



Enhancing Resilience of Vulnerable Communities to Climate Change

MSFP EXPERIENCES AND LESSONS LEARNT

MULTI STAKEHOLDER FORESTRY PROGRAMME
KATHMANDU, NEPAL
JULY, 2016

Published by the Multi Stakeholder Forestry Programme (MSFP)

A Programme of the Government of Nepal (GoN) supported by the Governments of Finland, Switzerland and the United Kingdom.

Authors : Dharam Uprety and Dipak Bishwokarma

Reviewed by : Richard Allen

Front cover photos : Before and after :- plastic pond construction in Okhaldhunga District, and river bank protection in Nawalparasi District

Acronyms and Abbreviations

AFEC	Agriculture, Forest Environment Committee
CAPA/s	Community Adaptation Plans of Action/s
CF/s	Community Forest/s
CFUG/s	Community Forest User Group/s
DDC	District Development Committee
DFO	District Forest Office
GLOF	Glacial Lake Outburst Flood
GoN	Government of Nepal
hh/s	household/s
IAs	Implementing agency/s
IGAs	Income Generating Activity/s
LAPA/s	Local Adaptation Plans of Action/s
LFG/s	Local Forestry Group/s
LFP	Livelihoods and Forestry Programme
LIPOs	Local Implementing Partner Organisations
m	metre
MoFSC	Ministry of Forests and Soil Conservation
MoPE	Ministry of Population and Environment.
MSFP	Multi Stakeholder Forestry Programme
NAPA	National Adaptation Programme of Action
NGO	Non-Governmental Organization
NRs	Nepalese Rupees (currency)
UNFCCC	United Nations Framework Convention on Climate Change
VDC	Village Development Committee

Executive Summary

The Multi Stakeholder Forestry Programme (MSFP) is a joint initiative of the Government of Nepal (GoN) and three Development Partners: the Governments of Finland, Switzerland and the United Kingdom. The purpose of the programme is to maximize the contribution of Nepal's forestry sector to inclusive economic growth, poverty reduction and tackling climate change. Complementing the government's effort, the MSFP has implemented climate change related activities since 2013 in 29 districts through 6 main Implementing Agencies (IAs), and one national NGO, focusing on adaptation activities, and operating in six districts; the target was to reduce the vulnerability of 560,000 households - about 50% of the total target set by the GoN for 5 years. Some of the MSFP innovation fund projects have also contributed to meeting this target.

MSFP has supported the preparation and implementation of local adaptation plans at two scales: at the community level, the Community Adaptation Plan of Action (CAPA), mostly through the Community Forest User Groups (CFUGs), and at the Village Development Committee (VDC) level, the Local Adaptation Plan of Action (LAPA). At both levels, the process of planning and implementation has been facilitated by the multi-stakeholder mechanism, with the assistance especially of the Agriculture, Forest and Environment Committee (AFEC), which has ensured bottom-up planning.

MSFP has supported the preparation of 2,529 local adaptation plans based on the guidelines provided by the National Adaptation Plan of Action (2010, NAPA) and the LAPA Framework (2011). A large number of LAPAs and CAPAs have been endorsed by the VDC council and the CFUG general assembly respectively, as part of the formal process to integrate their plans.

MSFP has further provided funds and support through its IAs and District Forest Offices (DFOs) to implement 1,960 local adaptation plans. Most of the activities, as documented in the local adaptation plans, are focused on climate change awareness raising and education, landslide and erosion

control through bio-engineering and embankment construction, plantations, forest management and fire line construction as a mitigation and ecological resilience aspect, water source protection to enhance water security, and installation of improved cooking stoves as an action to reduce green-house gases and reducing the pressure on forests for supply of firewood. The MSFP support on climate change adaptation during 2013-2016 has contributed to build the resilience of 239,617 vulnerable households.

MSFP support to local adaptation plan preparation and implementation was based on the need for sectoral and institutional synergy from local to national level, and aimed to improve institutional governance, and to provide capacity development of stakeholders for effective and efficient impact on community resilience. After three years of implementation, it is clear that the VDCs have a unique position and the potential to be the hub for both government and non-government agencies at the local level to plan and implement such adaptation plans and development works. Moreover, the role of the CFUGs on building socio-ecological resilience has to be acknowledged in any updated or new policy since it is a legal and community institution; some of the CFUGs also have considerable resources. However, continuous support on implementation, monitoring and social mobilization is still required in such adaptation initiatives.

Table of Contents

Acronyms and Abbreviations	i
Executive Summary	ii
1. Introduction	1
1.1. Background	1
1.2. National Policy and Strategy for Climate Change Adaptation	2
2. MSFP Approach and Achievements on Reducing Local Vulnerabilities	6
2.1. MSFP approach and framework	6
2.2. MSFP achievements on reducing community vulnerability	9
Case Study 1	15
Case Study 2	16
Case Study 3	17
Case Study 4	18
3. Challenges on Implementing the Climate Change Adaptation Programme	20
4. Lessons Learnt	24
5. Recommendations	28
References	30
Annex 1: District wise vulnerability status as per NAPA (2010) and MSFP working districts in Nepal	31

1

INTRODUCTION

1.1 Background

The unprecedented rise in temperature in high Himalayan countries such as Nepal has been affecting the major forms of local livelihood, including agriculture and natural resources. It has further caused local communities to become more vulnerable to climate change. Policy documents and research studies have indicated that the main effects of climate change have been on local livelihoods, biodiversity, increasing risk of natural disasters, the growth and distribution of invasive species, changes in the seasons, and forest fire occurrence due to the prolonged dry season (MoPE, 2011; Singh et al, 2011). For example, more than 4,000 people have died in Nepal over the last ten years due to climate induced disasters, which have caused economic losses of USD 5.34 billion (MoPE, 2011: NAP submission); and, more than one million people have been affected by climate-induced disasters including drought, landslide, and flood (MoPE, 2011). Moreover, Glacial Lake Outburst Flooding (GLOF) and flash flooding due to erratic rainfall has resulted in losses of infrastructure and downstream damage to agricultural lands (Chaudhary and Aryal, 2009). For example, a GLOF in mid-western Nepal in June 2011 affected 400 residents and swept away 200 ropani of agricultural land, along with a historic monastery (ICIMOD, 2011).

The increasing frequency of events such as these clearly indicates that Nepal is highly vulnerable to climate change; it is in fact ranked as the fourth most vulnerable country in the world in terms of likely impacts of climate change (MoPE, 2015). The National Adaptation Plan of Action (NAPA, 2010) of Nepal revealed that there are about 1.1 million people including women, poor, and marginalized people, classified as the most vulnerable to climate change in the country, and stressed the need for adaptation activities to enhance their adaptive capacity and to build resilience.

In support of Nepal's climate change endeavours, the Multi Stakeholder Forestry Programme (MSFP), a joint initiative of the Government of Nepal (GoN) and three Development Partners, the Governments of Finland, Switzerland and the United Kingdom, had aimed to reduce the vulnerability of 560,000 households (about 50% of GoN's total target) during its previously planned 10 year duration through providing support to implement climate change adaptation related activities in its 29 working districts. Implementation has been undertaken by six national NGOs, and one thematic implementing agency. Some MSFP innovation fund projects have Also been supporting climate change adaptation and the resilience building process.

