



## **Assessment on Implementation Planning Process of Local Adaptation Plan of Action (LAPA) of Dolpa District, Nepal**

**By**

**Nisha Aryal  
MPPG 5<sup>th</sup> Batch**

December 2017



**Public Policy & Governance Program  
North South University**



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**MPPG 5<sup>th</sup> Batch**

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December, 2017



**Public Policy & Governance Program**  
**North South University**

**Dedicated to**

*Family and Friends*

*Especially to my sister – the source of continuous support and encouragement!*

## Declaration

I declare that the dissertation entitled “Assessment on Implementation Planning Process of local Adaptation Plan of Action (LAPA) of Dolpa District, Nepal” submitted to the PPG Program of North South University, Bangladesh for the Degree of Master in Public Policy and Governance (MPPG) is an original work of mine. No part of it, in any form, has been copied from other sources without acknowledgement or submitted to any other university or institute for any degree or diploma. Views and expressions of the thesis bear the responsibility of mine with the exclusion of PPG for any errors and omissions to it.



2017.12.25

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Nisha Aryal  
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## **Abstract**

This thesis attempted to explore the status of implementation of Local Adaptation Plan of Action (LAPA) framework in Nepal. It has explored the people participation during implementation planning phase and factors influencing its implementation the local level. The research examined the Implementation of LAPA Framework, 2011 at local level, particularly VDC and assessing the beneficiaries' opinion towards its implementation.

Case Strategy approach was embraced for this study taking two VDCs as a unit of analysis for in-depth investigation. The study is of explorative and descriptive nature which was done on purposive/convenience basis in Likhu and Raha VDCs of Dolpa District, Nepal. The data for analysis was collected using the mixed method: qualitative and quantitative through Key Informant Interview, Focal Group discussion and questionnaire survey as the major instrumentation of research.

The argument set in this study was the implementation of LAPA framework at local level in Nepal depends upon the authority, participation, inter-organizational coordination and human & financial resources. The analysis of the data attempts to show the bivariate relationship between the dependent variable- implementation of LAPA framework, 2011 and independent variables- authority, participation, inter-organizational coordination and human & financial resources.

The finding revealed that there is not a significant relationship between authority, participation, human resource and implementation of LAPA. However, ratio of female participation and financial resource; among all, is significantly influencing the implementation of LAPA at local level. Additionally, the findings revealed that financial resource, skills and expertise of human resource, top down decisions regarding the plans and budget are the constraint for implementation of LAPA at local level.

Moreover, the study revealed even the participation seems autonomous but the major factor that affects the implementation of LAPA most was found to be financial resource and ration of female participation during its implementation. It means participation seems to be bottom up approach during LAPA framework implementation. Additionally, people's perception towards the authority seems positive towards the implementation of LAPA. Key informant interview reveals that there is proper communication between local and district level regarding the local level plans the only constraint is decision flow is top down. Also, the people's perception on flow of information from local level authority to the general people was found to be positive.

The findings of this study, in overall, stated that implementation of LAPA seems to be satisfactory at the local level despite the fact that local authority have less number of staff, lack of budget and no expertise to work on environmental and climate change issue. Also people are holding positive response regarding the nature of problems, nature of immediate, urgent and long term plan of vdc. But bit dissatisfied in terms of livelihood options identified locally. It reveals that though the local authority have not skilled manpower, sufficient number of staff and lack of finance, peoples have positive response towards the implementation of LAPA at local level.

**Key Words:** *Implementation of LAPA, Authority, participation, inter organizational coordination, human resource, financial resource*



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## List of abbreviation

<b>Abbreviation</b>	<b>Full forms</b>
COD	Central District Officer
FGD	Focus Group Discussion
GHG	Green House Gas
GoN	Government of Nepal
IPPC	Inter-Governmental Panel On Climate Change
KII	Key Informant Interview
LAPA	Local Adaptation Plan of Action
MoE	Ministry of environment
NAPA	National Adaptation Programme of Action
NCCSP	National Climate Change Support Programme
OECD	Organization For Economic Co-operation and Development
UNDP	United Nation Development Programme
UNFCC	United Nation Framework Convention on Climate Change
VEECCC	Village Environment and Energy Climate Change Committee
VDC	Village Development Committee

# Chapter 1

## Introduction

### 1.1 Introduction

The global climate change and associated climate extremes and disasters have increased uncertainty in the livelihoods of people of least developed countries (IPCC, 2012). In particular, increased risk of floods and droughts is expected to have severe impact on South Asian countries (IPCC, 2007). The global climate change is translated into localized phenomena in response to local geography and other environmental, economic and sociopolitical factors (OECD, 2009). It has been widely recognized that climate change impacts are inherently local and context specific; so, need has been felt for focusing climate change activities at the local level (Agrawal et al. 2009).

Climate change is gradually becoming a major concern to mankind, however most of the people who are vulnerable, are not aware of the real consequences of global warming. It is recognized as a main threat to the communities in the rural areas who are more dependent on the natural resources (Devkota, 2014). The South Asian region is, thus, the most sensitive to climate change as most of the countries in the region have agriculture based poor economies, and less resilience and adaptive capacity (Stern & Britain, 2006). In this region the average surface temperature in the last 100 years, i.e. from 1906 to 2005, increased by 0.74°C which is higher than the corresponding global value of 0.6°C for the years 1901 to 2000 (IPCC, 2007a ; Maharahatta, et al., 2009), a clear indication of climate change in the region.

### 1.2 Background and Context

Nepal is one of the climatically vulnerable countries in the world due to its fragile, climate sensitive ecosystem and socioeconomic circumstances. IPCC (2007) report states that CC is already having discernable impacts particularly in least developed counties like Nepal which are more vulnerable from the impacts because of their inability to cope with these climatic shocks. Climate change is expected to have serious environmental, economic, and social impacts in South Asia in particular, where rural farmers whose livelihoods depend on the use of natural resources are

likely to bear the brunt of its adverse impacts (Tiwari.et.al, 2014). Moreover, adaptation to the climate change is a challenge to achieve the development outcomes as mitigation is not taking places in a required manner (Eriksen, 2011).

Mitigation, i.e. preventing further climatic changes by reducing the emission of Greenhouse Gases (GHGs), remains on the global political agenda and is recognized by the United Nations Framework Convention on Climate Change (UNFCCC) as the priority for developed countries (Huq, Rahman, Konate, Sokona, & Reid, 2003). However, studies predict that even the most assertive emission controls will still result in continuing increases in GHG concentrations, leading to warming. Therefore, adaptation is necessary as a response to climate change (Smith, Klein, &Huq, 2003) and the UNFCCC recognizes this is the priority for developing countries. Challenges remain in understanding how adaptation can be implemented and vulnerability to climate change be reduced in these countries.

It is reported that Nepal is ranked and listed as one of the most climate vulnerable countries in the world (GoN, 2011). The rapidly retreating glaciers (average retreat of more than 30 m/year), rapid rise in temperature ( $>0.06^{\circ}\text{C}$ ), erratic rainfalls and increase in frequency of extreme events such as floods and drought like situation are some of the effects Nepal is facing during the last few years (Karki, et.al, 2009). Multiple general circulation models show convergence on continued warming, with averaged mean temperature increases of  $1.2^{\circ}\text{C}$  and  $3^{\circ}\text{C}$  by 2050 and 2100 respectively (World Bank, 2009). These models, however, predict different scenarios for the Terai (lowlands lying in the southern part) than for the mountainous regions (northern part) of Nepal. As more than 80% of the people of the country rely on agriculture and fishing for their subsistence (Karki and Gurung, 2012) and almost 90% of the poor people of Nepal lives in rural areas (Sapkota et al., 2011; Nepal, 2002), Nepalese economy and livelihood will be hugely affected by changing climate.

The Himalayan Alpine zone of Nepal is particularly sensitive to change in temperature and precipitation. Mountain areas of Nepal are threatened by loss of natural habitat and shift in vegetation boundaries. Mountains are naturally and physically vulnerable areas. Climate change has potential to changes these



vulnerabilities and possible natural hazards into severe natural disasters like floods, crop failures and outbreak of pandemic diseases as has been already demonstrated in recent years: accelerated glacier melting, increased erosion of our thin soil cover and nutrients, slope instability, flash floods etc. In the long run, reduced water availability for drinking, irrigation and hydropower, species extinction and eventual extinction and the spread of vector-borne diseases are some of the effects; we are facing (Karki et.al, 2009). With the aim of making the country's economy and infrastructure climate resilient, the National Planning Commission emphasized the need to screen development plans for resiliency. Implementation of the Climate Change Policy (2011) and the NAPA (2010) were the first high-level responses to climate change, intended to mainstream adaptation to climate change within national policies and reduce vulnerability (Grantham Institute, 2015). The Policy also encourages development sectors to incorporate climate change concerns into policies and other instruments of relevant sectors. The Policy equally emphasizes development and use of clean and renewable energies and knowledge generation to address impacts of climate change through adaptation and impact mitigation.

During the Nepal National Adaptation Programme of Action (NAPA) consultation process, suggestions were made by participants to localize NAPA and the idea of a Local Adaptation Plan for Action (LAPA) emerged. LAPA, as its name suggests, supports the operationalization of the policy objectives outlined in the NAPA, by facilitating the integration of "climate adaptation activities into local and national development planning processes and to create a situation for climate-resilient development" (Nepal, 2011). NAPA has 6 priority thematic areas and 9 clusters that emphasized on local level decision making and control over on adaptation plans and 80% funds disbursement at grass root level (MoE, 2010). In 2011, the Government of Nepal (GoN) approved the National Framework on LAPA, thus becoming the first country to formalize LAPA as a national planning framework. The LAPA Framework ensures that the process of integrating climate change resilience into local-to-national planning is bottom-up, inclusive, responsive and flexible (GoN, 2011).

Participatory processes that favor the deliberate decision making have the potential to make adaptation action more sustainable and bring the diverse social group together (Alder et.al (ed.), 2014). Focusing only on the bio-physical implication ignore the societal and cultural implication that provided the deeper understanding on how society responds to, their willingness to participate in, different climate strategies. So, it is very import to acknowledge the proper planning process in order to achieve the sustainable adaptation.

### **1.3 Statement of Problem**

Among several challenges faced by Nepal, climate change has emerged as a new challenge which poses a serious threat to development efforts. Nepal being a mountainous country and least developed country, it is highly vulnerable to climate change (UNDP, 2013). Climate change is being disastrous to us and the global strategy to address it is through Adaptation and Mitigation. For a least developed country like Nepal, adaptation should be the priority (Karki, Mool & Shrestha, 2009).

It is understood that adaptation in developing countries has been donor driven because climate change is not a priority for governments that see economic development and poverty reduction as more urgent (Mertz, Halsnæs, Olesen, & Rasmussen, 2009). The beginning of LAPA in Nepal has led to several aid agencies providing funding to government and non-government agencies to plan and implement LAPA (Martens, 2005). Consequently, Ojha et al. (2015) consider LAPA to be donor driven and less appreciated by different stakeholders at national, regional and local levels in Nepal.

However, Local Adaptation Plan of Action (LAPA) is considered as a mechanism to formulate and implement national adaptation plans at the local level (Mainly and Tan, 2012). Also, Government of Nepal, 2011 states that LAPA ensures the proper adaptation services to the vulnerable communities due to climate change (Tiwari et al., 2012). Furthermore, there is not any programme to support climate change adaptation in the VDC and district level in some districts (Gentle and Maraseni, 2012). Moreover, there is no elected government at the moment for effective

implementation and coordination with the line agencies (Tiwari et, al, 2012). So, in this situation it is important to know how climate change adaptation planning is made and implemented in local level. Hence, it is very crucial to understand what might be the factors that really playing role in effective implementation of plan. How local people are benefitted by the adaptation practices? Are they sustainable or it is only donor driven?

#### **1.4 Objective**

The general objective of this study is to explore the status of implementation of Local Adaptation Plan of Action Framework, 2011 at local level in Nepal with reference to Raha and Likhu VDC along with the specific objectives:

- To study the climate adaptation implementation planning process of Dolpa District
- To examine the factors affecting implementation of LAPA at local level

#### **1.5 Research Questions**

In order to attain the above mentioned objectives this study addresses the following research questions:

1. Does the local level implementation planning process adequately support the principle of “bottom-up” approach?
2. What are the factors for the implementation of LAPA at local level in Dolpa District?

#### **1.6 Hypothesis**

- i. Nature of participation and implementation of LAPA

**H0:** There is no significant relation between nature of participation and implementation of LAPA

**H1:** There is significant relation between nature of participation and implementation of LAPA

ii. Composition participation and implementation of LAPA

**H0:** There is no significant relation between composition of participation and implementation of LAPA

**H1:** There is significant relation between composition of participation and implementation of LAPA

iii. Female participation and implementation of LAPA

**H0:** There is no significant relation between female participation and implementation of LAPA

**H1:** There is significant relation between female participation and implementation of LAPA

### **1.7 Significance**

The climate change adaptation planning process is often criticized being the donor agencies agendas to the development process of Nepal. And the adaptation policies are made more on the donor perspective than the contextual realities of different nation (Ojha et al., 2015). Hence, this study will helps to understand the adaptation implementation planning process of Nepal climate adaptation measures. Moreover, try to understand the various factors affecting implementation. This study will further provide an insight on local level realities that need to be considered during implementation planning process.

### **1.8 Limitation of the Study**

This study doesn't focus the entire implementation process rather on implementation planning. This study does not represent whole Dolpa district. It is limited on two selected VDCs based on their vulnerability and conveniences from District headquarter Dunai. This sectors are just limited on only 4 factors that's affects the implementation process of LAPA.

## **1.9 Organization of the Study**

This thesis has been organized into six chapters.

**Chapter one** presents the introduction and the background of the study, statement of the problem, significance of the proposed study, research objective, research questions methodological overview and limitation.

**Chapter two** is about the review of the existing literature, the theoretical framework, analytical framework, variables, indicators and the operational definitions.

**Chapter third** provides an overview of Local Adaptation Plan of Action (LAPA) framework, 2011 of Nepal. This chapter discussed on background of LAPA development, its guiding principles, steps involved in it and its implementation.

**Chapter four** details the research methodology of the study. It deals with the research approach, study area, sample size, sample design, source of data, and techniques of the data generation and method of analysis.

**Chapter five** is the section for data presentation and analysis. The collected data has been presented in tabular, graphical and pictorial representation. Analysis is mainly done in percentage form. It has also briefly presents the testing of hypothesis developed in chapter one.

**Chapter six** includes the summary of the entire work and the concluding remarks of the research.

## **Chapter 2**

### **Literature Review and Theoretical Discussion**

#### **2.1 Introduction**

This chapter reviews the existing literatures on concepts of adaptation, different perspectives on adaptation. Also, Local Adaptation Plan of Action related research, relevant information, ideas and concepts related to adaptation measures (activities) local level adaptation planning in the context of Nepal and other parts of the world.

There are numerous studies and research on climate adaptation policy topic but really few on the local level climate adaptation planning in context of Nepal. Even fewer studies in the effectiveness of planned adaptation measures/activities taken at local level to reduce risk and vulnerability of communities. Literature regarding the contemporary research on adaptation, planning process of local adaptation plan of action and effectiveness of adaptation options has been reviewed to have the clear overview of the subject matter.

#### **2.2 Concepts: Types of adaptation**

Adaptation is relevant in all climate-sensitive areas including agriculture, forestry, water management, public health, and disaster prevention. It may be prompted by a diverse set of current and future climate hazards, including observed and expected changes in average climate, climate variability, and climate extremes. Adaptation occurs against a background of environmental, economic, political, and cultural conditions that vary substantially across regions (Fussel, 2007).

“Adaptation is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (IPCC, 2007).

