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# Cluster Level Forest Assessment Report



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#### **Our Cover**

Community, farmland, and community forest in hilly landscape of Chaubas. Photo by Kapil Dahal

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# Cluster Level Forest Assessment Report

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# List of Acronyms

AAC	Annual Allowable Cut
ACIAR	Australian Center for International Agricultural Research
AFO	Assistant Forest Officer
CF	Community Forest
CFOP	Community Forest Operational Plan
CFUG	Community Forest User Group
COVID-19	Corona Virus Disease
DFO	Divisional Forest Office
EC	Executive Committee
EnLiFT2	Enhancing Livelihood from Improved Forest Management
FECOFUN	Federation of Community Forest Users Nepal
FGD	Focus Group Discussion
Ha	Hectare
HH	Household
I/NGO	International/Non-Governmental Organisation
LPG	Liquified Petroleum Gas
MOITFE	Ministry of Industry, Tourism, Forest and Environment
NRP	Nepalese Rupee
NTFP	Non-timber Forest Product
OP	Operational Plan
PF	Private Forest
SciFM	Scientific Forest Management
S-DFO	Sub-Division Forest Office

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# Executive Summary

This report has been prepared with an aim of providing better understanding on the cluster level forest resources, status of inter-stakeholders collaboration and service provisioning that helps in effective planning of forest management in the project sites. The report draws on Key Informant Interviews (11), Focus Group Discussions (8), ethnographic reflections, review of Operational Plans (OPs) of Community Forest Users Groups (CFUGs), meeting minutes, audit reports and municipality level profile and annual reports.

More than 58% of the Bhumlu's landscape is occupied by the forest area of which around 34% are registered as community forests. In total, more than 44% of pine plantation forest lies under the cluster i.e Bhumlu 4 (Chaubas) & 5 (Salle). The pine stands of the cluster have already crossed their rotation age, thus being over matured. The cluster consists of 12 registered community forests (9 in Chaubas and 3 in Salle) and multiple private forests.

Along with the major shift from subsistence livelihood to commercial one, the change in the forest-people relations is visible. The increasing out-migration of community people along with the temporary migration of CF leaders for business purpose have reduced the forest dependent and management groups respectively.

There is 40% representation of women in the executive committees of CFUGs from Chaubas and 37% from Salle. However, there are issues pertinent to OP renewal where several CFUGs are awaiting their plans to be renewed. This has not only halted the forest management activities of those CFUGs, but also their periodic events like monthly meetings, annual general assemblies, audit, etc. In addition, erratic changes in the legal provisions have hindered forest related activities.

Timber is the major source of income for CFUGs of the cluster with its contribution of more than 90% on total income. However, the very cumbersome and costly bureaucratic procedures as well as weak technical and managerial capacity of CF leaders are making the timber business and forest based enterprises more risky, time-consuming and less profitable to CFUGs. With legal procedures underestimating the quantity of actual timber extraction from the CFs, has affected the regeneration promotion, growth of understory species and canopy density, thus making forest susceptible to several hazards like wildfires.

Furthermore, the small unit of CFs with inadequate economy of scale to deal with the market is not favoring the timber business. In such, the clustering the CFs seems relevant to enhance their capacity. In addition, the homogeneity of the forest stands requiring similar procedures and socio-economic context favor the clustering of CFs for forest management. Therefore, improvement in governance of CFUGs, clustering CFUGs without affecting their institutional integrity and alternative arrangement for service provisioning be it through cluster or local government or private sector and capacity building of CFUGs is crucial to materialize the existing huge potential of timber management in the cluster.

# Introduction

## Background

The cluster level assessment was deemed necessary following the mid-term review of EnLiFT2 (Enhancing livelihoods from improved forest management) project. Stepping on the past analysis of community forest user groups, basic understanding in regards to the cluster level resources and its use was required. Moreover, there was a realization on the need to have a better understanding on the opportunities and challenges for cluster level mechanism to prioritize and plan forest resource management in our research sites.

The mid-term review commissioned by the ACIAR (Australian Center for International Agricultural Research) in early 2021 made strong recommendations in terms of: i) re-organizing service provisioning; ii) interventions targeted towards building capacities of the stakeholders at the cluster level; iii) identify potentials for collective sale and trade of forest products, in addition to assessing collective enterprises; and iv) integration of community forests with private forests in the research sites.

Most of the forest patches in Kavre and Sindhupalchowk are homogeneous where pine plantation conducted in the early 1980s, dominates the landscape. Apart from having similar forest type, the forest management prescriptions are largely the same. This rather demands for interventions to operate in clusters, comprising of several community forest user groups (CFUGs) in adjoining political boundaries (i.e., wards). Ward(s) was conceived to be the ideal scale for cluster level interventions as the entire local government (i.e., rural/municipality) would be too large, and CFUGs are small units for the purpose of intervention. For this purpose, Chaubas which lies in ward – 4 and Salle area in ward – 5 was considered as a single cluster comprising of 12 CFUGs. This report provides an overview of the Bhumlu cluster, though municipality level data are presented at various instances.

## Objective

The primary objective of the assessment is to provide an overview of the forest management, socio-economic, and institutional dynamics and inform the most appropriate forest management interventions for the development of community and private forest in Bhumlu cluster. The specific objectives are;

- Assess capacity gap to design better capacity development interventions
- Understand the existing cooperation and conflicts between CFUGs to assess the prospect of cluster level mechanism.
- Scoping of forest-based enterprises and businesses to enhance income and employment for forest dependent communities.
- Assess the gap in service provisioning and explore strategies for quality, timely and accessible services.

## Methodology

The report draws on review of the contents of community forest operational plans (CFOPs)<sup>1</sup>, community forest (CF) Constitution, meeting minutes of CFs, policy and regulatory documents pertinent to community and private forestry, and municipality level database. Secondary data was drawn from annual reports, municipality profiles that were obtained from the municipality and Division Forest Office (Kavre) while certain statistics pertaining to demography and socio-economic situations were retrieved from the national census data. The review was complimented by interviews and discussions with individuals and selective groups, respectively, in the research site. About 11 key informant interviews (see annex 7) were conducted with women representatives of various CFUGs and entrepreneurs to have a better understanding of women's participation in forest management, their access to resources and their voice in decision making as well as status of enterprises respectively in the cluster. Three meetings with CFUGs at the ward level and one joint meeting with wards and CFUGs, and eight separate meetings with the CFUGs were conducted. These meetings were primarily aimed at data collection and to discuss on cluster level forest management mechanism. Likewise, eight focus group discussions (FGDs) were organized with CF executives and women groups. The discussions primarily focused on the status of forest resources, their harvest, utilization and business potential, institutional functioning, areas of conflict and collaborations and their prospects.

Similarly, several rounds of consultation meetings were organized with the local government officials at the municipality and ward level. These meetings were centered on effective service provisioning as well as policy and regulatory space for collaborative actions at the cluster level. In addition, meetings with individual CFUGs as well as joint meetings with various CFUG members were organized at various instances to discuss the current status and issues of CFUGs.

EnLiFT2 researchers attended, and at instances, facilitated, the CFUG executive committee and tole level meetings, and general assemblies. This report builds on the observations and documentation by the project team, mainly looking at the issues on group governance, benefit sharing, participation, and equity and inclusion among others. Likewise, transect walk inside the forest area provided a better idea of the resource conditions and forest management practices of the CFUGs.

**Data analysis and write up:** The data collected were organized and presented in different forms – tabular, maps, graphs, charts, quotes – in the report. This report is a collective effort of the team of EnLiFT2 researchers who were also involved in the data collection process. The preliminary findings were shared with the local government officials, DFO (Divisional Forest Office) staff, and representatives of FECOFUN (Federation of Community Forestry Users Nepal), and feedback was sought on particular areas in relation to their involvement/interest. The report was finalized following the incorporation of the feedback from the stakeholders.

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<sup>1</sup> The review mainly looked at the demand and supply of forest product, forest condition, stock of forest resources among others.

# Overview of Bhumlu Rural Municipality

## Geography

Situated between an altitudinal range of 830m to 1980m, Bhumlu Rural Municipality covers an area of 91.43 sq. km. It is bounded by the Indrawati River and Sunkoshi River to its West flowing towards the South. It shares political boundaries with five other municipalities. To the east lies the Chauri Deurali Rural municipality, and to the west are the Mandan Deupur and Chautara Sangachokgadi Municipalities. To the north it is bounded by Sunkoshi Rural Municipality and to the south by Panchkhal Municipality.

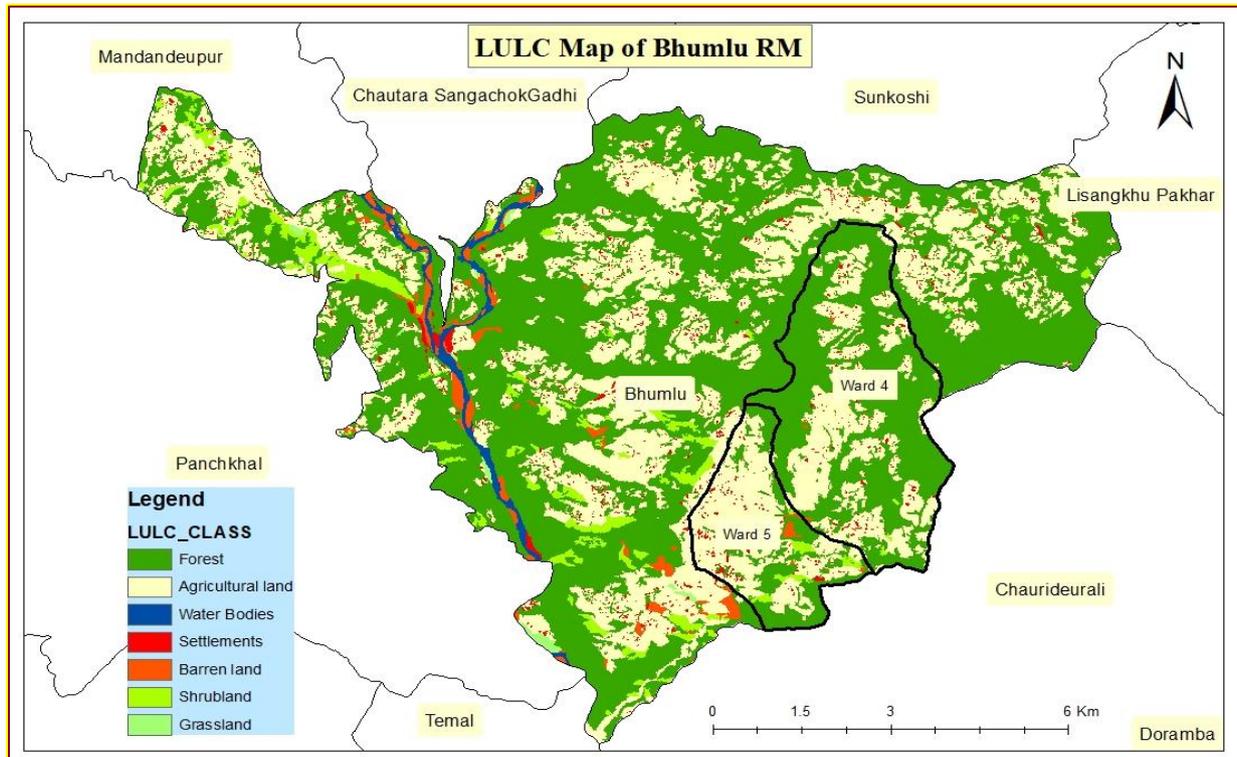
Beldanda is a popular tourist destination in Bhumlu, visited for its scenic view of rivers namely Chakhola, Sunkoshi and Indrawati. Saraswatidanda is another tourist spot frequented for the views of Mt. Gaurishankar and Mt. Everest. A section of the old trekking route used by hikers before 1978 traveling to Mt. Everest is situated inside Bhumlu Rural Municipality. Within Bhumlu, the route starts near Dolalghat, passes through Chaubas and ends near Thokarpa. It is said that Edmund Hillary and Tenzing Norgay, the first two individuals to reach the summit of Mt Everest in 1953 had used the same route and had stayed overnight at Chaubas on their fourth day of trekking. The Sunkoshi and Indrawati rivers on either side of Bhumlu attract visitors interested in recreational water travel and sports. Bhimsenthan temple, Ganeshthan temple and Ugren Pema Gumba are the major sites, among a total of 45 religious sites in Bhumlu that attract devotees. The region has immense potential in terms of promoting eco-tourism as it draws around 4500 to 5000 visitors every year.

