ol>
Ensuring reflection, learning and feedback	<ol style="list-style-type: none"> <li>1. Shared learning dialogues: sharing information from most significant change, self-monitoring and evaluation, behavioral change journals, mapping (before and after), and changes found through using other tools including gateway systems analysis.</li> </ol>	<ol style="list-style-type: none"> <li>1. Policy and institutional analysis</li> <li>2. Logical frameworks</li> </ol>

Least developed countries have been implementing adaptation projects included in the National Adaptation Programme of Action (NAPA). Nepal is implementing NAPA as a national development agenda through Local Adaptation Plans for Action. Development and effective implementation of LAPA, initiated in Nepal, is expected to bring a new dimension on climate adaptation.

27 February 2012, Tuesday





कर्म	प्रमुख विधि	आतिथिक विधि
चूर्नीनी परिभाषित गर्भ	१. उच्च अर्नकैलन क्षमताकी अर्नमान २. सेवा प्रदायक सङ्घ-संस्थाङ्कनकी विश्लेषण ३. व्यवहार परीचरतन जनल लेखाजाखा ४. सङ्कटटसासलनता न्याटिरेक्स	१. आथिम तथा सङ्कटटसासलनता नक्सङ्कन २. जलवायु परीचरय ३. अर्नमान ४. तकर्युक्त प्रारूप (लजिकल क्मवकर्)
संचक, बसलडिन र लक्ष निधारण गर्भ	१. नक्सङ्कन (आथिम, सङ्कटटसासलनता, सेवा प्रदायक सङ्घ-संस्था) २. उच्च अर्नकैलन क्षमता अर्नमान ३. जलवायु अर्नकैलन क्षमता लेखाजाखा ४. स्व-अर्नमान तथा मूल्याङ्कन	१. आथिम विश्लेषण २. मूसाम्मी पात्री ३. आथिम प्रतिकार्य विश्लेषण ४. सातसाधनका विवरण प्रणाली र त्यसमा समर्दायकी परीच विश्लेषण
परिचरतन अर्नमान गर्भ	१. नक्सङ्कन २. जलवायु अर्नकैलन क्षमता लेखाजाखा ३. स्वअर्नमान तथा मूल्याङ्कन आथि उल्लेखनीय परिचरतन विश्लेषण ४. व्यवहार परीचरतन जनल लेखाजाखा	१. आथिम विश्लेषण २. मूसाम्मी पात्री ३. आथिम प्रतिकार्य विश्लेषण ४. सातसाधनका विवरण प्रणाली र त्यसमा समर्दायकी परीच विश्लेषण
विचरन-मनन, सिक्कि र पूवर्णाषण सुनिहचरत गर्भ	१. साका सिक्कि सलनली छलफल : अथि उल्लेखनीय परिचरतन, स्व-अर्नमान तथा मूल्याङ्कन, व्यवहार परीचरतन जनल, नक्सङ्कन आथि र पछि र सौल-	१. साका सिक्कि तथा सस्थानत विश्लेषण २. तकर्युक्त प्रारूप

४. सिक्काङ्कनको पूवर्णाषणको रूपमा समावेश गर्नु कसै सुनिहचरत गर्नु ।  
नालिका ३ : लापा अर्नमान तथा मूल्याङ्कनका विधि  
(Tools for Assessing LPA Progress)

- १. स्थायी अर्थव्यवस्था का विकास करने के लिए निम्नलिखित बातें आवश्यक हैं।
- २. आर्थिक विकास के लिए निम्नलिखित बातें आवश्यक हैं।
- ३. अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।

**उत्तर**

१. स्थायी अर्थव्यवस्था का विकास करने के लिए निम्नलिखित बातें आवश्यक हैं।

२. आर्थिक विकास के लिए निम्नलिखित बातें आवश्यक हैं।

३. अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।

अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।

(क) उच्च गुणवत्ता वाले मनुष्यबल

अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।

(ख) निर्यात प्रवर्धन

अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।

(LRA progress assessment)

