

Integration of Climate Change into the Local Planning Process

A Study of Ganeshman Charnath Municipality

Dhanusha, Province No. 2

Contents

Introduction	6
1. Background	6
1.2 Rationale of the Study.....	7
1.3 Objective of the study.....	7
Methodology.....	9
2.1 Study Area	9
2.2 Water related Issues	9
2.3 Data Collection.....	10
Findings	12
3.1 Local development planning process.....	12
3.2 Mainstreaming process of climate change into the local planning process and its challenges	12
3.2.1 Inclusion	12
3.2.2 Communication.....	13
3.2.3 Technical Expertise.....	14
3.2.4 Coordination	14
3.2.5 Long-term Vision	15
3.2.6 Climate Fund	16
Conclusion and Ways Forward.....	17
4.1 Conclusion	17
4.2 Way Forwards	17

List of Figure

Figure 1: Too little water and too many water scenarios as observed in study area	10
Figure 2: interaction with officials of Municipality.....	11
Figure 3: Focus group discussion with community	11
Figure 4: local self-governance guide for planning.....	12

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The findings, interpretations and conclusions expressed herein are those of the author (s) and do not necessarily reflect the views of the institutions

Foreword

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Executive Summary

Adapting to climate change is a rapidly growing challenge, particularly for developing countries. Climate change with its impacts such as drought, floods and extreme climate are likely to result in food shortages, increase in vector-borne diseases, damage infrastructure, and degrade natural resources upon which livelihoods are based. Among these impacts the stress climate change places on the water availability shall directly affect the livelihood of humans with too many and too little water episode. Negative impacts of climate change will hit poor people and poor countries disproportionately. Development choices made today will influence adaptive capacity and also determine future resource availability. In other words, climate change threatens development objectives and is in turn affected by development choices.

Furthermore, the impacts of climate change are likely to become progressively more significant in the years that will affect in achieving the target set for Sustainable Development Goals. In this regard this study has been carried out to understand the mechanisms of mainstreaming climate change into the local development planning process and the challenges associated with it.

In order to meet the objective of the study, different approaches like field visit, key-informant interview and focus group discussion were carried out among the selected and elected officials of the Ganeshman Charnath Municipality in Province 2. From the study it was found that the planning process proceeds ahead as per the guidance provided by the Local-Self Governance Act 1999, which is the bottom-up approach and community people identify their needs and prioritize the actions as needed. The ward level office implements the activities as prioritized as per the budget ceiling available meanwhile the Municipal offices implement the activities as possible with the available budget. Rests of the developmental activities are carried out by line agencies.

In study area, the planning process lacks the inclusion of marginalized communities especially that of women, language barrier being the crucial factor for communication. The lack of coordination among the implementing agencies and the fund available for the climate consideration in the planning process has been making the development plan myopic and short-lived only. Lack of knowledge and expertise on the climate change along with the lack of adequate hydrological and meteorological stations has also been causing unpredictability in the future climate prediction for the climate resilience development.

Citing to the challenges as mentioned above, there is a need for the proper information dissemination through the appropriate channel and the medium. There is also need for coordinating the implementing agencies to disseminate knowledge and establish mechanism for generation and use of climate data for future development planning.

Introduction

1. Background

Climate change is widely recognized as a global phenomenon; however its impacts are felt locally. The impact of climate change cannot be neglected as its effects hinder the achievement of development goals around the world. According to the Intergovernmental Panel on Climate Change (IPCC) 2012, climate change and associated climate extremes and disasters, have increased uncertainty in the livelihoods of people in the least developed countries. In recent years, adaptation to climate change has been brought to the attention of policy-makers and planners in Nepal and throughout Southeast Asia due to the region's high exposure to climate risks (ADB, 2009; World Bank, ADB and JICA, 2010). In response to this Government of Nepal has prepared National Adaptation Programme of Action (NAPA) in 2010 according to the decision 29/CP.7 of the United Nations Framework Convention on Climate Change (UNFCCC). NAPA has been prepared at the national level that provides ample opportunities to mainstream climate change into national development agenda and maximizes the opportunities posed by climate change. At national level Ministry of Forests and Environment (MoFE) is coordinating climate change adaptation activities and functions as focal point to UNFCCC. NAPA also serves as a basic document to act on climate change that accumulates the information related to climate change specifically the sensitivity, exposure, vulnerabilities and impacts associated. Based on this information, NAPA has proposed urgent and immediate adaptation actions to reduce impact and vulnerability of the communities. In order to localize adaptation activities, Government of Nepal issued a National framework on Local Adaptation Plans for Action (LAPA) in 2011 to implement adaptation actions at the local level.