The Intergovernmental Panel on Climate Change (IPCC) defined adaptive capacity as the ‘ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages to take advantage of opportunities or to

cope with the consequences' (IPCC, 2001). For a human community, adaptive capacity is influenced by multiple socioeconomic factors apart from physical circumstances. The socioeconomic factors include technology, resources, skills and governance. Adaptive capacity also include enabling properties of both natural and societal assets, including financial, technological and information resources and the context within which these assets are held, including infrastructure, environment, political influence, social networks, public policy and institutional governance (Ensor & Berger, 2009)

Building adaptive capacity is now becoming the center of focus amongst adaptation and development communities. There is still no clarity on the direction to climate change adaptation, particularly on how it should happen and what the appropriate measures are (Regmi & Bhandari, 2013). Adaptation to climate change may be classified according to climate stimuli, system and the processes or measures of climate change. A common classification of adaptation is made according to how it occurs. Adaptation may refer both to the process itself and to the outcome or condition of adapting. Most descriptions of adaptation imply a change 'to suit' new conditions 'better'. Changes that fail to reduce vulnerability are sometimes called 'mal-adaptations'.

Adaptation processes or measures may be reactive or anticipatory, spontaneous or planned, or distinguished in other ways (Smit et al., 2000). Adaptation types (i.e., how adaptation occurs) have been differentiated according to numerous attributes (Carter et al. 1994). Scientists and researchers have identified some common typologies of adaptive action. A response may be to adverse effect or to cash opportunities and it may be a response to current, actual, or projected conditions (Smit et al. 2000, p. 203).

Two forms of adaptation are based on intent and purposefulness. They include planned and autonomous or spontaneous adaptation. According to Walker et al. (2013), planned adaptation is the result of deliberate decisions, based on an awareness that conditions might change or have changed and that action is required

to return to, maintain, or achieve a desired state. Planned adaptation often is interpreted as the result of a deliberate policy decision on the part of a public agency (Pittock & Jones, 2000). Planned anticipatory adaptation is achievable through an array of mechanisms, such as knowledge and learning, risk and disaster management and response, infrastructure planning and development, institutional design and reform, increased flexibility of sensitive managed and unmanaged systems, avoidance of poor adaptation, and technological innovation (Grasso et al., 2010).

Autonomous adaptations on the other hand, are often those that are undertaken spontaneously as routine adjustments to conditions. Such adaptations are widely interpreted as initiatives by private actors rather than by government bodies, usually triggered by market or welfare changes induced by actual or anticipated climate changes (Leary, 1999). Carter et al. (1994) define autonomous adaptation as ‘natural or spontaneous adjustments in the face of a changing climate’.

## **2.3 Literature Review:**

### **2.3.1 Related research on the LAPA implementation in Nepal**

One of the research paper published by Fatema Denton on “Climate Adaptation” compiled on Book called “International Development: Ideas, Experience and Prospects” by Alder et.al (2014) states that Participatory processes that favor the deliberate decision making have the potential to make adaptation action more sustainable and bring the diverse social group together. Focusing only on the bio-physical implication ignore the societal and cultural implication that provided the deeper understanding on how society responds to, their willingness to participate in, different climate strategies. So, it is very import to acknowledge the proper planning process in order to achieve the sustainable adaptation measures.

Poudel et.al (2013) in their research paper named “Integrating Climate Change Adaptation with Local Development: Exploring Institutional Options” states that development agencies and policy actors are experimenting with different ways to facilitate climate adaptive development at the local level. This paper has done study



on the analysis of different approaches used in local level planning to facilitate climate adaptive development. The major findings of this paper reveal that the current approach to mainstreaming adaptation in local development is institutionally fragmented and politically naive. Also, most efforts are driven by non-state development agencies, there is little political ownership and accountable mechanism to integrate adaptation with local development. It shows that local governments are either ignored or at most marginally involved in the process of local-level adaptation planning.

Tiwari, et.al (2016) in his study “Does Nepal’s Climate Change Adaptation Policy and Practices Address Poor and Vulnerable Communities?” describes LAPA- Nepal highlighted the adaptation practices and adaptation framework from national to local level. He has used both qualitative and quantitative methods in his study. His finding reveals that in some districts, communities and VDCs which were supported by projects were able to prepare the five year adaptation plans. However, it was observed that there is a big gap in institutional arrangement, capacity to implement and mechanisms for adaptation programs at local level and poor communities.

Regmi, et.al (2016) in his research paper titled “Effectiveness of the Local Adaptation Plan of Action to support climate change adaptation in Nepal” has tried to assess the impacts of the Nepal government’s efforts to promote its Local Adaptation Plan of Action (LAPA) and its applicability to other least developed countries (LDCs). The findings of his study disclose that Nepal LAPA’s has succeeded in mobilizing local community groups and institutions in adaptation planning. However he stated that LAPA approach and implementation have been constrained by socio-structural and governance barriers that have failed to successfully integrate local adaptation needs in local planning. As a result, the increase in the adaptive capacity of vulnerable households has been constrained. Also, the use of participatory approaches ensures grassroots participation in adaptation planning.

Chaudhury, et.al (2014) in his working paper “Deconstructing Local Adaptation Plans for Action (LAPAs)” states that different internal and external factors such as age and

size of LAPA, technology, local institutional arrangements, core process and environment also exert significant structural implication during the organizational design planning of LAPAs and which might hinder the delivery of their objectives. It means the improper organization planning might results into the poor implementation of the LAPAs.

Silwal (2016) on her master's thesis work titled "Local Adaptation Plans of Action (LAPAs): An analysis of approaches to planning for climate change in Nepal" has done her research work on different types of approaches under taken by different organization on planning the LAPA. She has used the qualitative method of in-depth interview in her research work. The research finding revealed that there was a grater ownership and acknowledgement of the resulting plan only when the implementing agency at local level has an authority and ability to mobilize the necessary resource and make a decision. Study further had picked out few challenges of the LAPA survival such as inadequate knowledge and capacity on technical aspects and the lack of a clear coordination mechanism at all levels in terms of adaptation planning.

### **2.3.2 South Asian Context**

#### **Pakistan**

(Shahid & Piracha, 2016) in their research paper titled "Awareness of Climate Change Impacts and Adaptation at Local Level in Punjab, Pakistan", wanted to see the awareness of climate change impacts among the local planning officials in Punjab, Pakistan. Researcher has used quantitative method for this research work by taking a sample size of 150 local officials of union, using structure questionnaire. This study reveals that local officials at union level are have a very low level of education and are poorly trained. These officials are unaware of the Himalayan Glaciers melting due to climate change. Local officials are ill-equipped to prepare any climate change adaptation plans to reduce future flooding or climate related risks.

Ali & Erenstein (2017) on their research paper "Assessing farmer use of climate change adaptation practices and impacts on food security and poverty in Pakistan",

want to investigate the factors influencing the use of climate-change adaptation practices among farmers. This methodology used was quantitative with different models. The findings revealed that the number of adaptation practices used was found to be positively associated with education, male household heads, land size, household size, extension services, access to credit and wealth. Farmers adopting more adaptation practices had higher food security levels (8–13%) than those who did not, and experienced lower levels of poverty (3–6%).

## **India**

Dhanapal(2014) on this paper titled “Climate adaptation in India” states that, measuring adaptation is difficult but the vulnerability is the function of adaptive capacity and it can be used as an indicator to measure success of adaptation. Moreover, it is stated that Implementation of State Action Plan on Climate Change (SAPCC) i.e. a set of strategies for adaptation and mitigation at the subnational and local level, will succeed only if the local stakeholders are adequately trained and the preparation of adaptation plans is done in a participatory manner.

Kattumuri et.al (2015) on this article “Local adaptation strategies in semi-arid regions: study of two villages in Karnataka, India” wanted to know the current adaptation strategies adopted by rural households in two dry land villages and the adequacy of adaptation strategies was assessed. His finding revealed that current adaptation measures taken were not adequate to cope with existing climate risk. He urged the urgent need to better understand current adaptation strategies and to enhance resilience, and to develop structured adaptation strategies to cope with the risks associated with current and long-term climate change.

## **Bangladesh**

Ayers,et.al (2013) on their paper named, “Mainstreaming climate change adaptation into development: a case study of Bangladesh” wanted to explore the process of mainstreaming climate information, policies and measures into ongoing development planning. Researcher has used qualitative method of study by using

case studies. The findings revealed that framework use by researcher is useful for considering some of the preconditions necessary for getting mainstreaming underway; experiences of mainstreaming in Bangladesh reflect a much more complex patchwork of processes and stakeholders that need to be taken into consideration in further research on this topic.

### **Synthesis from literature review**

From the above literature we know that, the approach used in implementation planning process of adaptation done in local level is very important. And the current approach followed at local level is fragmented. So, it is very important to study on the adaptation implementation planning process at local level. Also many studies done in the different nation reveals that there are few works done in the local level for adaptation and there is a need of better strategy. Moreover, many studies are more focused on impacts of climate change and its effects than from the perspective of implementation of adaptation. Also there are different types of factors that affect the implementation of adaptation action at local level such as institutional, social and cultural factors.

### **2.4. Theoretical perspective**

Different theories and models are used for studying the planning process and approaches at local level in case of climate adaptation and implementation. For the planning process here, the researcher has revised three approaches namely: top-down, bottom-up, hybrid and integrated model of implementation. Also in order to trace out the various gaps between policy and practice i.e. (for evaluating the implementation status), here the researcher has discussed various implementation theories.

#### **2.4.1 Top-Down Approach**

The top down approach in policy implementation concerns with the clear-cut system of command and control from government to the project, which concerns the people. In general top-down implementation is the carrying out of a policy decision –

by statute, executive order, or court decision; whereas the authoritative decisions are centrally located by actors who seek to produce desired effects (Matland, 1995). Strength of the top-down approach is that it seeks to develop generalizable policy advice and come up with consistent recognizable patterns in behavior across different policy areas (ibid). But top-down approaches are criticized for only taking statutory language as a starting point. The critics of top down approach, viewed policy implementation form the bottom up perspective.

The top-down approach to adaptation, sometimes known as an 'impacts' approach, is historically dominant one. The focus of top-down assessment is typically to evaluate the likely impacts of climate change under a given climate scenario, or range of scenarios, and to assess the efficiency of adaptation measures to reduce negative projected impacts or exploit potential opportunities (Carter et al., 2007).

Impact approach of planning is usually themed around certain impact types, e.g. flooding or drought. The potential consequences for society of those impacts identified (e.g. damage to people and property, etc.), are usually less thoroughly studied, but are sometimes estimated by reference to past and present experience of similar events, or through scenario exercises. Adaptation options (e.g. flood walls, crop rotation) can then be proposed in order to help reduce the specific impacts and/or consequences identified, and these options can then be assessed for efficiency by re-running the impacts approach with the different proposed adaptation an intervention in order to investigate which shows the most potential for reducing impacts and consequences.

Partly due to its dominance as an approach within the IPCC reports top-down assessments make up much of the available literature on climate change threats and opportunities and are likely to be a valuable source of information on the broad picture of the types of impacts which may be experienced in a given region, and which might affect a particular sector. This approach tend to provide information on whom or what will be most exposed to climate change hazards, but is weaker on the

social and institutional factors that define much of a systems sensitivity to climate hazards(Brown, 2011).

#### **2.4.2 Bottom-up Approach**

In the late 1970s and early 1980s, bottom-up theories emerged as a critical response to the top down school (Treib and Helga, n.d). Theorists suggested studying what was actually happening on the recipient level and analysing the real causes that influence action on the ground (ibid). Bottom-up designers begin their implementation strategy formation with the target groups and service deliverers, because they find that the target groups are the actual implementers of policy (Matland, 1995). Bottom-up approaches do not present prescriptive advice, but rather describe what factors have caused difficulty in reaching stated goals (ibid). It is significant that strategies are flexible so that they can adapt to local difficulties and contextual factors.

However, both the top-down and bottom-up approaches of policy implementation couldn't be remained critic free. As a result researches on policy implementation began combining the approaches and synthesize them looking for mixed approach mainly called hybrid theories.

The participatory approach advocates the principle of public participation in any decision making process and consider that an enhanced outcome can be achieved if planning is participatory and communicative with local participants and stakeholders (Lake & Zitcer, 2012). This approach states that facilitation and participation is driven from community level and empowers local communities in decision making during planning process. This approach is often referred to as "bottom-up" or "community-based" planning (Portman et al., 2013). Current planning models reflect a growing recognition of, and use of, participatory approaches.

Mearns and Norton (2010) contend that the issues related to climate change policy can be better dealt with using a participatory approach. Burton and Mustelin (2013) further add that public participation is important in planning for climate change

adaptation. Sometimes meaningful public participation is complex due to the uncertainty of climate science as well as political engagement. Moreover, research finding done in Nepal by Ojha et al. (2015, p. 14) is that “the technocratic, top-down, and aid-driven adaptation policy is not sufficiently capable of capturing locally specific – and often contested – realities of biophysical change, social dynamics, and the vulnerability of people on the ground”. Ojha et al. (2015) therefore emphasizes the importance of community voices and representation for a fair and equitable response to climate risk.

### **2.4.3 Hybrid Theories**

As a reaction to growing uneasiness with the heated debate between top-downers and bottom-uppers, researchers such as Elmore (1985), Sabatier (1986a), and Goggin et al. (1990) tried to synthesize both approaches (Helga and Treib, n.d). The new models presented by these scholars combined elements of both sides in order to avoid the conceptual weaknesses of top-down and bottom-up approaches (ibid). Increasingly, the literature has focused on combining (micro-level variables of) bottom-up and (macro-level variables of) top-down approaches in implementation research in order to benefit from the strengths of both approaches and enable different levels to interact regularly (Matland, 1995). What is overlooked by advocates of a synthesis of top down and bottom-up approaches are the fundamentally different views of both sides on the proper conceptualization of the policy process and the legitimate allocation of power over the determination of policy outcomes in the light of democratic theory (Helga and Treib, n.d).

### **2.4.4 The Winter’s Integrated Implementation Model**

From the democratic point of view, Soren C. Winter, a Danish scholar introduced a useful model – The Integrated Implementation Model- in 2003 by integrating both the top down and bottom up approaches of policy implementation. According to Winter (2003), “As a dependent variable and standard for evaluating the results of implementation process, the model focuses on both implementation behavior (outputs) and outcomes in relation to the official policy objectives. This standard is

selected from the democratic point of view, as goals formulated in legislature and in laws have a particular legitimate status and are relevant for holding government account” (Winter, 2003). This integrated model provides a comprehensive factor affecting implementation result- performance and outcome of a policy. This model unpinned the general clue that implementation result is affected by implementation process which gets affected by the formulation and design of the policy itself, as depicted by the figure below:

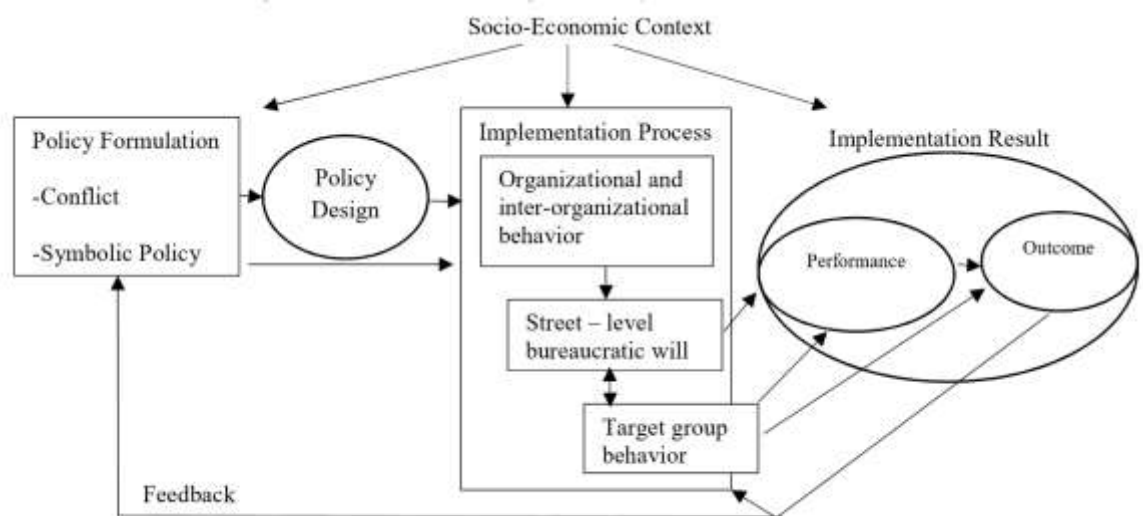


Figure 2.1: Winter's Integrated Implementation Model

*(Source: Derived from-Winter, S.C., (ed.), 2003. Implementation. The sage handbook of public administration)*

According to this model implementation result i.e. implementation performance and outcome depends upon implementation process which are characterized by three clusters of variables: organizational and inter-organizational behavior, street-level bureaucratic will/interest and target group behavior.