**६. स्थायी अर्थव्यवस्था का विकास करने के लिए निम्नलिखित बातें आवश्यक हैं।**

- १. अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।
- २. अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।
- ३. अर्थव्यवस्था के विकास के लिए निम्नलिखित बातें आवश्यक हैं।







समायोजनको प्रक्रियाले जलवायु सङ्केकटासनन परिवार, समुदाय, बडा, गा.वि.स. वा प्रभावलाई सम्बोधन गर्न सजिलो हुन्छ। अन्तर्कलन कायदालाई आन्तरिकीकरण गर्न वा कायु वा कायुयोजनालाई एकैकैले गर्दा जलवायु परिवर्तनबाट भएको असर वा हुने क्षमता स्थानीय तथा राष्ट्रिय विकास योजना प्रक्रियामा स्थानीय जलवायु अन्तर्कलन

(LAPA integration into planning processes)

१.५ स्थानीय तथा राष्ट्रिय योजनामा अन्तर्कलन कायुको समायोजन

प्रमुख विधि	आन्तरिक विधि
१. सेवा प्रदायक विवरणमा	१. तर्कपूर्ण प्राख्य (लजिकल फुमवर्क)
२. क, कडले, कसरी, कसले र कडा कायुयोजना तर्जुमा गर्ने भन्ने बारेमा सचन सङ्केकलन	२. समुदायको सचन वामाजिसमा समावेशी बजेट (जसले - बैडियाक, आडिवासी, जनजाति आदि समुहको)

तालिका ४ : अन्तर्कलन कायुयोजना तर्जुमाका विधि (Tools for LAPA Formulation)

१. पहिचान र प्राथमिकीकरणमा परेका अन्तर्कलन कायु तथा माथि उल्लिखित ७ 'क' लाई छान्न दिई तर्जुमा गर्ने।
२. अन्तर्कलनका कायु तथा कायुयोजना कायुन्वयन गर्ने क्षेत्र पहिचान गर्ने।
३. अन्तर्कलनका कायुयोजना कायुन्वयन गर्ने सक्षम सेवा प्रदायकहरू पहिचान गर्नु प्रतिक्रिया गराई वचन गर्ने।
४. प्रभावकारी पहिचान हुनसक्ने अन्तर्कलन कायुयोजनामा अन्तर्कलन कायुको उपर्युक्त अन्तर्कम (sequence) सन्निविचन गर्ने।
५. पहिचान गरीएको अन्तर्कलन कायु तथा तर्जुमा भएको कायुयोजनाका कायुन्वयन गर्न अन्तर्मानित लागत निकाली विनिर्धयन गर्ने।
६. प्राणित अन्तर्मानन गर्ने कायुयोजनामा एकैकैले गर्ने र प्रत्येक अन्तर्मानन कायुको अन्तर्मानन गर्ने विधि र समय यकिन गर्ने।

कायुयोजना

वर्षको उद्देश्य रङ्की छ। लक्ष्य सङ्केकका कायुन्वयन एवम् अन्तर्मानन याका भएको मासिचन तथा रर्त यस्त

उद्देश्य

१. कौक्य मान् ?
२. कर्तृ कायान्वयन मान् ?
३. कस्यु (कर्म) मान् ?
४. कस्यले कायान्वयन मान् ?
५. कस्यु कस्युल्ले कायान्वयन मान् ?
६. कस्यु कस्युल्ले कायान्वयन मान् ?
७. कस्यु कस्युल्ले कायान्वयन मान् ?

प्राथमिकतानामा परे अनेकैलनका उपय तया तथा कस्युल्ले कायान्वयन सौनोचने मान् स्थायी अनेकैलन कायान्वयनाना तयार मान् पदंछ । यस्ती अनेकैलन कायान्वयनाना तयार मान् पदंछ :

२.४ अनेकैलन कायान्वयनानाको तर्जुमा (LAPA Formulation)

१. बहैआधार त्तराका	१. प्रभाव कायान्वयन स्यात्किंस्
२. सहभागीमूलक तानात-तया	२. जीजानत स्तराका
विशलेषण	३. ऊर्जा 'पाववेज' परिचानका परेदेव्य विधि
<b>प्रमुख विधि</b>	<b>अतिरिक्त विधि</b>