LAPAs are based on four main principles of bottom-up, inclusive, responsive and flexible. In most cases, climate change plans are focused on coping with or minimizing the impact of future climate change. However, available long-term climate projections may not be detailed or reliable enough to support an action plan. The uncertainty of climate projections and the lack of sector- or region-specific information have made difficulties in planning and implementing climate change adaptation options. This could be partly because planners are unfamiliar with climate scenario-based planning, which addresses uncertainty by looking at multiple possibilities and can produce more robust plans.

Additionally, the difference between the short time scale of planning and the long time frame of climate change has distanced scientists, policy-makers and local stakeholders from one another. Policy planners in Southeast Asia work within a time frame much shorter than one that would display the effects of climate change. This is particularly challenging, given the common preference in the country for engineering solutions to climate risks, which leads planners to seek certainty to justify investments. Short-term planning can also overlook long-term socioeconomic trends that could change risk and vulnerability patterns in the long term.

There is therefore a need to take a broader approach to climate change and planning that goes beyond efforts to address future climate change impacts. Development plan should consider the long-term consequences of climate change, and how it might change a community's or sector's risk profile. Development strategies should consider approaches that increases resilience to climate risks and do not create new vulnerabilities under plausible climate change scenarios. In this context, climate change becomes a key factor in sustainable development planning. Mainstreaming climate change and adaptation into development planning in the local context is therefore a priority – and more effective than addressing climate risks separately.

1.2 Rationale of the Study

This study discusses approaches in mainstreaming climate change as an alternative to the conventional approach of treating it as a separate issue with a narrow focus on projected climate change impacts. Instead, climate change, their issues at the local context, possible impacts, integration issues and the local perceptions are used to support decision-making concerning community strategy and development plans. The need to study the mechanism and involving a local community in development plan can be used to demonstrate how adaptation planning can be an integral part of development planning and how effective it could be.

The Climate Change Policy of Nepal (2011) suggested the framework for the climate planning at the local level and to identify climate related issues, vulnerabilities, and possible risks. The Policy focused in identifying and prioritizing appropriate adaptation measures at the local level. The Climate Change Policy (2019) urges the local governments to implement local level policy, guidelines, standards and plans, including conducting monitoring, evaluation and documentation of implemented programmes and projects. Similarly, while comparing the climate change planning with the local planning process as provided by the Local-Self Governance Act it can be observed that there exists a similarity in climate planning and local development planning as both of them are bottom-up approach and community people – the beneficiaries or victims – plan for them. However, when we overlap climate change planning with the local development plan then we can observe that there exists a gap such that our development plan overlooks the climate change issues and treats it as a separate issue. However, integration provides multiple opportunities to address climate change issues and impacts through a continuous development process.

In this scenario, when local development plan tend to ignore the climate related issues into the planning process and fund allocation for it, development activities lack the essence of sustainability and usually become myopic that fails to address the aspiration of climate vulnerable people and urgency of environment conservation. Mainstreaming has been seen as a more sustainable, effective and efficient use of resources than designing and managing climate policies separately from ongoing developmental activities. On this backdrop, JVS carried out this study to explore possibilities for integrating climate change into local planning process, inclusion process, prioritization and implementation. In this study, mainstreaming considers the inclusion or integration of a concept or principle into existing structures, processes, plans and systems.

1.3 Objective of the study

The objective of this study is to:

- determine the process, involved in formulating local development plan;
- identify the process in mainstreaming climate change into the development process and the challenges associated with it; and
- facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes as appropriate

Methodology

2.1 Study Area

The study was carried out at the Ganeshman Charnath Municipality of Dhanusa, Province No. 2. Ganeshman Charnath Municipality comprises the area that falls under Kamala River Basin which is notoriously famous for its devastating effect with flood and water scarcity. The climate associated impact is evident at the water sources as either there is too much of water or too little of water. During the monsoon, the flood from river causes riverbank cutting and destruction of cultivatable lands every year whereas during the dry season the ground water table which is the only source of water for local people falls significantly creating water scarcity. This problem of water scarcity if amplified by the burgeoning impact of climate change and the evidence can be seen with hundreds of tube-wells and dug wells being non-functional over the period of time. The problem of drinking water is so severe that the irrigation problem is not being considered that serious despite of it being the major source of economy for the local people.