## Climate and land use

The municipality is prone to a variety of natural disasters and adversities. Recently in the interval of five years, over a third of the water sources (119 out of a total of 291) have dried up - leading to 9600 ropanees (488 ha)<sup>2</sup> of land being left fallow. There are 21 sites in the municipality that are characterised as landslide prone areas (Bhumlu Rural Municipality Profile 2076). Previous studies indicate impacts possibly caused by climatic change and other natural disturbances, including a decline in production of soyabean and cereals, increasing incidences of fungal and insect attack on fruits, a growth in pest populations such as bee-flies (mauri jhinga), occurrence of new diseases on agricultural crops - mainly rice, and problems with invasive plant species in agricultural land (FECOFUN 2021).

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<sup>2</sup> 1 ha = 19.65 ropanees



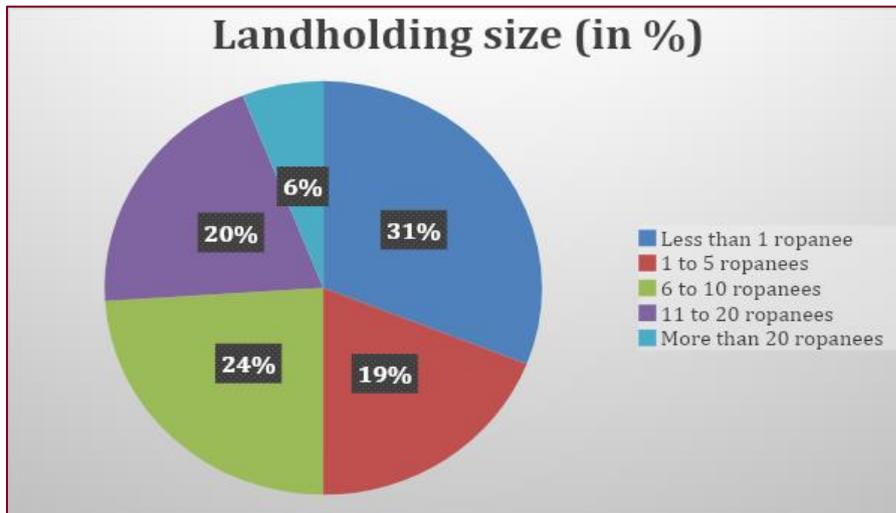
**Figure 1: Land use map of Bhumlu rural municipality**

In terms of the land use, 33.68% of the municipality's area is under agricultural use, and 1.84% is occupied by settlements. It has a forest cover of 58.11%, while shrublands occupy 3.36% and grasslands cover 0.33%. The remaining surface area is composed of water bodies (1.07%) or is categorized as barren land (1.61%). The forest area is classified into five forest types: hill Sal Forest, lower tropical Sal, *Schima-Castanopsis* Forest, Conifer Forest and mixed broad-leaved forests (including broad leaved species and pine)

## Socio-economic status

Bhumlu Rural Municipality has a population of 25,863, belonging to 5,416 households of which 1080 are headed by women. The municipality office has identified 22 ethnic groups, among which the Tamang and Chhetri have the largest population.

About 84% of the households live above the poverty-line. Almost all households own some acreage of land, even though 31% of the population owns less than just 1 ropanee, while 6% hold more than 20 ropanees of land (see figure 2).

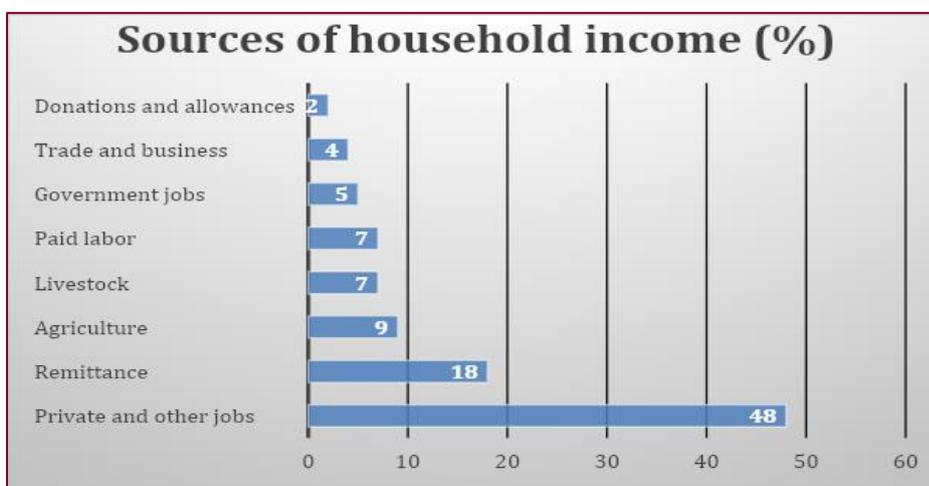


**Figure 2: Landholding size in Bhumlu rural municipality**

Source: Bhumlu Rural Municipality Profile 2076

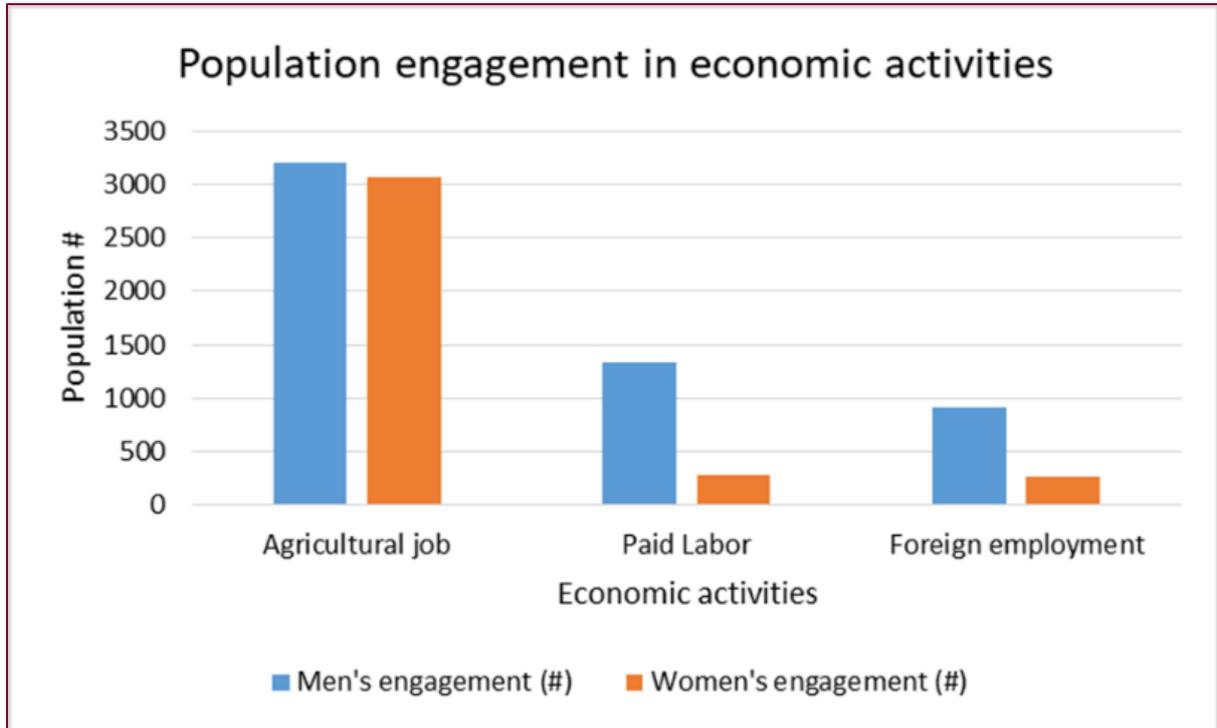
### Livelihood strategies

A majority of the population (72.02%) in the rural municipality is currently employed - including 55% of women and 87% of men. Almost half of the total personal income of individuals in the rural municipality is derived through private and other jobs which includes I/NGOs jobs, jobs in banks, and cooperatives among others, while remittance from migrants working in foreign countries is the second important source of income. Other major sources of income include agriculture, livestock-rearing, wage-labour and government employment (see figure 3). In addition, 41% of total HHs have been found to rely on forests for fuelwood for cooking. In other cases, potential pocket areas for non-timber forest products (NTFPs) like lapsi (in ward 4) and cardamom (in ward 2 and 4) have been identified which are expected to support livelihood of the households in certain sections of Bhumlu cluster.



**Figure 3: Source of household income in Bhumlu rural municipality (in %) (Bhumlu Rural Municipality Profile 2019)**

The number of men and women engaged in agricultural work is quite similar, while a significantly larger number of men are involved in wage-labor work and foreign employment. About 3069 women and 3207 men are engaged in agricultural job. Similarly, 278 women and 1340 men work as paid labor and 262 women and 911 men are employed in foreign jobs (see figure 4).



**Figure 4: No. of people engagement in economic activities in Bhumlu RM**

Source: Bhumlu Rural Municipality Profile 2076

Employment in forestry-related jobs is occasional and seasonal. Men usually perform jobs associated with timber harvesting in community forests - including administrative and documentation work, tree-felling and log transportation. Tasks such as collection of leaf litters, grass, fodder, and firewood - for household use, as well as communal work like tagging-trees, bush-cleaning are mainly conducted by women. Both men and women engage in tree planting and clearing vegetation in fire lines.

