Local REDD+ Action Plan (LRAP) Ilam District, Nepal

ICIMOD

FOR MOUNTAINS AND PEOPLE

Prepared by

REDD Implementation Centre, Ministry of Forests and Soil Conservation (REDD IC)

Food and Agriculture Organisation of the United Nations (FAO),
through the UN-REDD Programme (UN-REDD)

International Centre for Integrated Mountain Development (ICIMOD)

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Local REDD+ Action Plan (LRAP)

Ilam District, Nepal

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Acronyms and Abbreviations

AF	Agroforestry
CF	Community Forest
D&D	Deforestation and forest degradation
DDC	District Development Committee
DFO	District Forest Office
DSCO	District Soil Conservation Office
GHG	Greenhouse gas
IPs	Intervention Packages
LRAP	Local REDD+ Action Plan
MRV	Measurement, Reporting and Verification
NF	National Forest
NRS	National REDD+ Strategy
PAMs	Policies and Measures
PF	Private Forest
REDD+	Reducing Emissions from Deforestation and forest Degradation
SRAP	Sub-national REDD+ Action Plan
UNFCCC	United Nations Framework Convention on Climate Change

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Introduction

Reducing Emissions from Deforestation and Forest Degradation (REDD+), including forest conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries was first negotiated in the United Nations Framework Convention on Climate Change (UNFCCC), with the objective of mitigating climate change through reduction of greenhouse gas (GHG) emissions through enhancement of forests in developing countries. The National REDD+ strategy (NRS) can play a vital role in lowering the rate of deforestation and forest degradation and removing GHGs from the atmosphere through forest enhancement activities (example: plantation activities). The NRS is designed in such a way to test various options of reducing deforestation and forest degradation based on the national circumstances.

But only having the NRS is not viable for Nepal due to the major differences in forest ecosystems and causes or drivers of deforestation and forest degradation (D&D) in different regions. Therefore the national policies and measures (PAMs) related to REDD+ need to be modified according to the local level D&D drivers, ecosystems and social issues. Another reason for sub-national or local level planning is so that regional and local stakeholders can be involved in the planning process. Also in Nepal any forestry-related program or plan needs to be implemented mainly through the District Forest Offices (DFO). Therefore in each different region it is desirable to develop a Sub-national REDD+ Action Plan (SRAP) or Local REDD+ Action Plan (LRAP), hereafter called LRAP. Each LRAP is developed through a multi-stakeholder consultative process which ultimately contributes to the national PAMs.

There are four main requirements of the UNFCCC for REDD+: 1. National REDD+ Strategy/National REDD+ Action Plan; 2. National Forest Monitoring System (NFMS) 3. Forest Reference Emission Level (FREL/FRL) and 4. Safeguards Information System (SIS). The LRAP responds to the first requirement of the UNFCCC, as well as responding to one of the 'Cancun Safeguards' on participation since it involves stakeholders at different levels (national, regional and community) in the REDD+ planning process.

In the programmatic REDD+ context, the sub-national or local level can refer to any administrative or jurisdictional unit subordinated to the nation state, and it can also refer to larger ecosystems or biomes where REDD+ policies are implemented. Development of local level plans in consultation with the local communities and other line agencies provides the advantages of ownership, transparency and involvement of local communities in all designed activities due to greater involvement of local stakeholders. Finally, LRAP responds to the challenge of operationalizing the NRS and its component PAMs by tailoring them to address locally-specific D&D drivers and the barriers of enhancement activities.

In this report, the development of the Local REDD+ Action Plan (LRAP) for Ilam District is reported, based on a process of identifying priorities and proposes priority activities and locations for consideration of REDD+ implementation. The Local government and Forest Department were identified as the main responsible government institutions for implementing REDD+. However, an effective REDD+ strategy needs to be a multi-sectorial initiative, since many of the drivers and barriers originate outside the forestry sector. The active and meaningful participation of other district government offices, local forestry groups and private sector representatives is also essential to this process. Thus, the Ilam LRAP has been prepared in close consultation and coordination with the officials and representatives of these stakeholder groups.

The report first describes the evolution of LRAP in Nepal, provides a brief description or 'glimpse' of Ilam District, and then goes on to describe the LRAP methodology. It describes how the drivers of deforestation and barriers to forest carbon enhancement activities (such as plantations or forest restoration) were analyzed through problem trees, and then to presents a number of options available for REDD+ actions

derived from 'solution trees'. From these, 'key results' were extracted to develop various potential intervention packages. It then describes how the social and environmental risks and benefits associated with each intervention package (IP), and a set of corresponding risk mitigation and benefit enhancement measures, were identified. Finally it reports how the monitoring plan and budget for the LRAP were developed.

Evolution of the LRAP in Nepal

Nepal has made active contributions in REDD+ after joining the UN-REDD Programme in 2009. The REDD+ Implementation Centre (RIC) being an apex body for REDD+ in Nepal, in consultation with the experts developed the Readiness Preparation Proposal (RPP). Since 2011, readiness activities have been implemented mainly through the Forest Carbon Partnership Facility (FCPF) of the World Bank as well as through several other bilateral initiatives. A number of gaps were identified in the RPP by RIC and other related stakeholder. To address those gaps, RIC submitted a technical support project proposal to UN-REDD-FAO during 2014 for the "Development of Monitoring Protocols for REDD+ Policies and Measures (PAMs) using Proxy Indicators". This technical support was implemented by ICIMOD and focused on developing a "District REDD+ Action Plan (DRAP)" for Chitwan District through which the key 'intervention packages' (IPs) for implementing REDD+ PAMs in the district were identified.

The methodological process for the Chitwan DRAP was guided mainly by experiences from the UN-REDD Viet Nam Phase II programme. The Chitwan DRAP has been endorsed by the MoFSC, RIC and district authorities. Subsequently this methodology has been adopted by MoFSC/RIC for inclusion in the planning of REDD+ interventions throughout the Tarai Arc Landscape (TAL) for the preparation of the Emission Reduction Program Document (ERPD), to be financed through FCPF. To allow for the potential future application of the methodology to other administrative levels, the MoFSC has adopted this methodology under the acronym LRAP.

A Glimpse of Ilam District

Ilam is located at eastern boarder of Nepal in Province-1. This district is bordered with India to the east, Panchthar to the north, Morang and Jhapa to the west and Jhapa to the south. It extends over Latitude 26.6638220 to 27.1056590 and Longitude 87.5987660 to 88.185980. According to the physiographical division, Ilam is mostly a middle mountain district with an altitude ranging from 140 m to 3636 m above sea level. It extends from the low land of Tarai to High Mountain to the north. Tarai and High Mountain covers 2.5% and 2.9 % of total area of district whereas the Siwalik region covers about 22.6 % and the rest is middle mountain area.

Mai Khola is the main river flowing through Ilam, fed by several tributaries (see figure 1). The eastern border with India is delineated by the Mechi River.

Land cover of Ilam

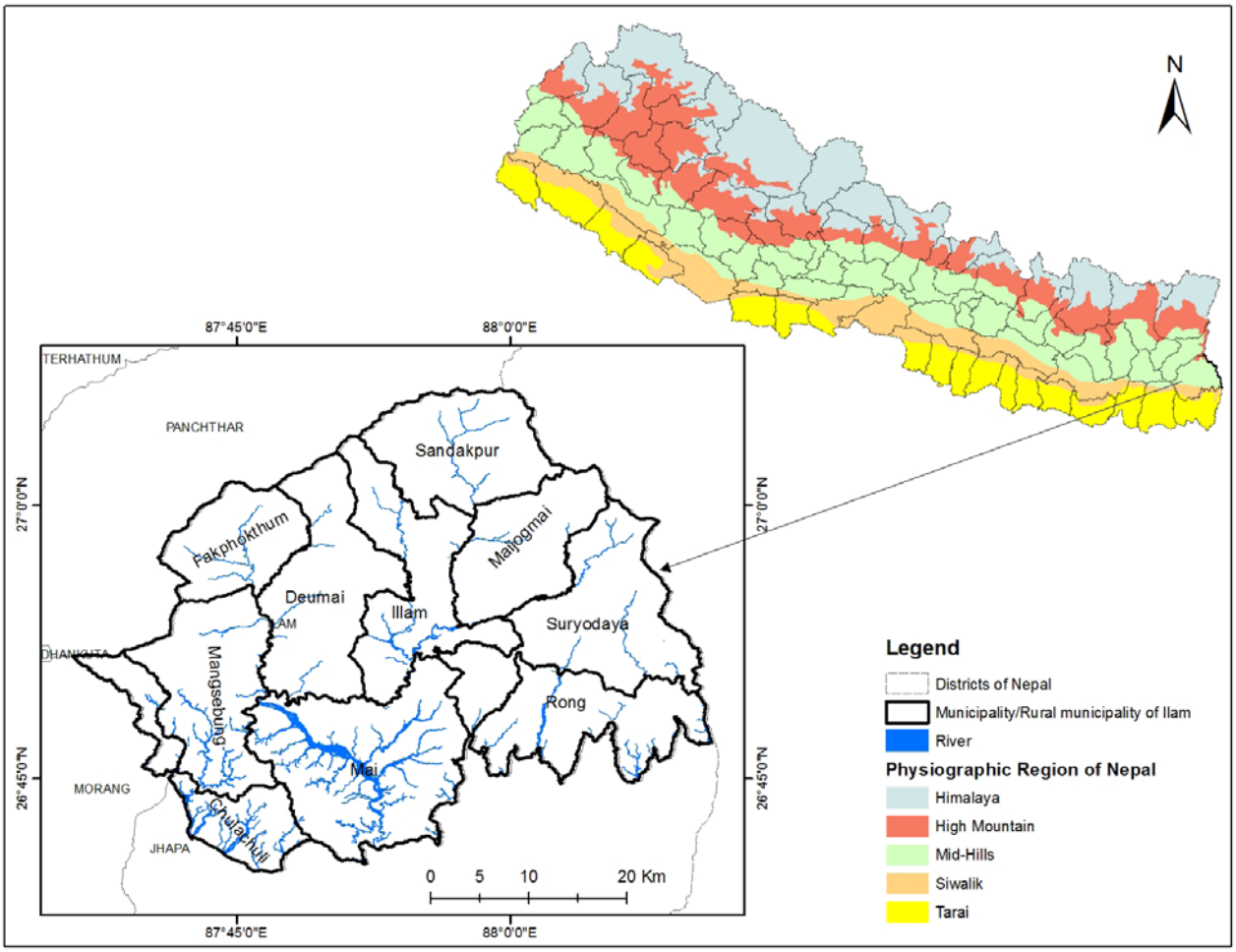
More than 50 % of Ilam is covered by forest, of which about 35% is dense forest (Table 1). Similarly, built up area or cultivated land covers about 38%.

Land cover change analysis for calculation of Forest Reference Level (FRL) revealed 0.42

Table 1: **Land cover of Ilam**

Land cover	Area (sq.km)	Percentage
Built up area or Cultivated land	648.1647	38.5
Dense Forest	591.5	35.1
Sparse Forest	284.0	16.9
Plantation area	5.7	0.3
Shrub/Bushes	108.5	6.4
Grassland	26.7	1.6
Barren Land	0.9	0.1
Riverbed	11.6	0.7
Waterbodies	7.6	0.5

Figure 1: **Map of Ilam District**

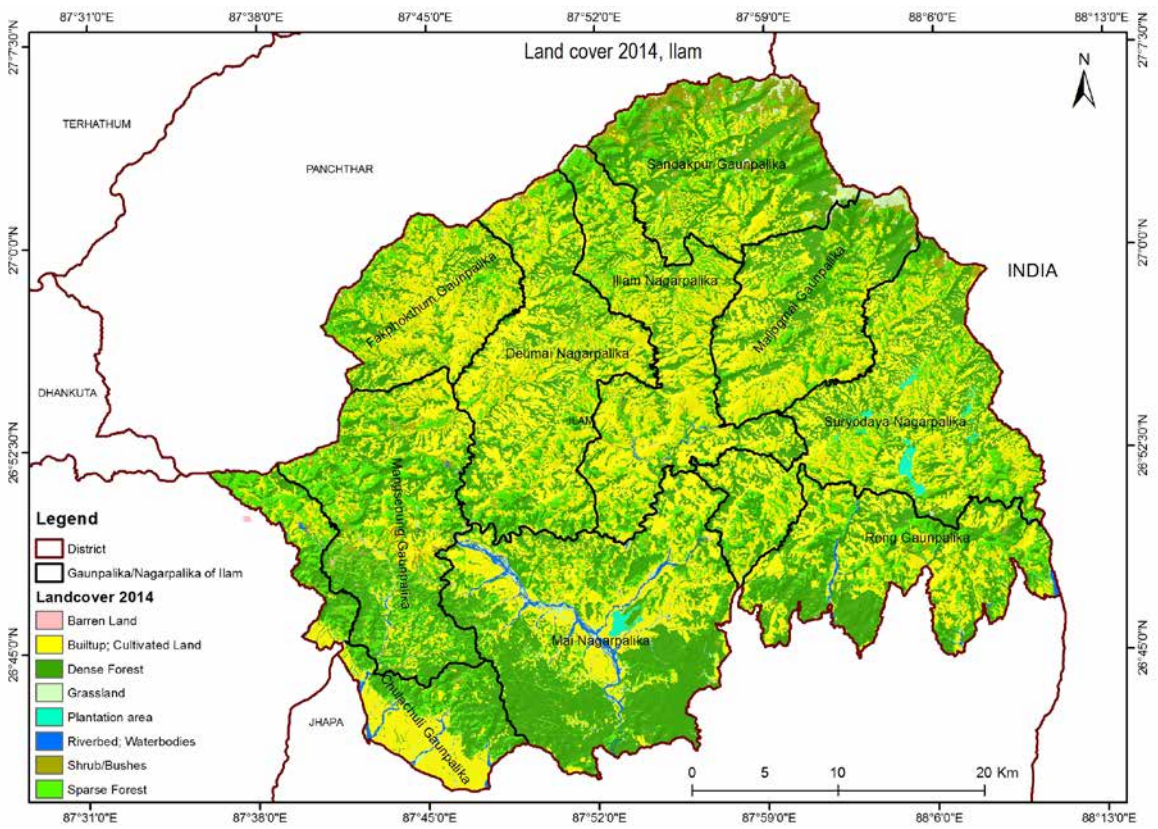


square kilometer of forest loss in Ilam during 2000 to 2010 (REDD Implementation Center, 2017). In the meantime, forest gain in Ilam was 0.5 square kilometers, which indicates the conservation and management of forest is moving in a positive direction assuming planted forest is not replacing natural forest with its higher biodiversity and ecosystem services values.

Additionally, the land cover change analysis of 1989 and 2014 revealed forest gain is much higher than forest loss in Ilam district (Figures 2 and 3). Similarly, area of improved forest (sparse forest to dense forest) was higher than degraded area (dense forest change to sparse forest).