(Tools for Prioritization of adaptation options)

तानिका ३ : प्राथमिकीकरणका विधि

प्राथमिकीकरण मान् कायान्वयन स्यात्, सौप र सहजीवीकरणको आवश्यकता पदंछ । तानात अन्तले सामाजिक, बातावरणीय तथा आर्थिक तानात सम्पन् पदंछ ।

कायान्वयनको प्राथमिकीकरण मान् ।

२. सामाजिक, बातावरणीय, प्राविधिक र आर्थिक तानात एवम तानात आधारासामा

अति जस्ये अनेकैलन कायान्वयनको परिचान मान् प्राथमिकीकरण मान्,

१. अति सडैकासन् समुदाय, गा.वि.स. वा नगरपालिका तथा व्यक्तिका तानात

कायान्वयन











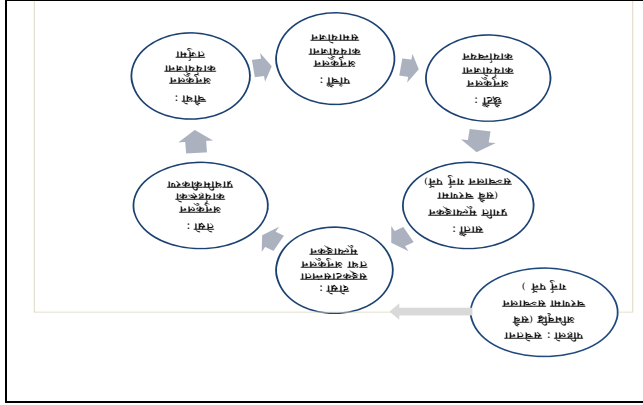
अतिरिक्त विधि	प्रमुख विधि
<p>१. जलवायु अन्तर्कलन क्षमताका मूल्याङ्कन तथा अवसरका पहिचान</p> <p>२. कारण तथा असर विश्लेषण</p> <p>३. जलवायु सम्बन्धी परिवर्तन अर्जमान</p> <p>४. जलवायु तथा प्रभाव विश्लेषण</p> <p>५. जलवायु तथा प्रतिक्रिया (Response) विश्लेषण</p> <p>६. नक्सा : जलवायु, सङ्केतसन्ताना</p> <p>७. समयावधि गतिविधि परिवर्तन शक्ति पाउने विश्लेषण</p>	<p>१. साक्षात्सिद्धि सम्बन्धी</p> <p>२. सात-साधनको विवरण</p> <p>३. प्रणाली र त्यसमा</p> <p>समर्थावकाय पद्धति विश्लेषण</p> <p>(Gateway System Analysis)</p> <p>३. दृश्य तथा कथा सामग्री (</p> <p>तथा नक्सा, रेखाचित्र, सङ्केतनाटक, खेल, गीत</p> <p>टेलिभिजन)</p>

### तालिका १ : सचेतना अभिवृद्धिका विधि ( Tools for Sensitization )

जलवायु परिवर्तन सम्बन्धी सचेतना कक्षा नगरिक समाज, स्थानीय वीरसरकारी संस्था र समर्थावकाय आधारित सङ्घ-संस्थाहरूका प्रतिनिधिहरूसँगको सक्रिय संलग्नताले बर्तमान र कक्षाव्यवस्थापन गर्न सजिलो हुने स्थानीय अन्तर्कलन कक्षाव्यवस्थापनको तर्जिमा गर्न तथा अन्य योजनाहरूमा अन्तर्कलनका पक्षहरू एकै ठाउँमा लान सक्षम पार्नुपर्छ ।