This paper synthesizes the major policy arrangements in relation to enhancing climate change resilience of vulnerable communities, the MSFP contribution to building socio-ecological resilience, and lessons learned for future climate change adaptation endeavors in Nepal.

The following sub-section provides a brief on major policy arrangements in the field of climate change adaptation. This is followed by Section 2 which documents the MSFP contribution and approach to reducing local vulnerabilities, and some of the achievements described with the aid of some case stories from the field. Section 3 offers major challenges faced while implementing adaptation activities, and Section 4 provides lessons learnt and recommendations for future climate change endeavors in Nepal.

1.2. National Policy and Strategy for Climate Change Adaptation

As a signatory of different conventions and agreements, Nepal has shown its solidarity to work together with the global community in the struggle against climate change. It has also developed different policy documents a) to plan and implement climate change adaptation programmes and projects, b) to enhance socio-ecological resilience, and c) to increase the adaptation capacity of vulnerable communities. Figure 1 lists the timeline for Nepal in terms of the key policy milestones with regard to climate change adaptation and resilience building.

Figure 1 Timeline for key policy milestones for CC adaptation in Nepal

2016	Intended Nationally Determined Contribution (INDC)
2015	Second National Communication
2012	Kathmandu Call for Action
2011	National Climate Change Policy
2011	Framework on Local Adaptation Plan of Action (LAPA)
2010	National Adaptation Program of Action (NAPA)
2010-2013	Readiness Preparation Proposal (R-PP) for REDD Readiness
2005	Kyoto Protocol Ratified
2003	Sustainable Development Agenda for Nepal (SDAN)
1992	Nepal signed UN Framework Convention on Climate Change (UNFCCC)

Besides being the signatory of different international conventions and treaties, the GoN has developed different policy instruments considering the increasing impacts of climate change in different sectors, in different eco-zones, and the need for an urgent response to reduce the vulnerability and enhance socio-ecological resilience.

Three policy instruments - the National Adaptation Programme of Action (NAPA, 2010), the Climate Change Policy 2011, and the National Framework on Local Adaptation Plan for Action 2011 (LAPA framework) – are considered as the milestone policy documents in regard to the climate change adaptation endeavours in Nepal. A synopsis of those three policy instruments are presented in the following three Boxes.

This brief review of climate change policy instruments indicates that Nepal has taken positive steps towards reducing vulnerabilities although efforts remain at the initial stages of implementation.

Box 1 Brief Summary of The National Adaptation Programme of Action (NAPA), 2010

The NAPA was finalized in 2010 as the strategic tool to assess climate change vulnerability and to respond to adaptation issues by developing appropriate adaptation measures, developing and maintaining a knowledge management and learning platform, and through developing a multi-stakeholder framework. It consists of eight independent reports (in summary format), prepared by six thematic working groups, including forests and biodiversity, agriculture and food security, and two cross cutting groups, a) livelihoods and governance, and b) gender and social inclusion. It has identified and classified more than 250 adaptation activities, which have been prioritized into 9 integrated activity packages focusing on six major themes. Most of the prioritized and envisaged activities have focused on community participation. Details on NAPA can be found on: <http://goo.gl/YTh15t>.

Box 2 Brief Summary of the Climate Change Policy, 2011

The Climate Change Policy (2011) is prepared to confront adverse impacts of climate change by improving livelihoods through mitigation and adaptation, adopting low-carbon emissions strategies, and socio-economic development. It further encourages initiating community-based local adaptation actions as mentioned in the NAPA through strategic management of financial resources. The policy has recognized the LAPA as the lowest unit of adaptation plan at the local government level. However, it has envisioned the local communities as passive beneficiaries even though it has stressed to channel about 80% of adaptation fund to the local level. Details of the Policy can be found on: <https://goo.gl/DrHm6Q>.

Box 3 Brief Summary of the National Framework for Local Adaptation Plans of Action, 2011

The National Framework for Local Adaptation Plan for Action (LAPA) was prepared in 2011 with the twin objectives of implementing adaptation actions, and integrating climate change into local development planning and implementation. It has provided step-by-step process guidelines for local adaptation plan preparation and integration into the local development plan. Details of the framework can be found on: <http://goo.gl/f7X19a>.

However, these policy documents have addressed the national deliberation on the impact of climate change, and proposed the development of coping strategies for 3 major periods: the urgent, the mid-term, and the long-term. All these policies have identified the rural communities as the most highly

vulnerable to climate change impacts, and emphasize the reduction of their vulnerability through identifying the potential threats and hazards, the potential interventions required, and the need for formal documentation of necessary adaptation activities in an 'adaptation plan'. These documented plans have to be developed with strong institutional commitment in order to ensure their effective implementation (Helvetas 2011).

The MSFP action plans with regard to climate change adaptation, have taken emphatic note of these GoN policies, and extended its support to meeting the target in reducing the number of climate vulnerable rural communities, especially the poor and the disadvantaged. The MSFP interventions and achievements are presented in next section.

2

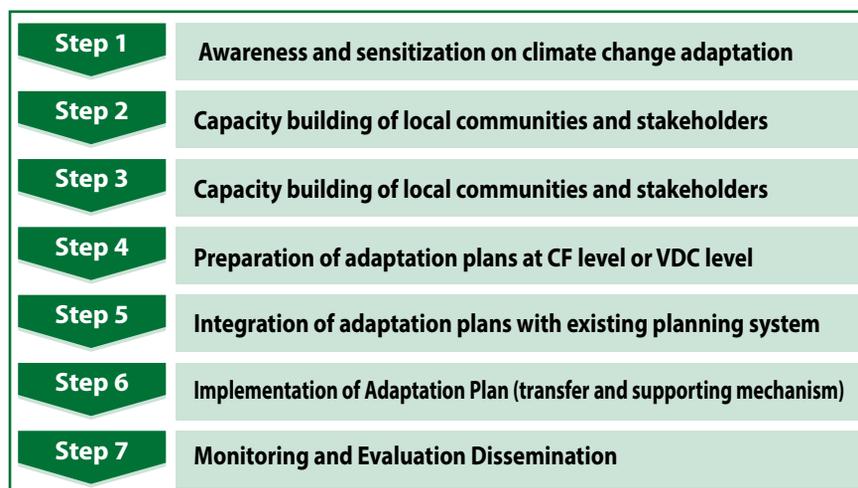
MSFP APPROACH AND ACHIEVEMENTS ON REDUCING LOCAL VULNERABILITIES

MSFP aimed to reduce the number of climate vulnerable households by 560,000 (about 50% of the national target), and has supported the preparation and implementation of local adaptation plans of action (LAPAs) at VDC level, and community adaptation plans of action (CAPAs) at the community forest user group level. This section presents the MSFP approaches employed while supporting the preparation and implementation of these adaptation plans, and describes the achievements.

2.1. MSFP approach and framework

MSFP has followed the GoN guidelines and policy instruments developed for implementing climate change endeavors at different levels, and has followed the seven step process concerning the preparation of LAPAs, as provisioned in the LAPA framework (2011) – see Figure 2. In addition, a similar procedure has been applied, with some practical modifications based on the ground reality, while preparing the CAPAs.

Figure 2 The 7 step process followed by MSFP to prepare the LAPA and CAPA



The LAPA preparation process at the local level begins in the settlements and wards with community awareness raising and sensitization on climate change and its impact. In general practice, a three day long workshop is organized with participation including vulnerable households, women, old aged people, representatives of local political parties, and representatives of local government and non-government institutions, including the CFUGs.