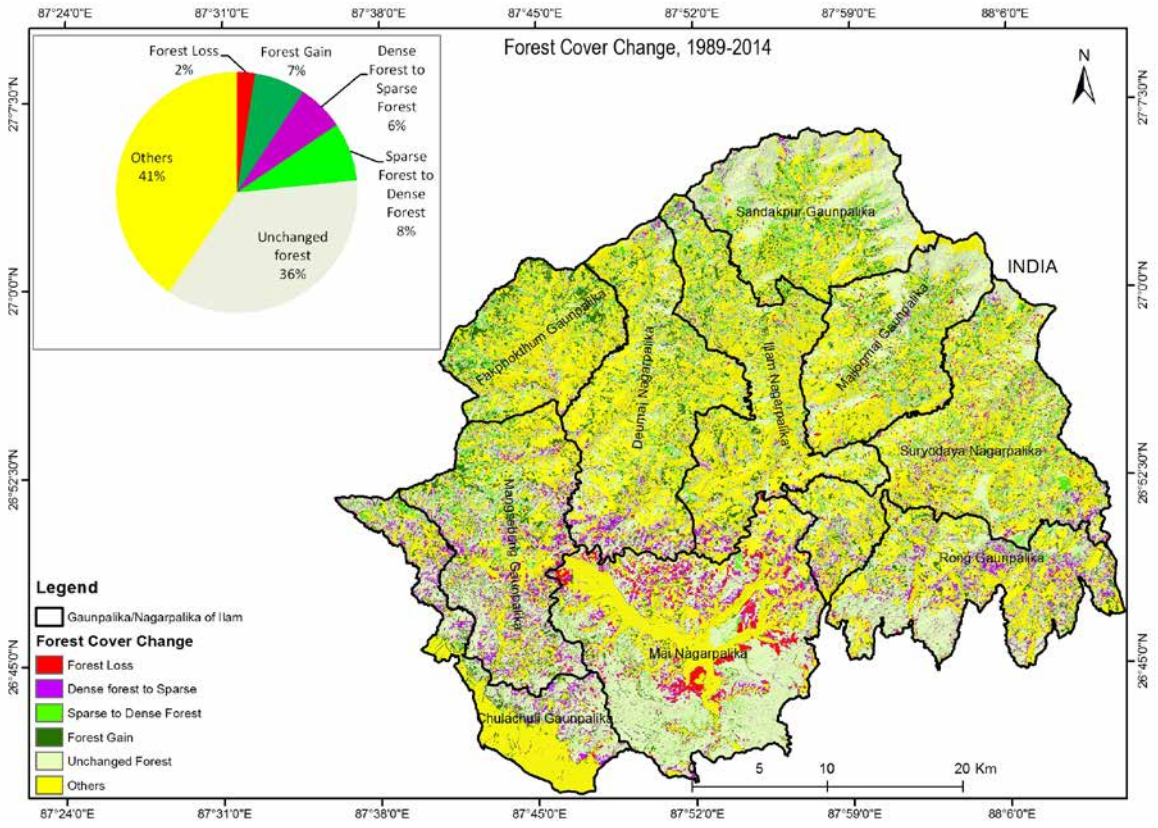
Besides this success story of forest conservation and management in Ilam district, the Chure range of the district has continuously faced the problem of deforestation and forest degradation during last two decades. Encroachment, unplanned urbanization, haphazard rural road construction, development of hydropower and grazing are prime factors that lead to deforestation and forest degradation in Ilam. But the magnitudes of impacts are site specific. Figure 4 shows an example case of deforestation and forest degradation between 2001 and 2017 in Maste/Sukrabare area of Mai municipality. Conversely, Figure 5 shows the afforested area and improved forest area during the same period.

Figure 2: **Land cover of Ilam, 2014**



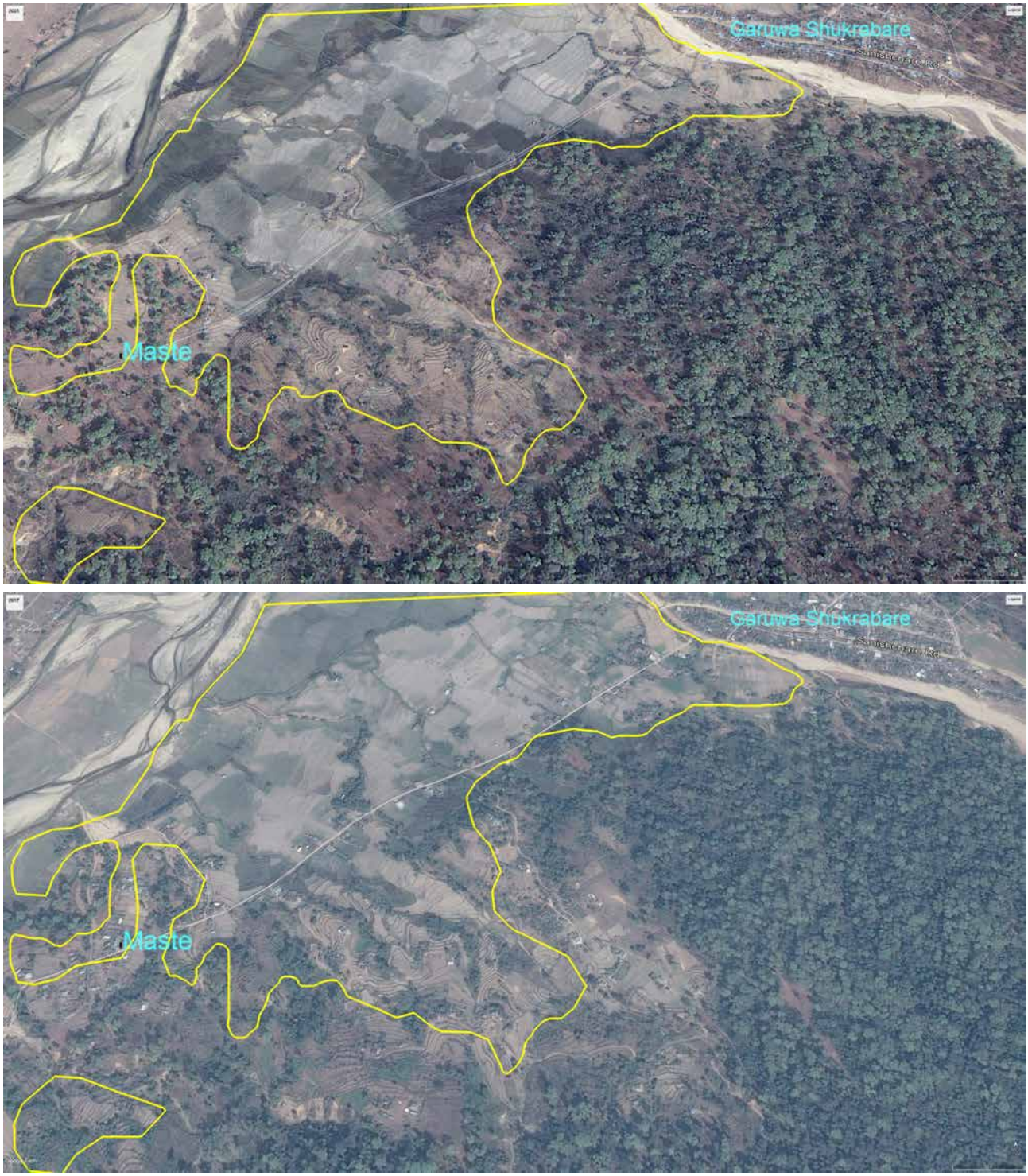
Source: ICIMOD

Figure 3: **Forest Cover Change of Ilam district during 1989-2014**



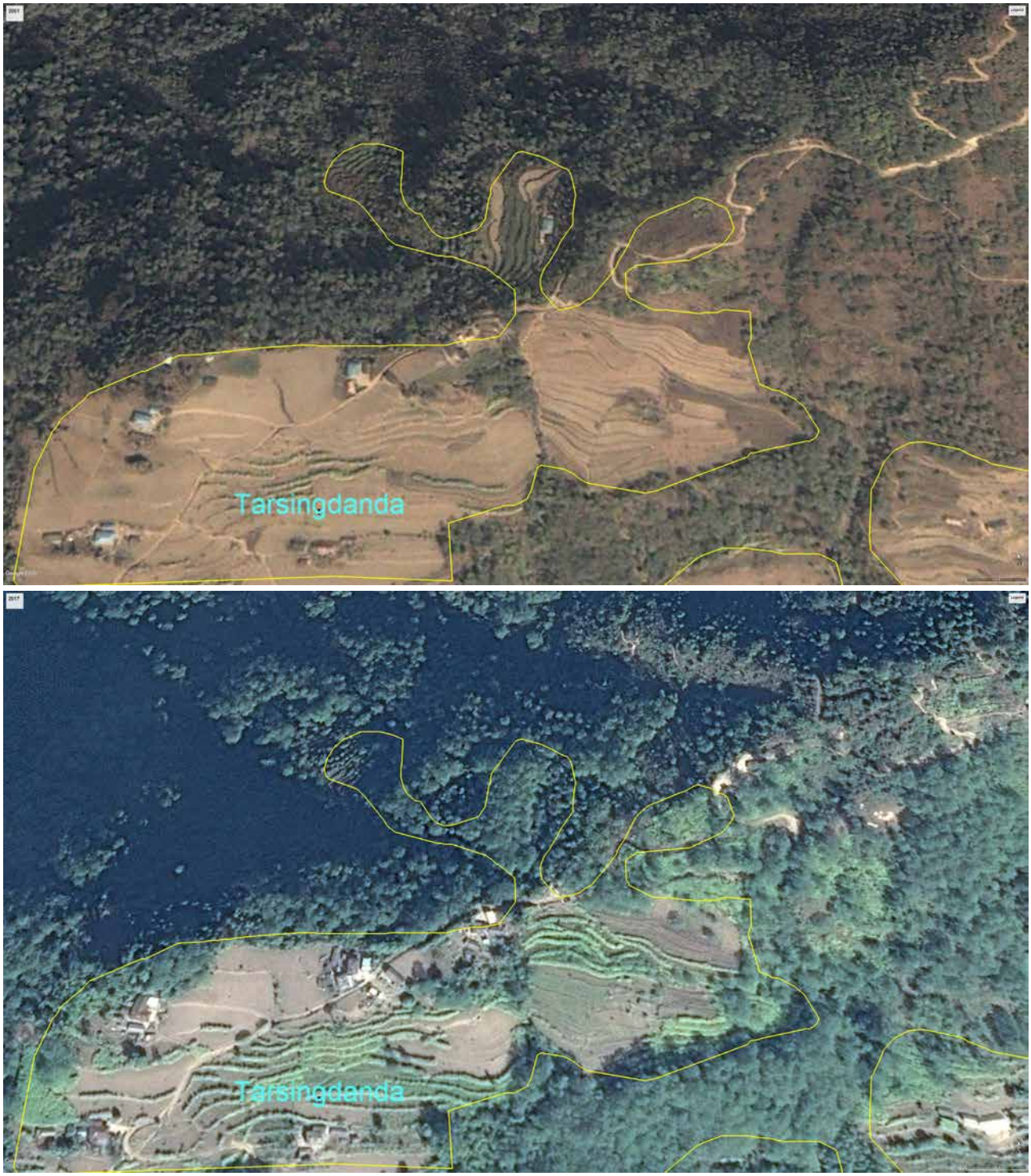
Source: REDD+ initiative, ICIMOD

Figure 4: **Deforestation and Forest degradation**



Note: Upper image is Google Earth image of 2001 & Lower image is Google Earth Image-2017 and Yellow colored polygon marked the cultivated and in 2001

Figure 5: **Afforestation and Improve forest area**



Note: Upper image is Google Earth image of 2001 & Lower image is Google Earth Image-2017 and Yellow colored polygon marked the cultivated and in 2001

Methodology and the Process

The methodology and process for preparation of Ilam LRAP were guided by the UN-REDD Viet Nam Phase II programme and the experience from Chitwan DRAP. There are five main stages for the development of LRAP (Figure 6):

Stage A: Prepare – In this stage, resource people or facilitators are trained followed by preparatory studies, including preparation of 'spatial analysis' maps, logistical arrangements and selection of participants.

Stage B: Analyze – this stage comprises two multi-stakeholders consultation workshops viz. the Problem analysis workshop and the Solution analysis workshop, and field verification of identified hotspots.

Stage C: Plan – this stage includes an expert level workshop for the development of the Intervention Packages (IPs) and analysis of the implementation, social and environmental risks and benefits (incorporating safeguard analysis).

Stage D: Monitor – this comprises developing monitoring plans for the LRAP activities or IPs for the risk reduction and benefit enhancement measures.

Stage E: Budget – In this stage detailed activity plans and budgets for each IP and a 5 year operational plan are prepared.

Figure 6: **Stages, workshops and meetings in the SRAP process (based on May 2016 Draft Manual)**

A core element of the LRAP planning methodology is the participatory problem and solution analysis, undertaken in two multi-stakeholder workshops. The main objective of the problem analysis workshop was to identify and decide the most important (in terms of emission or potential capture of GHGs) D&D drivers and enhancement activities with locations (hotspots) in the maps. All this helped with the cause and effect understanding of the drivers and barriers to enhancement activities, which thus contributed to the identification of strategic and cost-effective REDD+ actions or IPs. After the problem analysis workshop, field verification of the hotspots was carried out.

The main objective of the solution analysis workshop was to develop solution trees or result chains for the prioritized drivers and enhancement activities (together these are called "key challenges") that were identified in the problem analysis workshop.

The remaining tasks were conducted in smaller 'expert workshops' comprising key informants or stakeholders and the core LRAP team. This was because of the more technical and detailed nature of the activities (e.g., identification of IPs, risks analysis, monitoring plan) that, based on experience, are difficult to undertake cost-effectively with larger multiple stakeholder groups and a wide range of technical and educational levels.

Diagnosis

Prioritization of D&D drivers and enhancement activities

Direct drivers of deforestation and forest degradation (D&D) are human activities and actions that directly impact forest cover and result in a loss of carbon stocks. At the Problem Analysis Workshop, the D&D drivers and enhancement activities were prioritised through group work. Three groups (A, B, and C) were assigned to identify the drivers of deforestation, the drivers of forest degradation and the barriers for enhancement activities. Table 2 lists the main drivers and underlying causes of deforestation, forest degradation and enhancement activities in Ilam District. Similarly, figurer 7 and 8 shows the location of the hot spots where problem of D&D and barriers for enhancement activities is observed. All the intervention packages developed in this plan needs to be implemented in those areas.

Table 2: **Direct drivers and underlying causes identified in Ilam District, Nepal**

	Deforestation	Forest Degradation	Barriers to afforestation
Direct drivers (or barriers to forest carbon enhancement activities)	Development activities; Natural disasters; Agricultural extension; Shifting cultivation and encroachment	Natural disasters; Haphazard grazing of livestock; Development activities; Encroachment and forest fire	Lack of awareness; Lack of good quality seedlings and saplings; Lack of commercialization and interest in forest enterprises; Unmanaged urbanization; Unmanaged livestock grazing
Underlying causes or indirect drivers	Income generation; Job opportunities; Political instability; Illegal trade; Temporary cattle sheds in rangelands	Poverty; Lack of awareness; Lack of alternative energy options; Population increase; Urbanization; Weak enforcement of rules and regulations; Illiteracy	Lack of appropriate technology; Lack of research, Lack of coordination; Poverty; Weak enforcement of rules and regulations; Forest degradation; Landslides.