As remittance is one of the major contributors to the household income, a total of 1183 households have emigrated from the municipality to the nearby cities of Dhulikhel, Banepa, Bhaktapur and Kathmandu, as well as to 27 different countries<sup>3</sup>. Majority of the outmigration (66%) has been to the gulf countries and Malaysia while the remaining migrants travel to Southeast Asia, India, Australia, and USA among others.

<sup>3</sup> Gulf, Malasiya, Japan, India, Europe, Australia, USA, Korea, Canada, Israel, Denmark, Afghanistan, Singapore, Thailand, Turkey (Municipality profile, 2076)

## Changing forest-people relations

Bhumlu has observed a major shift in livelihood strategies of the people in the past decade or so. Most visibly, people have chosen commercial and/or specialized farming over subsistence integrated farming practices. In the past few years, there has been an increased interest in poultry and goat farming, and cash crops (like vegetables, fruits, NTFPs), compared to cereal crop farming and rearing of livestock including cows and buffaloes, which has declined in the past few years. The pattern on forest product use has shifted both in terms of its demand and supply. Major shifts from products to services (water source conservation, tourism, and aesthetics) have been observed in recent years. Moreover, farm-based income sources have been largely replaced by non-farm-based opportunities including businesses, enterprises, jobs, wage-labor in construction work, mining and quarries, and transportation related jobs (as bus/truck drivers and conductors<sup>4</sup>). Out migration, both domestic and foreign, has been increasing in the past decade or so. Rachhma of Bhumlu rural municipality for instance is a testimony to the increasing outmigration of individuals (see box 1 and Annex 1 for the detailed case).

### Box 1: Case of migration in Rachhma CF

At the time of its handover, Rachhma CF comprised of 61 households. However, now, 47 households are actually living in the locality, while rest of the population have migrated to cities and elsewhere. The existing data shows that a total of 121 male and 104 female do not live in the locality. Most of the male members of the households have travelled abroad for foreign employment or are living in cities with their families, while female have most been living in the cities with their children

Most of them have migrated to the cities, mainly Kathmandu and Banepa, for education and search of employment, while others have travelled to the middle-east and Malaysia for foreign employment.

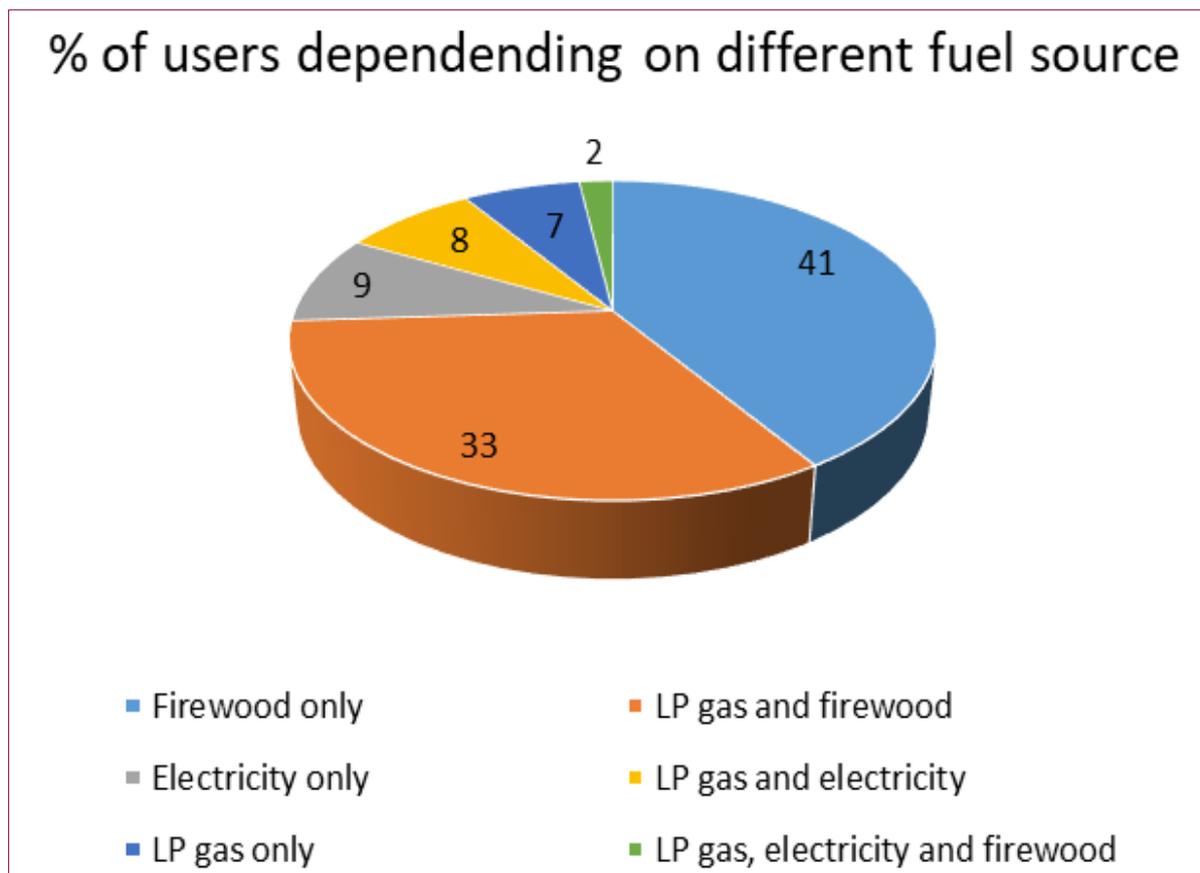
Compared to other times, reliance over forests has remained at its high during disasters and other external shocks, for instance the COVID-19 pandemic. During the post-earthquake reconstruction period, every household in need collected upto 50 cu ft of timber from community forests. Similarly, during the COVID-19 lockdowns and travel restrictions, many household members working in the urban area returned to their village and started cultivating their agricultural land and rearing livestock. Collection of fodder, grass and firewood from the community forest increased drastically during the pandemic. The demand for forest resources has now subsided with an increasing number of people returning to cities.

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<sup>4</sup> Around 20 HHs own tempos, rikshaws, and taxi, 59 HHs own tractor and trucks, 29 HHs have buses

## Physical infrastructures

Most of the houses in Bhumlu cluster have been built in traditional architecture, featuring sloped roofs made of tile and tin, and in a few instances, of stone. Data shows that about 87% houses have either tin or tile roofs, while 11% are cemented and 2% are stone roofed houses. However, new houses are increasingly constructed using concrete and have flat-roofs. That is particularly the case following the reconstruction in the post-earthquake situation. A third of the households have their own source of drinking water within their lands, another third relies on communal sources, while the remaining is compelled to travel 10 minutes to 2 hours to fetch water. Three percent of households still do not have access to electricity. The major source of cooking fuel is firewood, while with better road facilities and market connectivity, use of LP gas is becoming increasingly common. Only a minor fraction of the population relies on electricity for cooking (see figure 5). Likewise, there are a total of 34 primary schools, 9 secondary schools and one higher secondary school in Bhumlu rural municipality. Altogether, 10 health centers have been operating in various capacities across the municipality.



**Figure 5: Percentage of users depending on different fuel sources**

Source: Bhumlu Rural Municipality Profile 2076

## Forest resources, use and management

### Forest cover and stock

In Bhumlu Rural Municipality, 203.85ha of the registered community forests are composed of both pine plantations and natural broadleaf forests. 53.36ha of the registered community forests have only natural broadleaf forests, while the remaining 225.64ha only have pine plantations. The major plantation species are *Pinus roxburghii* and *Pinus patula*, while the natural broadleaf forests feature Sal (*Shorea robusta*), Chilaune (*Schima wallichii*), Kattus (*Castanopsis indica*), Uttis (*Alnus nepalensis*), and *Acacia catechu*, among others. The pine plantations are over four decades old and have been minimally tended to, after the first decade. Consequently, there is intense canopy competition between densely stocked pines, and so, mostly feature an understory of only invasive herbs and scattered shade-tolerant shrubs. Pine needles blanket the floor, further discouraging the regeneration of native species that require contact with mineral soil for establishment. Broad-leaved forests of the cluster include (i) successional stands of mono-dominant uttis (*Alnus nepalensis*) with allo (*Girardinia diversifolia*), angeri (*Melostoma malabathricum*), pani amala (*Nephrolepis cordifolia*), kalimunte (*Ageratina adenophora*); (ii) multi-storied chilaune-kattus (*Schima-Castanopsis*) dominated stands featuring a midstory of kaphal (*Myrica esculenta*) and gurans (*Rhododendron arboretum*), a woody understory of saplings of kattus, and gurans, seedlings of kattus, lakuri (*Fraxinus floribunda*), and kaphal, and chutro (*Berberis aristata*) bushes, and a herbaceous understory of aiselu (*Rubus ellipticus*), pani amala, and other forbs, ferns and grasses; (iii) Sal dominated stands occasionally featuring amala (*Phyllanthus emblica*) in the midstory, and thakal (*Cycas spc.*) in the understory.

Medicinal herbs and other non-timber species naturally occurring or planted in community forests include jatamasi (*Valeriana jatamansi*), black cardamom (*Amomum subulatum*), pakhanbed (*Bergenia ciliata*), timur (*Zanthoxylum armatum*) and amala (*Phyllanthus emblica*). Deer, leopards, pheasants, wild boars, jackals and rabbits are the most prominent wildlife species in these forests.

The development of infrastructure, such as roads and football/volleyball grounds, threaten the maintenance of biological cover in both plantations and natural forests. These infrastructures exist in the EnLiFT2 sites as well, though exact area of CF land converted has not been recorded yet.

In regards to the private forests, only a few that have high business potential were surveyed. A total of 37 private forests were surveyed for their potential in business promotion and forest management point of view. Of the total 37 private forests, Chapani area has the largest number (11) followed by Dharapani (8), Fagarkhola (7) and others. Similarly, the total area coverage by these private forests is 615 ropanees of land. The coverage area is highest in the periphery of Chapani community forest area (191 ropanee) followed by Lapsibote (150 ropanee), Dharapani (135 ropanee), Fagarkhola (65 ropanee), Lakuri (52 ropanee) and Ganesthan Bhimsenstan (25 ropanee). Volume of the standing trees were also calculated across three diameter classes (6-10 cm, 11-15 cm and > 15 cm) of these forests. The total available volume is 429695 cubic feet - cft (See table 1 below).