2.2 Water related Issues

Riverbank Cutting and Flood:

Every year, the high intensity rainfall brings along with it the problem of flooding at Kamala River and other imminent rivers over there which has resulted in the riverbank cutting and inundation of most of the agricultural lands. Every year people have been losing hundreds of hectares of land and soil fertility. This has made many farmers landless. Due to loss of agricultural land, people migrate to other areas or for foreign employment. Even though the flooded water does not stay for a much longer period, the impact it creates for a shorter duration is prominent. The crops planted and harvested are destroyed by it. Many important documents and the food storage are destroyed by flood water. The drinking water source is also contaminated. Flood also cause disturbance in the mobility of the people living there.

Declining water table and water scarcity

Water scarcity can be considered as one of the pressing impact of climate hazard in the municipality. The water sources (ponds & wetlands) are drying up and the ground water table is also receding. Previously the water table could be found at the depth of 35 meter but now in some community it has reached to the level of 40 to 45 meter. There is also not any program of pipe water distribution that is accessible for everyone. So, poor communities in lack of money to afford the pump suffer from the scarcity of water. People were forced to consume water from community well without any quality check. Time and again this also raises the conflict among the local water users. The problem of drinking water is exacerbated during the rainy season when the water is contaminated and there is outbreak of water related epidemic. Besides the problem of drinking water there is also scarcity of water for the irrigation purpose. The ground water table has been declining and shallow tube well does not function properly. In lack of deep boring pumping machine farmers have not been able to irrigate their land. The drying up of the water sources and excess heat causes the reduction in the soil moisture and loss of production. In response to this, farmers have been using chemical fertilizers in their field which has resulted in the degradation of soil quality and river water contamination. The irrigation canal channelizing the water is also not sufficient for the farmers to irrigate their field as a result there has been cases of conflict and frustration among the farmers.



Figure 1: Too little water and too many water scenarios as observed in study area

2.1 Data Collection

This study is basically the process documentation and the perception-based study of the local people their aspirations and participation in the planning process. This study follows procedure of literature review and analysis and field based observations and recommendations.

1. Desk Study

Secondary information was collected through review of NAPA, Local Adaptation Plan for Action (LAPA), Climate Change Policy and other relevant published policies, papers and documents.

2. Field Study

Field level information regarding the development plans, and people's perceptions about climate change were collected. Following methods were used to collect the field level information:

- **Field Observation**

The field observation was carried out to collect first hand information regarding the topography, population and the development plans, climate change impacts and the adaptation measures being implemented at various levels.

- **Key informants Interview**

This interview was carried out to understand about the climate change issues, development planning process, implementation mechanism, challenges & barrier in the implementation process and progress made with the key personnel involved in the process. In this regard coordinators, ward chairperson, municipal chairperson, representative of the user groups were interviewed.

- **Focused Group Discussion**

Focused group discussion (FGD) was conducted with active participation of selected beneficiaries of the development plans in the municipality. Participants include representatives from women group, users groups, farmers, marginalized communities and wards. FGD was conducted to understand the perception of local communities on effectiveness of intervened activities to address the climate change impacts.



Figure 2: interaction with officials of Municipality



Figure 3: Focus group discussion with community

2.2 Data Analysis

Field level data and information were analysed and checked with secondary information.

Findings

3.1 Local development planning process

From the field study, it was found that the local development process follows the planning process guide as mentioned in the Local Self-Governance Act. According to this process, local people identify needed developmental actions.

During this process community-based organizations facilitate the people to determine their aspirations. These activities that could be achieved through ward level shall be taken by ward office depending on the nature of activity and the fund availability. After this process, remaining activities for each ward are discussed and prioritized at the municipal level. These activities are implemented as per the budget ceiling released yearly. The activities which could not be implemented in one year are postponed for the next year.