The Agriculture, Forest and Environment Committee (AFEC), the multi-stakeholder mechanism at the VDC level and comprising elected members from the local community, organizes the workshop where a facilitator and local specialists on climate change adaptation provide support and guidance. Information, including prioritized adaptation activities and potential institutions for collaboration in the implementation of the planned activities, is gathered, utilizing different tools as recommended in the LAPA framework. The facilitators further provide support on the documentation of the plan, the LAPA. After considerable discussion and deliberation, the AFEC finalizes and endorses their LAPA, and forward it to the VDC for certification and formal inclusion in its planning process. The prepared LAPA is then endorsed by the VDC.

MSFP has followed a similar procedure to that described above for the LAPA for CAPA preparation with the CFUG; the slightly modified 7 step procedure for preparation of the CAPA is described in Table 1.

Table 1 The process for CAPA Preparation with the CFUGs

No.	Activity
1	Sketching a timeline list of the risks and hazards that have occurred over the past 25 to 30 years, and identifying the climate induced hazards and risks in the CFUG area, both in the forest and the user's own land areas.
2	Participatory hazard mapping: the CFUG members identify the vulnerable hotspots and the more vulnerable groups in terms of climate change impacts, mark these on the hazard map.
3	Vulnerability assessment: assess the degree of the impact caused by the identified hazards on 5 assets of livelihood, utilizing the gateway analysis tool, secondary data, and exposure and a sensitivity analysis tool. Finally, prioritize the hazards using a scoring method.

No.	Activity
4	Identify and assess the existing capacity and assets that will help in coping with and adapting to the hazards, using different tools such as a livelihoods resource assessment.
5	Assess how the existing resources can be used to fill any gaps (knowledge, technical, financial), and the further action needed to respond to the impacts.
6	List different existing stakeholders and line agencies, and their potential roles, for fulfilling the remaining gaps.
7	Prepare a detailed action plan based on the prioritized hazards, including the modus operandi for implementing the identified actions, resources availability, the time needed to implement identified actions, and the actors to be engaged.

Facilitators and local experts on climate change adaptation provided facilitation support to prepare and finalize the CAPA. The prepared CAPA is then endorsed by the CFUG General Assembly, and integrated into their operational plan (OP) for implementation.

While following the GoN policy instruments to prepare both LAPA and CAPAs, MSFP considered three major factors while implementing adaptation plans in order to ensure the delivery of benefits directly to the more vulnerable communities.

First, MSFP employed a targeting approach to ensure selection of the poor and most vulnerable households and communities.

Second, MSFP considered the issue of inclusion and equity as a priority as excluded people, both socially and economically, are more vulnerable to climate change.

Third, MSFP considered the integration of the adaptation plans and activities into the local development planning process, either at CFUG or VCD level, as crucial for sustainability, and strongly advocated for this in its working districts.

As MSFP recognized that the forest ecosystem and community-based natural resource management were the key benchmarks from which to develop climate resilience strategies and plans, the following indicators were considered as critical for inclusive climate resilience:

- improving the sustainability of the forest ecosystem at the community forest and landscape levels;
- improving the sustainable use and management of the forest products and services;
- ensuring equitable access to forest resources and services, focusing on the socially excluded groups within the communities;
- building synergy and improving the links between the forest, agriculture, water, energy and watershed conservation sectors, so as to expand the options for livelihoods, and strengthen the resilience of the livelihoods of the local communities;
- improving the flow of benefits from the forest through improved exchanges with the markets;
- expanding community management systems and ensuring tenure security of the forest areas for the local communities;
- ensuring an enabling policy and regulatory environment for implementing climate resilient programmes and improving subsequent forestry business management.

MSFP support aimed at achieving these indicators in order to build socio-ecological resilience and increase the adaptation capacity of the vulnerable households and communities. However, MSFP support was not necessarily provided to achieve these indicators in an equal manner, since the degree of need differs based on the ecological zone and the socio-economic status of the vulnerable communities.

The following section describes the major achievements from MSFP support in its working districts.

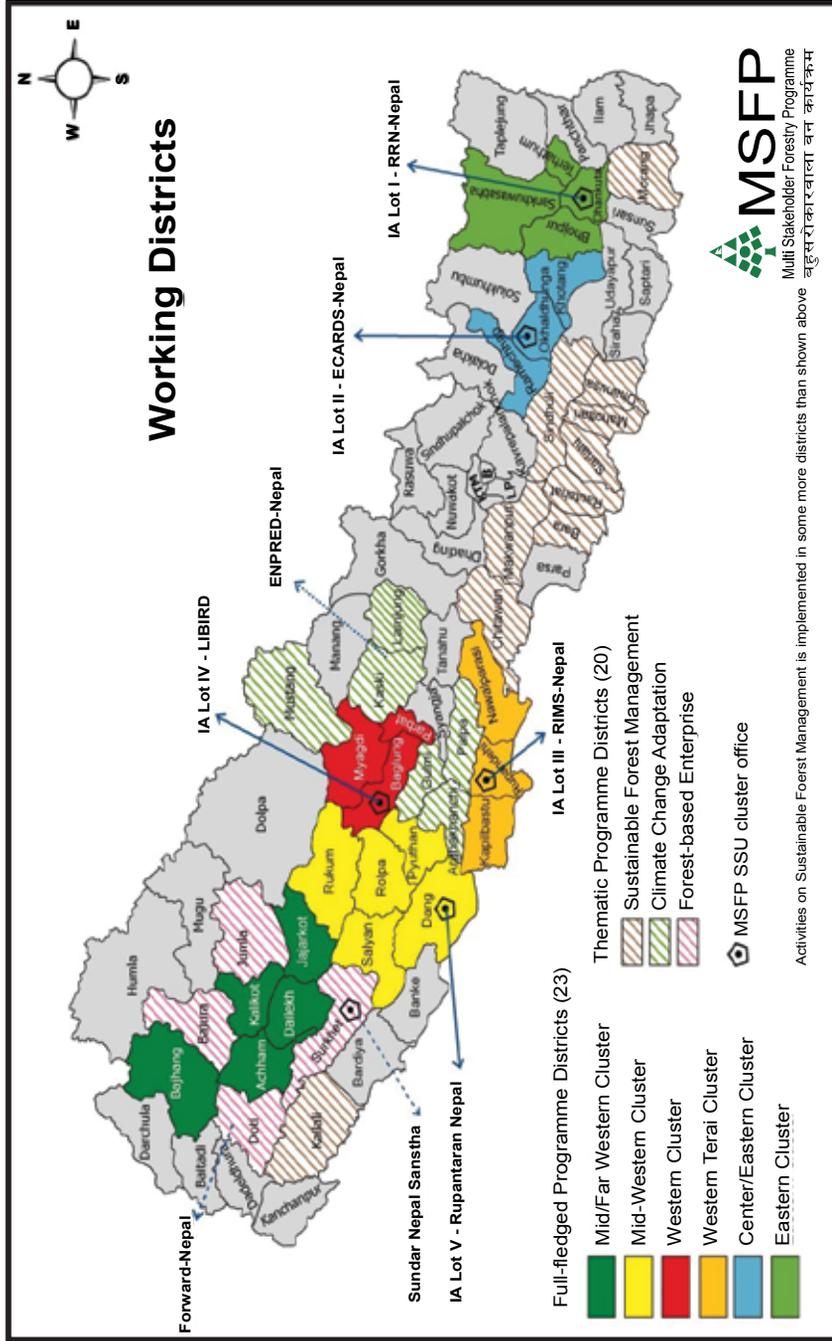
2.2. MSFP achievements on reducing community vulnerability

MSFP's adaption to climate change programme was focused in 29 districts, but some activities were undertaken in the remaining 14 districts in which MSFP was operational – see Figure 3.