**Table 1: Private forest cover and stock**

S.N	Site/CFUG	Name of PF	No of PFs	Area (ropanee)	Volume of standing tree (cu ft)		
					6-10	11-15	Above 15
1	Fagarkhola CF	Dhan, Jhanak, Thir, Lok Bdr, Resham, Bhakta, Kamal	7	65	4598.06	14323.6	20143
2	Lakuri CF	Dek, Thir, Hari, Shyam, Kamal & Keshar Lama	6	52	3704.04	19538	28603.1
3	Dharapani CF	Jhamka, Harka, Kajiman, Guman, Khop Pd, Bhawani, Kumar & Netra	8	135	23304.2	59388.5	29325.4
4	Chappani CF	Khadga, Chandra, Krishna T, Karma, Jagat K, Junge, Prem, Surya, Bhakta, Chandra Singh, Gunja	11	191	36993.1	57365	55137.1
5	Lapsibote CF	Puspakhar, Narayan & Chakra	3	150	3254.03	16859.7	48702.6
6	Ganesthan Bhimsenthan CF	Lok Bdr Shrestha, Tok Bdr Basnet	2	25	259.42	1006.39	7189.48
Total			<b>37</b>	<b>617</b>	<b>7113</b>	<b>168481</b>	<b>189101</b>

## Forest management

### Operational Plan revision status and issues

The current operation plans (OPs) of the community forests mention several activities, such as regular monitoring and patrolling, forest fire prevention, encroachment control, grazing control, wildlife conservation, biodiversity conservation, cleaning, singling, pruning, and thinning. However, most of these management activities are not conducted on a regular basis, mainly because out of the 12 CFUGs in the cluster, the OPs of six CFUGs are valid, while those of the remaining six have expired (annex 3). In fact, most of these CFUGs (such as Pokhari Chaur Thulokhola, Thople Kamere, Maidali Dhadinge) have not even held regular events such as Executive Committee meetings, General Assemblies and audits, because of the expiration of OPs, any activity within the community forest is deemed illegal, which offer no agenda for further discussion in any of the forums.

CFUGs have not been able to revise their OPs in part due to lack of financial resources, but also because of the lack of local interest. The ward office at Chaubas offered to allocate part of its budget of the fiscal year of 2078/79 towards the revision of the OPs - but it received no formal applications from the CFUGs. Right after the massive earthquake in 2015, there was a high demand for timber for reconstruction purposes, and users and executive committee members were rather active, but since then, users have not shown much interest in community forestry activities.

Three community forests with valid OPs have not been able to implement planned management activities due to the inclusion of terminology associated with Scientific Forest Management (ScFM) programme, which has now been revoked by the government. The GON passed the scientific forest management procedure 2014 (2071 BS), which was contested by FECOFUN and other civil society actors on the ground that it was imposed from the MOFE without consultation with CFUGs and their representatives, promoted technocratic control over CFs, and overly timber-focus at the costs of biodiversity and user needs and interests. In Kavre, despite naming the CFOPs as scientific forest management, actual management activities in the OPs do not follow the SciFM procedures, and timber harvests either follow the old thinning guidelines for pine plantations or are determined by calculating an Annual Allowable Cut (AAC) on the basis of forest inventory.

### **Silvicultural activities for forest management**

Even though most of the pine plantations have aged beyond their economic (18 years) (Mugasha et al., 2021) and biological (30-35 years) (Dangal & Das, 2018) rotation periods, they have not even received timely thinning. Even in forests where thinning has been conducted, they are significantly lighter than that suggested by the thinning guideline for mid-hill pine plantations (Fig 6) (Cedamon et al., 2017). Similarly, harvests based on the Annual Allowable Cut (AAC) approach are also very light-handed. Actual harvest volumes are significantly smaller than the AAC (Fig 6) - mostly because CFUGs and DFO officials would have to receive province-level approval if the actual harvested volume exceeds the estimated AAC. Harvest volumes can be further manipulated by forest officials who seek to limit harvests to avoid negative media coverage and legal oversight. The bureaucratic procedures for applying for a felling permit and timber-selling permit are also very cumbersome and costly - making timber production and trade rather risky, time-consuming and unprofitable. Therefore, CFUGs are disincentivized from managing their timber resources through silvicultural harvests.

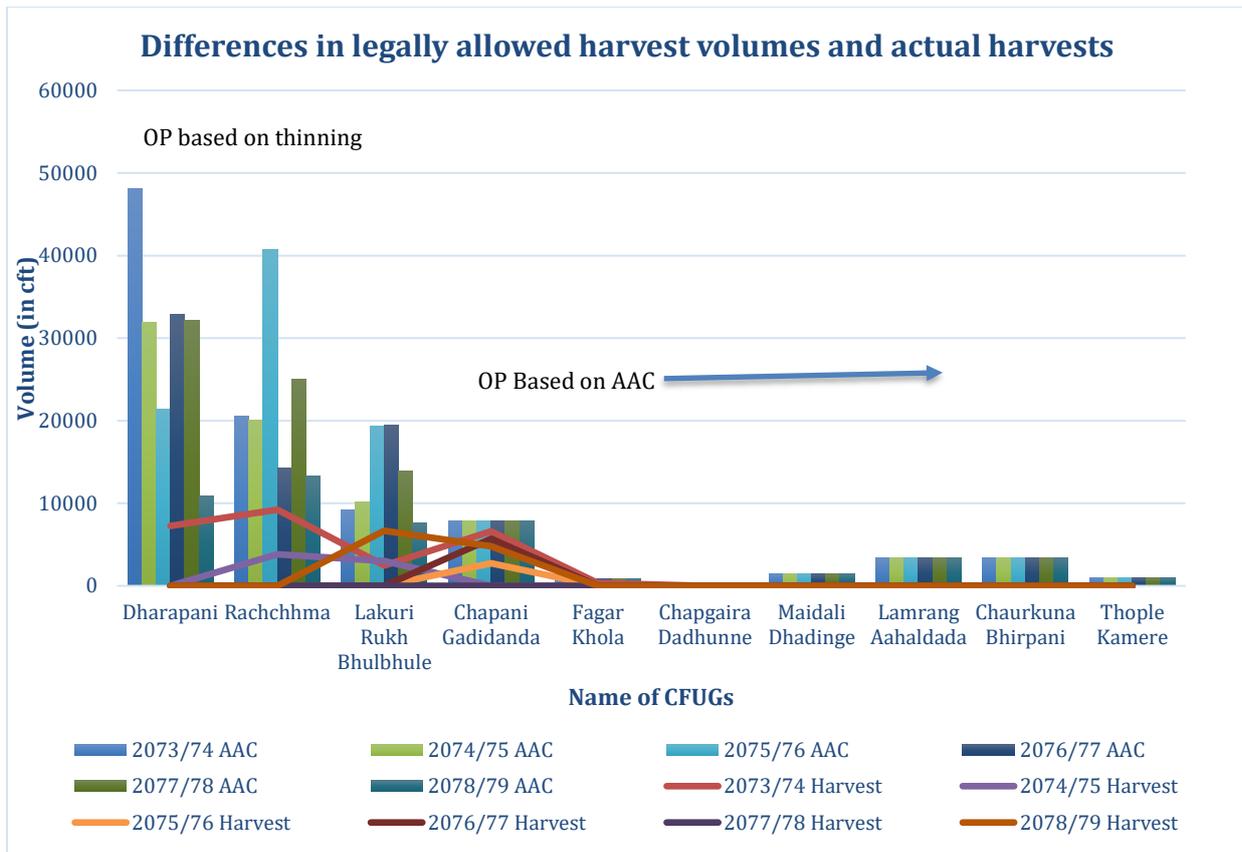


Figure 6: Graph showing the untapped potential of timber production in CFUGs within the framework of current legal provisions

As such, untended plantations suffer from intense canopy competition - potentially reducing overall growth rates, causing loss of timber resources, precluding understory regeneration and making forests prone to crown fires. The accumulation of pine needles on forest floors also potentially increases the risk of wildfires.

Natural broadleaf forests see even less little timber-harvesting activity and are mostly used to collect leaf litter, firewood, fodder, and medicinal herbs. Users are only allowed to collect firewood from dead, dying, decaying and deformed trees, as well as from naturally fallen branches and residual branches produced by management activities such as occasional timber harvests, cleaning, singling and pruning. Users prefer the firewood of species such as Laligurans (*Rhododendron arboretum*), Uttis and Chilaune. Besides the collection of grasses and certain shrubs for animal fodder, trees and saplings of fodder species, such as khanyu (*Ficus semicordata*), kavro (*Ficus infectoria*), dudhilo (*Ficus nemoralis*), etc, are also heavily coppiced and pollarded. Poorly regulated grazing also limits the development of tree regeneration. The timber of broad-leaved species, such as Uttis, Kattus and Chilaune, are harvested as per local demand. Harvest planning features the selection of stem quality and ease of access, but does not include the promotion and release of regeneration nor the retention of legacy structures and seed sources.

In regards to private forests, four different demonstration trials (see table 2) have been conducted in this cluster, namely (i) early aged pine thinning, (ii) pine harvesting, (iii) Alnus management, and (iv) Alnus harvesting trials. Early thinning of regenerated pine (*Pinus patula*) is being conducted in five farmers' land. This has shown a significant growth in the tree diameter. Thinning was done at a spacing of two meters. The difference between thinned and un-thinned stand is significantly high, which is almost five times (3 cm to 15 cm diameter) more than the un-thinned stand. There is a need for pruning of lower branches of the stand. The second trial (Pine harvesting) has been practiced by at least seven farmers. Each of them earned more than Nepalese Rupees (NRP) 100000 this year. Similar was the case for Alnus harvesting trial where the respective farmers received a considerable amount of income (almost NPR 100000) from the harvested trees.

**Table 2: Private forest silvicultural trials**

SN	Name of trial	No of private forests	Name of farmers	Plot size	Species
1	Early thinning of regenerated Pine forests on UUL	6	Gunja, Keshar, Kumar, Norbu, Netra, Guman	51	Pinus patula
2	Pine harvesting and management trial	6	Harka, Kaji Man, Jagat and Hom Nath, Lok Bahadur Shrestha, Tok Bahadur Basnet	32	Pinus patula
3	Alnus management trial	4	Lok Bdr, Resham, Bhakta & Govinda	24	Alnus Nepalensis
4	Alnus harvesting trial	3	Prem Bahadur tamang, Surya Bahadur Tamang, Bhakta Bahadur Tamang)	TBI	Pine and Alnus
Total		19			

### Forest product demand and supply

Timber demand was high immediately after the 2015 earthquake due to (re)construction of private houses and other public buildings that were either partially, or severely, damaged. People prefer to use hard wood such as Sal and Sisoo for construction and furniture. There is generally low demand for local pine timber. As a result, there is a huge gap between demand and supply (Table 3 and annex 4). This presents a good prospect of timber sale from the cluster.

Table 3: Annual demand and supply of cluster (ward 4 &amp; 5)

Particular	Demand	Supply			Total Supply	Supply Demand Gap
		CF	PF	Others		
<b>Timber (in Cu ft)</b>	9537	36728	1855	250	38833	+29296
<b>Firewood (in bhari)</b>	124988	19258	73418	6742	100418	-24570
<b>Grass (in bhari)</b>	163202	17942	362082	15730	395754	+232552
<b>Leaf Litter (in bhari)</b>	174884	34054	127390	13440	174884	No gap
<b>NTFP (in Kg)</b>	1360	425	5	930	1360	No gap

## Forest Fire

The overstocking of trees and dry pine needles pose risk of loss of timber resources to severe crown fires, which occur quite frequently – almost every year, in the past six years. Unregulated fires present a major challenge to sustainable forest management because regenerating seedlings and saplings are damaged, and often mature trees are lost to fire.