Based on the identified direct drivers and barriers to forest carbon enhancement, three key challenges were identified and selected for D&D and enhancement activities since there would be insufficient resources for all the drivers and barriers to be addressed by REDD+ implementations. Therefore this LRAP has prioritized the key challenges based on their area coverage, intensity, and economic stake, likelihood of reversal of carbon removals, and trends in recent years. The three selected key challenges were:

Figure 7: **Location of key challenges (drivers and enhancement activities) identified at the problem analysis workshop**

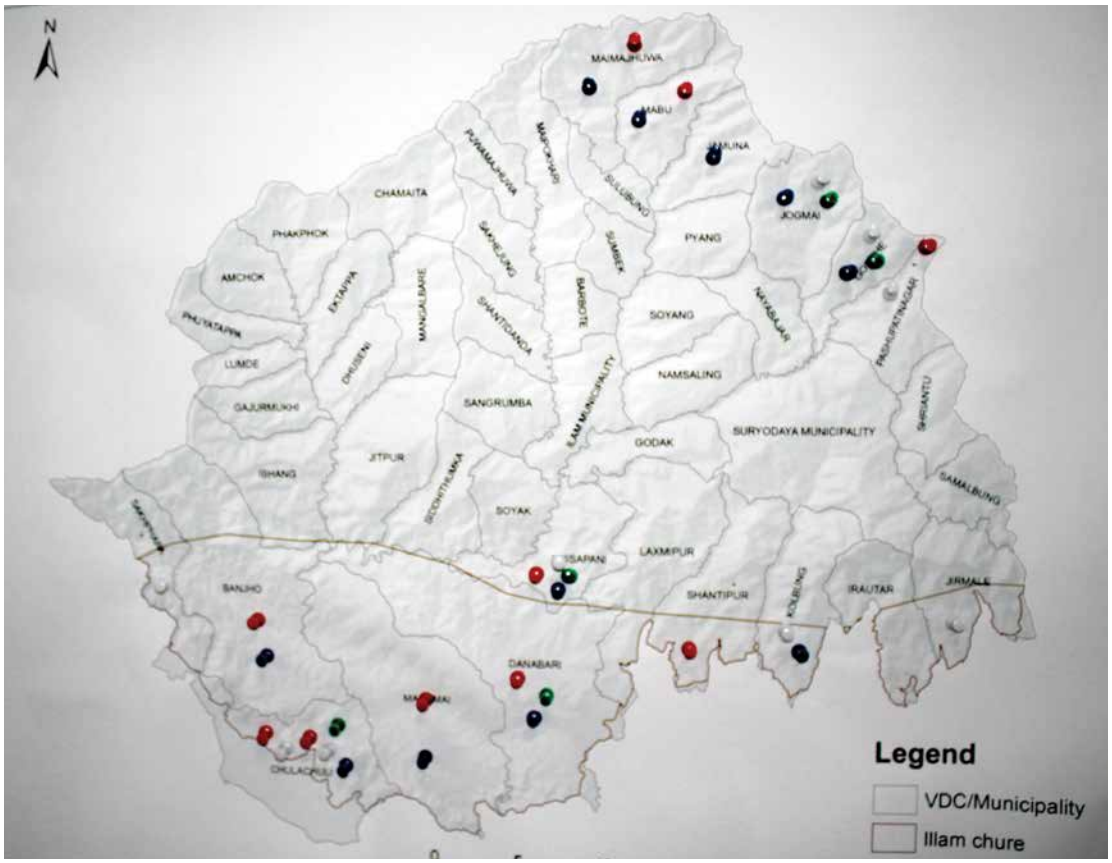
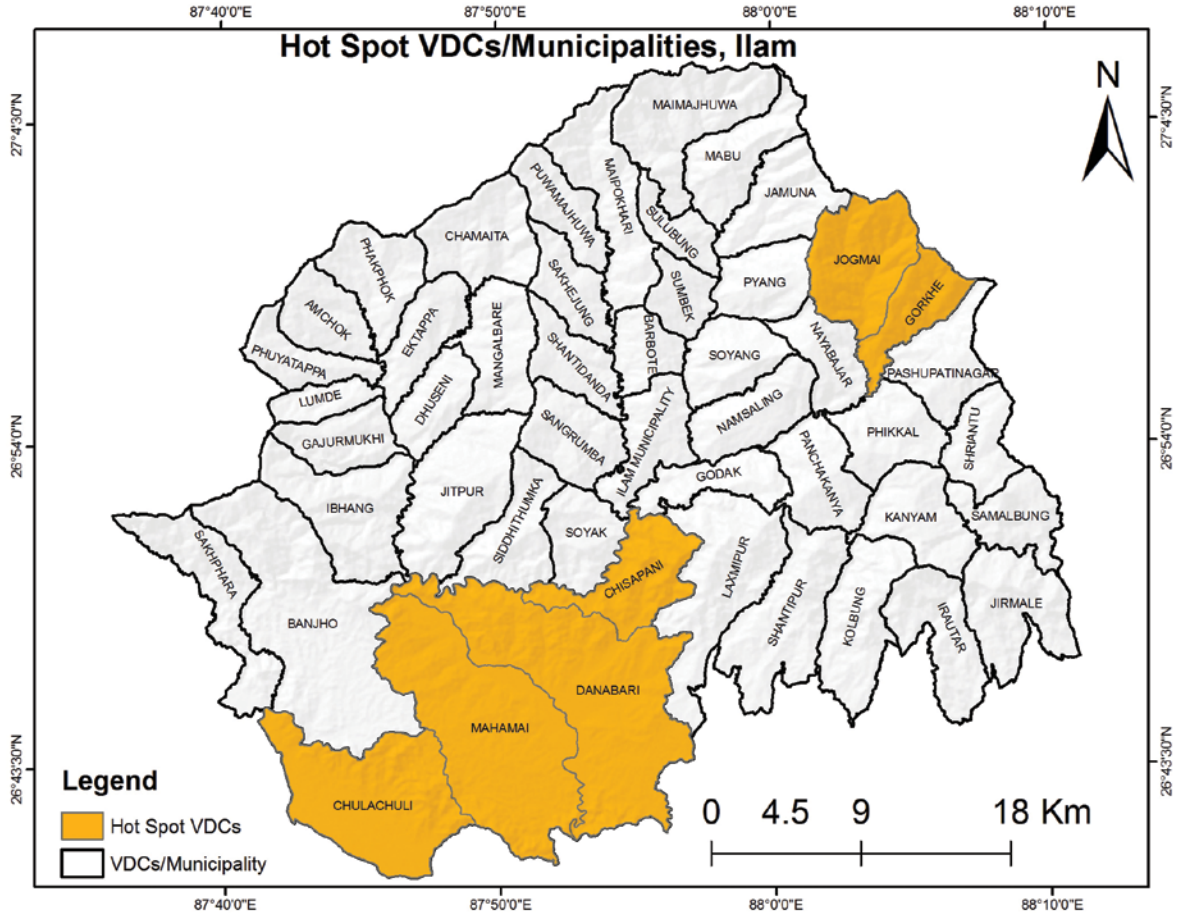


Figure 8: **Hotspots identified by the local stakeholders, forest officials and other line agencies**



- Forest Encroachment (Deforestation)
- Forest Fire (Forest Degradation) &
- Barriers to afforestation in Community forest, National Forest, Private Forest and agroforestry (Enhancement activities)

Similarly, hotspots for all the drivers of D&D and enhancement activities in the district of Ilam were identified. As interventions in all the identified hotspots are unrealistic for the implementation of designed activities, six major hotspots were prioritized: 1) Chulachuli, 2) Mahamai, 3) Danabari, 4) Chisapani, 5) Gorkhe, and 6) Jogmai.

Summary of problem and solution analysis

Problem and solution tree analysis (also called "participatory theory of change" analysis) is a participatory tool for mapping out the main problems, along with their causes and effects, to come up with clear and manageable goals and the strategy of how to achieve them. There are two main stages to this process: (1) the identification of negative aspects of existing situations (or key challenges) in the form of problem trees (involving the analysis of causes and effects of D&D drivers or barriers to forest carbon enhancement), and (2) the inversion of the problems into objectives leading to solution trees or "results chains" showing potential solutions or strategies that respond to the drivers or barriers).

To increase the value of assessment it was carried out in a workshop with district and local stakeholders, giving the opportunity to establish a shared view of the situation, stakeholders who will also be a part of the LRAP preparation and implementation phase. Three key challenges (direct D&D drivers and barriers to forest carbon enhancement) were prioritized by the workshop participants, and used to develop/ formulate the problem trees, as follows:

- Forest Encroachment (Deforestation)
- Forest Fire (Forest Degradation)
- Barriers to afforestation in Community forest, National Forest, Private Forest and Agroforestry (Enhancement activities)

Interventions

Summary of Solution Analysis and Derivation on IPs

A solution tree identifies the potential initiatives, actions and projects as logical solutions to the initial problem tree. The solution analysis workshop was held just over two weeks after the problem analysis workshop, since this provided some time for analyzing and processing the data from the first workshop and allowed participants to recover their energy. The main objective of the solution analysis workshop was to develop a set of solution trees in response to the problems analyzed in the problem analysis workshop, and to provide a basis for the expert group workshop to define a set of intervention packages (IPs). Therefore during the solution analysis workshop solution trees were formulated for:

- Controlled forest encroachment (to address drivers of deforestation) Figure 9,
- Forest fire minimized (to address drivers of forest degradation) Figure 10, &
- Plantation areas increased in AF, CF, NF and PF (to address the barriers for carbon enhancement activities) Figure 11.

Figure 9: **Solution tree for control of forest encroachment**

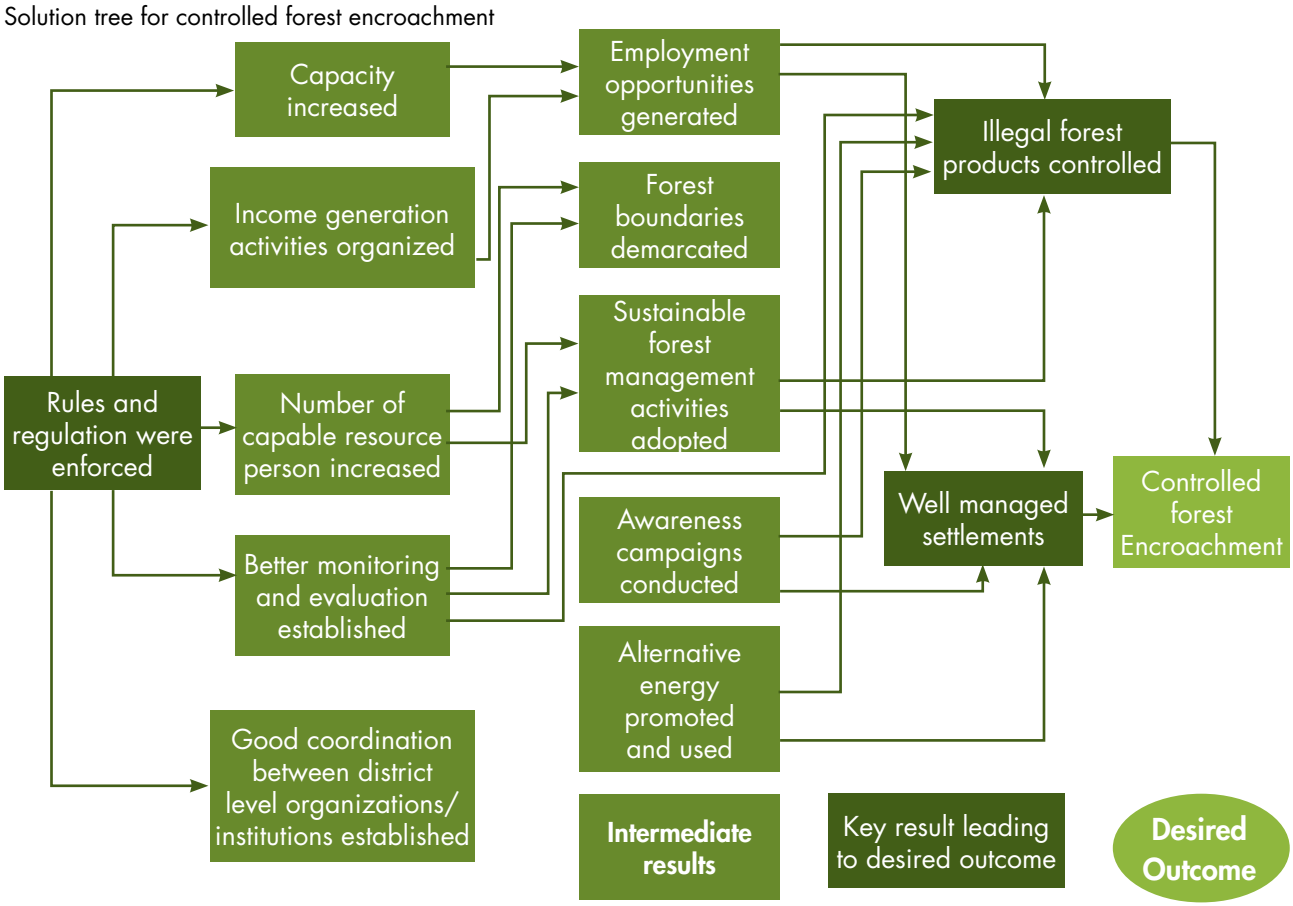


Figure 10: **Solution tree for forest fire minimized**

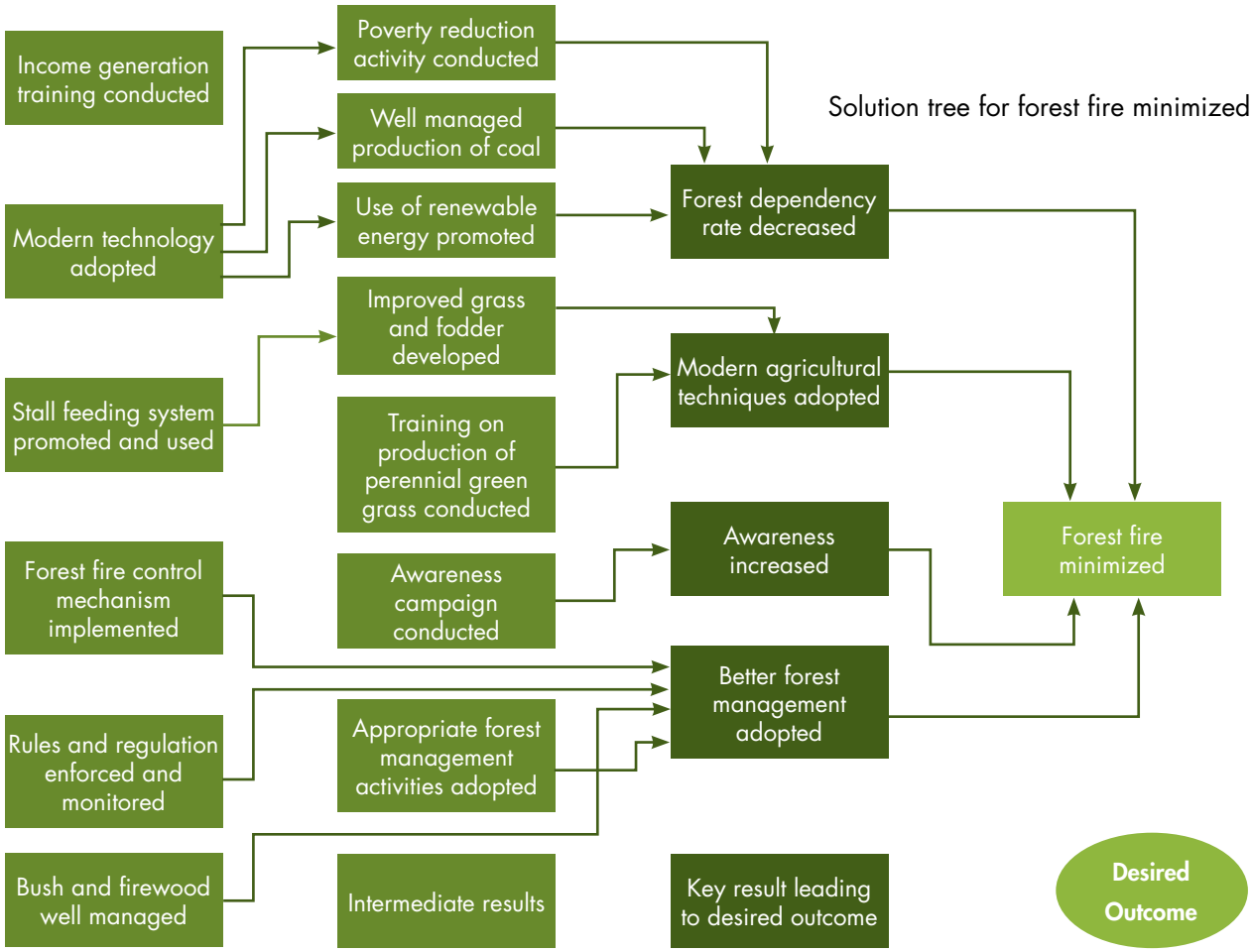
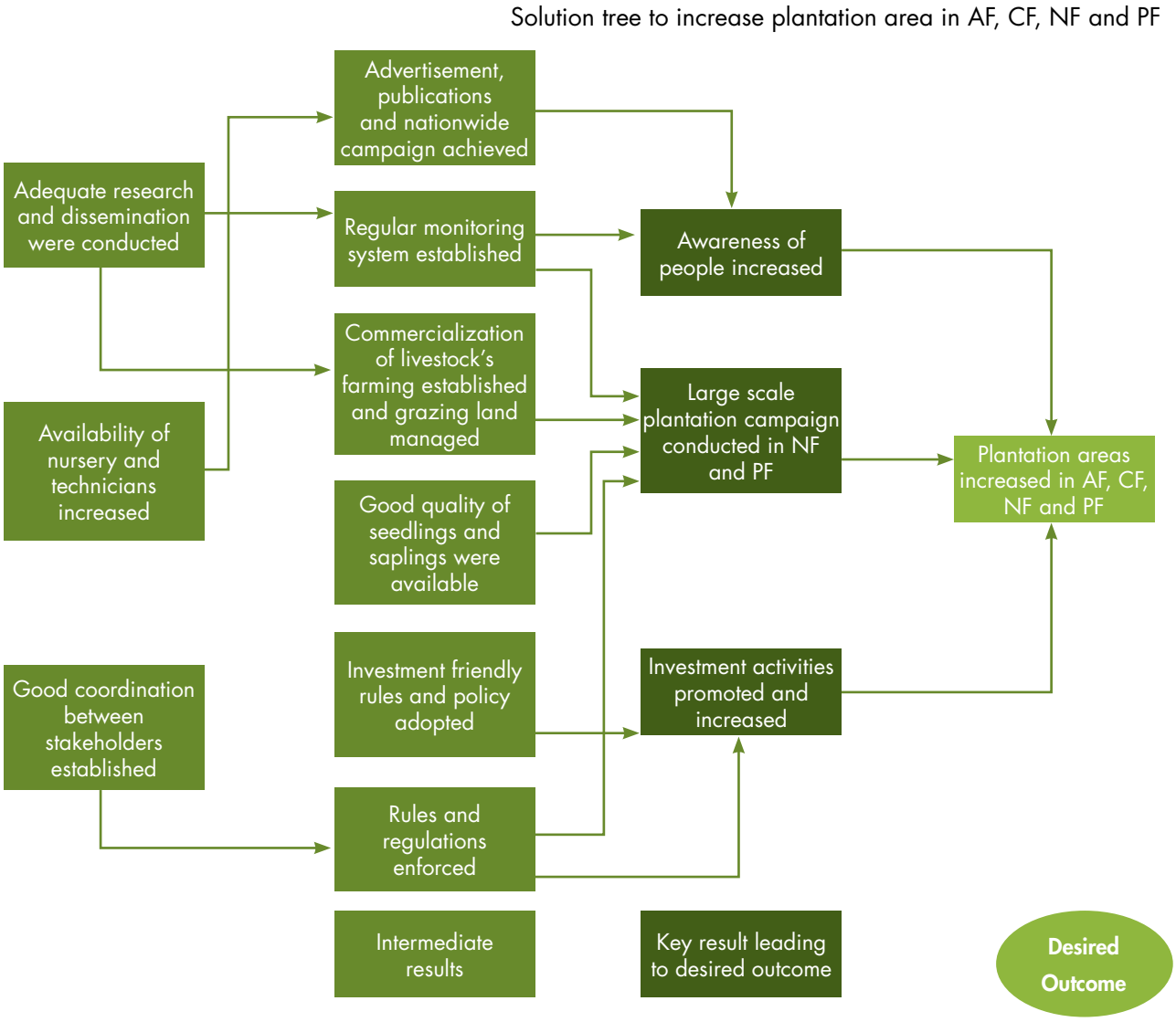