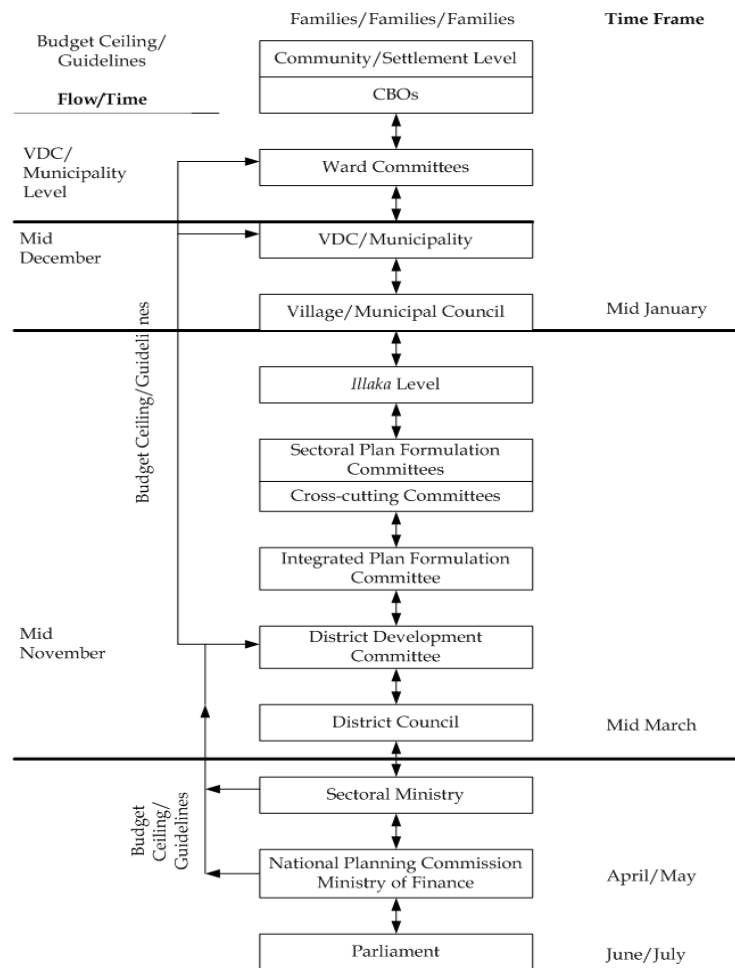


Figure 4: Local Self-Governance Guide for Planning

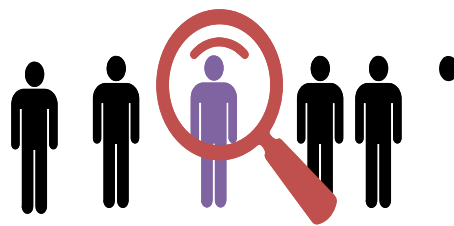
3.2 Mainstreaming climate change into the local planning process and its challenges

3.2.1 Inclusion

Right from the very beginning of the development planning process, inclusion of every community member is crucial to decide themselves on development activities. In the study area, inclusion was



Technical Expertise



Lack of Technical expertise while planning and implementation.

Coordination



Lack of Coordination among the elected and officials of municipality

Lack of coordination among the local bodies, CBOs and other implementing agencies

local institution and community-based organizations (CBOs) working in the study area.

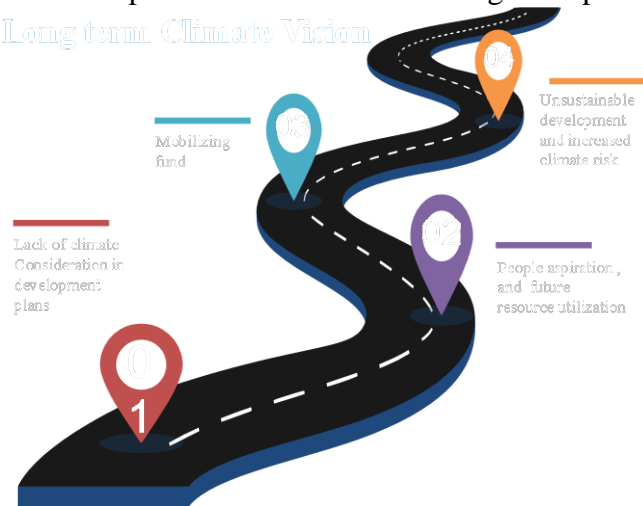
3.2.5 Long-term Vision

Climate change and its impacts are not visible at a short span of time rather it's a long-term process. However, the development process that neglects the climate change issues is short term and myopic. Ignoring the climate change issues and its impact on local people threatens the sustainability and effectiveness of the development process.