MSFP has provided support to four major activities on climate change adaptation endeavors at the VDC and community level:

Figure

Figure 3 Clusters and Districts where MSFP's climate change adaptation programme focused



- a) climate change sensitization,
- b) support on the adaptation plan preparation, both LAPA and CAPA,
- c) support on LAPA/CAPA implementation, and –
- d) facilitation to leverage funds and service from other agencies including GoN bodies.

In brief, the following have been carried out:

- 17,843 hhs have been sensitized on climate induced disaster risk reduction;
- vulnerability mapping of about 68,600 hhs of 2,529 vulnerable communities;
- in total, 2,529 adaptation plans (LAPAs and CAPAs) have been prepared with direct support of MSFP (see details in Table 2);
- of these plans, 369 LAPAs and 1,591 CAPAs have been implemented;
- A total of 239,617 hhs have benefited from MSFP support for sensitization, social facilitation, and support on LAPA/CAPA preparation and implementation during 2013-2016 (MSFP, 2016)

As discussed earlier, LAPAs are prepared at the VDC level bringing all wards and settlements within the scope of the vulnerability assessment. The vulnerability assessment serves as the basis of the adaptation plan preparation, and the prioritising of adaptation activities. Similarly, CAPAs are prepared at the community level which includes the forests and the CFUG hhs (local communities managing the forests) within the scope of the vulnerability assessment.

Most of the CAPA in the hilly regions are prepared taking the Community Forest Users Groups (CFUG) as the unit for the vulnerability assessment as it is the formal institution led and owned by the communities, it has resources, and it enhances ownership of the plan as well as responsibility for its implementation.

However, the scenario is quite different in the southern Terai where there are limited forest resources under community management. As a result, most of the CAPAs developed in the Terai were prepared using other institutions such as Public Land Management Groups and Collaborative Forest Management Groups. This was a workable solution, as CAPAs are meant to identify climate change impacts at the local level on the basis of realistic and locally applicable

Table 2 Adaptation plans prepared and implemented from MSFP support

MSFP Cluster	Leading IA	Districts Covered	LAPA		CAPA		Total adaptation plan		Total beneficiaries
			Prepared	Implemented	Prepared	Implemented	Prepared	Implemented	
Cluster 1	RRN	Bhojpur, Sankhuwasabhi, Terhathum, Dhankuta	30	21	196	366*	226	387	15922
Cluster 2	ECARDS	Khotang, Okhaldhunga, Ramechhap	52	54*	748	102	800	156	32583
Cluster 3	RIMS	Nawalparasi, Kapilbastu, Rupandehi	51	61*	45	59*	96	120	42343
Cluster 4	Li-BIRD	Baglung, Myagdi, Parbat	45	45	304	304	349	349	32119
Cluster 5	Rupantarani	Dang, Rukum, Rolpa, Pyuthan, Salyan	51	50	465	574*	516	624	74233
Cluster 6	NA	Bajhang, Achham, Kalikot, Jajarkot, Dailekha	48	67*	282	55	330	122	14576
Thematic cluster	ENPRED	Kaski, Lamjung, Mustang, Palpa, Arghakhachhi, Gulmi	125	71	56	22	181	93	21607
DFO	NA	MSFP working districts	0	0	29	109*	29	109	6234
MSFP/ Micro Project	NA	MSFP working districts	0	0	2	0	2	0	0
Total			402	369	2,127	1,591	2,529	1,960	239,617

Source: MSFP Programme Completion Report 2016

Note: *MSFP has supported the implementation of already prepared LAPA/CAPA, and hence in some cases the total no. of LAPA/CAPA implemented is higher than the total no. of LAPA/CAPA prepared.

adaptation options as the means of building socio-ecological resilience - irrespective to the type of community institution involved.

MSFP has provided support on 5 major areas of vulnerability as mentioned and prioritised in the LAPA and CAPA. As illustrated in the following pictures, these 5 areas are as follows:

- water security,
- energy security,
- ecosystem management,
- disaster mitigation (flood/ landslide control), and;
- livelihood security.



▲ *Bioengineering for soil erosion control in Dhupu, Sankhuwasabha*

However, though the sensitisation and awareness raising activities are common, the prioritised sectors and adaptation options vary depending on the ecological location and the degree of risk and vulnerability. For example, flash floods, river bank erosion, and siltation are major risks in the Terai region, while landslides and water scarcity are more common risks in the hills. Clearly, the adaptation options are prioritised accordingly.



▲ *River Bank Protection, Salyan*

The LAPA and CAPA prepared in the Terai region have focused on the following which have been identified as the most practical and common options for enhancing socio-ecological resilience:

- ecosystem management: conversion of public land into forest plantations, reclamation and conversion of under-utilised land into forest land, introduction of silvi-cultural practices, forest cleaning, and fire line establishment;
- introduction of scientific forest management in LFG areas;
- water security through water source protection;
- livelihood support through vegetable farming especially off-season on the river banks, and livestock farming, especially goats;
- alternative energy promotion through introduction of improved cooking stoves, and biogas unit installation;
- soil and embankment conservation through river-training related activities, such as retaining wall construction, and bio-engineering programmes for soil protection.

In the hilly regions, in terms of prioritised adaptation options, LAPA and CAPA activities have more focused on water security and livelihood support but with some activities concerned with ecosystem management and landslide control – for example:

- water source protection,
- construction of conservation ponds and plastic ponds for irrigation,
- construction and renovation of recharge tanks,
- vegetable and livestock farming,
- landslide control through embankment construction to protect against landslides and erosion,
- bio-engineering for landslide area stabilization, and to a lesser extent:



▲ *Conservation Pond Renovation, Sukaura, Baglung*

- establishment of plantations and forest management improvements through silvicultural practices, forest cleaning, and fire line creation,
- the introduction of improved cooking stoves.

The following case studies present a few examples of the MSFP - supported climate change adaptation activities in its working districts in both the Terai and hill regions, illustrating some good practices in building socio-ecological resilience.

CASE STUDY 1

Linking Climate Adaptation and Livelihood in Kaski

Dil Kumari Adhikari, a resident of Dhikurpokhari Village Development Committee, Ward no.3 in Kaski District, is a single woman of 45 years. The responsibility of nurturing her 3 children fell on her shoulders after losing her husband some 4 years ago. Her family was dependent on agriculture, but increasing climatic variability had made farming a risky and unreliable venture. As a result, she was looking for an alternative source of income to help support her family, but she had neither the confidence nor the skills to start a business on her own.

While preparing the LAPA for Dhikurpokhari VDC, Dil Kumari was identified as head of a vulnerable household. She was thus entitled to some support, and in 2015 she chose to receive a plastic tunnel as part of the MSFP support for LAPA implementation. She began organic and off-season vegetable farming, producing chilli and tomato in her new plastic tunnel, and successfully produced about 30 kg tomatoes within 2 months, and after a further 3 months, production reached to 900 kg earning her a total sum of NRs 30,000/-.