Figure 11: **Solution tree to increase plantation area in AF, CF, NF and PF**



Intervention Packages Including Outputs

All the IPs in this LRAP were developed in close coordination with the government officials, local forest groups, private sector and civil society. It is important to understand and recognize stakeholder diversity and listen to the voices and concerns of forest dependent and poor and marginalized social groups in the process of prioritizing the REDD+ activities. The IPs developed mainly focused on reducing deforestation, forest degradation and activities for forest and carbon enhancement.

From the solution tree analysis workshop numerous key results can be identified as shown in Table 3. But it is not feasible and sustainable to convert all the key results into IPs. This is partly due to the high implied cost, but also because some of the key results refer to national rather than district level measures (such as those referring to policies); some have a more general or cross-cutting role rather than interventions with direct impacts; some face high implementation obstacles or risks; and because a LRAP with too many IPs would be hard to implement effectively. Implementation is usually more effective when there are a few strategic, focused and linked interventions. So, for this LRAP only 5 IPs have been developed as shown below.

Table 3: **Intervention Packages in Ilam LRAP**

Drivers or barriers addressed	Name of IPs	Outputs from the IPs
Deforestation & Forest Degradation	Alternative energy and fuel efficient technologies	Biogas plants and improved cook stoves (ICS) installed Technical assistance and financial support to install ICS provided. Equipment supported to replace coal (local coal dependent community)
	Tenure/boundary demarcation	Land resource map prepared Boundary demarcation of encroached areas and forest areas conducted
	Improving and strengthening forest governance and tackling illegal logging	Illegal logging from CF and PF controlled Forest governance through handover of national forest to community based forest user groups localized
Forest degradation & Barriers for enhancement activities	Fire control/management	Mechanism for mitigation, rescue/response, and preparedness for forest fire management established.
	Sustainable livestock/ grazing management	New and modern techniques adopted for livestock farming and grazing Cooperative based livestock farming promoted
Deforestation , Forest Degradation and Barriers for enhancement activities	Plantations in deforested & degraded forest areas (CF, NF and PF)	Large scale plantation in degraded and deforested areas carried out Private forestry promoted and expanded
	Agroforestry in tea estates	Tea with trees promoted

As mentioned above, the Ilam LRAP can only cover those key results and IPs that correspond to local level interventions. In fact, the multiple stakeholder workshops revealed a number of vital areas of intervention that can only take place at the national level, and therefore measures that need to be incorporated into the National REDD+ Strategy (NRS). If these higher level measures are not included in the NRS, it is very unlikely that the Ilam LRAP will be successful. This is because the national level measures or interventions refer to the underlying drivers or causes of D&D, reflecting the common international experience that the main causes of D&D are national policy and governance failures.

Appendix 7 presents a detailed breakdown of each IP as regards their objectives, outputs, component activities, social and environmental risks and mitigation measures, monitoring indicators, implementation costs, etc. Figure 12 shows the location where activities needs to be implemented.

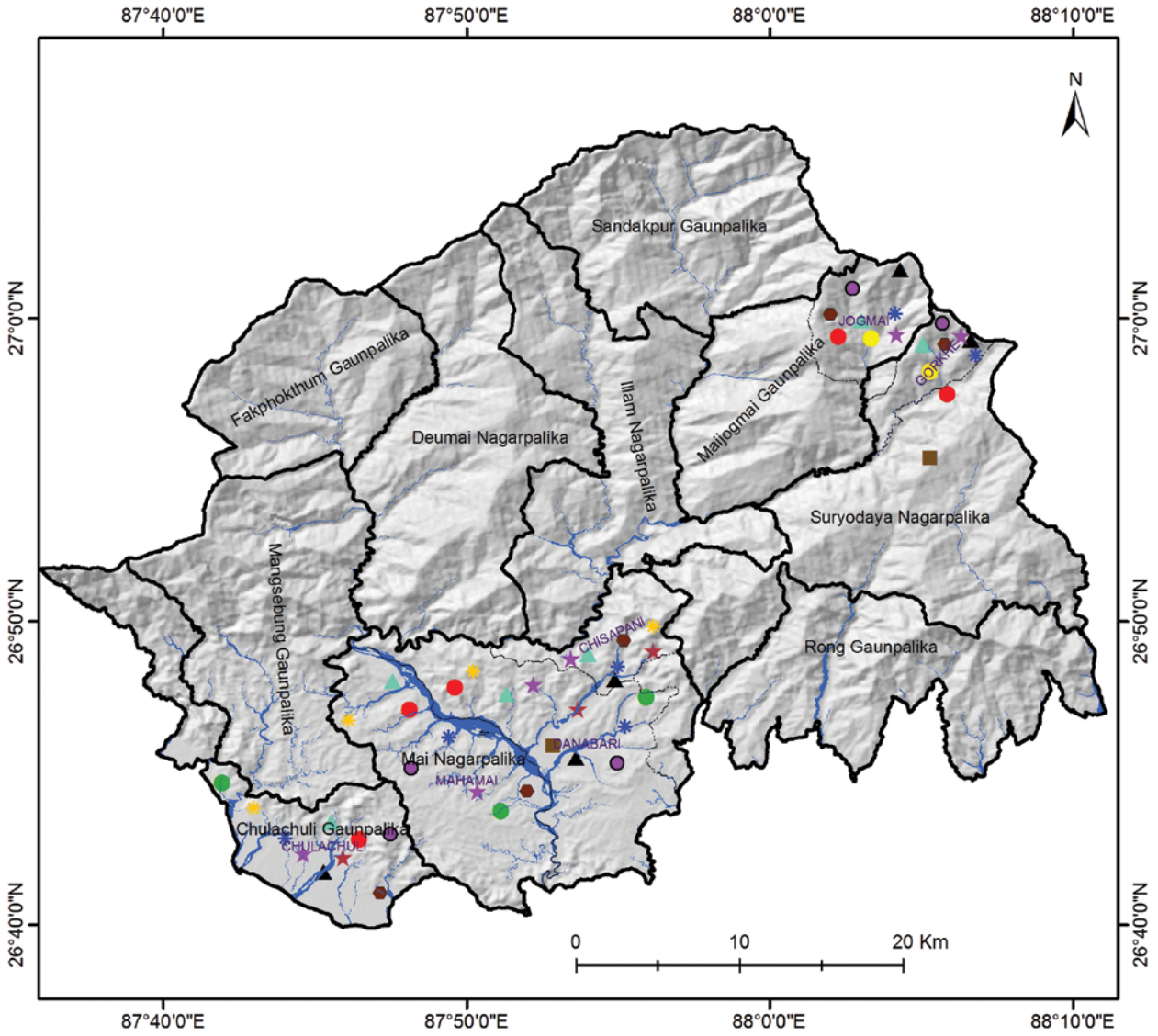
Strategies and activities

For each of the IPs there are strategies and activities as detailed in Table 4. All the activities developed are considered to be realistic and practical as regards their implementation; ambiguous activities have been excluded since it is difficult to obtain clear and measurable outcomes.

Summary of Feasibility Analysis

Feasibility analysis was used to assess the strengths and weaknesses of the intervention packages, which can lead to the desired results of the LRAP. In the feasibility analysis, which was conducted in a small expert group workshop, the risks and obstacles to implementation of each potential IP were assessed, and this provided the basis for assessing the overall feasibility of each IP. It was noted that the risks or obstacles should not include lack of finance or resources since the assumption is that the costs and resources required for implementation will be covered by REDD+ finance if the LRAP becomes operational. At the same time cost-effectiveness is a vital criterion in feasibility analysis.

Figure 12: **Intervention activities in the hotspots area**



Legend

- Municipality / Rural Municipality
- Previous VDC / Municipality
- River

Alternative energy and fuel efficency technologies

- Equipment supported to replace coal
- Instalation of Biogas
- Instalation of ICS

Tenure / Boundary demarcation

- Boundary demarcation of encroached areas and forest areas
- Land resource mapping

Improving & strengthening forest governance & tracking illegal logging

- Controll Illegal logging from CF and NF
- Enhance forest governance in Cf & PF

Forest fire control / management

- Forest fire control / management

Sustainable livestock / grazing management

- Sustainable livestock / grazing management

Agroforestry in tea estates

- Agroforestry in tea estates

Plantation in deforested and degraded forest areas (CF, NF and PF)

- Large scale plantation in degraded and deforested area
- Promotion and expanded of private forest

Table 4: **Intervention package with strategies and activities**

Intervention Package	Key results or strategies	Activities
Alternative energy and fuel efficient technologies	• Forest dependency rate decreased • Adoption of environment friendly and efficient technologies to reduce forest degradation	• Install biogas plant (AEPC technician or locally contracted technicians • Install ICS in hotspot areas, with households providing local materials and the program paying the technicians • Electric appliances supported to replace coal
Tenure/boundary demarcation	• Better forest management adopted • Reduce forest encroachment by clarifying tenure system and forest boundaries	• Baseline assessment of land resource map • Participatory resource mapping and development capability • Land zoning and implementation related to forest sector
Improving and strengthening forest governance and tackling illegal logging	• Better forest management adopted • Increase the forest quality for better timber production • Promote forest based enterprises for livelihood and economic development of forest dependent community	• Regular monitoring of forest and its products • Formulation of anti-logging unit • Formulation of forest management and operational plan • SFM plan prepared for CF • Interaction with national facilitation hub institutions
Forest fire control and management	• Education, awareness raising, capacity building and technology development • Participatory (involving local community) fire management and research • Coordination and collaboration and networking, with stakeholders and communities	• Preparedness for the forest fire management • Sensitization on forest fire hazard issues • Identification and mapping of forest fire sensitive areas • Establishment of community based fire detection system • Post fire management (plantation: fire resilient, restoration)
Sustainable livestock/ grazing management	• Commercialization of livestock farming and management of grazing land	• Promotion of stall feeding system • Provide incentives for the construction of improved cattle shed. • Development of nurseries targeting grass, fodder and fruit trees • Promotion on producing vegetables, raising livestock, growing fruit trees and operating small businesses
Plantations in deforested & degraded forest areas (CF, NF and PF)	• Promote private and public land forestry • Promote forest-based enterprises for livelihood and economic development with strong role of the private sectors	• Integrated land use planning • Establishment of well-equipped nurseries with multi-year seedling production • Development of cooperative plan • Provide appropriate seedling and trainings to develop timber production • Promote Household forestry and value addition of forest products (bamboo, aloo, argeli, hemp, and others)
Agroforestry in tea estates	• Promote forest-based enterprises for livelihood and economic development with strong role of the private sectors	• Research to illustrate co-benefits of tea with tree • Incentivize the tea owners to include trees in tea estates • Awareness campaign to show the benefits of tea with trees • Plantation of ornamental trees

Table 5 shows the overall feasibility of the IPs. The scores indicate that all the IPs are reasonably feasible although plantation in deforested & degraded forest areas (CF, NF and PF) is most feasible followed by forest fire control and management and sustainable livestock /grazing management. Tenure demarcation and boundary delineation seem moderately feasible taking account of the risk that it can be influenced by political parties.

Summary of Gap Analysis with Existing Plans and Projects

Several activities are being implemented by the DFO at field level to address the major drivers of D&D in Ilam. These include: plantations in public and open spaces; evacuation of forest encroachers; daily patrolling for illegal activities; classification of forest and its management; forest management initiatives under the Rastrapati Chure Program; and promotion of alternative energy. Similarly, the DFO produces tree seedlings and distributes them to private forests as well as to community managed forests. Assessment of the on-going attempts to address D&D in Ilam reveals three major gaps or challenges

Table 5: **Overall Feasibility analysis of IPs**

Intervention Packages	Implementation risks/obstacles L=3, M=2, H=1	Cost-effectiveness of risk reduction measures H=3, M=2, L=1	Implementation cost L=3, M=2, H=1	Opportunity cost L=3, M=2, H=1	Incentive measures H=3, M=2, L=1	Total score
Alternative energy and fuel efficient technologies	3	2	2	1	3	11
Fire control/ management	3	2	3	2	2	12
Tenure/boundary demarcation	1	3	1	1	2	8
Measures to reduce illegal logging/improve forest governance	2	2	1	3	2	10
Sustainable livestock/grazing management	3	3	1	2	3	12
Plantations in deforested & degraded forest areas (CF, NF and PF)	3	2	2	3	3	13
Agroforestry in tea estates	2	2	2	2	2	10

- The DFO is playing an active role in monitoring and controlling illegal activities. However, local forest user groups who are directly involved in forest conservation, management and harvesting are not actively involved in these activities. Similarly, other stakeholders in the district such as District Coordination Committee (DCC), Department of Soil Conservation Office (DSCO), and other government line agencies are not fully involved. Consequently, there are continued challenges of poor coordination, low compliance and non-cooperation in addressing D&D.
- Current initiatives to control D&D are generally guided by direct drivers, such as forest encroachment, forest fire and illegal logging. However to be effective, any measure needs a comprehensive understanding of the underlying causes. These include economic drivers, structural forces, cultural behaviors, and institutional preparedness among others. Consequently, the initiatives to reduce D&D should include aspects of local communities' livelihoods, measures to incentivize conservation, economic activities and provision of affordable alternative sources of energy.
- Many of the policies and measures adopted by the DFO and other agencies are not adequately accompanied by an incentive mechanism, resource allocation and capacity development. The current approach to forest conservation largely relies on conventional means such as regulatory restriction, policing and controlling illegal activities, although there have been some initiatives based on decentralized and community based management modalities. There is a need for a major shift to financial incentive based management. REDD+ is a financial-incentive based forest management scheme and therefore is likely to change the behavior of forestry institutions and individuals in years ahead.