Forest fires are mainly caused due to the intentional burning to manage private agricultural or forest land. Sometime, commuters travelling by foot or vehicles throw lit cigarettes in the forest, thus causing fire incidents. Other than that, natural causes like lightning strike have resulted in fire inside the forest. There are frequent cases of staking of logs being burnt due to fire (e.g. in Chappani CFUG, fire destroyed 1100cu ft from its depot in 2020). Even as the risk of fires increases, the responsiveness of CFUGs has actually declined. In fact, even among the various reasons why there are minimal efforts to control fire, the first is that regulating forest-fires is a risky activity that can lead to death. Though the DFO has distributed equipment for fire-control to some CFUGs, none of these have been put into use to regulate wildfires, partly because CFUG members are not trained to handle these disasters. The difficult steep terrain makes it further difficult for more users to navigate around burning forests while attempting to control the fires. Fire lines have been constructed in the CFUGs in order to control forest fire. However, their timely cleaning before the fire-prone seasons rarely takes place. There have been efforts to control forest fire using mud, green branches of trees, watering if nearby water sources are available.

Further, CFUG members are not as dependent on forest resources (see Table 1 above) to refer to the demand and supply gap of forest resources) as they used to be and thus are not motivated enough to organise themselves to regulate incidences of forest fires. The use of firewood from community

forests is being increasingly displaced by LPG gas or wood from private forests, especially in higher-income households. Further, since open-grazing is restricted, villagers do not value community forest as a source of fodder as they once did. In fact, they no longer rear the quantity of livestock that requires the use of communal forest fodder resources.

## Human-Wildlife Conflict

Human-wildlife conflicts, especially caused by monkeys, porcupine and wild boar are gradually changing people's perception towards community forestry. On one hand, CFUGs are not able to gain tangible economic benefits from community forests and on the other they perceive forests as shelters for wildlife like monkeys that destroy crops including those stored in houses. In fact, some members complain on the actual utility of forest saying, "we never thought that we were conserving forests for monkeys which would ultimately damage our crops." The issue is so severe that, for instance, about 34% of HH in Dharapani CFUG have reportedly migrated due to human-wildlife conflict caused by monkeys. Also, a large part of agricultural lands is left uncultivated in this cluster (122 ropanee in Ward 4, and 107 ropanee in Ward 5) which can be largely attributed to the increasing wildlife damage in the region.

## Forest governance practices and challenges

### Stakeholder analysis

There are diverse actors that serve certain role, or provide services, to forest management, governance, marketing, and trade. These can primarily be categorised into internal and external stakeholders (see table 4) including government, community, private, and non-government organisations. Moreover, their role, interest, and influence over forest management differs.

**Table 4: Key actors (Internal and External stakeholders) and their role, interest, influences**

Actors	Role	Interest	Influence	Expected/ Potential Role
<b>DFO/SDFO</b>	Approval of CFOPs Issuing harvesting, auctions and transportation permits.	Improvement of forest conditions Regular timber/forest products supply	Partial influence in shaping CFUG governance and forest management operations	Improve CFUG governance Active forest management Regular supply of forest products Effective service delivery
<b>Palika</b>	CFUGs status review Facilitate compliance of mandatory institutional functions Provided funds to DFO for nursery management	Improvement of forest conditions Improvement of CFUG governance Increased flow of revenue through regular timber supply	Gradually increasing influence over CFUGs governance and forest management	Support in CFUG capacity development and monitoring
<b>FECOFUN</b>	Facilitating CFUGs institutional functions	Strong and autonomous CFUGs Inclusive and equitable forest governance Improved forest management Increased supply and income from forest products	Partial influence in improving CFUG governance and forest management	Capacity building of the CFUGs Advocate for relaxing regulatory requirements and tax burden to CFUGs

<b>CFUGs</b>	<p>Mandatory institutional functions not performed</p> <p>Weak forest management</p>	<p>Regular harvest of timber and supply of other forest products</p> <p>Timely management and sale of fallen trees</p>	<p>Low capacity of CFUGs to influence forest related decisions made by the government</p>	<p>Improved self-governance and forest management</p> <p>Make forest related decisions independently</p>
<b>Forest entrepreneurs</b>	<p>Switching their preference on source of forest products from community to private.</p>	<p>Affordable and uninterrupted supply of forest products</p> <p>Easy access to market</p>	<p>Weak influence on regulatory, administrative environment and value chain</p>	<p>Contribute to employment generation and local economy</p>
<b>Traders</b>	<p>Collect timber from CF/PF and sell to big traders in Banepa</p> <p>Functions as local agents of big traders mainly in Banepa</p> <p>Pay all the transaction costs, conceal information that results in price gap.</p>	<p>Maximize profit</p> <p>Sustained and uninterrupted supply of timber</p> <p>Secured, safe and prestigious business environment</p>	<p>Strong influence on timber harvest and trade related decisions</p>	<p>Facilitate fair, secured and inclusive business environment</p> <p>Invest in improved forest management, enriched resources and efficient technologies</p>
<b>Tree Owners/PF</b>	<p>Sell the grown trees on trader's terms and conditions</p> <p>Play major role in supplying timber in the market</p> <p>Some farmers engaged in large scale plantations</p>	<p>Simplified process of timber harvest and sale.</p> <p>Growing interest in commercial tree farming/ plantation.</p> <p>Access to technical (including technology) and financial services (loan, insurance)</p>	<p>Low influence on timber related decisions</p>	<p>Be organized to form Palika level network</p> <p>Mechanism for exchange of knowledge and technology</p> <p>Advocate for simplified process of timber harvest and sale</p> <p>Improve and expand forest management practices</p>

<b>EnLiFT2</b>	<p>Silviculture research through trial plots</p> <p>Capacity building of CFUGs and strengthening institutional processes</p> <p>Engage with DFO, Palika, FECOFUN and CFUGs for a coordinated effort to active forest management and CFUG governance</p>	<p>Active and equitable forest management of Chaubas cluster</p> <p>Developing AEFM models that can be replicated to other CFUGs across the country.</p> <p>Cluster level mechanism for effective CF management (service delivery, trade, business).</p>	<p>Partial support on improving CFUG governance and forest management</p>	<p>Substantial contribution in materializing forest management benefits at cluster and Palika level</p> <p>Capacity building of CFUGs and stakeholders</p> <p>Develop workable models (forest management, business, governance and CF-LG cooperation)</p>
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## Planning and decision making

### Planning structures and procedure

Community Forest Operational Plan (CFOP) is a mandatory document which forms the basis for technical forest management in CFUGs as well as serves as a legal document that is formally handed over to the users by the DFO. The CFUGs and their knowledge on forest management are rarely considered in planning forest management activities.

The General Assembly is the major decision-making forum for CFUGs, and empowered to prepare annual plans. The plans that are collected from the settlement level are presented in the assembly and approved only after getting endorsed by majority of the CFUG members present in the forum. The general assembly guides and provides a mandate to the Executive Committee (EC) to implement the plans endorsed by the general assembly and conduct regular activities in favor of the CFUGs. The assembly is conducted on an annual basis.

In Bhumlu cluster however, the CFUGs have not been able to hold the EC meetings and general assemblies on a regular basis. There are 12 CFUGs which have not been able to hold their general assembly for several years. Despite the provision of conducting one assembly and 12 EC meetings per year, most CFUGs have not been able to do it (annex 5). This year, only seven CFUGs have conducted their assemblies and on an average, in the last five years, CFUGs have hardly conducted one general assembly, while out of 60 EC meetings that each CFUG need to conduct mandatorily, maximum 22 of those meetings have been conducted in the same period.

Certain groups appear to be either less interested or abstain from participating in the meetings and general assemblies of the CFUGs. In terms of the participation in general assemblies of six CFUGs conducted in 2021 (see annex 5), 36% were Brahmin/Chhetri, 59% Janajati and 6% were Dalits. Moreover, the EC and few elites dominate the CFUG meetings. The EC membership is dominated by Brahmin/Chhetri which comprise of 60% of the total EC members while Dalits represent merely 5% of the total members<sup>5</sup>.

Communication between EC and users is not systematic, the EC communicates with the users in an ad hoc basis. The settlement level meetings are rarely conducted and are not confined to getting the real picture of the situation of the forest and users. The general trend that was observed was that the EC never shared the agenda for the meeting. The CFUGs mostly informed the users verbally or posted the notice in tea shops and made phone calls to the users. In some cases, responsibility of informing the users were given to some individuals who have close relations with the EC members.

The general assemblies are not deliberative in the sense that merely formalities are exercised wherein invited guests from various institutions are asked to deliver speeches rather than having genuine discussion among the CFUG members on pertinent issues and strategies. The general assembly process (review and revisit the sharing of the audit reports, share the annual progress and plan for the coming year) has usually remained brief; rather it focused on the speeches

## Box 2: Declining interest in holding CFUG general assemblies

Thople Kamere CFUG conducted its general assembly on 17th September 2021, where only 17 HHs out of 125 HHs were present. This is first general assembly conducted after the earthquake in 2015. However, it was not easy for the CFUGs to hold the assembly next year as their operational plan has expired. The Chairperson opined- "We don't have renewed our OP, neither do we have any fund in the CF. We have only Rs 10,000 which we will be depositing in the bank account soon. So, why to trouble people frequently. Rather, we will visit them to take their signature and will submit this general assembly minute to the sub-division office."

Similarly, the general assembly of Maidali Dhadinge was conducted three times as the quorum was not sufficient. Out of 60 HHs, only 20 HHs were present on 3rd October, 23 HHs in 25th October and 20 HHs on 8th November. Every time, it was observed that users used to come, sign the minute and return back without participating the entire assembly.

Likewise, the GA of Lakuri Rukh Bhulbhule was conducted on 9th December 2021. Other than the EC members and users, there were guests from Ward, chairperson of neighboring CFUGs, AFO and Forest Guard from the sub-division office, representatives from FECOFUN Bhumlu and EnLiFT representatives. The event formally started at 11:30 in the morning until 3:30 in the afternoon. Half the event was spent for formalities and speeches from the guests, while core community forest issues were briefly listed and discussed. The issue of operational plan amendment and forest management related issues were discussed for merely 10 minutes.

<sup>5</sup> The ethnic representation in the entire cluster includes Brahmin/Chhetri (38.91%), Tamang (34.49%), Pahari (12.33%), Newar (7.82%), Dalit (5.8%), and others (0.65%).

from guests (DFO, different political party leaders and supporting agencies' representatives). In the recent years, CFUGs have been facing difficulty to meet the minimum quorum (51% participation of CFUG members), because of which, there is practice of obtaining signatures from the member's house/convenience even if s/he was not present in the meeting.

The EC meetings are largely determined by the CF Chairperson and Secretary and mostly centered on the agenda related to DFO circulars or forest products harvest. The participation in the EC meeting is low but in cases where CF provides meeting allowances, the presence of the EC members is high. The decisions are mostly made verbally and discrepancies are observed in the verbal and written forms of the decisions.