In addition to the income, Dil Kumari had gained experience and skills, self-confidence and increase in self-esteem. The income from the tomato production in the plastic tunnel was many times more than the income she used to make from her traditional farming on her deteriorating plot of land.

This support and her engagement in off-season vegetable farming have opened up additional options for improving her livelihood. With this support, she is now more confident that can support her children, especially as production from her traditional farming had been decreasing because of longer droughts and erratic climatic conditions. Dil Kumari is planning to expand her vegetable farming area, and is saving surplus money for another plastic tunnel.

CASE STUDY 2

Climate Smart Conservation in Dolakha

The Gaurishankar Conservation Area (GCA) is rich in biodiversity and acts as a biological corridor for Sagarmatha National Park and Langtang National Park. As it is situated in a hilly and high mountain region, it is considered most vulnerable to climate change, mainly in the sector of biodiversity, ecosystem services, and livelihoods. Gaurishankar VDC, which lies within the GCA, is highly vulnerable as it includes Tsho Rolpa Lake and a range of mountain peaks of over 6,000 m. MSFP funded an innovative project called 'Piloting a Climate-Smart Conservation Approach in Gaurishankar VDC of the GCA', which was managed by the National Trust for Nature Conservation (NTNC), and aimed at assessing climate vulnerability at settlement and watershed level, and then enhancing resilience capacity of the communities and ecosystem.

The climate change vulnerability assessment of Gaurishankar VDC identified multiple options for adaptation especially to cope with the impacts of climate-induced natural disasters. As an initial step in the institutional development process, a disaster mitigation subcommittee was formed under the Conservation Area Management Committee (CAMC). A multi-hazard vulnerability assessment, which ranked and delineated hazards on a topographic map, was carried out with the engagement of many local stakeholders. The CAMC also conducted various sensitization and educational programmes, as well as community capacity building programmes on hazard and risk mitigation, post-disaster management techniques and forest management. The project also facilitated the establishment of a revolving fund to provide relief in post-disaster management, as a quick source of emergency funding. As eco-tourism was also identified as a climate resilient livelihood option, support was provided to 15 selected home stay entrepreneurs in Simigaoun and Tasinam, to install solar heaters. Support was also provided to vulnerable communities to install improved cooking stoves to reduce consumption of fuelwood, and to establish nurseries for the production of 5,000 seedlings of bamboo, broom grass, mulberry, and lapsi which would be planted to restore degraded lands and provide produce for livelihood improvement. Local youths were mobilized to disseminate conservation related messages focusing on climate change and ecosystem conservation. All interventions were institutionalized through reviewing and integrating all the adaptation options in the CAMC operational plan in line with the LAPA framework. The pilot project demonstrated an innovative pathway to integrate adaptation options in the conservation and development programmes, together with local livelihood improvement to enhance socio-ecological resilience.

CASE STUDY 3

A Water Collection System Contributes to Local Livelihoods in Okhaldhunga

Manebhanjyang Village Development Committee in Okhaldhunga, comprises 639 households, including 27 Dalit hhs. It has been identified as a VDC that is vulnerable to climate change, mainly due to increasingly dry and landslide-prone areas. The prolonged dry seasons have directly affected the productivity of the rainfed farming land, pushing about 64% of households towards food insecurity.

The VDC's Agriculture Forest Environment Committee (AFEC) had jointly prepared the Local Adaptation Plan of Action (LAPA) during the Interim Forestry Programme in 2013, engaging multiple stakeholders. The LAPA had prioritized water resource conservation as the major adaptation option considering that some 80% of hhs in the VDC were without access to irrigation, and the occurrence of longer dry seasons in recent years. As well as providing capacity building, governance and facilitation support to the AFEC, MSFP also provided NRs 100,000 in 2015 to construct four plastic ponds as part of the LAPA implementation. The local communities constructed the four plastic ponds in ward numbers 2 (two ponds), 4, and 5, with labor contribution from the community of at least 5 days per benefited households; each pond was 12 m in length, 9 m in breadth, and with 1.5 m average depth

A total of 77 benefited households from the programme – in Udayapur, Dhimile and Gairigaoun tole of Manebhanjyang VDC – have been storing tap water in the plastic ponds, rather than letting it run to waste, and using this water to irrigate fruit crops and kitchen gardens. The communities state that *the collected water has provided significant relief to the water demand of their crops, and has boosted their fruit and vegetable yields*. At least 42 households have either initiated or expanded semi-commercial seasonal and off-season vegetable farming. It has resulted in an increase of annual income of at least NRs 75,000/- per hh – compared to an average income of NRs 35,000/- per hh before pond construction.

As they have proved so useful, the beneficiaries are now most concerned about the sustainability of their plastic ponds; as a result, they have covered the ponds by locally available bamboo sheets to protect it from domestic livestock and animals, to reduce evaporation, to protect the plastic from direct sun light, and to ensure that no unintended accidents involving children occur. However, it remains a struggle to collect sufficient water for their vegetable farming, so the communities are focusing on more efficient water collection and the possibility of new ponds in the future.

CASE STUDY 4

Case Study 4 A Climate Adaptive Village in Parbat for Enhancing Household Resilience

Samekhoriya CFUG, situated in Tilahar VDC in Parbat and covering 5.62 ha of forest, is managed by 108 forest dependent households. Climate induced disasters such as landslides and desertification, catalyzed by increasingly extreme weather conditions including prolonged drought and untimely rainfall, has had a detrimental impact on agriculture and forest resources – this has resulted in the communities becoming more vulnerable to climate change in the future.

Aiming to enhance their community resilience, the Samekhoriya CFUG prepared its community adaptation plan of action (CAPA) with the support of MSFP in 2014. Seeing that there were insufficient resources available to implement all the activities and initiatives covered in the approved CAPA, an approach called the “climate adaptive village” was piloted in 12 CFUGs including Samekhoriya under the leadership of LI-BIRD and its local partner, to engage multiple stakeholders in capacitating the CFUGs and leveraging resources. Various adaptation options were identified and prioritized to combat the negative effects of climate change – these included activities aimed at controlling landslides, enhancing conservation efforts, improving water supply, protecting water sources, constructing irrigation canals, and supporting income generating activities for the poorest and most vulnerable hhs. A total of NRs 440,000/- was allocated to the Samekhoriya CFUG under this special initiative programme.

The allocated budget was utilized to construct a gabion wall (for stabilizing vulnerable terrain), to maintain the Falamkhani water canal (for improved water supply), and to provide beehives for ten poor and most vulnerable hhs (for improving livelihood options). Labour contribution was provided by the local communities in all the activities, and GoN agencies, including the District Soil Conservation Office, provided support in the planting of broomgrass in a landslide area. In addition, a further NRs 60,000/- was provided by the community, and NRs 50,000 from the VDC; a contribution of NRs 75,000/- from the Modi Hydropower Project was invested in the restoration of the Thulipokhari pond which in the past had provided much needed water for irrigating the community’s paddy land. The pond now provides regular access to irrigation water for at least 65 hhs involved in semi-commercial vegetable farming.