Safeguard Analysis

Summary of Safeguard Analysis Process

The main aim of safeguard analysis is to identify risks or threats to the 'Cancun Safeguards' as well as other social and environmental risks, and, secondly to identify where an IP can contribute significant governance, social or environmental benefits. Many of the social and environmental risks will be side-effects or 'trade-offs' between multiple objectives, e.g., a trade-off between carbon and livelihood benefits. A useful criterion for a social risk is whether it will negatively impact a 'vulnerable stakeholder group'.

The risks and benefits should be as specific as possible (Tables 6 and 7). The benefits should also be quite selective, and should be chosen with a view to thinking how key benefits, such as gender equity, improved governance and biodiversity conservation, could be enhanced; a long list of potential benefits is unhelpful. When teams completed this assignment they used the 'group exchange' method to question and improve their analysis. The outcome of this step were list of potentially important risks and benefits for each proposed IP.

Table 6: **Risks of intervention packages, including risk reduction measures**

Key results/Intervention package	Implementation risks or obstacles	Likelihood of risk	Impact of risk	Risk reduction measures
Alternative energy and fuel efficient technologies	Costly, unwillingness to shift to new technologies, high transaction cost	Medium	Medium	Early awareness raising campaign and information sharing
Fire control/ management	Labor days	High	Medium	Good incentives for the labors
Tenure/boundary demarcation	Political pressure and unwillingness to participate in boundary demarcation by encroachers Limited support from local people and leaders on tenure objectives	Medium	Medium	Good coordination & commitment with local people , political parties and concerned government organization Good coordination & fair commitment with local people and concerned government organization and major parties
Improving and strengthening forest governance and tackling illegal logging	Community people might not coordinate causing conflict after the enforcement of rules and law	High	High	Formation of anti-logging committee comprising of CF members and forest office
Sustainable livestock/ grazing management	Costly, Community people might not adopt the technology Unwillingness from the cooperatives members	Medium	Medium	Financial incentives to CFUGs to adopt new technology
Plantations in deforested & degraded forest areas (CF, NF and PF)	Concerned agencies (Forest Office, Local govt. and forest user groups) might not be interested	High	High	Involvement of all the concerned agencies from the planning phase Incentivize & support multi-year seedlings
Agroforestry in tea estates	Lack of skilled and technical person	Medium	Medium	Awareness campaigns and training to tea estates owners on shaded grown tea with tree agroforestry system

Table 7: **Benefits of intervention packages, including benefit enhancement measures**

Key results/ Intervention package	Implementation benefits	Likelihood of benefit	Impact of benefit	Benefit enhancement measures
Alternative energy and fuel efficient technologies	Improved community health and environmental quality	High	High	Train community people to operate alternative sources of energy
Fire control/ management	Conservation of biodiversity	High	High	Recognition/awarding CF with minimal fire/no fire incident
Tenure/boundary demarcation	Probable areas for afforestation and reforestation identified	Medium	Medium	Local people trained in forest management activities
Improving and strengthening forest governance and tackling illegal logging	Increased tourism potential for ecotourism due to biodiversity conservation	High	High	Promotion of ecotourism from private based enterprises
Sustainable livestock/ grazing management	Economic development	Medium	High	Rewards to create healthy competition between farmers
Plantations in deforested & degraded forest areas (CF, NF and PF)	Labor opportunity for unemployed poor/ marginalized HHs	Medium	Medium	Priority selection of unemployed poor/ marginalized HHs to work on plantation
Agroforestry in tea estates	Increased tourism potential for ecotourism due to biodiversity conservation	Medium	Medium	Promotion of ecotourism from private forest based enterprises

Social and Environmental Risks of IPs

Social risks can be considered as negative social side-effects on poor and marginalized social groups while implementing the proposed IPs to address the D&D drivers or barriers to forest (biomass) enhancement. Similarly, environmental risks are potential side-effects from REDD+ interventions that threaten the key REDD+ environmental safeguards, namely that there should be no natural forest conversion; no negative effect on biodiversity or other ecosystem services; no reversal of carbon removals or recurrence of the D&D drivers; and no carbon displacement or 'leakage'.

Firstly, it is necessary to establish is the seriousness of these risks, based on the likelihood of occurrence and the probable level or severity of the ensuing social or environmental consequences or impacts. For 'serious risks', i.e., risks with at least a medium likelihood of happening and at least a medium impact level if they do happen, social and environmental risk reduction or mitigation measures need to be identified. The risk mitigation measures must then be incorporated into the LRAP as additional IP activities and their implementation and monitoring costs added to the LRAP budget.

It is also possible for the stakeholders to identify social and environmental benefit enhancement measures, such as measures to increase gender equity, which could then be incorporated into the LRAP activities and budget.

Monitoring

Summary Including Table of Monitoring Targets and Indicators

The UNFCCC does not require Measurement, Reporting and Verification (MRV) of emission reductions and removals at the sub-national level, but it is clearly essential to monitor the LRAP implementation, both for adaptive management of the LRAP and to be able to compensate or incentivize local stakeholders for their contribution to positive outcomes. Therefore a monitoring plan forms a vital part of the LRAP, including the description of an institutional framework to carry out monitoring activities. The LRAP review workshop revealed that the development of the monitoring plan for the LRAP is a challenging task, both technically and institutionally. It is important to build, to the extent possible, on pre-existing monitoring frameworks to assess the implementation of IPs and the impact of the LRAP as a whole on forest-related indicators. Training local stakeholders in basic data collection can also improve cost-effectiveness of monitoring approaches and provide a means for validation of data generated at the provincial or local level. The Programme is currently working with district partners to clarify the monitoring framework and to build their capacity for long-term monitoring of REDD+ implementation.

Budget and Operational Plan

Detailed and transparent budgeting of the LRAP resulted in the development of a five-year operational plan (Table 8) to be presented to the national Government and potential donors. The quantitative implementation targets defined in the planning stage (and that are also required for the monitoring plan) are the starting point for the budgeting process, followed by a detailed analysis of the activities, tasks (within each activity) and resources needed. The budgeting stage also involved a "gap analysis" to identify activities in the IPs that are already planned and budgeted (for example, in the IP "Alternative energy and fuel efficient technologies") since the LRAP budget and operational plan is only for additional resource requirements.

Table 8: **Estimated Budget for 5 Year Operational Plan (2018 to 2022)**

Currencies in NPR

Intervention Packages	Year, 2018	Year, 2019	Year, 2020	Year, 2021	Year, 2022	Total (NPR)
Alternative energy and fuel efficient technologies	12,250,000	12,250,000	9,800,000	7,350,000	7,350,000	49,000,000
Fire control/management	2,000,000	2,000,000	1,600,000	1,200,000	1,200,000	8,000,000
Tenure/boundary demarcation	4,487,500	4,487,500	3,590,000	2,692,500	2,692,500	17,950,000
Measures to reduce illegal logging/ improve forest governance	7,900,000	7,900,000	6,320,000	4,740,000	4,740,000	31,600,000
Sustainable livestock/grazing management	1,812,500	1,812,500	1,450,000	1,087,500	1,087,500	7,250,000
Plantations in deforested & degraded forest areas (CF, NF and PF)	2,750,000	2,750,000	2,200,000	1,650,000	1,650,000	11,000,000
Agroforestry in tea estates	275,000	275,000	220,000	165,000	165,000	1,100,000
Total In NPR	31,475,000	31,475,000	25,180,000	18,885,000	18,885,000	125,900,000
Total in US$*	299,762	299,762	239,810	179,857	179,857	1,199,048

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* Approximate average annual exchange rate 105 NPR per US dollar in 2017 (January to November 2017).

Annexes

Annex 1: List of workshop participants

S.N.	Full Name	Organization
1	Yam Bahadur Rumba	District Forest Office
2	Dr. Sabina Koirala	District Livestock Service
3	Raj Bahadur Rai	Mai Pokhar Dharmik Ban Samuha
4	Nima Sherpa	Chipchipe
5	Bishu Subedi	GCWG
6	Samina Chamlagain	Mechi Pahadi Chethra Prayatan
7	Bhagwati Ghimire	Women and Child development Office
8	Bimal Katuwal	CFUG
9	Damber Bahadur Limbu	Shree Rani Dhara CFUG
10	Tek Bahadur Magar	Shree Ramite CFUG
11	Abhishek Ekten Limbu	FECOFUN, Ilam
12	Amrit Bahadur Karki	Gai CFUG
13	Ritesh Bhushan Basnet	Southern Sectorial Forest Office, Ilam
14	Prakash Khatiwada	Namsaling Community Development Centre
15	Hemant Dewan	District Coordination Office
16	Pema Sherpa	Red Panda Network
17	Padam Bahadur Tamang	Nepal Federation of Indigenous Nationalities [NEFIN]
18	Ganga Prasad Mahato	Chulachuli CFUG
19	Bijendra Karna Singh	District Soil Conservation Office
20	Dhurba Bahadur Khadka	District Coordination Office
21	Chhabilal Khatiwada	District Coordination Office
22	Sunil Kumar Singh	District Forest Office
23	Rabi Kiran Adhikari	District Agriculture Development Office
24	Khageshwori Adhikari	Women Groups
25	Sonam Chiring Kaji	CFUG
26	Jagat Bahadur Tumbapo	Pathibhara CFUG
27	Sajan Kamad	Eastern Regional Forest and Soil Conservation Office
28	Binod Singh	District Forest Office
29	Jiban Nepali	Dalit Groups
30	Rajendra Kafley	Eastern Regional Forest and Soil Conservation Office
31	Mohan Poudel	RIC, Nepal
32	Hari Laudari	RIC, Nepal
33	Bhaskar Singh Karky	ICIMOD
34	Niroj Timalsina	ICIMOD
35	Trishna Singh Bhandari	ICIMOD
36	Shuvani Thapa	ICIMOD
37	Nabin Bhattarai	ICIMOD

Annex 2: List of members of SRAP core team, Expert Group, Spatial analysis team Multiple Stakeholder Working Group, etc.

S.N.	Name	Institution
1	Dr. Sindhu Pd Dhungana	RIC
2	Mr. Sagar K Rimal	MoFSC
3	Mr. Prakash Lamsal	DoF
4	Ms. Radha Wagle	MoFSC
5	Dr. Mohan Poudel	MoFSC
6	Dr. Bhaskar S Karky	ICIMOD
7	Mr. Nabin Bhattarai	ICIMOD
8	Mr. Niroj Timalsina	ICIMOD
9	Ms. Trishna S Bhandari	ICIMOD
10	Mr. Bharat Babu Shrestha	DFO, Ilam
11	Mr. Yam Rumba	DFO, Ilam

Annex 3: List of District level relevant Stakeholders, Ilam District

District level Institutions involved in forests and REDD+ related activities

Government Institutions

- District Forest Office
- District Coordination Office
- District Soil Conservation Office
- District Plant Resources Office
- District Agriculture Development Office
- District Livestock Service Office

Local Forest User Groups

- Haritnagar Mahila Samuha
- Unnati Samabesi Priyojana
- Mai Pokhari Dharmik Ban Samuha
- Homestay
- Hariyali Mahila Udhyan Samuha
- Forest User Groups/Local people
- Churiya Sanjal Samiti

NGOs/INGOs

- Red Panda Network
- Mountain Organization Nepal
- Namsaling Community Development Centre
- Nepal Federation of Indigenous Nationalities [NEFIN]
- Federation of community Forestry Users Nepal [FECOFUN]
- Women Development Office
- Dalit Groups
- Women Groups
- Ilam Prayetan Prabhardhan Sarokar Samiti

Private Sectors

- Nepalese Chambers of Commerce and Industry [FNCCI]
- Nepal Niji Ban Paidawar Bewasai Sangh
- Gharelu tatha Sana Udhyog
- Hotel Association Nepal
- DSP
- Biogas Company

Annex 4: Ranking of D&D drivers and enhancement activities

Ranking of direct drivers of deforestation

Direct driver	Location[s]	Future threat (1-5)	Future biomass impact (1-5)	Future forest area impacted (1-5)	Total
Infrastructure development	Danabari, Mahamai, Sakfaara, Chisapani	3	3	4	10
Natural disaster	Laxmipur, Jirmale, Kolbung, Sangphungwa	4	3	3	10
Agriculture extension	Danabari, Chisapani, Fikkal, Kanyan	1	1	1	3
Shifting cultivation	Northern belt of Ilam District	1	3	1	5
Encroachment	Churya range and Indo-Nepal border area	5	5	5	15

Ranking of direct drivers of forest degradation

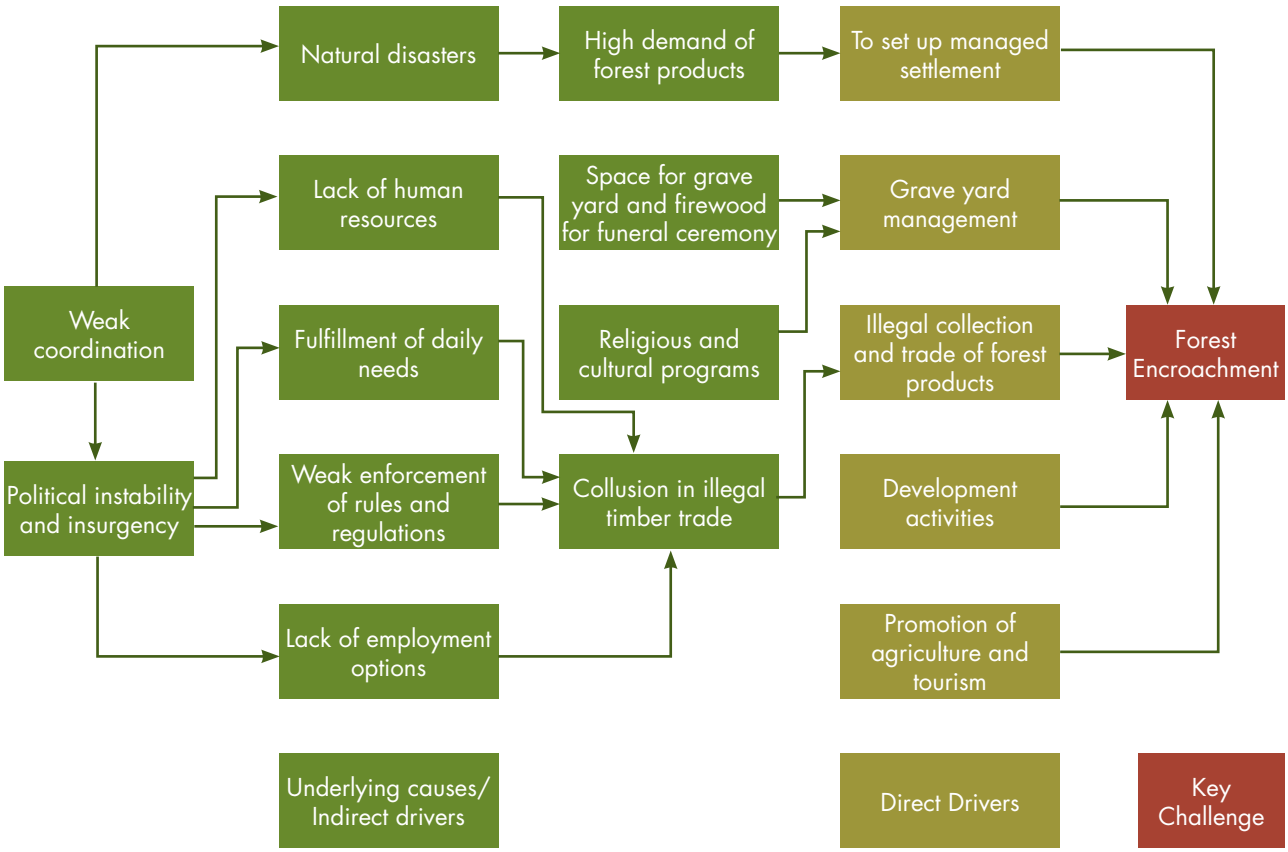
Direct driver	Location[s]	Future threat (1-5)	Future biomass impact (1-5)	Future forest area impacted (1-5)	Total
Natural Disasters	Chulachuli, Jirmale, Shantipur, Banjho, Mahamai	3	2	4	9
Unmanaged grazing	Chulachuli, Jamuna, Mahamai	2	1	2	5
Infrastructure development (Development activities)	Danabari, Mahamai, Sakfaara, Chisapani	4	3	4	11
Encroachment	Churya range and Indo-Nepal border area	3	2	2	7
Forest fire	Chulachuli, Jirmale, Mahamai	2	1	2	5
Deforestation	Danabari	2	2	3	7