### Box 3: Case of general assembly of Lakuri Rukh Bhulbhule CFUG

Three membered committee was formed by the EC of Lakuri Rukh Bhulbhule during general assembly who are not represented in EC and are responsible for keeping notes of discussion during the assembly and write up the minute. But in practice, the EC prepared a decision record at their convenience. In the forum, the annual financial transactions were discussed and it was decided to collect the details of expenditures made by the committee. But in minute, no any such decision has been recorded, neither any audit statements have been explained there.

In the recent years, same leaders remain in the ECs because the local people are losing interest in assuming the responsibilities due to lack of benefits (timber harvest and sale is challenging) and there are also chances of facing hassles like corruption cases at CIAA. Hence ECs in 5 (Fagar Kholā CFUG, Maidali Dhadinge, Thople Kamere, Chapgairā Dadhunne, Chhekarpa, Chaurkuna Bhirpani) CFs lack periodic updates and the same ECs work beyond their tenure. Some of the EC members live outside<sup>6</sup> of the village or CF, usually in Banepa and Kathmandu, which has resulted in lack of oversight and hindered the day-to-day functioning of CFUGs.

Moreover, the CFUGs are not regular in implementing their institutional and capacity building activities. Even in cases where capacity building activities take place, elite capture and favoritism is high. There are cases when the ECs are blamed for misuse of power and CF funds. For example, Dharapani CFUG conducted an exposure visit of 55 members (45 users and 10 including staff of S-DFO, FECOFUN, ward representative, etc) in 2019. However, several complaints of over expenditure and misuse of funds by the EC was reported by the CFUG members during the tole and planning meetings.

### Service provisioning

The human resource and geographic coverage is posing difficulties in timely and effective service provisioning from the DFO. The sub division office in Chaubas comprises of 1 AFO, 2 Foresters and 2 Forest Guards and cover two rural municipalities i.e. Bhumlu and Chaurideurali, which is relatively large area for a rural setting. Bhumlu and Chaurideurali Rural Municipalities have 38 and 22 registered

<sup>6</sup> 67% of the executives of Dharapani CFUG and 67% of executives from Chapani Gadidanda CFUG lives in Kathmandu and occasionally visit the village. Similarly, 14% of executives from Rachhma CFUG lives in Kathmandu

community forests respectively. Other than this, there are several private forests and national forests in both the rural municipalities. The sub-division staffs have to provide an oversight of all these community forests, private forests and national forests. In addition to this, the AFOs have several administrative tasks to undertake. Besides, AFOs and foresters have substantial roles while forest guards have limited duties to serve. In this context, effective service to all CFUGs and private forests from this limited human resource is hardly possible. Hence, clustering of CFUGs with similar attributes and provisioning services accordingly may be an effective way to optimize service with the given limited human resources.

#### Box 4: Case of Chapani Gadidanda CFUG

The CFUGs in Bhumlu consists of mature Pine stands. In addition, there are several fallen, dead, dying, degraded and deformed trees (4D) that need urgent removal from the forest. So, there was an agreement between DFO, CFUG and EnLiFT to support in extracting the fallen trees from Chapapani community forest. A letter requesting support for estimating the fallen trees was forwarded to the sub-division on 30th Nov 2021. EnLiFT staff helped the chairperson to prepare a letter in the given format. A technical person at DFO was allocated, and conducted a field visit on 3rd December 2021. However, due to the issue in time management of CFUG, the estimation of 4D trees started only from 24th Dec 2021. Despite frequent follow ups from the EnLiFT team, the process as a whole took several months. After the completion of estimation collection, the data entry and analysis of around 197 4D woods took more than a week as the forester was unable to manage his time.

The issue was also highlighted during the high-level policy makers' visit at the site on 4th September 2021. The Secretary of MOITFE, Bagmati Province mentioned that "Users are customers and government officials are service providers. The limited capacity (officials) of government offices have not been able to provide service to all the forests. Therefore, we should also search some other sources for service like establishing forest unit in municipality or using private sectors and their services should be accepted." DFO recently allocated two foresters (of which one is student and hardly manages his time when CFUGs need technical support) in the sub-division Chaubas to ensure the availability of technical persons in the office regularly.

#### Role of DFO and LGs in CFUGs planning.

Division Forest Office and the sub divisions are responsible to facilitate the planning, implementation and regularly monitor the community forestry activities. However, several shortcomings are observed (see section 4.2.2). In most of the CFUG activities, the representatives from DFO i.e. AFO, Rangers and Forest Guards participate but they lack adequate authority to make decisions; so it is difficult to get quality input from them. DFO seldomly participates in some of the general assemblies and his presence is confined to speeches- well-wishing and generic comments and suggestions and missing the actual process and objectives of planning. Even during the planning process, there is a lack of evidence-based planning- inadequate reference made to the inventory data, sustainable harvesting plan and other prescriptions made in CFOP.

The Local Government is increasing its interest on the CF processes. During a planning meeting (23rd Nov 2021), the ward chairperson of the Ward-4 had insisted on creating a conservation area inside the CF for common leopard's habitat conservation. In cases where CFUGs are delaying and denying general assemblies, the ward chairperson is actively leading/moderating the event process and showing commitments to support CFUGs. Bhumlu Rural Municipality has been supporting nursery establishment in addition to covering the salary of nursery care taker in Chaubas. The nursery alone produces over 25000 seedlings<sup>7</sup> annually. Local governments are playing an important role in regards to reinvigorating CFUGs in forest management. For instance, the Chair of Ward-4 has been coordinating and facilitating CFUGs' general assemblies at various occasions. In addition, he is facilitating and supporting the CFUGs in addressing social issues<sup>8</sup>. Apart from the services, the local government have started collecting tax and charges for the timber sold outside the CFUGs. In addition, Forest Act 2019 has made a provision in regards to spending of the CFUG fund on community development activities in consultation with the local government.

## Forest use, distribution and sale

The mature Pine stands are in need for harvest; however, the harvest is minimal. Data from the last six years (2016 to 2021) shows that only 37217 cu ft of Pine timber was harvested and sold in the market fetching a net income of NPR 23,417,046 for CFs of both wards (4 & 5). The consumption of Pine timber was high immediately after the earthquake in 2015. Pine was heavily used as a reconstruction material and the government had provided 50 cu ft timber per household for free of cost to the respective CFUGs. But in the post reconstruction period, the demand for timber has reduced. In the recent years, there is no application for timber from the CFUG members. The local communities purchase readymade furniture from Banepa, a nearby market.

Timber and firewood distribution mechanisms are equitable. There is a formal process that needs to be followed for harvesting and distributing timber within the group members and outside the CFUGs. For internal consumption, the users who are constructing houses, huts or sheds apply for the required timber and the EC, with consent from the DFO, decides on the amount of timber that can be provided for the applications received. The price difference exists in timber sale in and outside the group. It is NPR 20/cu ft for CFUG members while the price is NPR 80/cu ft for neighboring CFUG and NPR 305 to 358/cu ft for sale outside of the municipality. Difference in the price of timber is based on the well-being ranking of the users practiced. Out of 12 CFUGs in Bhumlu cluster, two CFUGs, have provisions to offer 50% subsidy on timber to poor households. In most of the CFUGs, firewood is an open access commodity. The general assembly sets the price of timber, firewood and fodder that is distributed

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<sup>7</sup> *Taxus bacata*- 2500, *Cinnamomum tamala*- 5500, *Choerospondias axillaris*- 7000, Pine- 10500

<sup>8</sup> The Chairperson of ward 4 has organized two ward level CFUGs meetings; Chairperson of ward 5 has organized one similar meeting; and one joint meeting was conducted for both wards among chairperson and CFUG's representatives

inside the CFUGs. For sale of timber outside the CFUGs, an auction process is followed complying with "Community Forest Products Distribution and Sale Directive, 2014."

There are several issues and challenges observed in regards to timber harvest and sale. Most importantly, timber harvesting and sale to outside timber is cumbersome and bureaucratic. The economic rationale of timber harvest is poor. There are several processes-oriented issues and indirect costs that occur in timber harvest and sale. Due to increasing bureaucratic procedures and risk of cases in CIAA, low economic return, the CFUGs are not willing to sell the timber. In fact, timber business is not seen as a profitable and lucrative business these days.

## Fund management and governance

Timber production and trade can be economically feasible (see figure 6 & 7) – especially if CFUGs can harvest large enough volumes to achieve economies of scale, and can raise the minimum investment required to conduct harvests and auctions. However, in most instances, harvests are restricted to small volumes, and the regulatory procedures required for commercial harvesting and trade are so demanding and consuming that most CFUGs are not motivated to benefit from standing mature timber resources. In other instances, community forests are too small to source the required labor and to invest time and monetary resources into independently producing and selling timber.

**Table 5: Timber production, cost of harvesting and associated costs in sample CFUGs**

S.N.	Name of CFUG	Year of timber harvest (A.D)	Timber (C.Ft.	Rate	Amount	Labour charge	GoN royalties	Total amount
1	Rachhma	2016	8475	305	2584875	932250	457226	3974351
2	Rachhama	2017	3825	350	1338750	420750	228735	1988235
3	Dharapani	2016	6652	351	2334852	798240	407302	3540394
3	Chappanigadhi	2016	6086	401	2440486	669460	404293	3514239
4	Chappanigadhi	2018	2738	358	980204	301180	166580	1447964
5	Lakuri Rukh Bhulbhule	2016	2000	358	716000	200000	119080	1035080
6	Lakuri Rukh Bhulbhule	2017	3009	340	1023060	330990	176027	1530077
	<b>Total</b>		<b>32785</b>		<b>11418227</b>	<b>3652870</b>	<b>1959243</b>	<b>17030340</b>

CFUGs are not being able to mobilise the CF funds despite its availability since two-three years. In the last six years (2016 to 2021), CFUGs within the cluster have spent only 79% of the total income and remaining 21% CFUG's fund is still reserved in their bank accounts. For instance, Dharapani CFUG still has around NPR 25 Lakhs (NPR 2.5 million) reserved in their bank account, Lakuri Rukh Bhulbhule CFUG have around NPR 23 Lakhs (2.3 million), Chapani Gadidanda CFUG have around NPR 19 Lakhs (1.9 million) and Rachhma CFUG have around NPR 4 lakhs (0.4 million) in their bank accounts that have remained unspent since more than two years. On the other hand, users have not been able to experience the direct economic benefits from the CFs' income.

The operational plans of CFUGs mandate the allocation of 25% of the CF income in forest management activities, 10% on institutional development, 35% in poverty reduction programme for poor groups, and remaining 30% on community development activities. However, in practice, it is observed that merely 2.1% of the income of all CFUGs has been spent on livelihood activities like solar panel distribution, electric meter distribution, plastic tunnels, etc. Large portion of the income i.e about 43.9% have been spent on forest management activities like fire line construction, plantation, forest inventory, and forest product harvest followed by 32.5% on community development activities like road construction, drinking water supply, and 13.6% on institutional activities like allowances, snacks, stationary, communication, and transportation among others.