Winter (2003) states that implementation processes are characterized by organizational and inter-organizational behaviors that represents different degree of commitment and coordination. Another factor in implementation process is street-level bureaucrat's will in implementing policy. Street level bureaucrats are the public officials who come in contact with the citizen in day to day work. Winter (2003)



argued that street level bureaucrat makes important discretionary decisions in their direct contact with citizens, who tend to define public policies not as crafted in statutes but as delivered to them by street level bureaucrats. The other variable in this model is target group of the public policies i.e. citizens or firms. According to the integrated implementation model, Winter (2003) stated that the target groups of public policies play an important role, not only on the effect of the policy but also in affecting the behaviors by street level bureaucrats, through citizens positive or negative actions in co-producing public services. Finally the implementation result of the policy is affected by the socio economic context and the policy formulation and design.

#### **2.4.5 Van Horn's and van Meter Theory**

Donald Van Meter and Car Van Horn have developed the systematic and structured framework of policy implementation which provides the flow for the reader. It also has provided the opportunities to the policy maker to add the required variable if necessary during the policy making process and analysis to analyze the different variable of policy implementation process and find their relationship. The policy implementation framework provides an idea about the interrelationship between the different factors involved between the policy formulation and policy performance within the organizations

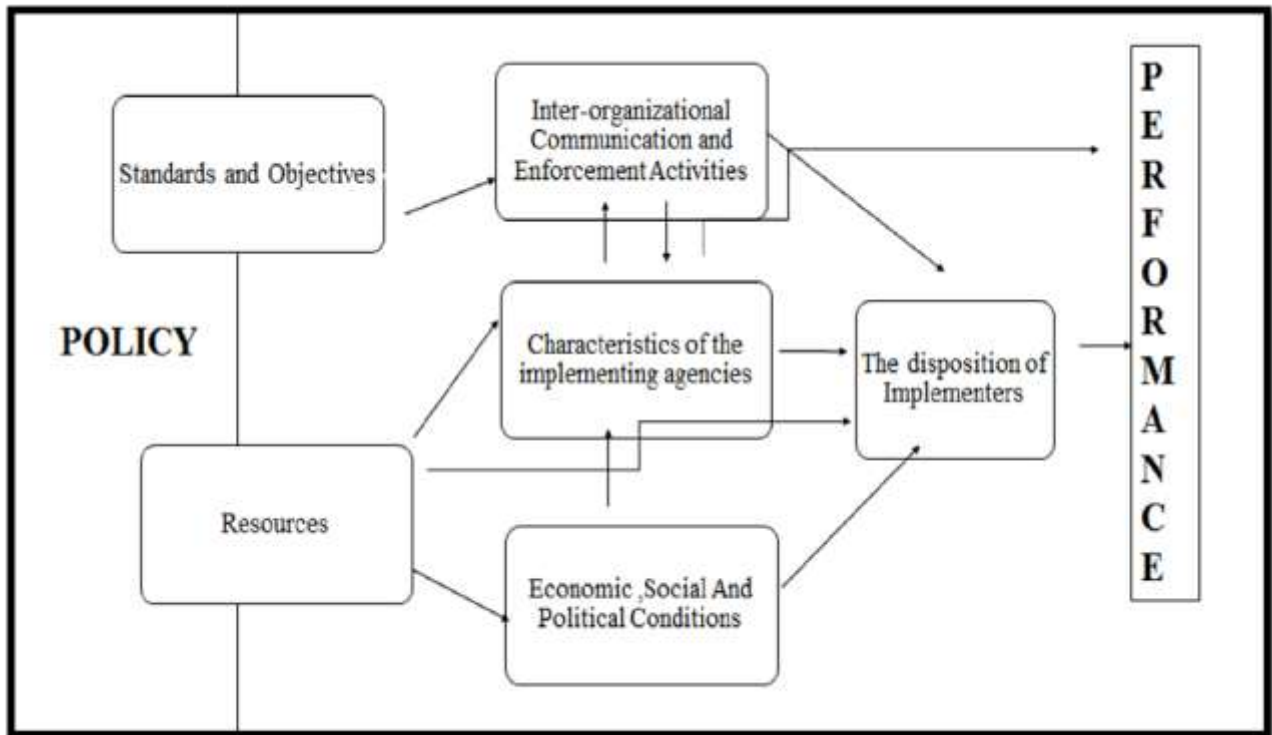


Fig2.2 : Model of Policy Implementation Process

(Source: Van Meter & Van Horn, 1975)

The six factors model which is present in this article is universally accepted model and can be used within, among or between any organizations. Even this framework serves as a guide for the upcoming researcher to find out the more variables and their interrelationship which result into the better performance. And these six factors are explained below:

**a. Policy Standards and Objectives**

Van Horn and Van Meter focused in the factors that determine the performance of the policy for which the identification of the indicators is an essential stage in the analysis. This is because the performance indicators access the extent to which the policy standards and objectives are realized. If the nature of goal is complex and even the policy standards and objectives are value then it is difficult to measure the policy performance.

## **b. Policy Resource**

The second factor of the Van Meter/Van Horn model explores the policy's resources including funding appropriations; technical assistance offered in the program might result into the effective implementation of framework. If the policy's funding is left ambiguous, it may indicate that agencies must use their own resources or find other sources. Successful implementation of the policy depends on the ability to utilize available resources. Human resource is the most important in determining the success of policy implementation.

## **c. Inter organizational communication and enforcement activities:**

The proper communication and co-ordination is important within and between organizations. Communication plays the vital role for effective implementation of the standards and objectives which are set. So there is a need of accurate and consistent communication of set objectives and standard among and between the staff of the organization to get the efficient performance within the organization. If there is no clearness and consistency and uniformity to a standard and policy objectives, then it becomes difficult policy objectives to be achieved..

Van Horn and Van Meter point out that in inter-organizational relation, two types of enforcement activities are important. They are: 1) provision of the technical advice and the assistance; and 2) normative, remunerative, and coercive power. They believe that the use of the normative and the remunerative powers seeks to influence policy implementers through the socialization, persuasion and participation. They will try to cultivate allies at the implementation level and implement their policies willfully. Authors have pointed out about the sensitiveness of coercive power in the enforcement activities. The use of the coercive power can be made for the check and balance of enforcement activities depending upon the conditions specified as per the policy standards and objectives.

#### **d. The characteristic of implementing agency**

According to Van Horn and Van Meter, There are different characteristics of the implementing agencies which affect the policy performance such as size of the agency's staff, degree of hierarchical control, office political resources, degree of open communication, agencies formal and informal linkages within the policy making and policy enforcing body.

#### **e. Social, economic and political conditions**

Van Hon and Van Meter had described that rather than the impact of social, economic and political factors on policy implementation, these factors effect hugely on the performance of implementing agencies. Economic conditions affect the availability of financial and non-financial resources required to implement the law. For instance, recessions and consequent budget cuts force agencies to be frugal and creative. Prevailing ideologies help define a political or social climate in the public sphere.

#### **f. Disposition of implementers**

The sixth variable in the Van Meter/Van Horn model evaluates the disposition of implementers as the nature of implementers including his or her cognitive ability and willingness to understand the policy, his or her technical expertise, his or her level of support for the policy, and values like efficiency, effectiveness, equity, ethics, and empathy. For successful implementation, three elements of the implementer's response are necessary to define. It consists of three indicators. They are: cognition (comprehensive understanding), direction of response (acceptance, neutrality and rejection), and intensity of response. Writers are more concerned with the implementers understanding about the standards and objectives of the policy because it decides the success or the failure of the policy. Successful implementation may be frustrated when officials are not aware that they are not in full compliance with the policy

## Synthesis of Theoretical Framework

For the seeing the authority and participation researcher have recognized top down and bottom-up approaches of implementation. As the Local adaptation plan of Action (LAPA) was claimed as a bottom-up approach but the LAPA aims to fulfill the first objective climate change policy and National Adaptation Programme of Action (NAPA). Both Policy and NAPA follows top-down approaches. For looking the factors affecting implementation of the LAPA framework used by NCCSP, researcher has chosen Van Horn and Van Meter Theory and winter's Integrated Model of policy implementation.

### 2.5. Analytical Framework

The developed analytical framework for my research is presented below:

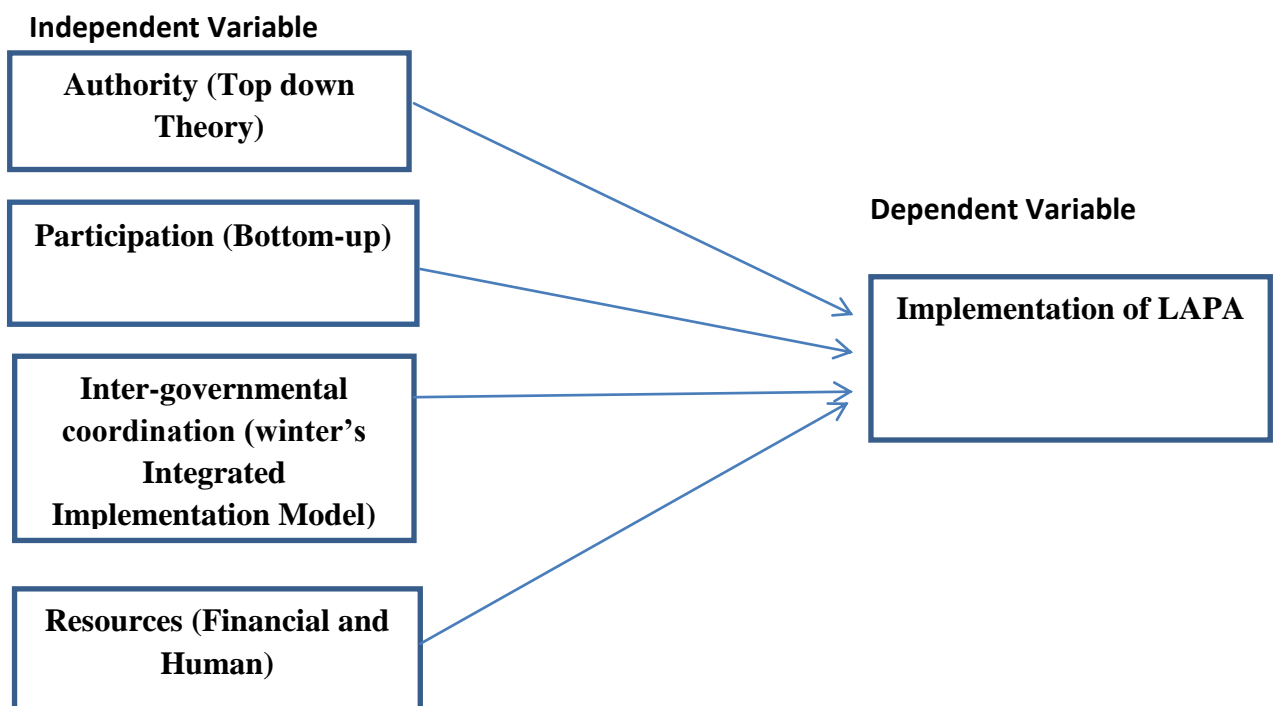


Fig2.3: Diagram of Analytical Framework

## 2.6 Variables and indicators:

Table 2.1: List of Variable and Indicators

Independent Variables	Indicators	Dependent Variables	Indicators
Authority of local level beaurocrats	<ul style="list-style-type: none"> <li>• Implementation of policy, rules and regulations</li> <li>• Mobilization of resources</li> </ul>		<ul style="list-style-type: none"> <li>• People satisfaction</li> </ul> (locally identified CC problems, nature of immediate, urgent and long term plans of vdc and nature of livelihood options)
Participation	<ul style="list-style-type: none"> <li>• Nature of participation</li> <li>• Composition of participation</li> <li>• Female Participation</li> </ul>		
Inter organizational Co-Ordination	<ul style="list-style-type: none"> <li>• Flow of information to local stakeholders</li> <li>• Communication with district level</li> </ul>		
Resource	<ul style="list-style-type: none"> <li>• Capacity</li> </ul>		

(Human Resource)	<ul style="list-style-type: none"> <li>• Expertise</li> </ul>	<b>Implementation of LAPA</b>	
(Financial Resource)	<ul style="list-style-type: none"> <li>• budget allocation for each adaptation activities</li> </ul>		

## 2.7 Definition of key terms

### Implementation of LAPA

The implementation of LAPA is very crucial at the local level to reduce the vulnerability and increase the resilience capacity. Here I have taken the nature of locally identified climate change problems, nature of immediate, urgent and long term plan and livelihood options of VDC in order to see the implementation outcomes of LAPA at local level.

### Authority

I have defined authority as the power hold by the village climate change and energy unit officer to mobilize the resources by him/her. And the rules, regulations and policies are implemented in local level of not. This variable will try to fulfill the second objective of research as weather it affected the implementation of LAPA at local level.

### Participation

Here, I have defined participation as the involvement of the villager and composition of local level stakeholders and ratio of female participation in implementation planning of adaptation activities of their village.

### **Inter Organizational Co-ordination**

The proper flow of information from the local authority to general people and concerned other stakeholder during the implementation planning is very important as it can alter the rate of implementation at local level. Also the proper communication between the local and district level is crucial or the implementation of any framework and policies. Thus these two indicators are taken under this independent factor.

### **Resources**

The availability of resources helps to achieve goals of the program. When resources are supposed to be available, implementers may take the program with added favor and they may be encouraged by the hope of receiving and sharing of these resources (Van Horn & Van Meter). Here, the resource means the financial and human resources.

### **2.8 Chapter Conclusion**

This chapter explained a detailed discussion on related concepts, terminologies, and literature review regarding implementation planning of LAPA. The literature review also reveals the necessity of proper study on the planning approach for local adaptation. Relevant approach, framework and models of local adaptation and implementation were discussed. Moreover, the dependent and independent variables are developed on the basis of theory. Finally an analytical framework has been developed in order to set a base for analysis.



## **Chapter-3**

### **An Overview: Local Adaptation Plan of Action (LAPA) Framework in Nepal**

#### **3.1 Introduction**

This chapter attempts to discuss an overview about the Local Adaptation Plan of Action (LAPA) in Nepal. Till date the Government of Nepal is able to prepared climate change policy and implements the LAPA at local level. Therefore, there should be a clear understanding about the LAPA framework before analyzing the factors affecting implementation of LAPA at local level.

#### **3.2 Background on LAPA Development in Nepal**

Nepal, in 2010, became the 45th LDC to develop and submit its NAPA to the UNFCCC with an estimated total cost of USD 350 million spread over six thematic groups and two cross-cutting themes. Although a late adopter of the NAPA, Nepal benefited from the experiential learning of previous NAPAs. However, early on in the Nepal NAPA development process, the national planners recognized the limitations NAPA represented with its broad top-down estimation approach of national needs, mimicking global plans (Baral.et.al., 2014). Such top-down plans are often generalized to have broader appeal but fail to adequately capture local-level needs. Climate change disproportionately impacts communities depending in part on the geographic location, local coping capacities and resource availability. Since these impacts can dramatically change from one village to the other, NAPA was considered ill-equipped to cater for meeting local needs.