As only 2 years have passed since the plan was prepared, it is difficult to report definitive impacts – however, the CFUG has undoubtedly strengthened through collaboration with multiple stakeholders during the implementation of their CAPA. The CFUG has been looking forward to develop the pond and canal as more permanent structures so that they can start fishery projects, and further ensure the regular supply of irrigation water.



▲ Working on water source conservation and maintenance activity in Ramechhap District



▲ Water tank installation in Bajura District

3

CHALLENGES IN IMPLEMENTING THE CLIMATE CHANGE ADAPTATION PROGRAMME

MSFP support on adaptation plan preparation and implementation at the local level has contributed to enhanced adaptive capacity and building socio-ecological resilience of the vulnerable sectors on the ground in the communities with which it worked. In addition, it has offered a considerable knowledge contribution to climate change adaptation endeavors – these include:

- defining adaptation,
- defining the role of different agencies in delivering development assistance at the ground level,
- establishing a fund flow mechanism,
- encouraging resource leverage and strict financial management,
- enhancing the resource mobilization capacity of local institutions,
- monitoring of results and anticipated achievements.

However, while planning and implementing adaptation plans at the local level, the programme was not been without its challenges, which are discussed below.

Working with implementing agencies:

MSFP has been implemented in partnership with different national level NGOs with varieties of expertise. These implementing agencies have had long experience in working with rural communities especially in the natural resource management sector. However, climate change adaptation programmes are quite a new area of work for most of the agencies. This has posed challenges, especially in linking climate adaptation with climate science due to the limited capacity of some of the agencies, and especially with their local, district based implementing partners, the LIPOs.

Weak technical know-how

This was a major challenge experienced while working with the IAs. The institutional competency of most of the IAs was impressive due to their long experience and track records in implementing development projects. However, trained and technically competent human resources were inadequate in relation to the technical issues involved with climate adaptation and resilience building.

There were two reasons behind this: i) the frequent turnover of staff, and b) insufficient technical know-how of partner staff to link climate adaptation with development activities – understandable, in that climate change adaptation is new in the development sector and demands multiple layers of knowledge. These limitations have reduced the potential for collaboration with multiple sectors and communities with ‘out of the box’ ideas, and there has been in general a continuation of the traditional way of collaboration with the LFGs. This, perhaps, has limited the level of benefits that vulnerable communities could have tapped from the MSFP funding available for climate change adaptation.

Resource leverage and institutional capacity

Multiple actors have, however, shown their interest to work in the climate change adaptation sector and with vulnerable communities. The resourceful local institutions, the different types of LFG, led by the communities, have ample potential to divert resources to adaptation activities. Moreover, development agencies and other non-government institutions have the resources to provide support on adaptation activities. There was a real opportunity to leverage resources to implement a greater number of developed adaptation plans at the local level - however, the institutional capacity of both the IAs and the local institutions was inadequate to make full use of the potentially available resources. This of course also reduced the opportunity to implement more adaptation activities prioritized in adaptation plans.

Collaborating agencies and staff turnover

MSFP has collaborated with different government and non-government agencies on planning and implementing the local adaptation plans. However,

high turnover of staff, especially in the government agencies, but also in the implementing agencies, caused problems and delay, as new staff needed coaching and training. As a result, a gap opened in terms of institutional memory, which delayed implementation of adaptation activities as prioritized in the various plans.

Changing political context

The existing political instability, and lack of direction in relation to the federalization of Nepal, has to some extent impacted on the progress in adaptation planning and effective implementation in the field. The absence of an elected body at the VDC level has added a complication in relation to ownership of the plan. Representatives of political parties at the local level have been involved in the AFEC, mostly in an advisory role, which is both positive and negative. In some instances, political interest has been reflected in the selection of funding priorities, and while implementing prioritized adaptation activities. Similar challenges can be expected in the future, and this might skew or delay the delivery of services to the main beneficiaries, the vulnerable poor and marginalized households.

The geography of Nepal

The physiographical diversity of Nepal has posed additional challenges in addressing those communities most vulnerable to climate change due to limited road access, scattered settlements, and the approach of targeting disadvantaged beneficiaries. There are communities in rural, difficult to access locations who will be very much vulnerable to climate change issues, but are not reached because of difficult terrain, poor access and not being next to the road and easily accessible. Addressing climate change vulnerability issues with a blanket approach to cover all vulnerable settlements is challenging.

Defining adaptation and options

Several different adaptation activities have been prioritized included while preparing adaptation plans at the local level. However, some activities included in the adaptation plans are regular development activities, and have little to directly connect them with climate change adaptation. This has confused local communities – how to distinguish climate smart development

activities with the regular development activities? As a result, in some cases, general development activities have been prioritized over adaptation activities. Neither academics in the climate science field nor government policies have yet to offer guidelines for distinguishing adaptation activities with purely development activities – this would assist the IAs, development practitioners, and local communities in preparing the plans and designing the activities. In general, however, it can be argued that any development programme, assists with building climate change adaptation, through enhancing livelihood diversity, income, and conservation.

Recognition and sustainability

The prepared CAPAs and LAPAs have been endorsed in the LFG General Assemblies and VDC councils respectively. In most cases, the prioritized adaptation activities in the CAPAs, implemented through the CFUGs, have been contributing to the LAPAs. However, the climate policy instruments have not formally recognized CAPAs as a separate adaptation plan. Similarly, implementation of prioritized adaptation activities in LAPAs, despite being integrated with the local development planning process, will remain in question after MSFP closes, because of resource limitation and absence of a formally elected body at the VDC level. This poses a challenge to the sustainability of these plans.

Despite these different identified challenges while providing support for planning and implementing the adaptation plans at the local level, some opportunities remain for continuing the climate change adaptation programme. Many of the institutions that have been involved to date in the programme have resources and are community-led – for example, the CFUGs and the AFECs; other local government bodies including the line agencies, and the representatives of political parties, who themselves are the part of the communities and also vulnerable to climate change, also have GoN and privately-sourced resources. Through joint effort and collaboration between these local actors, there is some possibility that adaptation plans will continue to be prepared and implemented, without project support.

4

LESSONS LEARNT

Different climatic threats, including prolonged drought and changing rainfall pattern, are commonly discussed while planning both LAPAs and CAPAs. Those climatic threats have impacted on both local communities and the ecology. For instance, drying up of water holes, increased climate induced natural disasters such as landslides and flash floods, decreased land productivity due to increased siltation, erosion, and river bank cutting, increased intensity of forest fires, and recorded new diseases both in humans, forests, and agricultural crops. These impacts have increased the vulnerability of both humans and the ecology.

MSFP has supported the adaptation activities to reduce the identified impacts and enhance socio-ecological resilience, based on local demand. The most common adaptation activities on which MSFP has provided its support were: sensitisation and awareness raising, plantations, water resource protection and management (both for irrigation and for drinking water), income generation activities for the most vulnerable households, soil stabilisation and bioengineering, and alternative energy.

An analysis of the budget provision shows that adaptation activities such as water resource management, embankment protection, and bio-engineering are the most common and prioritised in the prepared plans; these are also the most budget-demanding adaptation activities. Adaptation activities such as awareness raising, forest management and plantation, crop diversification, and health-related activities (including support for constructing toilets) are also common and prioritised, but they are comparatively less budget-demanding. Despite this, the available community budgets are not adequately allocated on those less budget-demanding activities.