Barriers to afforestation in natural and planted forests

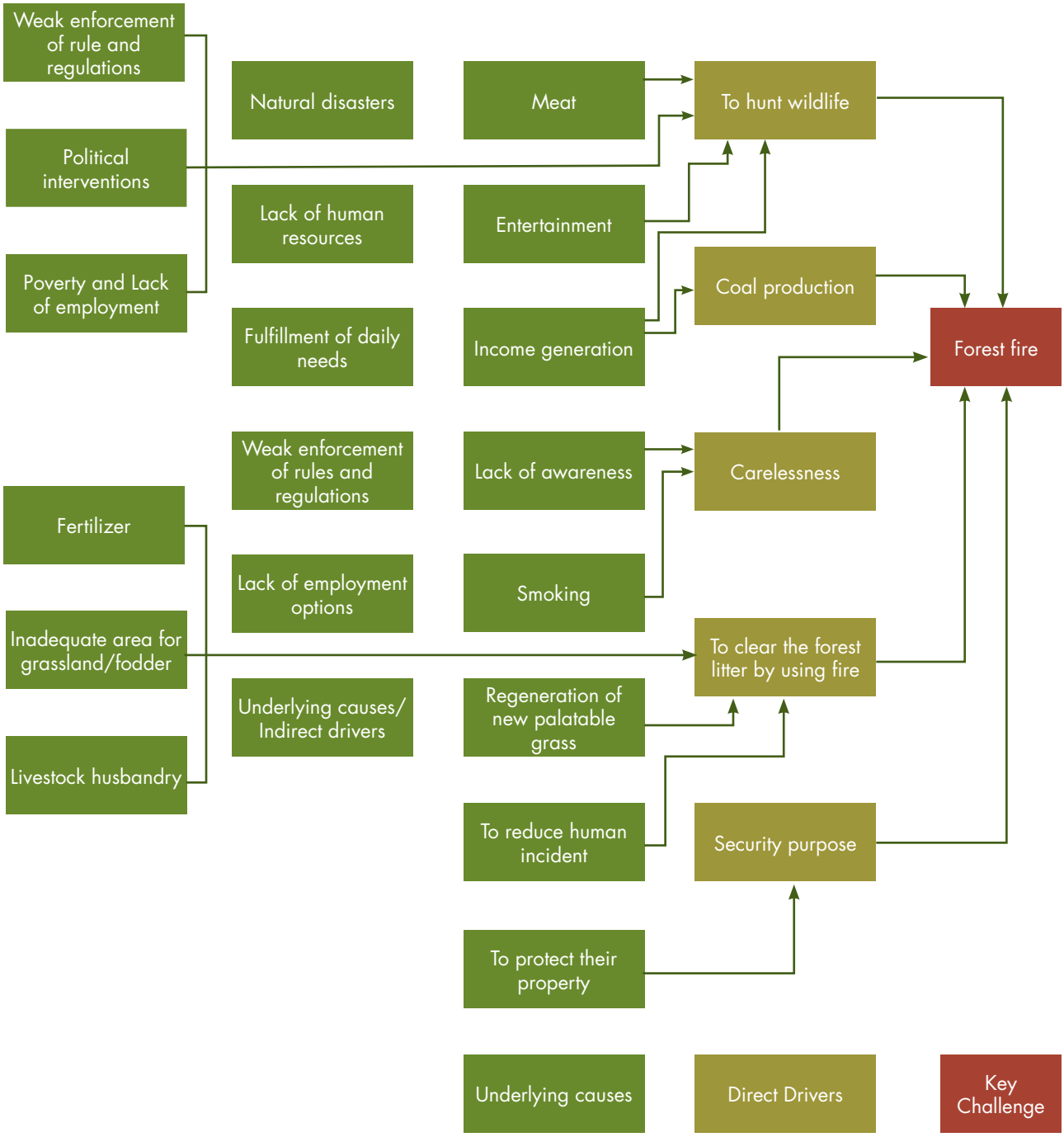
Carbon enhancement activities	Location[s]	Future potential area [1-5]	Future biomass impact [1-5]	Total Score	Significant barriers or challenges
Afforestation	Gorkhe, Jogmai, Mahamai, Mabu	4	5	9	Insufficient land and inadequate land
Reforestation	Danabari, Mahamai, Chulachuli	2	5	7	Very hard to remove encroachment
Forest restoration	Banjho, Jirmale	3	4	7	Less involvement
IFM in natural forests	Banjo, Jirmale	3	3	6	
IFM in planted forests	Banjo, Jirmale	3	2	5	Lack of awareness
Agroforestry/Private forestry	Gorkhe, Jogmai, Mahamai, Mabu, Mahamai, Chulachuli	4	4	8	Lack of good seedlings and new technologies

Annex 5: Problem Trees

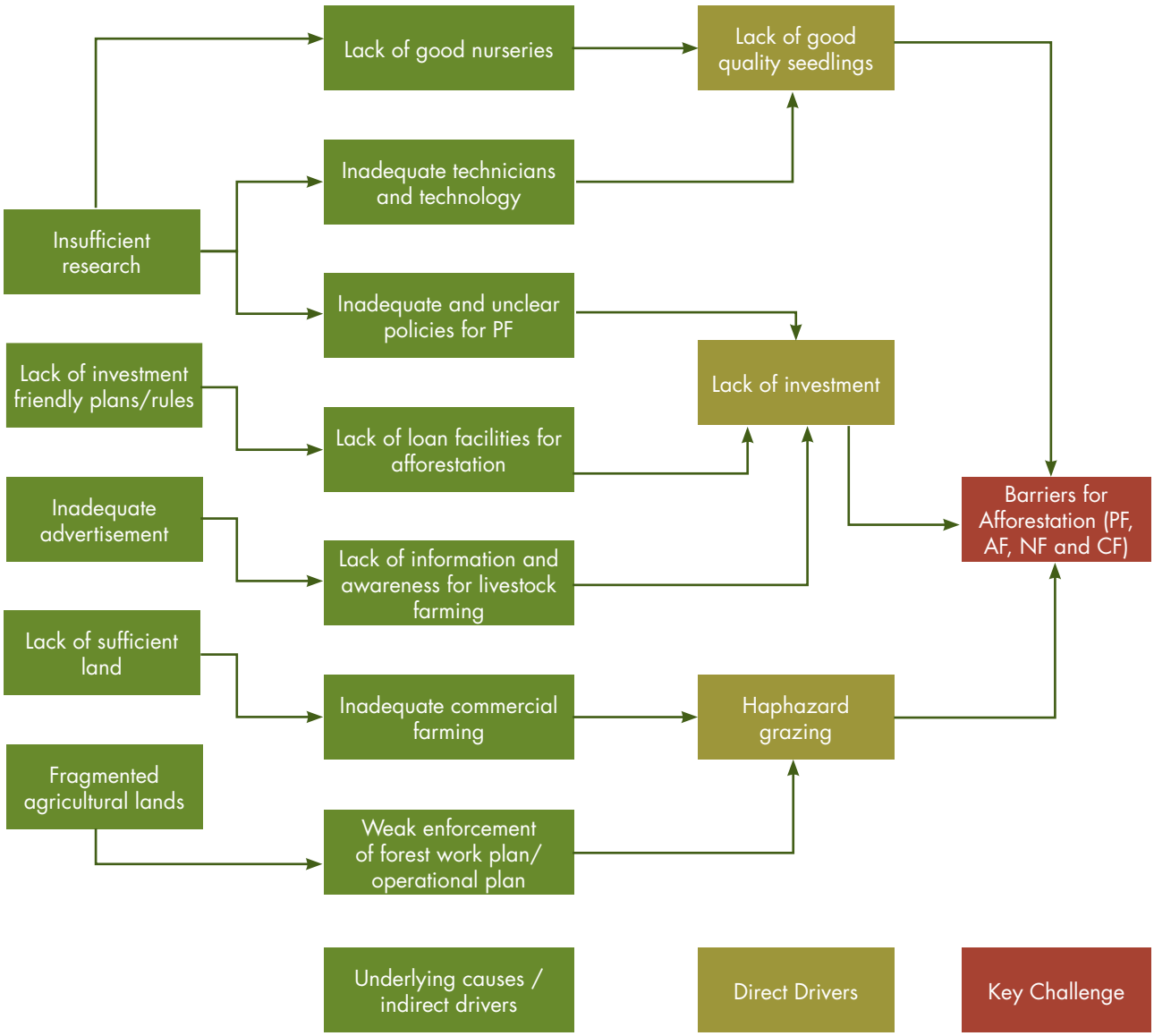
Problem tree for forest encroachment as a driver of deforestation



Problem tree for forest fire as a driver of forest degradation



Problem tree for barriers for afforestation in private forest, national forest, community forest and agroforestry as a barrier for enhancement activities



Annex 6: Detailed IPs with Monitoring plan and Budget

Intervention Package 1: Alternative energy and fuel efficient technologies

A. General Information	
IP Name	**Alternative energy and fuel efficient technologies**
Drivers or barriers addressed	Forest degradation: Reduce fuel wood consumption
IP description	Alternative energy sources for cooking and heating purpose can reduce the demand of fuelwood. Promotion of improved cook stoves (ICS) and supporting the charcoal dependent community with electrical appliances can therefore reduce the rate for forest deforestation.
Objectives	Reduce forest degradation by promoting alternative energy for forest dependent communities Improvement of traditional energy technologies
Strategies	Adoption of environment friendly and efficient technologies to reduce forest degradation
Incentives for participation & changing stakeholder practices	Installation of biogas and ICS will reduce the indoor air pollution and health of the community people. Financial and technical support will be provided for the same. Adoption of electrical appliance to replace charcoal will be more efficient and sustainable. Skill development activities for the local resource persons to become technicians, and then provision of payment by program
Outputs and activities/tasks	1. **Biogas plants and improved cook stoves (ICS) installed** • Select households for installation of Biogas plants & ICS in hotspot areas • Select collaborator (NGO, CSO, etc.) to create awareness of ICS benefits, e.g., through posters and public meetings • Site selection (AEPC technician and household in consultation) • Install biogas plant (AEPC technician or locally contracted technicians) 2. **Technical assistance and financial support to install ICS provided.** • Train at least 2 local technicians from each hotspot area • Install ICS in hotspot areas, with households providing local materials and the program paying the technicians • Follow-up visits by technicians to check operation and maintenance of ICS 3. **Equipment supported to replace charcoal (local charcoal dependent community)** • Identification of households using coal • Public campaign and awareness activities conducted • Promotion of electric appliances to replace charcoal o Local coal dependent community encouraged to invest in those measures which they can afford o Local community incentivized/subsidized to invest on electric appliances

B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Alternative energy and fuel efficient technologies that decrease pressure on forest promoted	Unwillingness to shift to new technologies Lack of access to capital, high transaction costs	Early awareness raising campaign and information sharing Better access to credit	20% of people taking part in awareness campaign At least 20% of HHs having better access to the credit	No. of awareness campaign conducted No. of HHs receiving the credit
Overall feasibility of IP				
Implementation risks/obstacles L=3/M=2/H=1	**Cost-effectiveness of risk reduction measures H=3/M=2/L=1**	**Implementation cost L=3/M=2/H=1**	**Opportunity cost L=3/M=2/H=1**	**Incentive measures S=3/M=2/W=1**
3	2	2	1	3

C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Elite capture in selection of HHs to receive alternative energy/technologies	Transparent HH selection process in which poor/marg. HHs prioritized.	At least one energy option received by 50% of poor/marg. HHs in the hotspots	No. of poor/marg HHs receiving ICS or alternative energy sources
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Improved community health and environmental quality	Train community people to operate alternative sources of energy ,	50% of HHs received training an handling the ICS or alternative energy sources	No. of HHs receiving training on handling of ICS.

D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by local government, DCC, AEPC and DFO Allocation of adequate budget for monitoring		
Implementing partners	Local Government, forest office, AEPC and local communities		
Proxy indicators for impact on forest area or condition	**Proxy impact indicators**	**Target**	
	Average amount fuelwood consumed per household after receiving alternative energy source	60% reduction in per household fuelwood consumption in hotspots	
IP implementation targets	100 households installed biogas plants 1000 households installed ICS 500 households receiving financial and technical support for alternative energy 60% reduction in per household fuelwood consumption in hotspots		
Monitoring Protocol		**Indicators**	*Source of data or data collection methods*
	Proxy indicators	Average amount of fuelwood consumed per household after receiving alternative energy source	Baseline and monitoring from HH records of using alternative energy
	Intervention indicators	No. of biogas plants installed No. of ICS installed No. of solar panels installed	Field observation and completion report Field observation and completion report Field observation and completion report
	Risk reduction indicators	No. of poor/marg. HHs receiving ICS or alternative energy sources	Focus group and key informant discussions; completion report; field observation

E. Budget Plan (5 years)			
Introduction	Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in		
Implementation cost including monitoring	**Activity**	**Budget (NPR)**	**Remarks**
	Biogas plants installed	4,00,00,000	At 3 hotspots (Chulachuli, Danabari & Mahamai)
	ICS installed	30,00,000	At 2 hotspots (Jogmai and Gorkhe)
	Technical assistance and financial support to install ICS provided	10,00,000	In 5 hotspots
	Equipment supported to replace coal (local coal dependent community)	50,00,000	In all hotspots
Total Budget: NPR 49,000,000			

Intervention Package 2: Tenure /boundary demarcation

A. General Information	
IP Name	**Tenure/boundary demarcation**
Drivers or barriers addressed	Deforestation: With clear boundaries and secure tenure, forest encroachment will be controlled and results in reduced deforestation.
IP description	Open or unclear forest boundaries and tenure with private land are a major cause of forest encroachment because unclear boundaries complicate the forest law enforcement and management strategies, can allow private landowners to claim ignorance or 'no-fault' in legal disputes leading to delays in the legal process, potential corruption and fraud, and can encourage 'land grabbing' in anticipation of future land use restrictions. Legal clarification or delineation of boundaries should therefore reduce forest encroachment and illegal settlement.
Objectives	Reduce forest encroachment by clarifying tenure system and forest boundaries
Strategies	Legal delineation of the boundaries between forest and private land combined with consultation process and negotiation with affected stakeholders.
Incentives for participation & changing stakeholder practices	Self-interest of non-encroachers in favor of protecting public land (increased security of long-term land productivity investment) Inclusion of local people when demarcating forest boundaries, and signing agreements with local stakeholders based on the outcomes of consultation processes, and which may include incentives or compensation for affected households/communities as required. A strong awareness raising campaign
Outputs and activities/ tasks	**Land resource map prepared** • Baseline assessment of land resource map • Mapping of current land use with clear demarcation of tenure and boundary • Analysis of land capability, focusing on afforestation and reforestation • Participatory resource mapping and development potentiality • Develop and implement economic and market based incentives to promote optimal land use **Boundary demarcation of encroached areas and forest areas conducted** • Baseline assessments of encroached and forest carried out • Land zoning and implementation related to forest sector • Define clear land entitlements • Effective implementation by improving coordination among the agencies (Local, Province and Federal government, development partners, NGOs, INGOs, infrastructure development and others)