During the Nepal NAPA consultation process, suggestions were made by participants to localize NAPA and the idea of a Local Adaptation Plan for Action (LAPA) emerged. LAPA, as its name suggests, supports the operationalization of the policy objectives outlined in the NAPA, by facilitating the integration of “climate adaptation activities into local and national development planning processes and to create a situation for climate-resilient development” (GoN, 2011, p. 6). In 2011, the Government of Nepal (GoN) approved the National Framework on LAPA, thus becoming the first country to

formalize LAPA as a national planning framework. LAPA is considered as Nepal’s answer for bottom-up institutionalized planning that aims to capture community needs at the lowest level of official governance and to direct resources to where, when and by whom these are needed.

### 3.3 Guiding Principle of 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.

Table 3.1: Guiding Principles for LAPA Framework

Bottom-up planning	Bottom-up planning refers to planning processes that start with local people and organizations and then link to local administrative scales. The adaptation plans are then fed into higher administrative planning scales. In the context of Nepal’s move towards decentralization, this bottom-up process of planning starts at the level of the household and then Ward. Local people’s needs are prioritized and put into a plan of action at the VDC level. A bottom-up process to adaptation complements national-level adaptation planning by providing a finer resolution to adaptation needs – it is able to focus in on location specific adaptation.
Inclusive	The term inclusive refers to the need to include a diverse range of people (men and women of different ages, caste or ethnicity) as decision-makers in integrating climate change resilience into planning processes. These decision-makers include the most vulnerable communities and those that will provide adaptive services to these communities. By being inclusive the LAPA framework aims to:  1. Facilitate dialogue between diverse stakeholder groups. Such a process is better suited to making decisions in the context of

	<p>uncertainty.</p> <p>2. Enable better articulation of adaptation priorities and more realistic implementation.</p> <p>3. Bring national and local level decision-makers to the same platform.</p> <p>4. Enable to understand and articulate the gender differentiated impacts of climate change and options for mitigating it and take actions to address the gaps</p>
Responsive	<p>The term responsive refers to the need to ensure that planning processes build the resilience of the most climate vulnerable communities and households first. Responsiveness also ensures that planning processes address the specificity of current and future climate change impacts. The LAPA vulnerability and adaptation assessment framework operationalizes this attribute</p>
Flexible	<p>The term flexible refers to the ability of planning processes to be iterative in their approach, that is, decision-making and implementation frameworks are able to constantly respond to changing circumstances and information. Flexibility in planning processes enables better planning in the context of climate change induced uncertainty. Flexibility will also be exercised on administration, management and financing of adaptation initiatives. The LAPA M&amp;E framework operationalizes this attribute</p>

(Source: Government of Nepal, 2011)

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 center 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 refers 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.

### **3.4 Steps involved in Local Adaptation Plan of Action framework**

The LAPA Framework consists of seven steps for integrating climate change resilience into local-to-national planning processes.

The steps involved in preparing and implementing local adaptation plans for action according to GoN, 2011 are shown in Figure 2 and include:

1. Climate change sensitization
2. Climate vulnerability and adaptation assessment
3. Prioritization of adaptation options
4. Developing Local Adaptation Plans for Action
5. Integrating Local Adaptation Plans for Action into planning processes
6. Implementing Local Adaptation Plans for Action
7. Assessing progress of Local Adaptation Plans for Action

### **3.5 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

### **3.6 Chapter Conclusion**

This chapter provided the basic information on Local Adaptation Plan of Action (LAPA) framework, 2011. This chapter revealed that LAPA must be bottom up, i.e it means local people's participation is very important during the implementation planning process of local adaptation plan. Likewise, effective participation of stakeholders during both formulation and implementation is crucial.

## **Chapter 4**

### **Research Methodology**

#### **4.1 Introduction**

The objective of this chapter is to deliver the methodology used in this study. Methodology is generally a guideline system, for solving a problem, with specific components such as phases, tasks, methods, techniques and tools. It is the study or description of methods. A research methodology defines what the activity of research is, how to proceed, how to measure progress, and what constitute success of research plan.

#### **4.2 Research Plan**

It is very important to reach out the researchable topic while making the research plan. The current problem within the context of policy and governance was looked where the implementation process was found to be the problematic issue for the society, politics and administration in common. Implementation is known as the measure to reduce the malpractices in public policies and various aspects of governance.

Therefore, to work on this issue the topic “Assessment on Implementation planning process of Local Adaptation Plan of Action of Dolpa District” was selected for the thesis; adopting a of research with reference to Likhu and Raha rural municipalities of Dolpa District(an overview is provided in the later section).

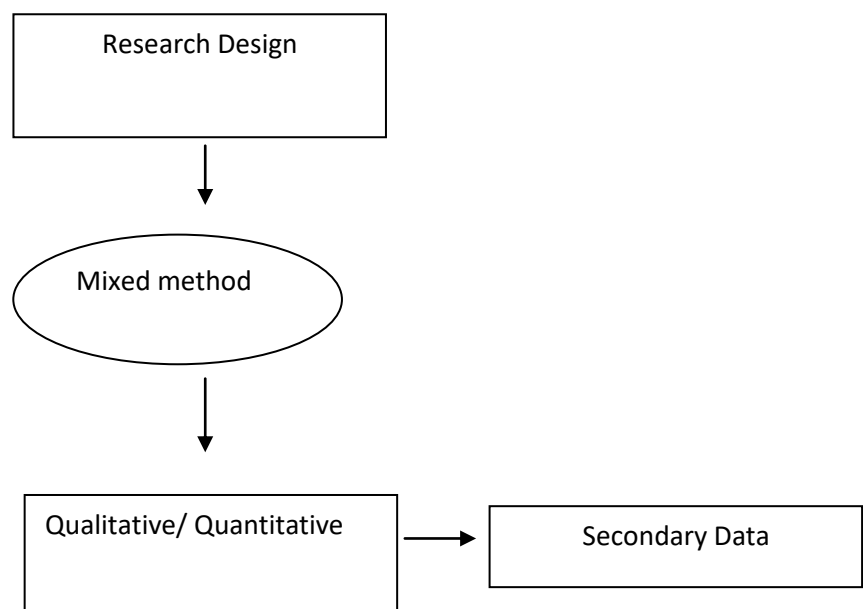
#### **4.3 Research Design**

As this study has intention to find out the participation on local adaptation implementation planning process and factors affecting implementation, mixed method is appropriate to fulfill its objective. In order to carry out this research, both qualitative and quantitative methods are used. In order to examine the planning process of local adaptation to climate change of LAPA, it is important to follow a research methodology that could provide descriptive information from the

experiences and knowledge of those involved in the process. It is also necessary that the research methodology allowed an in-depth study and understanding of the context within which actions occur. Such an approach is common in qualitative research. According to Jackson, Drummond, and Camara (2007) qualitative research can draw on in-depth responses to questions and emphasize interpretive aspects of knowledge and experience, as opposed to quantitative research which has less scope for open-ended responses to questions and has more focus on numerical expressions. Therefore, a qualitative approach will be considered appropriate for this research due to the explorative nature of research question to address the first objective of the research.

According to Simons (2009), interviews, observation, and document analysis are the most commonly used data collection methods in case study research. These will be considered appropriate for this study because of the types of data needed to know the process of local adaption plan formulation. Focus group Discussion will be conducted in one of the rural municipality in order to know the opinion of the people involved in the adaptation planning process.

But in order to justice the second objective of the research, quantitative approach of research method is followed. To study the factors affecting implementation, well-structured questionnaire survey will be carried out to know the satisfaction level and knowledge of beneficiaries along with the supporting findings from case studies, KII and FGD.



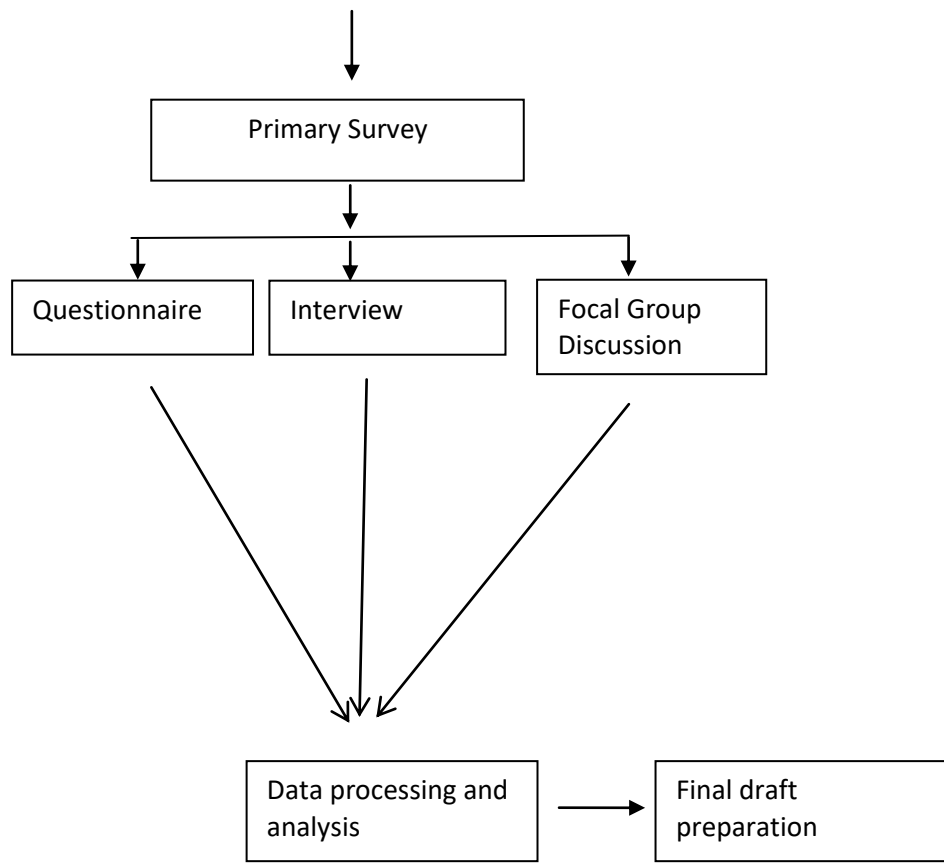


Fig 4.1: Proposed Design for Implementation Planning process of LAPA

#### **4.4 Research Strategy**

The research strategy used in this method is case oriented method. A case study is an empirical inquiry that investigates contemporary phenomenon within its real life context, especially when the boundary between phenomenon and context are not clearly evident (Yin 2003). This study attempts to invest the assessment of implementation of Local Adaptation Plan of Action Framework by taking two specific VDC of Dolpa i.e. Likhu and Raha .

#### **4.5 Unit of Analysis**

My unit of analysis is Likhu and Raha Vdcs of Dolpa District. These VDC's are selected on the basis of its high vulnerability which is explained further in research area overview below. Likhu and Raha VDC are selected on the basis of its vulnerably and



convenience. As out of all other five VDC where LAPA was implemented was far away from the District Headquarter Dunai. So, the Likhu was in walking distance of four hours and Raha in walking distance of 8 hours from the Dunai. So, due to the geographical inconvenience to reach on other vdc, these two vdc are selected on the basis of its convenience and vulnerability.

#### 4.6 Research Area: An Overview

I have chosen Dolpa Districts for my research work. Total of six VDC and one municipality has implemented LAPA. Among which I will be conducting my research in two VDCs named Raha and Likhu VDC. I have selected this District for my research work as it is one of the Districts which are highly vulnerable to climate change (Ministry of Environment, 2010).

Table 4.1: Climate Change Vulnerability of Dolpa District

Name	Areas	Ranking
Adaptive Capacity	Socio-economic, technology, infrastructure	Very-low (0.521-1)
Vulnerability	Rainfall & temperature	High (0.452-0.640)
	Ecological Vulnerability	Very High (0.532-1)
	Landslides	High (0.630-0.786)
	Drought	High (0.515-0.759)
Overall Vulnerability		High (0.601-0.786)

(Source: Ministry of Environment, 2010)

As we can see above table that the adaptive capacity of the Dolpa District is very low in terms of socio-economic, technology and infrastructure. It is highly vulnerable in

term of change in rainfall & temperature patterns, landslides and drought. Moreover, Dolpa is very high in terms of ecological vulnerability. Thus, this makes me to choose this District to undertake my study. Also, two VDCs of Dolpa are those VDC's among 100 VDC in which National Climate change Support Program (NCCSP) has implemented its local adaptation measures under the LAPA framework. Dolpa District has population of approximately 30,000 and majority of population depends on agriculture (79%) (CBS, 2011). The VDC which has been selected in order to carry out this research has been mentioned below with its demographic features.

Table 4.2: Description of study area

Site/Location	Likhu VDC	Raha VDC
Population	2206	923
Households	415	190
Literacy Rate (%)	54.91%	62.79%
Male	74.01%	76.17%
Female	46.11%	48.27%
Caste/Ethnicity	Chhetri (69.6%), Brahmin (0.67%), Magar (21.3%), Kami (5.03%), Damai (1.31%), Sanyasi (1.3%) & Others (0.8%)	Chhetri (90.3%), Kami (6.8%), and Others (2.8%)
Principle Climate Hazard	Drought, irregular monsoon pattern, biodiversity lost, etc	Drought, irregular monsoon pattern, etc

(Source: CBS, 2011)

#### 4.7 Sampling Method

For the purpose of the study a non-probability sampling design in the form of a purposive sampling method was adopted and considered to be appropriate to gather the data.

Purposive Sampling (Interview and FGD)-The purposive sampling method was used in order to gather the information regarding the bottom-up approach and factors affecting implementing of LAPA. And this method was used to collect information through focal group discussion and key person interview regarding the implementation planning and factors affecting LAPA implementation. Similarly, the purposive sampling is used for the Questionnaire prepared in order to know the people's satisfaction on LAPA implementation. For this, only those participants who were involved in the LAPA planning phase were considered as a sample.

##### 3.7.1 Study Population and Sample Size

Table 4.3: List of the respondent types and sample size

Group	Types of Respondents	Study Sample	Information Method
District Level	DEECC Unit officer	1	Interview
Community Level	VEECCC	2	Interview
	Attendee of LAPA planning process in VDC	10	FGD
Community Level	Beneficiaries of LAPA	34+16=50	Questionnaire Survey
<b>Total: 63</b>			

#### **4.8 Data Collections Tools and Techniques**

In order to collect the primary data, Questionnaire Survey, Key Informant Interview and Focal Group Discussion were used as a techniques and tools to justify the objectives of the study. Whereas for the secondary data were collected from the study of various journal articles, reports, books and published documents of the ministry.

##### **i. Questionnaire Survey**

Questionnaires are a very convenient way of collecting useful comparable data from a large number of individuals. In this regards, the given study has been carried out by using questionnaire survey as the main source of primary data collection. The structured questionnaire was made including both open and closed ended question for beneficiaries was set order to obtain the required information on nature, composition and female participants and factors affecting implementation of LAPA. The opinion survey is very important to gather the information from the public regarding the LAPA implementation.

##### **ii. Key Informant Interview**

Interview is very important to gather information on the public administration issues. Interview was taken from the secretary of village environment and energy climate change committee of both Likhu and Raha VDC in order to gathers the importation regarding the implementation of LAPA. Also the district officer was interviewed to know his insights regarding LAPA implementation of Dolpa District. At first phone call dates were fixed and the face to face interview was taken by visit the research area. Also, in between several times call inquiry on the missing information was taken.

##### **iii. Focal Group Discussion**

Focus Group is a type of in-depth interview accomplished in a group, whose meetings present characteristics defined with respect to the proposal, size,

composition, and interview procedures (Mishra, 2016). The focus or object of analysis is the interaction inside the group. The participants influence each other through their answers to the ideas and contributions during the discussion. So, the focal group discussion was conducted on the two VDC in order to know about the LAPA implementation planning and factors affecting its implementation. The participant involvement in FGD was representatives from VEECCC, female groups and participant who were involved during the LAPA planning process.