Some good initiatives through the leadership of the local communities have been established at the local level. For example, a few local communities have established the climate change adaptation emergency response fund to prepare the community for supporting vulnerable households from climate induced disasters; the idea is that such funds would be utilised to provide some support for immediate relief to the victims. The establishment of such a fund should be extended to other communities with sufficient resources.

CAPAs prepared at the LFG level are considered as a good practice to ensure bottom up planning and a community-based implementation process (CADPN, 2011). Initially, the concept of the CAPA was introduced to identify the impacts of climate change; to identify best possible adaptation options; to prepare adaption plans; and to integrate the prepared community level plans in the local development planning process, thus contributing to the promotion of climate sensitive development with the ownership of the vulnerable communities. These plans have also had a positive knock-on effect on LAPA implementation, contributing both to the planning and implementation at the VDC level. MSFP concludes from the activities undertaken that both CAPA and LAPA are equally important at the local level both to increase the involvement of the grass roots communities, and to enhance community resilience.

Considering MSFP experience, other key learnings are listed below.

- Both CAPA and LAPA have followed a similar process and approach in plan development and implementation, thus interventions and activities prioritised are similar despite having different degrees of coverage. The LAPAs cover a larger area with greater number household beneficiaries, whilst the CAPAs cover a smaller area and fewer households. However, both LAPA and CAPA are very useful in terms of increasing community ownership, leveraging and managing resources to enhance socio-ecological resilience.
- Despite contributing to achieving the objectives of both LAPA and NAPA, the CAPAs are yet to be recognised by the adaptation policy instruments. In fact, as the CAPAs are broadly being owned by the LFGs which have their own resources, these are more ground realistic, more owned by local communities, and there is greater potential that they will be implemented

utilising their own resources with minimal external assistance. Hence, recognising CAPAs as a separate adaptation plan at the community level, or at least as a part of the larger scale LAPA, would expedite socio-ecological resilience in a shorter time period.

- Institutional mapping for addressing vulnerability of specific communities and settlements is now well developed, and these are presented in the adaptation plans. However, very few GoN and NGOs outside the MSFP were aware about the vulnerability assessment and the prioritized adaptation activities. This has a direct implication on the ownership of the adaptation plan. For example, though adaptation plans are owned, to some extent, by the VDC, DDC, and DFO, other sectoral institutions, such as the District Agriculture Development Office, have not generally been involved, though it could make a significant contribution on effective implementation of the plans, especially those involved with livelihood improvement through vegetable farming. Further efforts on reducing such communication and knowledge gaps could improve opportunities for external support and on resource and service leverage for more effective implementation of the adaptation plans.
- The proper documentation, planning, and prioritisation of adaptation activities have largely been driven by the skills and knowledge of the facilitators for the climate change adaptation programme, who are appointed by the implementing agencies. These facilitators, however, vary in their competency. In some cases, the most evident climate change impacts on vulnerable communities have not properly been addressed in their adaptation plans, and this is possibly because of poor understanding of the facilitators on climate issues. Hence, exposure and capacity building of the local climate experts and facilitators on climate change itself as well as the adaptation planning process would contribute to the development of more realistic and practical adaptation plans. Active involvement of different institutions during LAPA and CAPA preparation, in-depth knowledge of the facilitator and their facilitation skills, and capacitating of a wider range of local institutions, both GoN and civil society, would contribute to more authentic identification and prioritizing of climate change threats and adaptation options.
- Even though climate change adaptation is a young science, it was being

practiced at the local level utilising traditional knowledge and resources. Agriculture, for example, is the art of adaptation – if the rains fail after planting the first crop, the farmer has to adapt – plant again when the rains arrive or substitute with another crop? The MSFP and IA experience during the implementation of this programme has been that integrating proven scientific theory and local knowledge, during both planning and implementation of adaptation activities, has proven most effective. On the one hand, it increases local ownership, and on the other hand, it has proven to be more cost effective, as local ideas and technology are rarely expensive.

- The vulnerability assessments while preparing LAPA and CAPA have been carried out using the LAPA Framework 2011 as a basis. Despite the quite comprehensive list of tools being utilized, these were mostly people-centric, and often did not adequately consider the equally important ecological aspects. Integrating the existing tools with other tools to address species and forest ecosystem vulnerability aspects would have been beneficial in contributing to strengthening socio-ecological resilience.
- Successful implementation of adaptation plans requires holistic, participatory, and multi-stakeholder approaches and multi-sectorial support. Mechanisms to ensure proper co-ordination, co-operation, and coherence are thus of paramount importance. The leadership of the DDCs and VDCs therefore needs to be encouraged so that all stakeholders are on board - key members of these institutions, therefore, need effective sensitization and capacity building, to ensure key stakeholders from both the GoN and civil society are involved from the outset of the planning process, through periodic joint monitoring efforts, to evaluation and the closing public audits.

5

RECOMMENDATIONS

As explained earlier, MSFP has contributed to enhancing socio-ecological resilience despite a number of challenges. The Programme implementing team, however, has also learnt some lessons during its initiatives on the climate change adaptation planning and implementation.

The following recommendations are made, based on the challenges faced and the lessons learnt, for reference in relation to future climate change endeavours.

Policy interventions

CAPAs have encouraged the planning and implementation of realistic adaptation activities with the ownership of vulnerable communities. However, community contribution through CAPA is recognised in the achieving of the objectives of the LAPA and NAPA. Policy advocacy is needed to recognise CAPA as a separate adaptation plan at the local level in the existing and upcoming adaptation policy instruments.

Capacitate human resources and local institutions

Despite being a young science, climate adaptation demands multi-sectoral knowledge while planning and implementing adaptation plans. However, local level development practitioners, mostly specialised on social mobilisation, have been supporting vulnerable communities to prepare and implement adaptation plan with only a basic level of orientation on climate change issues. This has limited their understanding of both the issues and also the tools available for preparing adaptation plans. The local institutions, mostly depending on the technical facilitation support of local experts, have also limited knowledge and capacity on climate issues. This has implications on identifying and prioritising realistic adaptation activities, thus some investment in capacitating the frontline human resources and local institutions would be most beneficial for delivering more effective services to the vulnerable communities.

Cross-sectoral collaboration

As climate adaptation is a multi-sectoral issue, active engagement of different sectors becomes crucial especially at the local level, where the impacts are most visible and destructive. However, some of the responsible sectors have not shown their enthusiasm to plan and implement adaptation plans prepared with the support of MSFP if the agreed actions concern another sector. Sectoral divisions, conflicts and misunderstandings have a direct implication on effective implementation. The mutual collaboration milieu between cross-sectors at the local level has to be created mainly through recognising the different expertise brought to the table for a common effort by the different sectors. It is recognized that this is a challenge of the multi-stakeholder approach – it requires a change of mind-set, and takes time to evolve into effective collaboration.

Integrate traditional knowledge and recognise local resources

Local communities have their own traditional knowledge and experience in coping with climate change and its impacts, and long understanding of the practical use of local resources. Their traditional knowledge and resources must be respected, used, and merged into the plans of action – this further ensures sustainability, and prevents solely relying on external knowledge and resource support.

The MSFP initiatives in this programme have demonstrated some of the pathways available for enhancing the resilience of vulnerable communities at the local level. This publication is an attempt to document and extend MSFP experiences to a wider audience of government agencies, donor communities, and other institutions working in the climate change adaptation sector. It is hoped that this summary document will provide some contribution to future climate change adaptation endeavours.