"Most of the developmental activities being carried out are hardware structure and are about roads only, they need to spend money for the given year so, they go for anything that comes up " said a respondent from the key-informant interview. The development

activities that are carried out without the consideration of environment act as an evidence of expense only neither it serves for people nor for the environment.

Long term Climate Vision



In the past couple of years, Ganeshman Charnath Municipality has constructed wells for addressing the drinking water shortage in the municipality. These wells were constructed without any geological study and there has not been any study on the ground water level and Chure impact as the area lies on the foothill of Chure region. Hundreds of wells constructed were functional for a year only. All of the wells are dried now and the shortage of drinking water still exists. Furthermore people were not taught about the concept of recharging and harvesting water due to which the problem occurred. Besides this, the well thus constructed lacked filtration systems since the ground water from terai are heavily contaminated with arsenic. The Municipality in demand of farmers had also provided a pump for boring water to irrigate the field which is also not functional at the present context.

3.2.6 Climate Fund

This is one of the most debated content in determining the gap in climate planning. *"The fund that is allocated for the developmental activities is just enough to carry out it only, it is not for the climate change"* responded the official of the local institution. The climate change is looked as a separate issue rather than the integrated one. *"The training and awareness programs to be carried out for climate awareness requires green fund which we lack as we have other priorities now"* responded the official while citing this as a problem. According the response from the focus group discussion, the Municipality lacks hydrological and meteorological stations with appropriate instruments to have the record of climate parameters. It also lacks proper measure of the ground water table and the declining level of water so, in absence of green fund they have not been able to carry out these activities.

The integration part of the climate change is not only about the inclusion only rather it sums up with whole range of other factors like fund, proper coordination, climate knowledge through technical trainings and communication etc.

Conclusion and Ways Forward

4.1 Conclusion

Developing country like Nepal, including the local body like Ganeshman Charnath Municipality has faced difficulty in planning and implementing climate change activities under the conventional approach due to doubts about the accuracy of climate change impact. Mainstreaming climate change into development plans and addressing adaptation in a broader context by aiming for long-term robustness and sustainability of the development plan, as well as community resilience both now and in the future, would lead to more realistic and justifiable plans for communities, as it also addresses current problems and integrates socioeconomic dynamics.

This broadening of the climate change context is expected to be seen in the near future. Several agencies are now calling for integration of adaptation into existing/ongoing national development plans. For example, a United Nations Framework Convention on Climate Change (UNFCCC) LDC Expert Group has prepared a technical guideline to assist LDCs in formulating and implementing National Adaptation Plans (NAPs) that combines development and climate change. In addition, climate change was widely discussed at the United Nations Conference on Sustainable Development (Rio+20) as an integral part of sustainable development planning. It is clear there is a trend towards more integrated approaches to climate and development.

In conclusion, policy planners have recognized that climate change adaptation is an integral part of development at multiple levels: community, local, regional and national levels. Adaptation need not always be planned by central government agencies and then implemented through a top-down approach; adaptation planning can also be effectively mainstreamed into the community development planning process. A top-down adaptation approach that frames sectoral strategies and plans, and a bottom-up approach that builds community resilience, can strongly supplement each other. The national plan can focus on strategic directions for the country as a whole, or by sector; the community plan can focus on specific actions that address current risk or development needs, factoring in future climate change. Such integration within the planning process can help ensure that development plans with long-term effects will be sustained under changing climate conditions, and that investments will not be wasted.

National policy makers should create institutions to develop and disseminate sufficient knowledge about climate change, to support community decision-making and government agencies' operational planning. Mainstreaming climate change into development planning is possible, but needs to be facilitated.

4.2 Way Forwards

The integration of climate change into the local planning process is crucial to timely address community needs by ensuring environment conservation and by integrating it with developmental activities. In this regards, the study of Ganeshman Charnath Municipality shows:

1. There is a need to change the outlook of the information dissemination considering the culture, tradition and language of the local people.
2. Technical knowledge and information, along with climate-related information facilitates should be to assist for climate prediction and develop institutions to regularly collect data and information for robust planning.
3. Integrating climate change into local development planning process ensures addressing of issues along with the consideration of environment and development so as to impart the fruit of development for everyone for a long-term,