#### **4.9 Instrumentation**

Instrumentation can be basically explained as the tools used in data collection and analysis. Despite the Key Informant Interview, Focus group Discussion, the major tools used in data collection was questionnaire. There was one set of questionnaire instrument designed to seek information on authority, participation, resources, inter organizational coordination and perceptions on nature of locally identified climate change problems, adaptations plans and livelihood options from beneficiaries was taken, which mainly includes 15 broad questions, containing multiple statements in each questions.

##### **4.9.1 Likert Scaling**

Likert scaling is developed in 1932 by Rensis Likert in order to measure attitudes, the typical Likert scale is a 5- or 7-point ordinal scale used by respondents to rate the degree to which they agree or disagree with a statement (Sullivan & Artino, 2013).

For this study questionnaire was used, for which a series of five Likert-type items were (attempted to) developed and are used to measure respondents' attitudes to a particular question or statement in regards of implementation of LAPA. The Licker scale – 1) Strongly Disagree, 2) Quite Disagree, 3) Partly Agree, 4) Strongly Disagree, and 5) Don't Know were prepared in order to carry out the study.

#### **4.10 Challenges and Ethical Considerations**

Challenges were faced while collecting data from secondary sources. The available reading materials were still focused on concepts of LAPA rather than research oriented. There was no in depth study (as mentioned in research gap) and the materials were, somehow, insufficient to explore the implementation of LAPA particularly at the local level.

Also the major challenge was the geographical challenge to reach the research area and the availability of the respondent at the local level. So, to take the key informant interview to the chairperson of VEECCC, I had to visit district headquarter again, though the prior information was made to them.

My respondents were bit skeptical but I assure them by letting them know that their identity will be kept secret and this information will be used solely for my academic purpose, they were convinced to provide me information. The letter of request given by the university was shown in the process of convincing the authority regarding their opinion on implementation of LAPA. Also, prior to the data collection process of rapport building was followed with the respondents; they were informed about the issue of research in oral as well as in written (in questionnaire). Consent was taken from concerned while using the audiovisual materials during the survey and its purpose were mentioned to retrieve information during the analysis phase.

#### **4.11 Chapter Conclusion**

This chapter provided the detailed methodology to be followed for this study. It gave and overview from the beginning to analysis highlighted the research approach, provided overview of research area, data collection procedures and question construction for the survey.

## **Chapter-5**

### **Data Presentation and Analysis**

#### **5.1 Introduction**

This chapter presents collected data on the basis of which analysis and interpretation has been done. The data was collected by the researcher using the questionnaire survey, interview, and focal group discussion methods. In order to achieve the objectives of the study, the perception of local and district level bureaucrats towards LAPA implementation was analyzed. Then the findings of the dependent variable and independent variable were discussed sequentially with some of the relevant analysis with the help of data table, literatures review, and FGD method during the Interview. Finally, critical analysis was been made on the collected data to find out the linkage between dependent variable and independent variable.

In total of fifty questionnaires were distributed along the Likhu and Raha Vdc of Dolpa District. Respondents who have difficulty in reading and writing were assisted for the form fill-up and those who were able were requested to fill by themselves. Respondent those who have never heard about the climate change and local adaptation plan of action were let to escape from the further engagement with the questionnaire. Those who were aware of local adaptation plan of action were taken into the account to fill the questionnaire. This chapter primarily deals with the discussion of survey results, discussion and interactions, and reflecting the dependent and independent variables of the study. This chapter begins with the demographic highlights of the respondents.

#### **5.2 Climate change problem, plans and livelihood options in Dolpa District**

In order to assess the information regarding the implementation of Local Adaptation Plan of Action, which is my dependent variable, of the Likhu and Raha VDC of Dolpa districts, focal group discussion were done, series of interactions with ward level

authority and people’s perceptions were taken to verify the analysis was nature of climate change problems, plans and livelihood options of Dolpa District.

### 5.2.1 Locally identified Climate change problems

According to Local Adaptation Plan of Action Framework, 2011, the problems or issues rose in a community due to climate change and most important climate affected sector must be locally identified. And the LAPA prepared in the Likhu and Raha VDC suggests that the mostly affected problems are drought, agricultural mosaic and landslides. Now let’s see the people’s view on most affected sectors in their vdc along with their satisfaction level on the locally identified climate change problems.

Table5.1: Locally identified sector mostly affected due to climate change

Sector Affected	Frequency	Percent (%)
Agriculture, livestock and food security	14	28
Forest and bio diversity	19	38
Climate Induced Disaster	2	4
Water Resource and Energy	8	6
Livelihood and Governance	1	2
All of the above	6	12
Total	n =50	100

(Source: Field Survey, 2017; n=50)

**Locally identified climate change sector** on both VDCs is presented in above table. The majority of respondents (66%) suggested the mostly affected sector for them is forest and biodiversity which counts 38% and agriculture, livestock and food security which counts 28%. The most surprisingly they stated that the least affected area as livelihood and governance which counts 2%, it might be because they couldn’t relate the climate change problems and their impacts on individual livelihood.

#### ***VEECCC’s members view on climate change problems/impacts***

*The ward Chairman, Rana Bahandur Dharala from the VEECCC of Likhu vdc also highlighted the major impact of climate change is Deforestation on Likhu. He further*



added the problem like landslides during monsoon is also prevalent in their vdc. He stated that, but the deforestation is not just the impact of climate change it is due to lack of awareness. (Source: KII, Likhu VDC, 2017.09.11)

The representative from the Raha vdc states that the problem of water scarcity is still persistent. The agricultural production has been decreased. The forest fire and deforestation is still prominent. He added though the awareness program is launched during 2071B.S it seems to be limited. People are reluctant about it and the deforestation is still persistent. (Source: KII, Raha VDC, 2017.09.14)

From the notes given by representatives from both VDCs highlighted the major problems as drought, deforestation, and landslides which are in the LAPA manual prepared by VDCs. So, it seems like they are aware about their village climate change problems.

Table5.2: Cross tab- Village and People’s satisfaction on the locally identified climate change problems<sup>1</sup>

Are you satisfied by nature of locally identified climate change problem of your community	Satisfaction (%)	Dissatisfaction (%)	Total (with in village)
Likhu Vdc	83.3%	6.7%	72%
Raha Vdc	78.5%	21.5%	28%
<b>Total(Both village)</b>	<b>82%</b>	<b>18%</b>	<b>100</b>

(Source: Field Survey, 2017; n=50)

Also, the above table revealed majority of respondents (82%) were satisfied on the locally identified climate change problems and 18% were dis-satisfied while considering data’s of both vdcs. They urged on need of changes like drought has never been the problem for Likhu, though there was little problem on water management sector especially of the reservoir tank which has been solved now.

<sup>1</sup>Note: The opinion from the respondents were collected in 5 scale measurement; Strongly Dissatisfied -1, Quite Dissatisfied -2, Partly Satisfied -3, Strongly Satisfied -4, and Don’t Know-9. This scale is further recoded into 2 scale measurement as; and Partly Satisfied + Strongly Satisfied=1(Satisfied), and Strongly Dissatisfied+ Quite Dissatisfied = 2 (Dissatisfied). Same is carried out for other indicators for dependent variable.

Even if we analyzed the individual village, majority of respondent in both Likhu (83.3%) and Raha (78.5%) were satisfied on locally identified climate change problems.

### 5.2.2 Nature of immediate, urgent and long term plan of vdc

According to Local Adaptation Plan of Action Framework, 2011, it is very important for the communities to prepare their immediate, short and long term plan. And act up on it to adapt and fight against climate induced impacts and reducing the vulnerability of the community.

Table5.3: People’s satisfaction on nature of immediate, urgent and long term plan

Are you satisfied by urgent and long term plan of your vdc	Satisfaction (%)	Dissatisfaction (%)	Total (within village)
Likhu Vdc	73.3%	26.7%	72%
Raha Vdc	64.2%	35.8%	28%
<b>Total(both village)</b>	<b>78%</b>	<b>22%</b>	<b>100%</b>

(Source: Field Survey, 2017; n=50)

The above table revealed that majority of the respondents (78%) is satisfied on the nature of immediate and long term plan prepared by the LAPA in their VDC. And the remaining 22% are dissatisfied with it while considering overall data of both villages. They were dissatisfied because of the poor implementation. Similarly, majority of respondents in both vdcs Likhu (73.3%) and Raha (64.2%) were satisfied on nature of immediate, urgent and long term plan.

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#### ***View From FGD on nature of immediate, urgent and long term plan***

*They seem satisfied with the immediate and urgent plans like agricultural information center to disseminate information regarding vegetable farming, seed bank, modern water mills, food storage improvement, drip irrigation, construction of birthing center in their community, solar pannel. And their shared few long term adaptation plan of their vdc like irrigation canal down the basin which is under the*

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*process, diversion of water canal, gabion wall constructions on the landslides prone zone, establishment of disaster risk reduction committee etc. But they further insisted on the points like afforestation is need in their community for long term plan in order to reduce the impacts of landslides. (Source: FGD,Likhu, 2017.09.11)*

*In case of Raha VDC, one of the participant stated that though we are satisfied in term of all the immediate, urgent and long term plans of our community but the tragedy is that only few has been implemented on the community. Those activities are source of water resource preservation and conservation, construction of only two water tapes, modern water mills construction. (Source: FGD,Raha VDC, 2017.08.14)*

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### **5.2.3 Livelihood options**

The LAPA Framework 2011, states that it is mandatory to identify livelihood options locally and ensure its implementation to safeguard the resilience capacity of the climate vulnerable community. Thus, few locally identified livelihood options which have eased the lifestyle of Dolpali people and their satisfaction level on locally identified livelihood options is presented below:

Table5.4: People’s satisfaction on nature of livelihood options

<b>Are you satisfied by nature of locally identified livelihood options of your community</b>	<b>Satisfaction (%)</b>	<b>Dissatisfaction (%)</b>	<b>Total (within village)</b>
Likhu Vdc	54.8%	45.2%	72%
Raha Vdc	50%	50%	28%
<b>Total (both village)</b>	<b>48%</b>	<b>52%</b>	<b>100%</b>

(Source: Field Survey, 2017; n=50)

The above table reveals that more than fifty percent (52%) of the respondents are not satisfied with the livelihood options identified in their community and rest of the 18% were satisfied. The dissatisfied percentage claimed that though the actions which are done in our community to ease of lifestyle has been of great help like water mills, diversion of the waters on lower basin, construction of roof of public schools etc which were undertaken during LAPA implementation. But the real

income generating and livelihood support training and programs to help in our economic development have not been identified and not taught to us.

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### ***View from Focal Group Discussion on livelihood options***

*Member of Ward environment and energy climate change committee, Chandra Kumari Pahadi, told the construction of birthing center has helps the life of both newly born child and mother. She further added that though there has not been any direct income generation opportunities provided by this program but it has made their lifestyle easier. (Source: FGD, Likhu VDC, 2017.08.11)*

*However, another respondent, Gokarna Bahadur Shahi suggested on the promotion on income generating options like plantation of Sea Buck Thrown plant which is high in Omega seven. And he believed this medicinal plant can bring revolution on life of Dolpali people. As it can be easily grown in barren landscape of Likhu and it might be the source of income for local people also prevents the impacts of landslides in their VDC. (Source: FGD, Likhu VDC, 2017.08.11)*

*One of the respondents from Raha VDC stated that, the LAPA has made it so easy for them by providing improved cooking stoves. It was very difficult in the traditional method but now it has minimized the health risk as well as it saves our time and effort. (Source: FGD, Raha VDC, 2017.08.14)*

*Similarly, one of the participant stated that it has widen his knowledge on vegetable farming, which was possible due to the LAPA and also Aare Khola Jala Bidyuit Aayojana ( "Aare Khola Hydro Power Electricity") has been in the long term plan of LAPA for this VDC which is a big achievement for us. (Source: FGD, Raha VDC, 2017.08.14)*

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### **5.3 Authority**

Authority is one of the significant factors on the implementation of any policy and framework. Here the researcher had tried to discuss the perception of local people's

regarding the implementations of policy, rules and regulations and mobilization of resources by the authority for the proper implementation of LAPA.

### 5.3.1 Implementation of policy, rules and regulations

The perception of respondent on implementation of policy, rules and regulations by local authority is presented on the table below:

Table 5.5 Perceptions on implementation of policy, rules and regulations<sup>2</sup>

<b>Your opinion on implementation of Policy, Rules and Regulations by local authority</b>	<b>Low (%)</b>	<b>High (%)</b>
Total	20%	80%

(Source: Field Survey, 2017; n=50)

The above table revealed that out of 50 respondents, majority of respondents (80%) believes that there is a proper implementation of policy, rules and regulations related to climate adaptation in their community whereas only 20% of them stated that it has not been implemented well in their community. Therefore, the analysis reveals that still majority of people have faith on their local authority regarding the proper implementation of the LAPA in their community.

### 5.3.2 Mobilization of Resources

The perception of respondent on mobilization of resources by local authority is presented on the table below:

Table 5.6: Perceptions on mobilization of resources by Local Authority

<b>Your opinion on mobilization of resources by local authority</b>	<b>Low (%)</b>	<b>High (%)</b>
Total	20%	80%

(Source: Field Survey, 2017; n=50)

<sup>2</sup> Note: The opinion from the respondents were collected in 5 scale measurement; Very Low -1, Low -2, Medium -3, High -4, Very High -5, and Don't Know-9. This scale is further recoded into 2 scale measurement as; Very Low + Low = 2 (Low) and Medium + High + Very High =1(High).

The above Table showed that out of 50 respondents taken, majority of the respondent (80%) quantified that local authority mobilizes resources if it come under their authority whereas the 20% of them questioned and dissatisfied with local authority about the mobilization of resources.

In order to find out the association between the authority and implementation of LAPA, cross tabulation<sup>3</sup> was performed. The cross tabulation showed that authority doesn't matter for implementation of RTI. The result is depicted in the table below:

Table5.7: Cross tabulation: Authority and Implementation of LAPA

Categories		Authority		Total (%)	Chi Square Test	
		Dissatisfied (%)	Satisfied (%)		Value	Sig. <sup>4</sup>
<b>Implementation</b>	Dissatisfied (%)	<b>37.75</b>	<b>25</b>	28	.574	<b>.449</b>
	Satisfied (%)	<b>64.3</b>	<b>75</b>	72		
	Total	100	100	100		

(Source: Field Survey, 2017; n=50)

The Chi Square test in the above table demonstrates that  $p = 0.449$  ( $>0.05$ ) insinuating that there is not a strong relationship between authority and implementation of LAPA. If we interpret the table it revealed 64.3% of the respondents were satisfied with authority whereas 37.37% are still dissatisfied with authority regarding the implementation of LAPA. If we consider the overall satisfied (75%) and dissatisfied (37.75%) then it insinuates that authority plays an important role in implementation of LAPA, though statistically insignificant at [.449].

<sup>3</sup> Cross tabulation was done between the dependent variable independent variables by recoding all the variables into two scales (Agree and Disagree). Variables like nature of locally identified climate change problems, nature of immediate, urgent and long term plan of vdc and nature of livelihood options prepared as dependent variable- LAPA implementation. Similarly, all the variables in the authority were recoded into two scale (Agree and Disagree) and then cross tab was performed to see either independent variables matters or not. All other cross tab to find such relationship between dependent and independent variables done in the same way.

<sup>4</sup> Sig. refers to level of significance. The level of significance in case of (Pearson's) Chi Square test in this study (or elsewhere) is assumed to be 0.05 i.e., with 95% confidence level. Also, Asymptotic Significance (2-sided) is considered in this study.

## 5.4 Participation

According to the Local Adaptation Plan of Action, 2011, participation is very crucial in local level implementation planning for the proper implementation of any policies. The nature of participation, composition of participation and the ratio female participant involved should be on the proper way to ensure the proper representation and implementation.