१. शिक्षन र पर्यवेक्षण प्राप्त गर्न माथि उल्लिखित तपासकका क्रियाकलापहरूमा सूचना प्रवाह र सचेतना अभिवृद्धि गर्ने क्रियाकलाप गर्ने, गराउने तथा
२. समर्थाव, गा.वि.स. वा नगरपालिका र जि.वि.स. स्तरमा स्थानीय अन्तर्कलन कक्षा एकै ठाउँमा कक्षाव्यवस्थापनलाई बढाउन मात्र प्रभाव गर्ने ।
३. सङ्केतसन्त समर्थाव, स्थानीय निकाय, राजनीतिक दल, शैक्षिक प्रतिष्ठान, सेवा प्रदायक संघ-संस्थाका प्रतिनिधि, विज्ञ र सर्वसाधारणलाई समावेश गर्नु, गराउने ।
४. शिक्षन र पर्यवेक्षण प्राप्त गर्न माथि उल्लिखित तपासकका क्रियाकलापहरूमा सूचना प्रवाह र सचेतना अभिवृद्धि गर्ने क्रियाकलाप गर्ने, गराउने तथा
५. जलवायु परिवर्तनका विज्ञान, कारण र प्रभाव, अन्तर्कलनका असर, पहिचान, रोकथाम अन्तर्कलन कक्षाव्यवस्थापन, योजना र रणनीति तथा कक्षाव्यवस्थापनको सूचना प्रदान गर्ने,



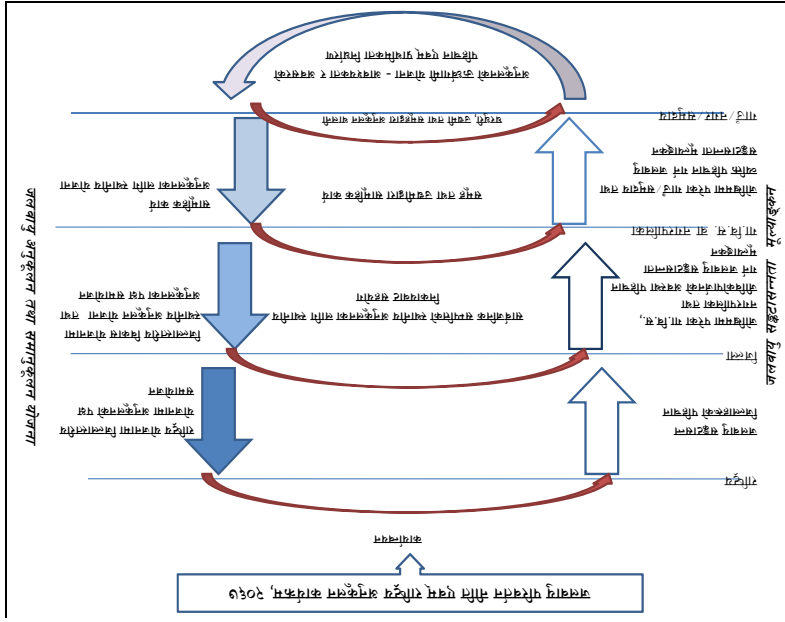


चित्र २ : स्थानीय अर्न्तकर्मलन का प्रयोजन का चक्र (LAPA Cycle)

चरण १ से चरण ६ तक के चरणों का क्रम (चित्र २) में प्रस्तुत किया गया है।

१. जलवायु परिवर्तन संवेदनशीलता का आभाषण (Climate change sensitization)
२. जलवायु संवेदनशीलता का अर्न्तकर्मलन (Climate vulnerability and adaptation assessment)
३. अर्न्तकर्मलन का अवसरों की खोज तथा प्राथमिकताओं का निर्धारण (Prioritization of adaptation options)
४. स्थानीय अर्न्तकर्मलन का प्रयोजन (Local implementation)
५. योजना प्रक्रिया में स्थानीय अर्न्तकर्मलन का प्रयोजन (LAPA integration into planning processes)
६. स्थानीय अर्न्तकर्मलन का प्रयोजन (LAPA implementation)

चरण १ से चरण ६ तक के चरणों का क्रम (चित्र २) में प्रस्तुत किया गया है। स्थानीय अर्न्तकर्मलन का प्रयोजन (LAPA implementation) चरण ६ है। स्थानीय अर्न्तकर्मलन का प्रयोजन (LAPA implementation) चरण ६ है। स्थानीय अर्न्तकर्मलन का प्रयोजन (LAPA implementation) चरण ६ है।