B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Land resources map prepared	Limited support from local people and leaders on tenure objectives	Coordination committees established to promote good coordination & commitment with local people, concerned government organizations and major parties	One coordination committee in at least 2 hotspots	No. of operational coordination committees No. of meetings conducted with meeting minutes
Boundary demarcation of encroached areas and forest areas conducted	Political pressure and unwillingness to participate in boundary demarcation by encroachers	Good coordination & commitment with local people , political parties and concerned government organization	One coordination committee in at least 2 hotspots At least 1 coordination meeting in 3 months.	No. of operational coordination committees No. of meetings conducted with meeting minutes
Overall feasibility of IP				
Implementation risks/obstacles L=3/M=2/H=1	**Cost-effectiveness of risk reduction measures H=3/M=2/L=1**	**Implementation cost L=3/M=2/H=1**	**Opportunity cost L=3/M=2/H=1**	**Incentive measures S=3/M=2/W=1**
1	3	1	1	2

C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Political pressure	Meetings with all political parties Taking consensus and coming up with decisions	Signed agreement letter	Signed agreement letter from major political parties
Forest conversion & biodiversity risk: encroachers may deforest before or after delineation in conflict boundary areas	Early awareness raising campaign renegotiation/ FPIC process	All potentially affected HHs exposed to awareness raising campaign	No of affected HHs exposed to awareness raising campaign
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Probable areas for afforestation and reforestation identified	Local people trained in forest management activities	At least two forest management activities in a year	*No. of forest management activities in a year*
D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by Provincial and Local forest department & CFUGs, Allocation of adequate budget for monitoring		
Implementing partners	Local Government, forest departments and forest user groups		
Proxy indicators for impact on forest area or condition	**Proxy impact indicators**	**Targets**	
	Length of boundary between forest and private land in disputed areas delineated Area of forest land recovered after boundary delineation	• 20 km boundary between forest and private land in disputed areas delineated • 25 ha of encroached forest in conflict areas restored	
IP implementation targets	20 km of boundary between forest and private land in conflict areas delineated 25ha of encroached forest area in conflict areas restored		
Monitoring Protocol		**Indicators**	**Source of data or data collection methods**
	Proxy indicators	Length of boundary between forest and private land in disputed areas delineated Area of forest land recovered after boundary delineation	Forest office and completion report
	Intervention indicators	Length of forest/private land delineated in disputed areas Area of forest land recovered after delineation	Field observation and completion report
	Risk reduction indicators	Formal consent of displaced landless people Formal consent of poor and marginalized HHs	Field observation and documents of formal consent
E. Budget Plan (5 years)			
Introduction	Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in		
Implementation cost including monitoring	**Activity**	**Budget (NPR)**	**Remarks**
	Land resource map preparation	42,00,000	At all 6 hotspots
	Boundary demarcation of encroached areas and forest areas conducted	1,37,50,000	At 3 hotspots (Danabari, Mahamai, Chisapani)
Total Budget: NPR 1,79,50,000			

Intervention Package 3: Improving and strengthening forest governance and tackling illegal logging.

A. General Information	
IP Name	**Improving and strengthening forest governance and tackling illegal logging**
Drivers or barriers addressed	Illegal logging is among the main cause for forest degradation so, this IP will address the drivers of forest degradation Forest governance can address all the drivers
IP description	Forests of Ilam are under serious threat from illegal logging and related trade – an issue that has serious implications for tackling climate change and achieving sustainable development. Illegal logging prolongs corruption, undermines livelihoods, fuels social conflict, deprives governments of revenue and erodes countries' natural resource bases. So, improving forest governance can support in tacking illegal logging of that area.
Objectives	To reduce carbon emission, enhance carbon stock of the forest and to reduce the case of illegal logging
Strategies	Increase the forest quality for better timber production Strengthening forest governance and establishment of anti-logging mechanism Promote forest based enterprises for livelihood and economic development of forest dependent community
Incentives for participation & changing stakeholder practices	Timber tracking can be done in right manner and system which help local government in income generation through tax and revenue from which some percent can go to the local community for the diversification of livelihood activities. Improved forest governance can achieve substantial and measurable carbon and non-carbon benefits for local communities, sustain native biodiversity, and reduce illegal timber logging ultimately decreasing the rate deforestation and forest degradation. We review the basis for each of these potential benefits
Outputs and activities/ tasks	**Illegal logging from CF and NF controlled** • Trace the supply chain, suppliers audits and sustainability reporting of timbers • Estimating, with the help of partners, the volumes of illegally logged wood, and the reasons underlying this phenomenon • Enforcement of forest laws and regulations to reduce the risk of illegal logging • Regular monitoring of forest and its products • Good coordination with forest offices and other line agencies • Formulation of anti-logging units **Forest governance enhanced in community forest and PF** • Participatory Governance Assessment • Formulation of forest management and operation plan • Review, update and renew of management plan focusing REDD+ objectives • Monitor and analyses issues connected with forest law enforcement and governance • Sustainable forest management plan prepared for CF • Managing a peer-to-peer learning group for improving forest governance • Strengthening communities to engage in community-based forest resource conflict management • Interacting with national facilitation hub institutions

B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Illegal logging from CF and PF controlled	Community people might not coordinate causing conflict after the enforcement of rules and law	Formation of anti-logging committee comprising of CF members and forest office	One committee in each hotspot All anti-logging committees sufficiently trained in coordination and conflict resolution.	No. of active anti-logging committee in hotspots No. of committees and people trained in coordination and conflict resolution
Forest governance enhanced in CF and PF	No risk involved			

Overall feasibility of IP

Implementation risks/ obstacles L=3/M=2/H=1	Cost-effectiveness of risk reduction measures H=3/M=2/L=1	Implementation cost L=3/M=2/H=1	Opportunity cost L=3/M=2/H=1	Incentive measures S=3/M=2/W=1
2	2	1	3	2

C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Economic and social implications for poor and disadvantaged groups	Follow FPIC process Priority will be given to affected HHs while implementing the activities	FPIC process followed resulting in consent of affected HHs. At least 10% for forest management activities given to affected HHs	Documentation or report of FPIC process No. of affected HHs in forest monitoring activities
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Increased tourism potential for ecotourism due to biodiversity conservation	Promotion of ecotourism from private forest based enterprises	At least 5 private forest based enterprises conducting ecotourism activities	No. of private forest based enterprises involved in ecotourism activities

D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by Provincial and local government (esp. forest department), DCC, Private forest Association Allocation of adequate budget for monitoring		
Implementing partners	Local Government, forest department, community forest user groups, private forest association, Timber corporation		
Proxy indicators for impact on forest area or condition	*Proxy impact indicators*	*Targets*	
	No. of cases of illegal logging No. of functional anti-logging units No. of management plans renewed Area under sustainable forest management activities	50% decrease in cases of illegal logging 1 anti-logging units in each hotspots At least 5 management plans renewed in each hotspot At least one CF conducting SFM activities in each hotspots	
IP implementation targets	At least 6 coordination meeting with line agencies per year carried out 6 anti-logging unit formation At least 10 existing management plan updated and renewed in each hotspots 10 SFM plan developed 2 forest management activities carried out per year 6 peer to peer learning visit conducted 6 anti-logging unit formation (comprising forest office, CFUG, local community, Timber corporation and other line agencies)		
Monitoring Protocol		**Indicators**	**Source of data or data collection methods**
	Proxy indicators	No. of illegal logging cases No. of functional anti-logging units No of SFM activities conducted No of management plans renewed	Baseline survey, field observation and report Activities conducted by anti-logging unit and report Field survey and completion report
	Intervention indicators	No of illegal logging cases *No of CFUG in SFM activities*	Field observation and report Field survey, completion report
	Risk reduction indicators	No of forest management activities conducted by affected HHs	Field observation and completion report

E. Budget Plan (5 years)			
Introduction	Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in		
Implementation cost including monitoring	**Activity**	**Budget (NPR)**	**Remarks**
	Illegal logging from CF and NF controlled	20,500,000	At least 4 hotspots
	Forest governance enhanced in community forest and PF	11,100,000	In all hotspots
Total Budget: NPR 31,600,000			

Intervention Package 4: Forest fire control and management

A. General Information	
IP Name	**Forest fire control and management**
Drivers or barriers addressed	All drivers and barriers.
IP description	Forest fires are the main issue threatening the forest heritage. They are strengthened by decreased precipitation, increased temperature and raised frequency of weather extremes as a consequence of climate change with increase in population and overexploitation of forest resources. This IP strongly supports forest fire management, above all in prevention activities
Objectives	To develop capacity of local forest user groups and other concerned agencies to cope with the forest fires. To build common perception on the importance for forest fire prevention
Strategies	Education, awareness raising, capacity building and technology development Participatory (involving local community) fire management and research Coordination, collaboration and networking with stakeholders and communities
Incentives for participation & changing stakeholder practices	Creating job opportunities for local communities by involving in fire management activities. Because of forest fire not only forest is damaged but private property near to the forest is also at high risk. So, steps to work with local authority to advise property owners about how best to save their property must be taken. This will be a part of self-interest by the owners for their private property.
Outputs and activities/tasks	**Mechanism for mitigation, rescue/response, and preparedness for forest fire management established.** • Preparedness for the forest fire management • Management of leaf litters and dry dead woods • Sensitization and training program focusing on forest fire hazards and its prevention methods. • Identification and mapping of forest fire sensitive areas • Establishment of community based fire detection system • Construction of fire lines in appropriate locations and areas • Firefighting equipment support • Formation of forest fire task force in CFUGs (forest fire response) • Post fire management (plantation: fire resilient, restoration)

B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Mechanism for mitigation, rescue/response, and preparedness for forest fire management established	Labor days	Good incentives for the labor	At least 80% of CFUGs labor getting incentives for their work.	No. of people from CFUGs receiving incentives
Overall feasibility of IP				
Implementation risks/ obstacles L=3/M=2/H=1	**Cost-effectiveness of risk reduction measures H=3/M=2/L=1**	**Implementation cost L=3/M=2/H=1**	**Opportunity cost L=3/M=2/H=1**	**Implementation cost L=3/M=2/H=1**
3	2	3		

C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Underprivileged CFUGs might not get access to firefighting tools and trainings	Clear identification and prioritization of underprivileged community forest	At least 3 community forests prone to forest fire received forest firefighting tools.	No of underprivileged community forests receiving firefighting tools.
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Conservation of biodiversity	Recognition/prize to the CF with minimal fire/no fire incident.	At least 6 CF received recognition/prize	No of CF receiving recognition/prize

D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by Local government and forest department Allocation of adequate budget for monitoring		
Implementing partners	Local government, forest department, Community forest user groups		
Proxy indicators for impact on forest area or condition	**Proxy impact indicators**	**Target**	
	Forest quality (after forest fire management) (Note: Forest quality would be measured based on the density of trees, canopy cover, species diversity, regeneration and density of wild animals.)	Quality of at least 5% of the total forest area will be increased	
Targets	6 fire management trainings conducted 6 firefighting equipment's supported 2 community based fire detection system developed 6 fire task force created At least 5km fire line constructed		
Monitoring Protocol		**Indicators**	**Source of data or data collection methods**
	Proxy indicators	Forest quality (after forest fire management)	Remote sensing, field observation and completion report
	Intervention indicators	No. of fire management trainings Amount of firefighting tools supported	Training report Field observation and invoices
	Risk reduction indicators	No of needy community forests receiving firefighting tools.	Handover sheet and completion report
E. Budget Plan (5 years)			
Introduction		Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in	
Implementation cost including monitoring	**Activity**	**Budget (NPR)**	**Remarks**
	Mechanism for mitigation, rescue/ response, and preparedness for forest fire management established.	80,00,000	In all hotspots
Total Budget: NPR 8,000,000			

Intervention Package 5: Sustainable livestock/grazing management

A. General Information	
IP Name	**Sustainable livestock/grazing management**
Drivers or barriers addressed	Constraints to Improved forest management, degradation problem due to livestock grazing. Forest Degradation: Promotion of stall feeding will help in addressing the driver of forest degradation
IP description	Sustainable livestock /grazing management will help in organizing livestock fodder and grasses available in the forests and grasslands/rangelands. Stall feeding will decrease pressure on forest. Adopting fast growing perennial grass and fodder tree species will also reduce the pressure on forests.
Objectives	To control unmanaged grazing and thereby reduce forest degradation
Strategies	Commercialization of livestock farming and management of grazing land
Incentives for participation & changing stakeholder practices	Incentives mechanism (financial as well as credit) to construct the improved cattle shed and also to procure the improved varieties which will encourage the local stakeholders. In addition, if perennial grass can be grown near to their cattle shed it will save time and labor as well.
Outputs and activities/tasks	**New and modern techniques adopted for livestock farming and grazing** • Promotion of stall feeding system • Provide incentives for the construction of improved cattle shed. • Increase accessibility to fast growing fodder trees and grasses containing high nutritional value • Training on production of perennial grass • Implementation of rotational grazing system in rangelands in coordination with community based forest user groups and herders **Cooperative based livestock farming promoted** • Development of nurseries targeting grasses, fodder and fruit trees • Promotion on producing vegetables, raising livestock, growing fruit trees and operating small businesses • Improve access to extension services and finance • Easy access to soft loans • Incentives to procure improved breeds of cattle

B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
New and modern techniques adopted for livestock farming and grazing	CFUGs might not adopt the technology	Financial incentives to CFUGs to adopt new technology	10 CFUGs receiving financial incentives to adopt livestock technologies	No of improved livestock's sheds No of CFUGs receiving financial incentives for livestock technologies
Cooperative based livestock farming promoted	Unwillingness from the cooperatives members	Incentives start commercial livestock farming to cooperatives and for good coordination with CFUGs	At least 6 cooperatives incentivized	No of cooperatives receiving incentive
Overall feasibility of IP				
Implementation Risk/ obstacles L=3/M=2/H=1	**Cost-effectiveness of risk reduction measures H=3/M=2/L=1**	**Implementation cost L=3/M=2/H=1**	**Opportunity cost L=3/M=2/H=1**	**Incentive measures S=3/M=2/W=1**
3	1	2	3	2

C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Marginal groups and/or farmers excluded	Selection criteria will be transparent, priority will be given to marginal groups and/or farmers	3 CFUGs using transparent selection criteria for shed construction and prioritizing marginal groups and/or farmers	No. of CFUGs using transparent selection criteria and prioritizing marginal farmers.
Unwillingness to shift to commercial farming	Awareness campaigns	Provision of soft loans and good incentives	No of farmers receiving soft loans No of farmers receiving incentives.
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Economic development	Using rewards/prizes to create healthy competition between farmers	At least 5 farmers received reward for their good work	No. of farmers receiving prizes