### 5.4.1 Nature of Participation

The nature of participation is very crucial in the process of planning at local level. Weather the people are forced to participate in order to fulfill the numbers of demand or the people realized it is important issue and one must participate by their own will and be the part of planning process. Here is the perception of people on nature of participation during the LAPA planning process.

Table 5.8: Nature of participation

Nature of Participation	Frequency	Percent (%)
Compulsory	18	36
Autonomous	32	64
Total	n =50	100

(Source: Field Survey, 2017; n=50)

Table above shows that out of 50 samples of respondents, majority of the respondents 64% have participated on the process by their own will and the remaining 36% stated that it was a compulsory invitation for them. So, it reveals that in order to make the community seems fully participated few of them have been in the list for mandatory involvement.

### 5.4.2 Composition of stakeholder's involvement

According to the Local Adaptation Plan of Action, 2011, directs to maintain the proper composition of all the stakeholders in the implementation planning of LAPA at local level. Better will be the planning process, if the proper composition of all the

stakeholders at community level is maintained during the planning and implementation phase. So through our explorative study, composition of stakeholders of Dolpa District is presented below:

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**View on composition of Stakeholder’s participation**

*Jay Sankhar Dhital, The village secretary of Likhu vdc, highlighted, “Only the secretary of VDC was represented as government representation on the planning process of LAPA, there were the representation of political parties and others stakeholder from the VDC.” But his view contradicts from the view of Ward Chairman of VEECCC, Rana Bahadur Dharala of Likhu VDC. He stated, “ There was a proper representation from the government side as well in the implementation planning phase. There was Central District Officer (CDO), two representatives from Agricultural Department, members of National Climate Change Support Programme (NCCSP), different stakeholders from VDCs and chief of district Samonayen Shamiti.” (Source: KII, Dunai, 2017.08.17)*

*Gokarna Bhadur Shahi, The village Secretary of Raha vdc, stated “There was proper representation from all sectors government, private, political parties, Dalit community, women and general public. Also the total of around 50 members was present in the implementation planning process and the VEECCC was composed of 13 members in our VDC.” (Source: KII, Dunai, 2017.08.17)*

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Table 5.9: Composition of stakeholder involvement

Types of Stakeholders involvement	Frequency	Percent (%)
Government	8	16
Communities	12	24
NGOs	5	10
Political Parties	4	8
All of the above	21	42
Total	n =50	100

(Source: Field Survey, 2017; n=50)

Table above shows that out of 50 samples of respondents, majority of the respondents (42%) revealed that all types of stakeholders were present on planning



process, followed by 24% for the communities and 16% for the government sector involvement. Similarly, 10% of the respondent stated that there was the involvement of NGOs and 8% for the political party respectively. It means there was the involvement of different stakeholders from different sectors and only 42% of respondent were aware about the composition of stakeholders during implementation planning process of LAPA.

### 5.4.3 Female participation

It is very crucial that the participation of female must be ensure during the local level planning process of any subject matter. As climate has impacted female highly especially in rural communities so it is crucial to make them participated during the local level planning and it is mandatory under the LAPA framework, 2011. So here we are going to see the satisfaction level of respondents on the matter of female participation during the planning process of LAPA.

Table 5.10: Cross Tab: Gender and Satisfaction on Female participation

Are you satisfied regarding the number of female participant during LAPA implementation planning process in your community	Satisfaction (%) and f	Dissatisfaction (%) and f	Total individual(percentage)
Male	50%	50%	68%
Female	25%	75%	32%
<b>Total (percentage)</b>	<b>42%</b>	<b>58%</b>	<b>100%</b>

(Source: Field Survey, 2017; n=50)

Table above shows that out of 50 samples of respondents, majority of the respondents (58%) are not satisfied regarding the number of female participation during the planning process of LAPA at community and the remaining 42% were satisfied regarding the proportion of female participation. It means that female participation was not up to the mark as male participation during the local level planning process.

When we see male version of satisfaction regarding female participation on implementation planning, it seems to be 50% of participants are satisfied and 50% are dissatisfied. However, only 25% of female are satisfied and rest of 75% female are dissatisfied regarding the female participation on implementation planning process of LAPA. It means that majority of female were not satisfied regarding women participation. This is due to the male dominant nature of society. And they try to fit the concept of 33% female representation on planning process.

## 5.5 Inter Organizational Co-ordination

Inter organizational coordination and communication is very essential for every society. For successful implementation of any policy or framework the coordination among the participants, with wards, with municipality, user groups and many others is very necessary. Here, in this research coordination among the members village level energy and environment climate change committee and the local stakeholders by their representatives will be studied.

### 5.5.1 Flow of information to local stakeholders

The flow of information to the local stakeholders, especially local people by the concerned authority is very prominent in the successful implementation of any policies or framework. So here the perception of local people on flow of information by the local level authority on climate adaptation is discussed.

Table 5.11: Perception on flow of information to local stakeholders<sup>5</sup>

Your opinion on flow of information to local stakeholders	Yes (%)	No (%)
Total	72%	28%

(Source: Field Survey, 2017; n=50)

The above table showed that out of 50 respondents, majority of the respondent (72%) believed that there is the flow of information to the local stakeholder by the

<sup>5</sup> Note: The opinion from the respondents were collected in 5 scale measurement; Yes, Often -1, Yes, sometimes -2, Yes, rarely -3, No, Never -4, and Don't Know-9. This scale is further recoded into 2 scale measurement as; Yes (Often, Sometimes, Rarely) = 1 (Agreed) and No, Never =2 (Disagreed).

concerned authority. However, the rest of the respondents (28%) said that there is not the proper flow of information among the stakeholder by the local authority.

### **5.5.2 Communication with District Level**

The communication within the concerned authorities is very crucial for the successful implementation of any framework at local level. And for this indicator in have presented the view of key person information on the table below:

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#### ***Insights on co-ordination with district level from KII***

*The secretary of Likhu VDC, Jay Sankhar Dhital, "There is a communication with district level but it is usually the one way. And regarding the flow of information we do send our plan and view to the higher authority regarding which is our main development needs. Those proposal were heard and discussed in the district level but the reality becomes different while implementation. For examples: The funds arrived to the local level everything comes according to the pre-planned budget from higher authority and we did not have any voice on it." (Source: KII, Dunai, 2017.08.17)*

*Similarly, The secretary of Raha Vdc said," There seems to be proper communication within district, local authority usually other stakeholders in planning phase of any frameworks and projects at local level but it remains silence during other time. And again in implementation phase we are limited on the instruction from top level regarding many environmental issues. At presents also there doesn't seems any progress on this LAPA but we are hoping to get fund from higher authority or any other sources. (Source: KII, Dunai, 2017.08.17)*

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## **5.6 Resource (Human and Financial Resource)**

### **5.6.1 Human Resource**

Human resources plays important role in any aspects of implementation. But here in my research I have use two indications under this category as the willingness of the human resource working on climate change issues to provide information regarding it and the expertise/skills of that human resource to work on climate change issues.

### 5.6.1.1 Capacity to work on CC issues

According to LAPA framework, 2011, the local authority should be capable of providing human resource to local people to work on climate change. And during the implementation planning phase they made the Village Energy and Environment Climate Change Committee (VEECCC) on the behalf of local authority, which should be capable enough with the members of staffs and their expertise or knowledge on climate change to provide information regarding climate change to the local people if they wanted to know or query regarding climate change.

Table 5.12: Satisfaction on Capacity of local authority <sup>6</sup>

Your opinion on capacity of local authority to work on CC issues by local authority	Agree (%)	Disagree (%)
Total	58%	42%

(Source: Field Survey, 2017; n=50)

Table above shows that out of 50 samples of respondents, majority of the respondents (58%) were agreed on capacity of local authority on providing number of staffs to work on climate change issues and remaining 42% disagree on capacity of local authority on providing staffs to work on climate change issue to local community. It means that majority of people stills believes that local authority have a capacity to work on climate change issues at the local community.

### 5.6.1.2 Expertise/Skills to work on climate change issues

The skills/expertise of the human resource working on climate change sectors is very crucial for the proper implementation of any climate change policy. If the specific communities have skilled manpower to work under this issue then the implementation can be significantly affected. The below table represented the

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<sup>6</sup> Note: The opinion from the respondents were collected in 5 scale measurement; Strongly Disagree -1, Quite Disagree -2, Partly Agree -3, Strongly Agree -4, and Don't Know-9. This scale is further recoded into 2 scale measurement as; and Partly Agree + Strongly Agree=1(Agreed), and Strongly Disagree+ Quite Disagree = 2 (Disagreed). Same for other variables of human resources.

satisfaction level of general public on expertise/skills of the local authority to work on climate change issue in their community.

Table 5.13: Satisfaction on expertise/skills of local authority

Your opinion on expertise/skills of local authority to work on CC issues	Agree (%)	Disagree (%)
Total	60%	40%

(Source: Field Survey, 2017; n=50)

Table above shows that out of 50 samples of respondents, majority of the respondents (60%) were agreed on expertise/skills of local authority to work on climate change issues and remaining 40% doesn't agree on skills/expertise of local authority on work on climate change issues. It revealed that still majority of people have faith and trust on local authority expertise/skills to work on climate change issues.

In order to find out the association between the human resource and implementation of LAPA, cross tabulation was performed. The cross tabulation showed that the human resource doesn't matter for implementation of LAPA. The result is depicted in the table below:

Table 5.14: Cross tabulation: Human Resource and Implementation of LAPA

Categories		Human Resource		Total (%)	Chi Square Test	
		Dissatisfied (%)	Satisfied (%)		Value	Sig.
Implementation	Dissatisfied (%)	29.2	26.9	28	0.31	.860
	Satisfied (%)	70.8	73.2	72		
Total		100	100	100		

(Source: Field Survey, 2017; n=50)

The Chi Square test in the above table demonstrates that  $p = 0.860$  ( $>0.05$ ) insinuating that there is not a strong relationship between human resource and implementation of LAPA. The tables showed that 78.8 % of respondent were satisfied that there will

be proper implementation of LAPA if there is a proper flow of information while only 29.2% were dis-satisfied. If we consider the overall satisfied (73.2%) and dissatisfied (29.2%) then it insists that human resource plays important role in implementation of LAPA, though statistically insignificant at [.860].

## 5.6.2 Financial Resource

According to the LAPA Framework, 2011, states that the 80% of the budget under climate change will be mobilized to community to reduce the vulnerability and increase the resilience capacity of climate vulnerable community. Here our main focus is to see whether the each adaptation options identified by the village committee have received the budget or not has been discussed in this section. And people's perception on budget allocation regarding the adaption options has been analyzed below.

### 5.6.2.1 Budget allocation for each adaptation options

The general people's perception on budget allocation for each adaptation action has been presented below:

Table 5.15: Opinion on budget allocation for each adaptation options<sup>7</sup>

Your opinion on budget allocation of each adaptation outputs	Low (%)	High (%)
Total	86%	12%

(Source: Field Survey, 2017; n=50)

Table above shows that out of 50 samples of respondents, majority of the respondents (86%) sated that budget allocation for each adaptation activities is too low and remaining 12% agreed upon its high for each adaptation activities. It means that the budget allocation for each adaptation options is not satisfactory according to the community people.

<sup>7</sup> Note: The opinion from the respondents were collected in 5 scale measurement; Very Low -1, Low -2, Medium -3 ,High -4, Very High -5, and Don't Know-9.This scale is further recoded into 2 scale measurement as; Very Low + Low = 2 (Low) and Medium + High + Very High =1(High).

In order to find out the association between the financial resource and implementation of LAPA, cross tabulation was performed. The cross tabulation showed that financial resource matters for implementation of LAPA. The result is depicted in the table below:

Table 5.16: Cross tabulation: Budget allocation and Implementation of LAPA

Categories		Budget allocation for each adaption option		Total (%)	Chi Square Test	
		Dissatisfied (%)	Satisfied (%)		Value	Sig.
<b>Implementation</b>	Dissatisfied (%)	<b>20.9</b>	<b>71.4</b>	28	7.615	<b>0.006</b>
	Satisfied (%)	<b>79.1</b>	<b>28.6</b>	72		
	Total	100	100	100		

(Source: Field Survey, 2017; n=50)

The Chi Square test in the above table demonstrates that  $p = 0.006$  ( $< 0.05$ ) insisting that there is a strong relationship between financial resource and implementation of LAPA. The tables showed that 71.4 % of respondent were satisfied that there will be proper implementation of LAPA if there is financial resources while only 20.9% were dissatisfied. If we consider the overall satisfied (28.6%) and dissatisfied (20.9%) which stated that there is not more difference. Hence, this analysis demonstrate that there financial resource plays significant role in LAPA implementation.

Table 5.17 Perception of Village Secretary of human capacity, expertise and finance

Name of Respondents	Views of Village Secretary of Likhu and Raha VDCs on human capacity, expertise and finance regarding the LAPA implementation		
	Capacity	Expertise/Skills	Finance
Jay Shankar Dhital (Likhu)	There is lack of local level capacity to work	There was not a presence of any expert	We receive very little support from

Vdc)	on climate adaptation. We don't have any member in our community to consult with what to do and how to do?	during planning phase neither we have any knowledge on how to deal with current change in weather	government and other agencies in terms of finance to work under climate adaptation.
Gokarna Bahandur Shani (Raha Vdc)	The current local government have very few and limited human resource to work on the extra responsibility like climate change.	We in planning sectors don't have in-depth knowledge on how to insert environmental issues on the implementation plan.	Our budget is very limited and there is hardly any scope to include budget for each adaptation activities with it.

(Source: Key Informant Interview of Likhu and Raha VDC secretary, Dolpa)

### 5.7. Key Relationships among Variables:

For a researcher, in order to determine if there is a correlation between the variables, a Pearson correlation coefficient was used. This correlation looks at the linear relationship between two variables. It is the measure of the strength of linear dependence between two variables, giving a value somewhere between +1 and -1 inclusive. The purpose of this correlation is to determine which variables have a strong effect on implementation of LAPA. Values close to zero are an indication of a weak relationship while values closer to +1 indicate a strong correlation between the two factors measured

#### 5.18 Correlations between indicators of authority

Indicators of Authority		Implementation of Policy, rules and regulations	Authority to mobilize resource
Implementation of Policy, rules and regulations	Pearson Correlation	1	.451**
	Sig. (2-tailed)		.001



	N	50	50
Authority to mobilize resource	Pearson Correlation	.451**	1
	Sig. (2-tailed)	.001	
	N	50	50
Implementation A	Pearson Correlation	-.058	.169
	Sig. (2-tailed)	.691	.242
	N	50	50

\*\* . Correlation is significant at the 0.01 level (2-tailed)

The above table indicates the relationship between the authority and implementation of LAPA. The results indicate that there was no significant but positive relationship between authority to mobilize resource and implementation of LAPA. However, there was negative relationship between implementation of policy, rules and regulations and implementation of LAPA.

#### 5.19 Correlation among indicators of participation

Indicators of Participation		Nature of participation	Composition of Participation	Female participation
Nature of participation	Pearson Correlation	1	.083	.163
	Sig. (2-tailed)		.568	.258
	N	50	50	50
Composition of Participation	Pearson Correlation	.083	1	.193
	Sig. (2-tailed)	.568		.179
	N	50	50	50
Female participation	Pearson Correlation	.163	.193	1
	Sig. (2-tailed)	.258	.179	
	N	50	50	50
Implementation A	Pearson Correlation	-.146	-.189	-.289*
	Sig. (2-tailed)	.313	.189	.042
	N	50	50	50

\*Correlation is significant at the 0.05 level (2-tailed).

The above table indicates the relationship between the participation and implementation of LAPA. The results indicate that there was no significance as well as negative co-relation among the implementation of LAPA and nature of participation, composition of participation and female participation.