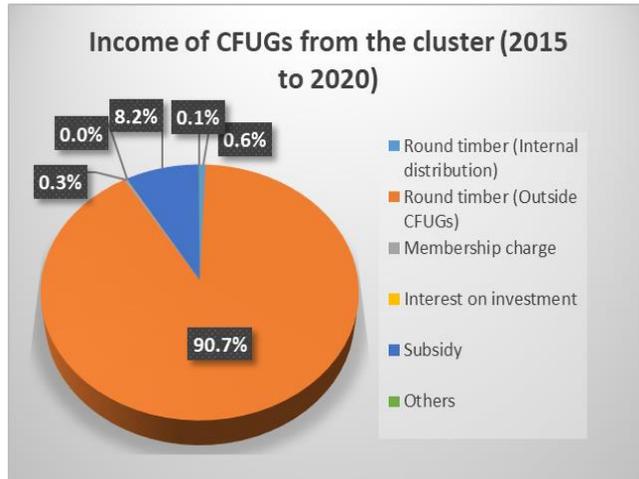


Figure 7: Income of CFUGs (ward 4 & 5) of Bhumlu RM

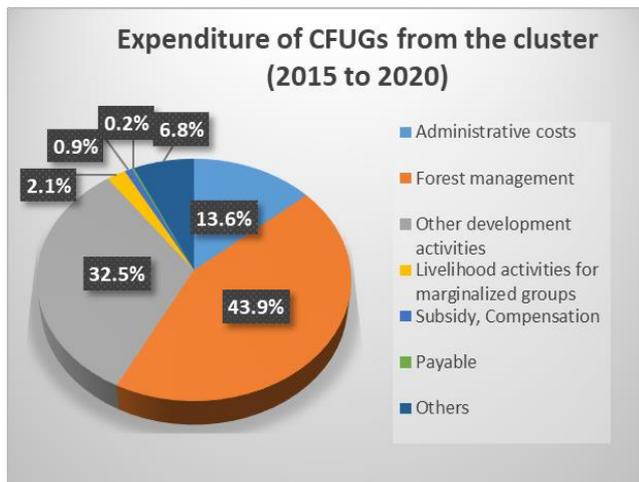


Figure 8: Expenditure of CFUGs (ward 4 & 5) of Bhumlu RM

Source: Expenditure details (FECOFUN 2021)

## Management issues in private forest

Management issues in private forests have been classified into three categories as listed below:

1. **Private forest owners are reluctant to visit DFO for harvesting approval of their standing trees:** Data revealed that none of the private forest owners have contacted directly to the forestry officials for harvesting permit. This is primarily attributed to complex timber harvesting and marketing processes. One of the private forest owners in Bhumlu cluster complained that the legal procedures involved in harvesting and marketing of timber are very lengthy, complex and time consuming. First s/he has to visit forest office with required documents (land ownership certificate, land map, citizenship and application letter, land tax paid receipt among others) for the harvesting approval. Only then the DFO forwards the recommendation to the respective ward office for confirming the volume of the timber to be harvested. The sub-division and one of the ward committee members jointly approve the quantity of harvestable timber. On top of this, DFO has to issue a transport permit. Of the 37 private forest owners identified potential for forest management and harvesting at Bhumlu cluster (based on recent survey), only six private forest owners managed to get approval for timber harvest. They all sold their timber through the local contractors (at least 3 contractors involved).
2. **Declining timber price as a result of heavy taxation and other costs involved:** One of the timber contractors (Sunil K Lama) reported that he paid NPR 1700 per Alnus tree which is around 9-10 cu ft (180/cu ft). If he sells the same log in the market, he would get around NPR 500 to 600. This means that farmers get less than 40% of total market price. The other 30% goes to legal procurements (Vat 13% to the federal government, Tax 2% to the provincial government, NPR 5/cu ft to the local government and logging permit at the sub-division-5% and road permit at DFO (10%). In addition, the cost for transportation to and from the private land and logging charge including contractor's margin would be an addition.
3. **Huge costs involved for conducting private forest plot measurement:** Another private forest owner (Netra Kunwar) reported that he had to pay NPR 3800/ ropanee irrespective of the number of trees available in his plot. This is legally mandatory for plots adjacent to national forests (public land). However, this depends on the discretion of DFO staff. Small farmer cannot manage this cost.

Likewise, there are various formalities that need to be furnished by individuals while registering private forests. Any individual or institution willing to register private forest need to submit an application to the sub-division or DFO along with other documents including land certificate, map, land tax paid bills and citizenship. The DFO will then forward the recommendation to the local government for registration. The local government will then provide certificate to the applicant and notify it to DFO. But in practice this is not happening. There was not a single recommendation from DFO to local government at Bhumlu cluster. Several private forest owners fear that their land would be registered as national forest. Therefore, the general perception among individuals is that the private forest registered with the government would later be converted to government forests.

## Inter-CFUGs and local government relations

### CFUGs-local government relations

The CFUGs and local government share both cooperative and conflicting relationships. The local government is supporting the CFUGs to comply with the existing regulatory requirements by organising ward level meetings. They have supported FECOFUN to conduct an assessment of CFUGs within the Palika (Bhumlu Rural Municipality). The CFUGs are inviting local government representatives as guests in their general assemblies, and requesting LG support in conducting audits and estimation of 4D (dead, dying, decayed and deformed) and fallen trees. The positive relationship between local governments and CFUGs is also because the rural municipality Chair and some of the ward representatives have a long legacy with CFs and therefore tend to show cooperative attitude towards the overall CF process. The local government have planned to include CFUGs in the annual planning as well. However, there are some issues and conflicts between the CFUGs and the local government.

#### Box 5: Conflict between Rachhma CFUG and local government

According to the CFUG Chairperson, a fallen tree injured a pedestrian. The local government lodged a complaint about the accident to the CFUG and sub-division forest office. The forest guard, ordered the CFUG to remove the tree wherein the members of Rachhma CF removed trees that could potentially fall. But since the CFUGs did not acquire a written approval from the DFO, the latter asked for clarification for removing the trees off the road. The trees were not even sold; they were just removed from the road.

The conflicts that are observed between local government and CFUGs is in regards to road construction and expansion. Roads constructed through CF boundaries has encroached the CF land. In addition, local governments are levying tax of NPR 5/cu ft of timber sold outside CFUGs. The Forest Act of Bagmati Province 2076 states that tax of 0.5% of income from the internal consumption and selling of forest products, and 10% of external selling should be paid to the Provincial Government, however, there is confusion on whether the percentage is out of the sold amount or saving after reducing the cost. Sometimes the CFUGs leadership have felt a sense of interference from the local government representative in CFUG leadership selection and decision making.

In addition, the CFUGs in Bhumlu cluster are experiencing strong, emerging and expanding conflicts between CFs and private landowners. There are major conflicts concerning land boundaries shared between private landowners and CFUGs including Dharapani, Chapani, Rachhma and Chaurkuna Bhirpani.

### Prospects for collaboration

Ample opportunities exist for collaboration between the CFUGs and local government as the Bhumlu cluster comprises approximately 1500 ha Pine plantation which is now matured and needs immediate harvesting. Due to homogeneity in the forest stand in terms of species and age, the harvesting can be done across the CFUGs by following the similar procedures and technical specificities. If coordinated

across the CFUGs, technical and institutional services can be hired and mobilised in more efficient manner. Local government can play a coordination role together with S/DFO and FECOFUN. In addition, similar socio-economic and ecological contexts favor clustering efforts in forest management. The cluster mainly comprises Tamang community who share a cohesive bond with each other. Besides, there is a trend of user's getting affiliated to multiple CFUGs, which can be considered as an important opportunity for CFUG's collaboration. The changing livelihood patterns and decreasing dependence leading to decreased commitments to conserve the forest, people find difficulties in allocating time for CFs and forest related interventions. If done in a cluster, the process-oriented activities can be reduced. The small size of CFs is not favoring timber trade. The economy of scale is not adequate to deal with the market if clustered together.

Clustering approaches are not new in Bhumlu. The Chaubas Community Saw Mill was established through shared investment by Dharapani, Chapani, Rachhma and Fagar Khola CFUGs. There is already a long history of joint attempts to operate a saw mill among four CFUGs which has not been very successful. The ups and downs of the saw mill operation has provided rich experiences that will guide any collective efforts between CFUGs in this cluster in the future. As per existing timber sale regulation the saw mill had to compete with the external bidder to get timber even from its own member CFUG, which was a major drawback in smooth running of the saw mill. Besides, some of the DFO staff saw incentive in promoting a competitive auction process involving external traders as against the local transaction directly between the saw mill and its member CFUGs, which demotivated the CFUGs in operating the mill. The CFUG representatives and the saw mill management team did not have the needed capacity of running the enterprise. The saw mill was in loss during the Maoist insurgency period when the extortion was high.

Forests in the cluster are largely dominated by overmature pine forests which is in dire need of immediate harvesting. So, harvesting in all CFs will reduce transaction costs and can afford the technical and other services collectively. Likewise, wards and LG are trying to coordinate across CFUGs within their wards, which gives a favoring environment for developing a cluster level institutional arrangement. Limited availability of human resource in each CFUG indicates that specialised manpower can be developed at cluster level to provide services to each CFUG. Considering this, LG is willing to hire a forester to support CFUGs in clusters, which is critical for CFUGs' functioning in the short run until they start earning from forest management.

## Gender equality and social inclusion

### Representation and participation

Women are considered as the primary users of forests. Recognising their significant role in conservation and forest management, the Community Forestry Guideline has provisioned 50% women participation in EC and representation in one of the major positions (either chair or secretary). The CFUGs in the Bhumlu cluster shows that women participation in ECs is lower than the provision. Out of the total positions in the EC, 40% in Chaubas and 37% in Salle are represented by women. Out of 12 CFUGs in the cluster, only two CFUGs (Chapani and Fagar Khola CFUGs are headed by women i.e. women as chairperson. Fagar Khola is the only CFUG in the cluster where the EC is a women-only committee. Hence, approximately 62% of women users participated in the general assembly of Fagar Khola CFUG; however; in other CFUGs the women presence, in aggregate, in general assembly is approximately 32%<sup>9</sup>.

Representation of women in CFUGs is low in ECs as well as in the meetings, assemblies and forest management activities. Women members are confined to low income, and activities that are considered unproductive and less lucrative. Their role in the timber business is nominal. Women participation is usually observed in activities like plantation (tree seedling + medicinal plants), weeding, cleaning, charcoal preparation, numbering the trees to be harvested, etc. Women's role in timber harvesting is limited to cutting the branches and cleaning the harvested area.

The general assemblies and EC meetings are rarely moderated by women. Out of seven CFUGs that held their general assemblies this year, only three were moderated by women. Besides, female speakers are rarely observed as men have dominated the forums and meetings, with Fagar Khola CFUG as the only exception which is a women chaired CFUG. The general assembly forum seems to be captured by the elites where women, Dalits, marginalised and different interest groups find no space to express their opinions and demands. Similar to the assemblies, the EC meetings are determined by the the Chairperson and Secretary and mostly driven by the agenda related to DFO circulars or forest products harvest. The meeting agenda, venue, timing do not consider suitability for the women member's participation. The CF Chairperson informs the EC members through phone calls just a day before the meeting. The female EC members miss the meetings due to inappropriate timing and household responsibilities.