**पक्ष समाप्तयोजना**

**चित्र १ : स्थानीय विकास योजनामा जनजातीय अनुकूलन तथा समाप्तकूलनका**

एकीकरण र समाप्तयोजना गत संकेत अवस्था निम्न विवरणमा देखाइएको छ । जनजातीय अनुकूलन र समाप्तकूलनका पक्षलाई स्थानीय तथा राष्ट्रिय योजनामा नगरपालिका र जिल्लाका संकेत अवस्थाका आधारमा समाप्तयोजनाका पक्षलाई देखाइएको छ । समाप्तयोजनाका पक्षलाई स्थानीय विकास योजनामा समाप्तयोजनाका पक्षलाई देखाइएको छ । समाप्तयोजनाका पक्षलाई स्थानीय विकास योजनामा समाप्तयोजनाका पक्षलाई देखाइएको छ ।

**स्थानीय अनुकूलनका पक्षलाई समाप्तयोजना**

अवधारणागत समाप्तयोजनाका पक्षलाई देखाइएको छ । समाप्तयोजनाका पक्षलाई देखाइएको छ । समाप्तयोजनाका पक्षलाई देखाइएको छ । समाप्तयोजनाका पक्षलाई देखाइएको छ । समाप्तयोजनाका पक्षलाई देखाइएको छ ।











१७	नकड़ैयल्लोमं प्रुााकं आाननयुयाक नलकैरुनअ यानुाये	१०८
३७	नयन्यायाक आनयुयाक नलकैरुनअ यानुाये	३०८
२७	नन्यायामसे आनयुयाक नलकैरुनअ यानुाये प्रुाकयुयाक आनयुया	४०८
३७	आरुनं आनयुयाक नलकैरुनअ यानुाये	२०८
८७	आरुकाकमपुायाक आन यानुाये आरुकाकयुयाक नलकैरुनअ यानुाये	३०८
४	नकड़ैयल्लोमं नलकैरुनअ आन आननसाटककयुयाक यानुाये	८०८
१	शुाैरुनअ आनयुयाक नलकैरुनअ यानुाये प्रुाकयुयाक यानुाये	९०८
	आननयुयाक नलकैरुनअ यानुाये प्रुाकयुयाक यानुाये	१०८

	सेरुनयल्लोमं काशुाैरुनं आाननयुयाक	
३	प्रुाकयुयाक आनयुयाक नलकैरुनअ यानुाये	१०८
८	आनयुयाक आनयुयाक नलकैरुनअ यानुाये	१०८

१०८







जीवराज पाखरेल  
कल्याण गांधी  
जीनी मुनाली  
कल्यादेव जोशी  
मगादल अक्सेरी  
नयशामा पांडे

## सिंहवलीकनकनाला अर्चन

योयो मना विजयक  
कलक नया वलक  
विनीव वापनाड  
वासासा नाना  
फवड खान  
माकासा मंडल

अजय विधीव  
सबोनीली प्रथम  
जिसका अयस  
दोपक रिजाल  
नाकी कौरी  
साईमन पांडे

## अथयन टोली

गामाण स्वभावमन कुंद (आरोपेरी)

केपान्तना नपल

सोत पडिवान तथा व्यवस्थापन समान (सिम्स नपल)

स्वस्थकालागि पानी नपल (नेवा)

जीवक विविधता, अर्चनान र विवकसाका लागि स्थानीय पडल (लि-वर्ड)

विटन नपल मुडिकल टस्ट (विपणनमि)

## नपाली सङ्घ-संस्थाहरू:

संभन

स्थानीय अर्कन कयोजनको संरचना तथा राने पवम अन्तम रूप दिने कार्यमा

## अथवाट बापन

८३०१ मर्माफ  
जलवायु परिवर्तन व्यवस्थापन महाशाखा  
वातावरण मन्त्रालय  
नेपाल सरकार



संस्थापक निदेशक  
वातावरण मन्त्रालय

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जलवायु मन्त्रालय  
राज्य सरकार



राज्य सरकार  
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