#### 5.20 Correlation among the indicators of resources

Human and Financial Resources	Capacity of local authority	Skills/Expertise of local authority	Budget allocation for each adaptation outputs
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Capacity of local authority	Pearson Correlation	1	.245	.095
	Sig. (2-tailed)		.086	.510
	N	50	50	50
Skills/Expertise of local authority	Pearson Correlation	.245	1	.216
	Sig. (2-tailed)	.086		.132
	N	50	50	50
Budget allocation for each adaptation outputs	Pearson Correlation	.095	.216	1
	Sig. (2-tailed)	.510	.132	
	N	50	50	50
Implementation A	Pearson Correlation	-.069	-.152	-.464
	Sig. (2-tailed)	.636	.292	.001
	N	50	50	50
**.Correlation is significant at the 0.01 level (2-tailed).				

The above table indicates the relationship between the resource and implementation of LAPA. There results indicate that there is a significant negative correlation between implementation of LAPA and budget allocation for each adaptation activities. The results indicate that there was no significance as well as negative correlation among the implementation of LAPA and capacity of local authority, skills/expertise of local authority.

## 5.8 Testing Hypothesis

To find out the relationship between the indicators of participation and their perception on implementation of LAPA, Pearson Chi square test (non-parametric test)<sup>8</sup> was done in (assumption of) significance level 0.05 or with the 95% confidence level. The tested of significance between these indicators of participation are briefly concluded below.

### 1) Nature of Participation and implementation of LAPA

**H0:** There is no significant relation between nature of participation and implementation of LAPA

**H1:** There is significant relation between nature of participation and implementation of LAPA

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<sup>8</sup> *Nonparametric statistics refer to a statistical method wherein the data is not required to fit a normal distribution. Nonparametric statistics uses data that is often ordinal, meaning it does not rely on numbers, but rather a ranking or order of sorts (Source: Investopedia.com*

Table 5.21: Chi-Square Test- Nature of Participation and implementation of LAPA

Non Pragmatic Test	Level of Significance	P-Value	Conclusion
Pearson Chi square Test	0.05	0.136	Accept H0 (since $0.136 > 0.05$ ) Reject H1 (since $0.136 > 0.05$ )

The above table shows the Chi-square test done in order to find out the relationship between nature of participation and Implementation of LAPA. It can be seen that the p-value is 0.136, which is more than the significance level 0.05. Hence, this means that there is no significant relationship between nature of participation and implementation of LAPA.

## 2) Composition of stakeholder's participation and implementation of LAPA

**H0:** There is no significant relation between composition of participation and implementation of LAPA

**H1:** There is significant relation between composition of participation and implementation of LAPA

Table 5.22: Chi-Square Test - Composition participation and implementation of LAPA

Non Pragmatic Test	Level of Significance	P-Value	Conclusion
Pearson Chi square Test	0.05	0.261	Accept H0 (since $0.261 > 0.05$ ) Reject H1(since $0.261 > 0.05$ )

The above table shows the Chi-square test done In order to find out the relationship between composition of participation and Implementation of LAPA. It can be seen that the p-value is 0.261, which is more than the significance level 0.05. Hence, this means that there is no significant relationship between composition of participation and implementation of LAPA.

## 3) Female participation and implementation of LAPA

**H0:** There is no significant relation between female participation and implementation of LAPA

**H1:** There is significant relation between female participation and implementation of LAPA

Table5.23: Chi-Square Test- Female participation and implementation of LAPA

Non Pragmatic Test	Level of Significance	P-Value	Conclusion
Pearson Chi square Test	0.05	0.013	Reject H0 (since $0.013 < 0.05$ ) Accept H1(since $0.013 < 0.05$ )

The above table shows the Chi-square test done In order to find out the relationship between female participation and Implementation of LAPA. It can be seen that the p-value is 0.013, which is less than the significance level 0.05. Hence, this means that there is significant relationship between female participation and implementation of LAPA. Higher the female participation during implementation planning at local level, higher will be the implementation of LAPA.

This test of significance between the participation and implementation of LAPA led to the conclusion that there is no significant relationship between two indicators- nature of participation and composition of participation with implementation of LAPA. However, the relationship between female participation and implementation of LAPA is significant. It showed female participation during the implementation planning process of LAPA frameworks matters in implementation of LAPA. Thus, higher the female participation on implementation planning process higher will be the chance of implementation of LAPA.

### 5.9 Chapter Conclusion

This chapter presented and analyzed the data collected for the study. It begins with the presentation of indicators of dependent variable. It presented the data giving reflection of the dependent and independent variables of the study along with establishing/exploring relationship between these variables. The analysis indicated that female participation and budget allocation for each adaptation options, among all, is significantly influencing the implementation of LAPA. Next chapter provides the findings, summary and conclusion of the study.

## Chapter 6

### Summary: Findings and Conclusions

#### 6.1 Introduction

The analysis of the study was based on mixed approach, combining both the qualitative and quantitative technique, as far as practicable. The data were collected through interactions/interviews and observation along with the questionnaire survey as the major instrumentation for the study. Questionnaire was designed with the Likert Scaling. The data-input from the respondents (beneficiaries) were mainly analyzed by using the SPSS. Analysis was primarily carried out in frequency, percentage, and cross tabulation to examine the relationship between dependent and independent variables derived from the literature review.

The theoretical perspective was based on the literature review, review of related studies and review of theoretical literature on implementation. The review of related studies revealed that the study of implementation of LAPA framework at the local level especially on Dolpa was largely unexplored. To explore its status of planning, literature on implementation within the domain of public policy were reviewed. Van Horn and Van meter and winter's Integrated Implementation Model provided the necessary framework for the study.

The dependent variable was the implementation of Local adaptation plan of action. The indicators used to justify the dependent variable was nature of locally identified climate change problems, nature of immediate, urgent and long term plans and nature of livelihood options given.

LAPA framework was formulated and promulgated to build the resilience capacity of vulnerable people through proper participation of stakeholders at local level. That is why it is necessary to explore the status of implementation by attempting to analyze the opinion of target benefices at local level regarding their participation. The authority, participation of target group, inter-organization coordination and resources availability was taken as independent variable that would probably affect the implementation performance. The author was further measured in terms of

implementation of policies, rules and regulations regarding climate change and mobilization of resources by the authority. Like- wise participation was tried to examine from the key informant interview, FGD and the publications of LAPA document of specific VDC. Resource and inter organizational co-ordination was also analyzed by seeking the information from both respondents and government personals at local level.

With this inference of variables for the study, data were collected and analyzed. The next section of this chapter summarizes the study findings along with the limitation and future scope of study, and the conclusion.

## **6.2 Major Findings**

The objective of this study was to study the implementation planning process of LAPA at local level in Dolpa. The study found that the implementation of LAPA framework, 2011 could be explored in terms of satisfaction regarding nature of problems, adaptation plans and livelihood options provided and peoples participation during the implementation planning. The study, in overall, indicated the suspicious findings regarding the status of implementation of LAPA, 2011 at local level, with reference to Dolpa District.

### **6.2.1 Implementation of LAPA**

The implementation of LAPA was measured by seeing the satisfaction of level of respondents and view from local authority in terms of locally identified climate change problems, nature of immediate, urgent and long term adaptation plan of vdc and livelihood options identified for the implementation of LAPA.

They stated that drought, deforestation, landslides as the major climate change problems in their community. It was identified that people were aware about the climate change problems in their community. And the respondents from both VDCs of Dolpa districts are satisfied with the locally identified problem.

Moreover, the respondent's perception regarding the nature of immediate, urgent and long term plan of VDC was taken on the diverse range from- strongly disagree to strongly agree, majority of respondents falls on agreed regarding their satisfaction level.

Likewise, the respondent's perception on nature of livelihood options identified locally was taken on diverse range from- strongly disagreed to strongly agree, majority of respondents seems dissatisfied. However, the nature of immediate, urgent and long term plan is not the sole to determine the implementation of LAPA. It was identified that the major reason behind the dissatisfaction was the real income generating training and programs to help in their direct economic development have not been identified and not taught to them.

### **6.2.2 Authority**

Findings regarding the authority revealed there is not a significant relationship between authority and implementation of LAPA. However, the people's perception on authority regarding implementation of rules regulations and policy and mobilization of resource is high. It means people still believed in their local authority that they can deliver the implementation outputs of LAPA.

### **6.2.3 Participation**

Findings regarding the participation revealed that there is not a significant relationship of nature and composition of participation with implementation of LAPA. However, there is significant relationship between female participation and implementation of LAPA.

Moreover, majority of respondents revealed that the nature of participation during the implementation planning process was autonomous. Even there was the involvement of different stakeholders from government, NGOs, community and political leaders. But the KII stated that there was the poor representation from government side even the invitation was send to all of them. Similarly, majority of respondents were dissatisfied regarding the ratio of female participation on

implementation planning process. They stated it was just to meet the target of 33% female representation. And the reason was stated they are reluctance on participation due to their household chores.

#### **6.2.4 Inter Organization Co ordination**

Regarding Inter organization coordination, if we see the flow of information majority of respondents believed that there is flow of information from authority to the local stakeholders. Similarly, for the communication with district level, KII revealed that there is communication with district level and other stakeholders but usually the decisions are made from upper level.

#### **6.2.5 Resource**

Findings regarding the resource revealed that there is not a significant relationship between human resource and implementation of LAPA. However, there is significant relationship between financial resource and implementation of LAPA. Moreover, in human resource, if we see the people's satisfaction regarding both capacity and expertise of the local authority then findings revealed that majority of them are satisfied with it. Nevertheless, regarding the financial resource, specifically for the budget allocation for each adaptation option, majority of respondents revealed it is too low. However, from KII it is found that there is lack of human resource to work on environment and climate change issues. The local authority really doesn't have the skills and expertise to deal with climate change issues.

### **6.3 Conclusion**

LAPA framework is one of the significant frameworks that help to increase the resilience of the community by reducing the vulnerability at local level. Public bodies are the mediator to fill the gap between citizen and their government. VDC is the Nepal is the lowest unit of rural- government responsible for providing services to the local people.



This study was able to explore the implementation of LAPA at local level in Nepal in reference to Likhu and Raha VDC of Dolpa District. These VDCs are trying their best to implement the LAPA by identifying the climate change problems, the immediate, urgent and long terms plans and livelihood options for the respective community by ensuring the public participation on planning and implementation period.

To conclude, the findings, in overall, indicated that implementation of LAPA seems to be satisfactory as people are satisfied regarding the nature of problems, plans and livelihood options identified locally. Even the participation seems autonomous and participatory but the major factor that affects the implementation of LAPA most was found to be financial resource and ratio of female participation during its implementation. Moreover, people's perception towards the authority seems positive towards the implementation of LAPA. Key informant interview reveals that there is proper communication between local and district level regarding the local level plans; however reality is reversed and top down during the implementation phase. Also, the people's perception on flow of information from local level authority to the general people was found to be positive. Thus, financial resource, skills and expertise of human resource, top down decisions regarding the plans and budget etc. are the constraint for implementation of LAPA at local level.

## References:

- Agrawal, A., Perrin, N., Chhatre, A., Benson, C. and Cononen, M. 2009. Climate Policy Processes, Local Institutions and Adaptation Actions: Mechanisms of Translations and Influence. Social Development Paper 119. Washington D.C: The World Bank
- Ali,A.,Erenstein,O.(2017). Assessing farmer use of climate change adaptation practices and impacts on food security and poverty in Pakistan. *Climate Risk Management*. Vol (16) p.183-190 Available at: <http://www.sciencedirect.com> (accessed: 2017.05.25)
- Alder,B., Kanbur,R.,Malone, D., Medhora,R. (ed.) (2014). *International Development: Ideas,Experience and Prospect*. "Climate Adaptation" Great Bratain: Ashford Color Press Ltd. Gasport, Hamispher
- Ayers,J.,H,S., F,A., T,H.(2013). Mainstreaming climate change adaptation into development: a case study of Bangladesh. *Climate Change*. Vol.5(1). P. 37-25 Available at: <http://onlinelibrary.wiley.com> (accessed:2017.05.29)
- Baral,P., Chaudhury, AS., Sova ,CA., Rasheed, T., Thornton, TF., & Zeb, A.(2014). Deconstructing Local Adaptation Plans for Action (LAPAs) - Analysis of Nepal and Pakistan LAPA initiatives. Working Paper No. 67. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark. Available at: <https://www.researchgate.net/> (accessed: Jan 23, 2018)
- Brown, A., Gawith, M., Lonsdale, K. & Pringle, P. (2011) Managing adaptation: linking theory and practice. UK Climate Impacts Programme, Oxford, UK
- Burton, P., & Mustelin, J. (2013). Planning for climate change: Is greater public participation the key to success? *Urban Policy and Research*, 31(4), 399-415
- Caney, D (ed).1998.Sustainable Rural Livelihoods- what contribution can we make? DFID
- Carter, T. R., Parry, M. L., Harawasa, H., and Nishioka, S. (1994). IPCC

Technical Guidelines for Assessing Climate Change Effects and Adaptations. University College London, London, UK and the Center for Global Environmental Research, National Institute for Environmental Studies, Tsukuba, Japan.

Central Bureau of Statistics (2011). Nepal Census Report. Government of Nepal

Chaudhury AS, Sova CA, Rasheed T, Thornton TF, Baral P, Zeb A. 2014.

Deconstructing Local Adaptation Plans for Action (LAPAs) - Analysis of Nepal and Pakistan LAPA initiatives. Working Paper No. 67. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark. Available online at: [www.ccafs.cgiar.org](http://www.ccafs.cgiar.org) (accessed: 2017.03.14)

Dhanapal,G (2014). *Climate adaptation in India*. Nature Climate Change. Vol.

4 p.232-233 Available at: <http://www.nature.com/nclimate/journal/> (accessed: 2017.05.19)

Davies, S., 1996, Adaptable Livelihoods. Coping with Food Insecurity in the Malian Sahel, London: MacMillan

Demarthy, A. 2010. *One Way to Make Sense of Policy Implementation-*

*Analysis of the Van Meter/Van Horn Model. Implementation: Putting Policy into Practice* <http://www.ru.nl/publicadministration/research/our-research-0/read-more/> (accessed: 2017.05.2)

Devkota, R.P. (2014) Climate Change: Trends and People's Perception in

Nepal. Journal of Environmental Protection. Vol. 5. P (255-265) [Online] Available at: <http://dx.doi.org/10.4236/jep.2014.54029> (accessed: 2017.04.1)

Eriksen, S. B. K( 2011). Sustainable Adaptation to Climate Change. Climate and Development.Vol(3) p(3-6)

Ensor,J, & Berger, J. 2009. Understanding Climate Change Adaptation :

Lessons from Community-based Approaches. Warwickshire, UK: Practical Action Pub

Füssel, H. M. (2007). Adaptation planning for climate change: concepts,

assessment approaches, and key lessons. Sustainability Science, 2(2), 265-275

- Gentle, P. Maraseni, T. N. (2012). Climate change, poverty and livelihoods: Adaptation practices by rural mountain communities in Nepal. *Environmental Science and Policy*. Vol( 21) p. (24-34). Available at: <https://www.journals.elsevier.com/environmental-science-and-policy> (accessed: 2017.02.18)
- GON, (2011). Status of Climate Change (CC) in Nepal, Ministry of Environment, Government of Nepal, Kathmandu, Nepal
- Government of Nepal, 2011. National Framework on Local Adaptation Plans for Action. Government of Nepal, Ministry of Science Technology and Environment, Singha Durbar.
- Grantham Institute (2015). Climate Change Legislation, Nepal. [online]. February, 2017. Available at: <http://www.lse.ac.uk/GranthamInstitute/?s=climate+change+legislation%2C+nepal> (accessed. 2017.02.16)
- Grasso, M. (2010). An ethical approach to climate adaptation finance. *Global Environmental Change*, 20(1), 74-81.
- Huq, S., Rahman, A., Konate, M., Sokona, Y., & Reid, H. (2003). Mainstreaming adaptation to climate change in Least Developed Countries (LDCs). Russell Press, Nottingham, UK: International Institute for Environment and Development (IIED), Bangladesh Centre for Advanced Studies (BCAS), Environmental Development in the Third World (ENDA)
- IPCC(2001). Climate Change 2001: Impacts, Adaptations and Mitigation of Climate Change. Contribution of the Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change
- Intergovernmental Panel on Climate Change (2007). Climate Change 2007: Impacts, Adaptation and Vulnerability. Cambridge University Press, UK p. 976-980
- IPCC, 2012: Summary for Policymakers. In: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation
- Jackson, R. L., Drummond, D. K., & Camara, S. (2007). What is qualitative research? *Qualitative Research Reports in Communication*. Vol 8(1), p (21-28).