D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by Provincial & Local government, forest department and DCC Allocation of adequate budget for monitoring		
Implementing partners	Local government & Forest department		
Proxy indicators for impact on forest area or condition	**Proxy impact indicators**	**Target**	
	No of livestock grazing in a particular season of year in forest area	60% reduction in livestock grazing in forest in particular season of a year	
Targets	6 cooperatives established with plan 10 improved cattle sheds in each hotspot 6 trainings on production of perennial grass and fast growing trees 100 kg perennial seeds in each hotspot 6 nurseries for fodder, grass and fruit tress 60 cattle of improved breeds and veterinary/extension support.		
Monitoring Protocol		**Indicators**	**Source of data or data collection methods**
	Proxy indicators	No of livestock grazing in a particular season of year in forest area	Field observation and report
	Intervention indicators	No of cooperatives established with its plan No of improved cattle sheds in each hotspot No of trainings on production of perennial grass and fast growing trees Amount of perennial seeds in each hotspots No of nurseries for fodder, grass and fruit tress No of improved cattle improved breeds and veterinary/extension support.	Field observation and report Field observation and report
	Risk reduction indicators	Transparent and clear set of selection criteria for shed construction Provision of soft loans and incentives	Focus group discussions, key information interviews, field observation and completion report

E. Budget Plan (5 years)			
Introduction	Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in		
Implementation cost including monitoring	**Activity**	**Budget (NPR)**	**Remarks**
	New and modern techniques adopted for livestock farming and grazing	1,850,000	In all hotspots
	Cooperative based livestock farming promoted	5,400,000	In all hotspots
Total Budget: NPR 7,250,000			

Intervention package 6: Plantation in deforested and degraded forest areas (CF, NF and PF)

A. General Information	
IP Name	**Plantations in deforested & degraded forest areas (CF, NF and PF)**
Drivers or barriers addressed	Deforestation: Plantation activities in open land help in addressing the issue of deforestation. Forest Degradation: Improvement of forest cover In addition, it will also support in enhancement of carbon stock
IP description	Plantation of native/fast growing tree species in the non-forested, degraded and deforested area. Promotion of private, public land and urban forestry in non-forested land.
Objectives	To reduce carbon emission, enhance carbon stock and link with livelihood assets and diversify employment opportunities
Strategies	To promote private and public land forestry Promote forest-based enterprises for livelihood and economic development with strong role of the private sectors
Incentives for participation & changing stakeholder practices	Community will receive non carbon benefits such as income from forest based enterprises, livelihood options and employment opportunities for forest dependent communities, technological and skill development.
Outputs and activities/ tasks	**Large scale plantation in degraded and deforested areas carried out** • Integrated land use planning • Establishment of well-equipped nurseries with multi-year seedling production • Plantation of native species seedlings on the barren land and degraded forest area • Financial and technical support to Provincial and Local Governments • Promote urban forestry (Eco-park, Road side plantation and others) and Public land Forestry **Private forestry promoted and expanded** • Strengthening existing institution capacity of agricultural and forestry related cooperatives ▪ Development of cooperative plan ▪ Implementation of cooperative plan ▪ Improve access to extension services and finance ▪ Easy access to soft loans ▪ Incentive plantation and maintenance of the forest on small scale private land • Strengthening the existing Forest Polices to encourage Private Forestry (revise forest policy on registration, operations, trade, transport, tax and subsidy) • Training to LRPs and local forest staffs on various aspect of private forest (including nursery management, silviculture practice, disease and pest management, soil fertility and nutrient management, harvesting and post-harvest handling). • Guidance and support in registration and survey for private forestry • Incentivize plantation and maintenance of the forest on small scale private land • Provide appropriate seedling and trainings to develop timber production • Strengthening existing small scale nurseries operating from forest department and others • Promote Household forestry and value addition of forest products (bamboo, allo, argeli, hemp, and others)

B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Large scale plantation in degraded and deforested areas carried out	Concerned agencies (Forest Office, Local govt and forest user groups) might not be interested	Involvement of all the concerned agencies from the planning phase Incentivize & support multi-year seedlings	At least 1 meeting with all agencies per month in each area with plantation activities Multi-year seedlings for at least 100ha area supported	No of meetings per month where plantation undertaken. Area of plantation activity with multi-year seedlings
Private forestry expanded and promoted	Unwillingness of local communities	Provision of incentives to develop nurseries and cooperative plan	At least 3 nurseries developed At least 4 cooperative plans developed	No of nurseries developed No of cooperative plans

Overall feasibility of IP				
Implementation Risk/obstacles L=3/M=2/H=1	**Cost-effectiveness of risk reduction measures H=3/M=2/L=1**	**Implementation cost L=3/M=2/H=1**	**Opportunity cost L=3/M=2/H=1**	**Incentive measures S=3/M=2/W=1**
3	2	2	3	3

C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Poor/marginalized HHs might not have access	Easy access to soft loans	Most affected (poor/ marginalised) HHs received soft loans	% of poor/marginalised HHs receiving soft loans
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Labor opportunity for unemployed poor/ marginalized HHs	Priority selection of unemployed poor/ marginalized HHs to work on plantation.	At least 10% of unemployed people engaged in plantation activities	No. of unemployed poor/ marginalized HHs working on plantations

D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by Provincial and local government (esp. forest department), DCC, Private forest Association Allocation of adequate budget for monitoring		
Implementing partners	Local Government, forest department, private forest association, local community		
Proxy indicators for impact on forest area or condition	**Proxy impact indicators**	**Target**	
	Area of long-term plantations established No of seedlings planted with their survival rates	150 ha of area established and maintained over at least 5 years At least 85% survival rate of the planted seedlings	
Targets	2 ha urban forestry developed 50 ha of private forestry increased 10 ha of public forestry increased 88 ha of plantation in CF and NF completed 3 well equipped nurseries developed 4 cooperatives with plans developed 6 training program on plantation, LRP, seedling production conducted At least 2 activities from each cooperative plan implemented		
Monitoring Protocol		**Indicators**	**Source of data or data collection methods**
	Proxy indicators	Area of plantation work conducted No of well-equipped nurseries established Area of public and urban forestry developed No of cooperatives plan developed Area of increment in private forestry No of trainings conducted	Field observation, field survey and completion report Field observation and completion report Field observation and completion report Meeting minutes and training completion report
	Intervention indicators	Area of plantation work No of well-equipped nurseries No of registered private forest	Field observation and completion report Field observation and completion report Checking with register office
	Risk reduction indicators	% of poor/marginalised HHs receiving soft loans	Loan records from the bank/ finance/cooperatives

E. Budget Plan (5 years)			
Introduction	Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in		
Implementation cost including monitoring	**Activity**	**Budget (NPR)**	**Remarks**
	Large scale plantation in degraded and deforested areas carried out	8,200,000	In all hotspots (Well-equipped nurseries in 3 hotspots)
	Private forestry promoted and expanded	2,800,000	In all hotspots (Cooperatives plan for 4 hotspots)
Total Budget: NPR 11,000,000			

Intervention package 7: Agroforestry in tea estates

A. General Information	
IP Name	**Agroforestry in tea estates**
Drivers or barriers addressed	All the drivers and barriers
IP description	Ilam being the highest tea producing district has more scope in agroforestry. Shade grown teas can provide economic as well as environmental benefits.
Objectives	Promote agroforestry concept in tea estates Supports in carbon enhancement
Strategies	Promote forest-based enterprises for livelihood and economic development with strong role of the private sectors
Incentives for participation & changing stakeholder practices	Community will receive non carbon benefits such as income from tea as well as timber which can promote forest based enterprises. It will create employment opportunities.

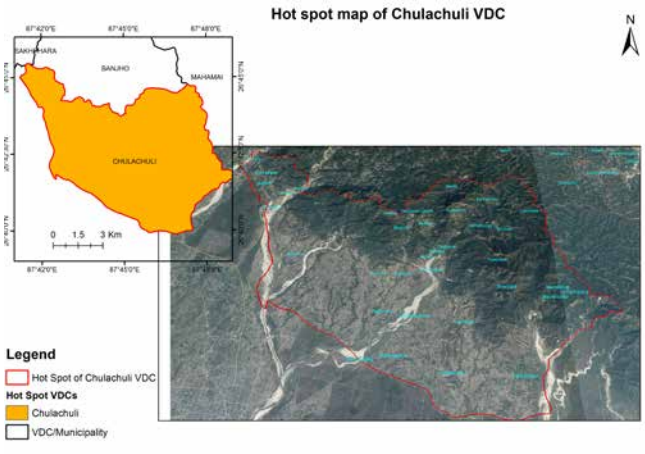
Outputs and activities/tasks	**Tea with trees promoted**
	• Research to illustrate co-benefits of tea with tree
	  ▪ Designing research plots inside the tea garden
	• Research on carbon, soil fertility, nutrients, biodiversity and local economy Incentivize the tea owners to include trees in tea estates
	  ▪ Seedlings support to the tea estates
	• Awareness campaign to show the benefits of tea with trees
	• Coordination between different stakeholders and government organization
	• Plantation of ornamental trees

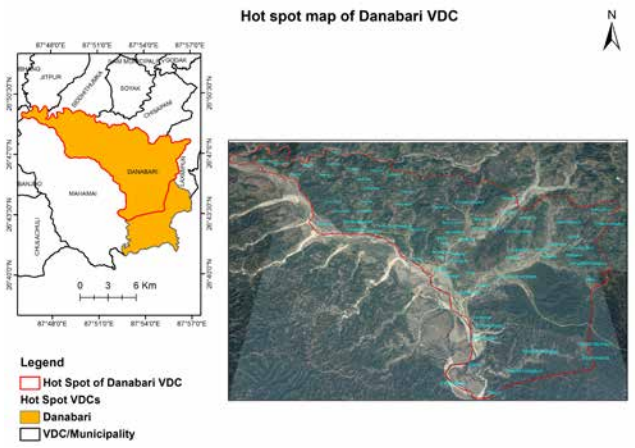
B. Feasibility Analysis (risks and obstacles) (Implementation risks and obstacles)				
Outputs/activities	**Risks or obstacles**	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Tea with trees promoted	Lack of skilled and technical people in tea estates	Awareness campaigns and training to tea estate owners on shaded grown tea with tree agroforestry system	3 awareness campaigns for tea estate owners 3 training on shaded grown tea with tree agroforestry system for the tea owners	No. of capacity building and awareness campaigns No of tea estate owners/ managers trained on tea with tree agroforestry system
Overall feasibility of IP				
Implementation Risk/ obstacles L=3/M=2/H=1	**Cost-effectiveness of risk reduction measures H=3/M=2/L=1**	**Implementation cost L=3/M=2/H=1**	**Opportunity cost L=3/M=2/H=1**	**Incentive measures S=3/M=2/W=1**
2	2	2	2	2

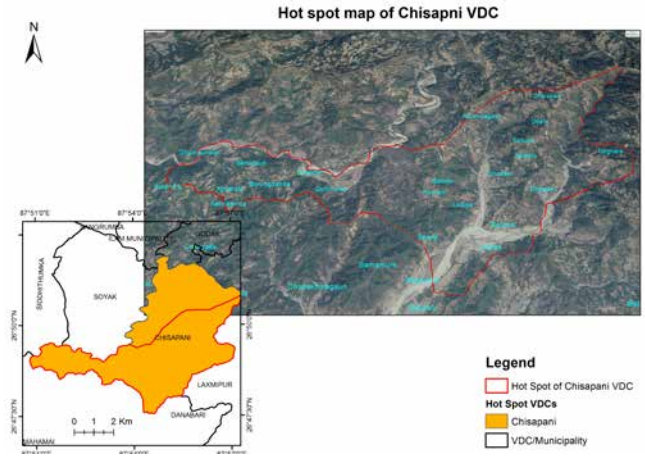
C. Safeguards Analysis (risks and benefits) (Social, Environmental risks and benefits)			
Serious risks	**Risk reduction measures**	**Risk reduction targets**	**Indicators**
Poor/marginalised HHs might not have access to soft loans	Poor/marginalised HHs with easy access to soft loans	10% of poor/ marginalised HHs receiving soft loans	% of soft loan received by poor/ marginalised HHs
Benefits	**Benefit enhancement measures**	**Benefit enhancement targets**	**Indicators**
Increased tourism potential for ecotourism due to biodiversity conservation	Promotion of ecotourism from private forest based enterprises	50% of tea estates benefiting from ecotourism	No of tea estates with ecotourism activities.

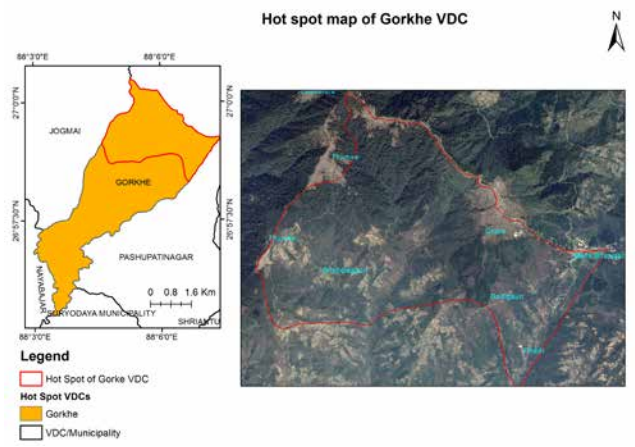
D. Monitoring Protocol			
How does the IP ensure effective provision for monitoring	Regular monitoring by Provincial & Local government, DoA, Tea companies, forest department Allocation of adequate budget for monitoring		
Implementing partners	Local government, Forest department, tea associations and private sector		
Proxy indicators for impact on forest area or condition	**Proxy impact indicators**		**Target**
	Area of trees planted and survival rate in tea estates		Trees planted in 50ha of tea garden area with 85% survival rate
Targets	Tree planted in 50ha area of tea gardens area with 85% survival rate		
Monitoring Protocol		**Indicators**	**Source of data or data collection methods**
	Proxy indicators	No of tea gardens with trees	Field observation and completion report
	Intervention indicators	Area of tea gardens with trees	Field observation and completion report
	Risk reduction indicators	No. of poor/marginalized HHs starting tea with tree	Field observation and completion report
E. Budget Plan (5 years)			
Introduction		Standard government price norms are used Annual increase in costs by 15% to allow for inflation factored in	
Implementation cost including monitoring	Activity	Budget (NPR)	Remarks
	Tea with trees promoted	2,000,000	In 4 hotspots
Total Budget: NPR 2,000,000			

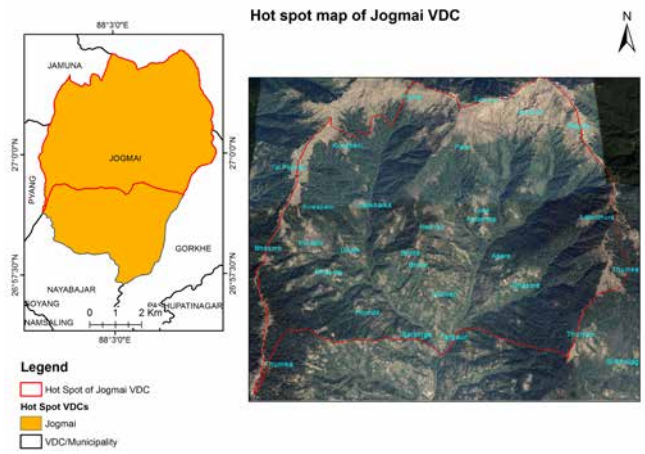
Annex 7: Verification map of high deforestation and forest degraded areas within Ilam

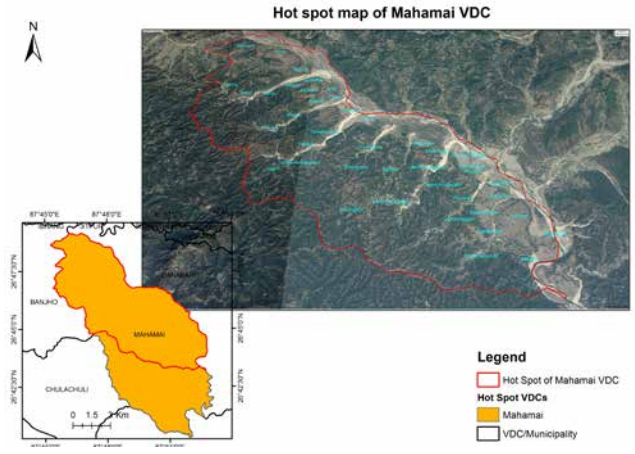












NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

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