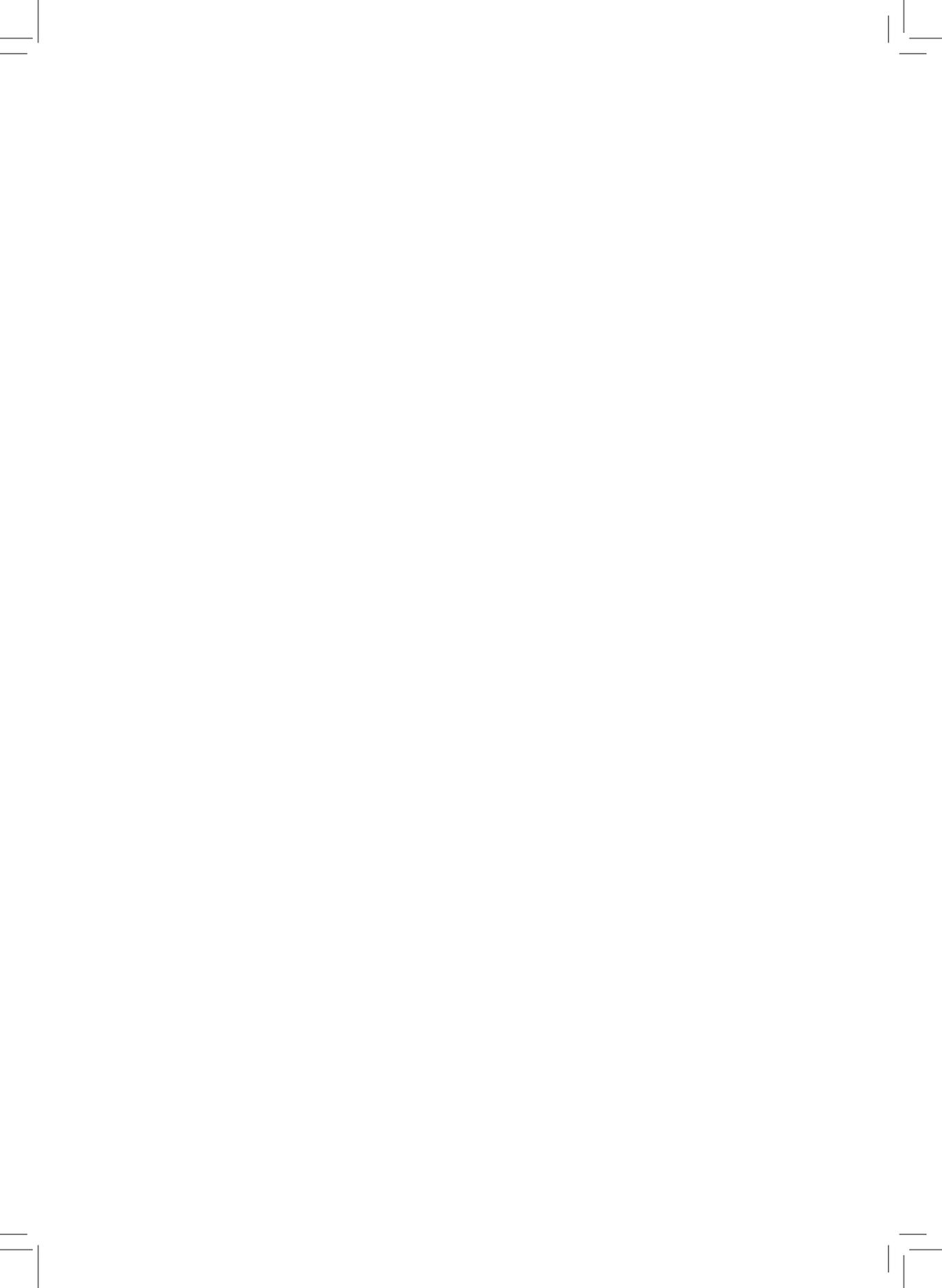
REFERENCES

- Climate Adaptation Design and Piloting Nepal (CADPN), 2011. Summary of steps and key actions prepared for The LAPA Framework: Local Adaptation Plan of Action. Kathmandu, Nepal.
- HELVETAS Nepal, 2011. Nepal's Climate Change Policies and Plans: Local Communities' Perspective. Environment and climate series 2011/1. HELVETAS Nepal.
- Ministry of Population and Environment (MoPE), 2015. Second National Communication (SNC) Report of Nepal to UNFCCC, Kathmandu, Nepal.
- Ministry of Population and Environment (MoPE), 2010. National Adaptation Programme of Action (NAPA) to Climate Change. Kathmandu, Nepal.
- Ministry of Population and Environment (MoPE), 2010. National Adaptation Programme of Action (NAPA). Thematic Working Group Summary Report. Kathmandu, Nepal
- Ministry of Population and Environment (MoPE), 2011. Climate Change Policy 2011. Kathmandu, Nepal.
- Ministry of Population and Environment (MoPE), 2011. LAPA Framework. Kathmandu, Nepal.
- Ministry of Forest and Soil Conservation, 2010. Nepal's Readiness Preparation Proposal 2010-2013. Kathmandu, Nepal.
- Singh, S.P., Bassignana-Khadka, I., Karky, B.S., and Sharma, E., 2011. Climate change in the Hindu Kush-Himalayas: The state of current knowledge. ICIMOD, Kathmandu.

District wise vulnerability status as per NAPA (2010) and MSFP working districts in Nepal

Combined vulnerability	Districts	MSFP Working Districts
Very High	Kathmandu, Ramechhap, Udayapur, Lamjung, Mugu, Bhaktapur, Dolakha, Saptari, Jajarkot	Lamjung, Ramechhap, Jajarkot
High	Mahottari, Dhading, Taplejung, Siraha, Gorkha, Solukhumbu, Chitwan, Okhaldhunga, Achham, Manang, Dolpa, Kalikot, Khotang, Dhanusa, Dailekh, Parsa, Salyan	Okhaldhunga, Khotang, Salyan, Achham, Dailekh, Kalikot,
Moderate	Sankhuwasabha, Baglung, Sindhuli, Bhojpur, Jumla, Mustang, Rolpa, Bajhang, Rukum, Rautahat, Panchthar, Parbat, Dadeldhura, Sunsari, Doti, Tanahu, Makawanpur, Myagdi, Humla, Bajura, Baitadi, Bara, Rasuwa, Nawalparasi, Sarlahi, Sindhupalchok, Darchula, Kaski	Mustang, Kaski, Sankhuwasabha, Bhojpur, Nawalparasi, Baglung, Parbat, Myagdi, Rolpa, Rukum, Bajhang,
Low	Nuwakot, Dhankuta, Kanchanpur, Bardiya, Kapilbastu, Terhathum, Gulmi, Pyuthan, Surkhet, Arghakhanchi, Morang, Dang, Lalitpur, Kailali, Syanja, Kavrepalanchowk	Gulmi, Arghakhanchi, Dhankuta, Terhathum, Kapilbastu, Dang, Pyuthan
Very Low	Ilam, Jhapa, Palpa, Rupandehi	Palpa, Rupandehi







Prepared by the Multi Stakeholder Forestry Programme (2012 – 2016)

Ministry of Forests and Soil Conservation,

Singa Durbar, Kathmandu, Nepal

Website: www.msfp.org.np