- Kattumuri,R. Darsani.R,& Esteve,T.(2015). Local adaptation strategies in semi-arid regions: study of two villages in Karnataka, India. *Climate and Development*. Vol.9(1), p. 36-45 Available at: <http://www.tandfonline.com/doi/abs> (accessed: 2017-05- 25)
- Karki, M., Mool, P., Shrestha, A. (2009). Climate Change and its Increasing Impacts in Nepal. *Nepal Journal [online]*.Vol (3) p. 30-37. Available at: <http://www.nepjol> (accessed: 2017.02.15)
- Karki, R and Gurung, A, 2012, An Overview of Climate Change And Its Impact on Agriculture: a Review From Least Developing Country, Nepal, *International Journal of Ecosystem*, 2 (2) pp. 19-24
- Lake, R. W., & Zitcer, A. W. (2012). Who says? Authority, voice, and authorship in narratives of planning research. *Journal of Planning Education and Research*, 32(4), p. 389-399
- Leary, N. A. (1999). A framework for benefit-cost analysis of adaptation to climate change and climate variability. *Mitigation and adaptation strategies for global change*, 4(3-4), p. 307-318.
- Mainaly, J. and Tan, S. F. (2012). Mainstreaming gender and climate change in Nepal. IIED Climate change working paper No. 2, International Institute for Environment and Development (IIED).
- Martens, B. (2005). Why do aid agencies exist? *Development Policy Review*, 23(6), 643-663
- Matland, R.E., 1995. Synthesizing the implementation literature: The Ambiguity Model of Policy Implementation. *Journal of Public Administration Research and Theory*. Vol. 5(2)
- Mertz, O., Halsnæs, K., Olesen, J., & Rasmussen, K. (2009). Adaptation to climate change in developing countries. *Environmental Management*, 43(5), 743-752
- Ministry of Environment (2010). *Climate Change Vulnerability Mapping for Nepal*, Kathmandu, Nepal
- Mishra,L (2016). Focus Group Discussion in Qualitative Research. *Questia*.

- Available at :<https://www.questia.com/library/journal/1P3-4191700981/focus-group-discussion-in-qualitative-research> (accessed: 2017.11.12)
- Mearns, R., & Norton, A. (2010). Social dimensions of climate change: Equity and vulnerability in a warming world: World Bank Publications.
- Meter, V. & Horn, V. (1975). The Policy Implementation Process: A conceptual Framework. Vol.6, pp. 445-487
- National Planning and Housing Census (2011). Central Bureau of Statistics, Kathmandu, Nepal, 2014
- Nepal, SK 2002, Involving indigenous peoples in protected area management: Comparative perspectives from Nepal, Thailand, and China, Environmental management, 30 (6), pp. 748-63
- OECD 2009, Integrating Climate Change Adaptation into Development Co-Operation: Policy Guidance
- Ojha, H. R., Ghimire, S., Pain, A., Nightingale, A., Khatri, D. B., & Dhungana, H. (2015). Policy without politics: Technocratic control of climate change adaptation policy making in Nepal. Climate Policy(ahead-of-print), 1-19 Available at: <http://www.tandfonline.com> (accessed: 2017.02.20)
- Pittock, A. B. and Jones, R. N. (2000). Adaptation to what and why? Environmental Monitoring and Assessment, 61(1), 9-35
- Poudel.S.N, Khatri,D,B., Ojha, H., Karki,R.,Gurung,N. (2013). Integrating Climate Change Adaptation with Local Development: Exploring Institutional Options. Nepal Journal of Forest and livelihood. Vol.11 (1), 1-13 Available at: <http://nepjol.info/index.php/JFL/article/view/8606> (accessed. 20117.04.05)
- Regmi,.B., Bhandari,D (2013). Climate Change Adaptation in Nepal: Exploring Ways to Overcome the Barriers. Journal of Forest and Livelihood. Vol 11(2) available at: <http://www.nepjol.info/index.php/JFL/article/view/8612> (accessed: 2017.03.15)
- Regmi, R. B., Star, C., and Filho, L. W., (2016). Effectiveness of the Local

- Adaptation Plan of Action to support climate change adaptation in Nepal. Mitigation and Adaptation Strategy for Global Change. [online] Vol. (21),3, p. 461-478 Available at: <http://econpapers.repec.org> (accessed: 2017.03.21)
- Sapkota, S, Paudel, MN, Thakur, NS, Nepali, MB & Neupane, R 2011, Effect of Climate Change on Rice Production: A Case of Six VDCs in Jumla District, Nepal Journal of Science and Technology, 11, pp.57-62
- Shahid,Z., Piracha,A. (2016). Awareness of Climate Change Impacts and Adaptation at Local Level in Punjab, Pakistan. Water, Science and Technology. Vol.(72) p. 425-428 Available at: <https://link.springer.com/chapter> (accessed: 2017.05. 20)
- Silwal.P (2016). Local Adaptation Plans of Action (LAPAs): An analysis of approaches to planning for climate change in Nepal. Lincoln University. New Zealand [online] Available at : <https://researcharchive.lincoln.ac.nz> (accessed: 2017.03.02)
- Simons, H. (2009). 3 Listen, look, document: Methods in case study research: Case study research in practice. London: SAGE Available at: <http://dx.doi.org/10.4135/9781446268322>
- Smit, B., Burton, I., Klein, R. J., and Wandel, J. (2000). An anatomy of adaptation to climate change and variability. Climatic change, 45(1), 223-25
- Smith, J. B., Klein, R. J., &Huq, S. (2003). Climate change, adaptive capacity and development: Imperial College Press
- Sullivan,G., Artino,A.(2013). Analyzing and Interpreting Data From Likert-Type Scales. Journal of Graduate Medical Education. Vol. 5(4) p. 541-542 Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3886444/> (accessed: 2017.08.07)
- Treib and Helga. (n.d.). Implementing Public Policy. In Peter & Pierre (eds.). Handbook of Public Policy. Sage Publication
- Tiwari, K. R., Balla, M. K., Pokharel, R. K. and Rayamajhi, S. (2012). Climate

change impact, adaptation practices and policy in Nepal Himalaya. (Unpublished) Paper submitted to UNU-WIDER Conference on Climate change and development policy, 28-29 September 2012, Helsinki

Tiwari, K. R., Rayamajhi, S., Pokharel, R. K. and Balla, K. M. (2016). Does Nepal's Climate Change Adaptation Policy and Practices Address Poor and Vulnerable Communities? *Journal of Law, Policy and Globalization*. [online] Vol.(23) p. 28-36 Available at: <http://www.forestrynepal.org> ( accessed: 2017.03. 21)

UNDP (2013). "United National Development Programme Country: Nepal". Available at: <http://www.np.undp.org/content/dam/nepal/> (Accessed: 2017.01.20)

Van Meter, D. S. and Van Horn, C. E. (1975). "The Policy Process: A Conceptual Framework'. *Administration and Society*, Vol. 6, No-2, pp.445-88

Walker, W. E., Haasnoot, M., and Kwakkel, J. H. (2013). Adapt or perish: a review of planning approaches for adaptation under deep uncertainty. *Sustainability*, 5(3), 955-979.

Winter, S.C., 2003. Implementation. In: Pierre, B. G. P. A. J., ed. *Handbook of Public Administration*. London: Sage Publication.

World Bank, 2009, *South Asia: Shared views on development and Climate Change*: The World Bank



## Annex I: Questionnaire in English

Tribhuvan University

Central Department of Public Administration

### Questionnaire for Community Respondent

To answer the following questions, please put tick (✓) mark in the available brackets/boxes or fill in the..... blanks.

1. Name:       **First name:** .....**Last name (caste):** .....

2. Gender:     **1.Male ( )**                   **2.Female ( )**

3. Age (current age in Years) .....

4. Educational and occupational detail(s): Please tick (✓) in the box, right to your information

A. Education Level Completed ✓		B. Occupation Status ✓		C. Main Occupation Sector ✓
Difficulty in reading and writing		Working		Private sector
Can read and Right		Self Employed		Public Sector
SLC		Unemployed		I/NGO
Intermediate (plus 2)		Retired		Agriculture
Bachelor Degree		Student		Other (please specify) .....
Master's Degree		House wife/home maker		

5. How long you have been stayed in this place?

Less than 10 years	
10-20 years	
20-30 years	
More than 30 years	

6. Have you ever heard about climate change and Local Adaptation Plan of Action (LAPA)?

(Yes) Often	(Yes) Sometimes	(Yes) Rarely	No, Never

**(If you have never heard about it then thank you for your time.)**

7. If yes, where did you heard about climate change? Please tick **(v)** for all that applies below.

Radio/TV (.....)

Social Media (.....)

NGO/INGOs/CBOs (.....)

Workshop/Seminar /public Gathering (.....)

8. In your opinion, what do you think in which sector it has affected most in your place? Please tick **(v)** for all that applies below.

1	Agriculture, livestock and food security	
2	Forest and bio diversity	
3	Climate Induced Disaster	
4	Water Resource and Energy	
5	Public Health	
6	Livelihood and Governance	
7	All of the above	

9. In your opinion what do you think are the impact of climate change in your place? Please tick **(v)** for all that applies below.

1	Changes on temperature	
2	Changes in Rainfall patterns	
3	Drought	
4	Snowmelt	
5	Loss in Agricultural products & biodiversity	

6	All of above	
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How will you change your ways of doing things to live with these changes?  
 .....

10. Does climate change co-coordinating team is formed in your village?

1. Yes (.....)    2. No (.....)    3. Not Sure (.....)

11. Do you think VEECCC has any role in LAPA implementation?

1. Yes (.....)    2. No (.....)    3. Not Sure (.....)

12. In your opinion, to which extend do you consider local level beaucrats at your VDC has <b>authority</b> in term of following measures?		Very Low (1)	Low (2)	Mediu m(3)	High (4)	Very High(5)	Don't Know(9)
A	Implementation of policy rules and regulations						
B	Use of Power to implement the outputs						

13. Does climate change fund is established in your community?

1. Yes (.....)    2.No. (.....)    3. Not Sure (.....)

14. Please give your opinion on the following questions regarding <b>human resource</b> by giving tick (✓) mark below the options on the right side.		Very Low (1)	Low (2)	Medium (3)	High (4)	Very High(5)	Don't Know (9)
A	Number of staff to work on CC issues						
B	Availability of staff on VDC						

14. To what extend do you agree or disagree about the following statements, in general, about the <b>human resource</b> working on climate change committee in local level		Strongly Disagree(1)	Quite Disagree(2)	Partly Disagree (3)	Strongly Agree(4)	Don't Know (9)
D	They have capacity to carry out CC activities					
E	They have expertise to delivery information demanded by you					

<b>15.</b> Please give your opinion on the following questions regarding <b>financial resource</b> by giving tick ( <b>v</b> ) mark below the options on the right side.		Very Low (1)	Low (2)	Medium (3)	High (4)	Very High (5)	Don't Know (9)
A	Budget allocation for each adaptation activities						
B	Sustainability of fund						

**16. A.** Were you involved in the LAPA planning? **1. Yes (.....)**    **2.No (.....)**

B. If yes, did you participated by yourself or it was mandatory?

**1. Compulsory (.....)**    **2. Autonomous (.....)**

C. Types of stakeholder's engagement throughout the implementation planning. Please tick ✓ to the appropriate one.

**1. Government (.....)**

**2. Communities (.....)**

**3. NGOs (.....)**

**4. Political Parties (.....)**

**5. All of the above (.....)**

D. Do you think the participation of the female members in planning process was satisfactory?

**1. Yes (.....)**

**2.No (.....)**

**3.Not Sure (.....)**

<b>17.</b> What do you think about the <b>flow of information</b> to local stakeholder from local level?	Yes, Often (1)	Yes, Someti mes(2)	Yes, Rarely(3)	No Never(4)	Don't Know (9)

<b>18.</b> Please express your <b>satisfaction level</b> on the following questions by giving tick ( <b>v</b> ) mark below the options on the right side.	Strongly dissatisfi ed (1)	Quit Dissatisfi ed (2)	Partially Dissatisfi ed (3)	Strongly Satisfied (4)	Don't Know (9)
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A	Nature of locally identified CC problems					
B	Nature of immediate, urgent and long term plans of VDC					
C	Nature of Livelihood options given					

19. At last, do you think LAPA is addressing <b>local people needs</b> while in implementation phase?		Yes, Often (1)	Yes Sometimes (2)	Yes Rarely (3)	No, Never (4)	Don't Know (9)
A	Livelihood options					
B	Local people participation in planning					

(Thank you for your valuable time and patience)

## **Annex II: Open ended questionnaire for FGD**

### **FDG Questionnaire**

1. Were you all involved in the LAPA preparation process? Can you all list at least 3 locally identified climate change problems in your community? And how can those impacts could be addressed?
2. Who prepared the LAPA plan? What are the types of stakeholders involved on LAPA preparation? Does anyone representing government departments have been involved in the process? Can you give the tentative numbers of stakeholders present from Government, communities, NGOs and political parties' involvement into the process?
3. How did you get the invitation to be part of the LAPA planning process? Was it mandatory or you participated because of your own interest? What do you think regarding the participation level of female in the process?
4. Do you think the LAPA is important for this village? Why?
5. How was the adaptation activities identified in the plan? Was there any expert present during the planning process? How were they involved? Did they express any views about the activities identified?
6. What are the types of climate adaptation options identified during the process? Which you think need the urgent attentions in your community?
7. Does LAPA identified any livelihood options for this community? What are the types of livelihood options identified during the process? Do you think these were the best options or there is any other which might have a better impact?
8. What is your opinion on local level beaurocrats? Do they have power to implement the adaptation options? Are they authorized to mobilize resource by themselves? Do they inform you all in information on CC arrived at their desk?
9. Does this community have enough manpower to assist for the climate related issues? And is there is anyone available during the need of consultation regarding climate change and adaptation?
10. What is the funding source for the implementation of the activities? What is the mechanism to receive the fund? Does your community have its own climate change fund? Does the budget come under each adaptation activities? How the CC fund can be sustainable?
11. How is the continuity of the LAPA ensured? What are the factors affecting its continuity? How can these be overcome?
12. Do you have any additional thoughts you want to share?

(Thank you for your valuable time and patience)

### **Annex III: Open ended questionnaire for VDC**

#### **Questionnaire for interview (VDC level)**

1. How long have you been working in this area?
2. What do you know about the LAPA process going on in the district? Have you been involved in preparing any LAPA?
3. What do you think is the importance of LAPA for this district and village?
4. Who initiated the LAPA process in this district? Why and how?
5. What is the role of the District Development Committee (DDC) in the LAPA development process and its implementation?
6. What kind of activities related people and livelihood have been proposed in LAPA? How are they different from development activities?
7. How has the VDC contributed to LAPA? Institutional? Financial?
8. How the resources are distributed under the LAPA plan?
9. What is your opinion on local authority power to mobilize resource? Did the authority has made the ward level climate change committee in ward of Dopla? What kind of resources have been deliveries to the local level from authority?
10. Do we have sufficient number of staff working on climate change issue at local level? And what about the skills and capacity of the human manpower mobilized from local authority?
11. What is the mechanism for flow of information within the organization and different stakeholders?
12. How the budget is mobilized to incorporate the environmental issues in local level? What do you think about the sustainability of the fund for climate adaptation?

(Thank you for your valuable time and patience)