The women EC members find difficulties in playing their roles effectively. For example, a woman who is a treasurer in EC, cannot keep the account herself. Her husband is doing the job on her behalf or sometimes the CF Chairperson supports her with the role. The primary reason for women to

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<sup>9</sup> Approximately 30% women participated in GA of Maidali Dhadinge CFUG, 23% in Pokhari Chaur Thulokhola CFUG and 42% women participated in GA of Lakuri Rukh Bhulbhule CFUG.

participate in the role effectively is because of education and awareness and the deeply rooted narrative construct that views women as household workers rather than leaders in the society.

Women members of the EC and the CFUGs deny getting adequate respect and opportunities of being engaged in CFUGs. It is primarily because of favoritism and the leaders themselves grasping the opportunities. Most of the time chairperson themselves. In case they are unable to participate, they send some vital post bearers and if they are also unable to present then the turn is of members from the executive committee. Sometimes the chairperson sent the representatives outside EC.

## Forest dependent poor and their inclusion

The Forest Act 2019 provisions to allocate land in the form of leasehold forest to a group of people living below the poverty line to carry out income generating activities in a way that is compatible with the conservation and development of the forest. Only Fagar Khola CFUG had allocated land for cardamom production by forming a women group. However, the lease agreement is no more functional due to diseases seen in cardamom and inadequate technical inputs for its cultivation. The land is now used for cultivating *Nardostachys jatamansi* through CFUG initiation.

There are several pro-poor and women targeted activities in the community forests that allows collection of firewood, fodder and grass without much restrictions from the forest. For instance, Fagar Khola CFUG and Chapani CFUG provide timber at 50% subsidy to the poor, marginalised, single women and women-headed households.

The Forest Act 2019 has recommended using at least 25% of the remaining amount in poverty alleviation, women empowerment and entrepreneurship development activities. But in many cases, CFUGs are not spending accordingly. Most of the CFUGs have strict control measures to conserve the forest, the poor and traditional forest users are deprived from forest use. Some of the minority groups with their specific forest product needs are denied access, for instance, blacksmiths are not allowed to collect charcoal though operational plan includes the provision to allow this. Traditional occupations like charcoal preparation, wicker crafts etc. are displaced as the CFUGs fail to prioritize the needs of forest dependent poor.

## Women's agency and voice

Despite the fact that CFUGs have remained inactive in the past few years, there are some initiatives that has actually contributed to strengthening the mobilisation of people. This is particularly the case of women where their participation and engagement in forest management and institutional activities has increased and thus contributed to beefing up their voice and agency through community forestry. Women leaders are using community forestry as a forum for leadership development and capacity building. Women inclusion as local government representatives is according to the State's requirement i.e. every ward should have five representatives of which two should be female and among two, one female should be from Dalit group and one from any other group. This provision has been maintained by both wards of the cluster. The women members who reluctantly engaged in community forestry have now started leading different forums e.g. women groups/clubs etc. In recent

interviews with CFUG's women representatives, it was observed that 44% of the representatives are engaged in vital positions of multiple organisations and committees like FECOFUN, school management committee, drinking water committee, and road construction committee among others.

Similarly, at the local level FECOFUN committee, out of 11, four members are female. Of the four members, two are from Brahmin/Chhetri, one is from Janajati group and one belongs to Dalit community.

Local government's role in women empowerment is gradually increasing. In ward 4, local government has allocated NPR 2 Lakhs (0.2 million) to support the livelihood of women. The fund is used to promote livelihoods of women or deposited in emergency funds which is later used during delivery time or other difficult situations.

### Box 6: Story of a women leader in CF

Sushila Kunwar is currently the chairperson of Fagar Khola CFUG where EC is composed of women representatives only. She has seven members in her family of which two are living abroad, and two are living in Banepa. She and her husband and a daughter live in the village. Her husband is a retired forester. She also has an experience of more than 13 years in the EC of Fagar Khola CFUG. During an interview, she said -"I initially was a member of the EC for two years. Then I became the treasurer and handled the position for four years. Now, it has been seven years that I am the chairperson of this committee. I am selected by the users through the general assembly." She shared her journey being in the EC as: "Initially when I was a member of the EC, at that time there was no provision for including women in the committee. We raised our voice that women also should get a chance to work for CF. At that time, men didn't believe us and they even asked us to engage in heavy tasks during tree harvesting (carrying logs, cutting branches of fallen trees, etc) which we did. After that, women got places in the committee and now we have 100% women representatives." She is very happy with the position she is handling and thinks about improving the livelihood of users through forest activities. She said- "When I talk about this forest, I always think about what kind of activities can be conducted in this forest in order to improve livelihood of women and poor users?"

Though, time management is an issue for her, it seems she is fine with her household works, though the stress added by such responsibility is visible. She said- "I easily manage time for CF activities. On such days, I wake up early in the morning to complete my kitchen work, collect grass for livestock that is sufficient for the whole day and I manage my day time for CF. Sometimes, I complete some of these tasks one day earlier. I also pay some labor to collect grass for livestock if I don't have enough time. But anyhow, I manage time for CF."

Addressing her improvement in knowledge regarding forest and growth in her leadership skills after being engaged in vital position of EC, she said- "After becoming chairperson, I have been able to acquire more forest management related knowledge as I have to participate in different forums, forest related events as well as different organisations which was comparatively less when I was member and treasurer before." She explained that she takes the help from her husband to manage the documents' works if required. She also shared her aim that she wants to compete for ward representative in the coming election.

## Forest based trade and enterprise

Despite a good prospect of timber and non-timber product-based production and processing business and with several attempts in the past, there are hardly any operating forest-based business in the cluster. The most prominent and seasonally functional forest-based enterprise is the Chaubas Community saw mill located at Chaubas, with shared ownership of four CFUGs in the cluster. Annex 6 presents a brief of previous attempts on enterprises many of which cease to function currently.

The processing unit for cardamom in Fagar Khola CFUG, initially established by Micro-enterprise Development Programme (MEDEP), was re-constructed by District Micro Enterprise Group Association and Sustainable Enterprise and Social Development Centre, Banepa after the earthquake. However, it is not currently functional because the cardamom could not be produced as expected amount due to disease. As per the CFUG chairperson, lack of technical knowledge among the farmers was the key factor for the failure of the enterprise.

There are some valuable insights from the failure of many of the previous attempts. Most of these apply across diverse types of enterprises. Cumbersome regulatory requirements, lack of assured supply of raw materials, small scale of operation with high transaction costs, weak technical and managerial capacity and lack of needed support system. Timber based enterprises are more affected by regulatory and administrative requirement than other types. Scale issue becomes important on various NTFP based ones such as cardamom, Allo, etc. A common observation is sale to urban centres in raw form is working better than attempts to process locally. As most of the previous attempts were driven by outside support agencies with little internal preparedness, they ceased to operate once the external support ended. Suitable institutional modality (e.g. private vs collective) has been a persistence issue of confusion. While outsiders often support collective modality, the regulatory framework and administrative behaviour often tend to favour individual business where small, community-based enterprises have to compete with large, private firms.

Timber is the main traded product from this area. There are slightly different value chains of timber from CF and private ones. In case of CF, Kathmandu or Banepa based firms participate in bidding and take round wood directly in trucks. They usually saw these logs in their own saw mills and sale it to construction sector (roughly 70%) and to furniture industry (around 30%). However, some of them sell the round wood without processing. In case of private forests, small collectors many of whom are local, negotiate with tree owners, arrange DFO permits, and involved in harvesting and collection, which they sell to larger businessmen in Banepa and Kathmandu. Some of these local collectors either work in partnership with larger traders or work as local agents of urban based large businesses.

The CFs in this cluster either harvest trees using labour or contract out to a professional harvesting group/firm. The harvesting costs ranges between NPR 120-130/cft based on accessibility and other features of the site. Transportation costs, load-unload cost and some informal cost adds another NPR

127-130/cft so that when it gets to the market in Banepa, the price comes around NPR 650/cu ft. Similar is the case with private forest, where most of these costs are jointly borne by collectors for which they get paid by large businesses in Banepa/Kathmandu once timber is deposited in their premises.

Though timber business is the major pathway of realising forestry for prosperity in this area, the timber economy has not been very rewarding to the society and households. A number of factors have shaped the outcomes. First, harvest is much lower than what forestry science has shown and are even prescribed in operational plans. Second, the small scale of operation and high transaction costs involved in developing plans, harvesting, getting permits and transportation is so high that only small reward goes to the CFUGs. Third, there is little connection to CFUG revenue and actual benefits realised by its members collectively and individually. Though the picture in privately owned forests/trees is slightly different, there is also huge gap in market price of timber and what they actually get in their farms. There is little data available on economics of timber management of the CFUGs or private.

Currently all harvest is sold as round wood to a distant market in Banepa. There exists good prospect for establishing timber-based processing plant and subsidiary businesses. Similarly, timber from private land owners is one of the major sources of timber supply in the region. Apart from timber, there is prospects of: i) this area produces a good quality Lapsi that can be sold as raw, candy, or titaura; ii) in some areas there exists a potential of production and processing of cardamom which has been attempted in the past with partial success; iii) given some important cultural and scenic places that attract good number of visitors (Bhimsenthana Temple, Mt Everest Trekking route), there lies some prospects of ecotourism. Few other products include: Allo, timur, tea plantation etc.

# Reinvigorating forest management

## Governance reform

Poor governance of the CF system, within and outside CFUGs, appears to be the major factor for poor forest management in this cluster. Demanding regulatory requirements, and administrative instruments and weak technical support have proven bottlenecks in expediting forest management. In this context, governance improvement is at the core of materialising this huge potential of timber management.

Internal readiness and external support in maintaining the basic institutional functions of CFUGs such as regularising EC meetings, general assemblies, and preparation of basic documents to DFO and local government can be a starting point. However, the top-down approach should be complemented by bottom-up approach of organising and capacitating CF members, particularly the marginalised groups who can raise their voice and effectively engage in CF process. A practical and accessible evidence base on biophysical features of forest and socio-institutional conditions that feed into the planning and management of institution and resources should be adopted. DFO, local government and other stakeholders can monitor and support in CFUG efforts towards improving governance at different levels.

## Business potential and economy of scale

With the monetisation of local economy and increasingly interface of CF with the market, forest management and timber sale must be economically viable and profitable business. However, given the small operating unit and high transaction costs involved in timber harvest and sale, this has not appealed to CF members<sup>10</sup>. This is very critical finding that compels us to develop strong economic rationale for forest management for timber. There needs a serious rethinking on increasing the economy of scale and reducing transaction costs. Clustering of CFUGs without compromising their institutional integrity may help increase scale of operation, reduce transaction costs, design and enforce their own service provisioning system, new community-private-public partnership models, and increased bargaining power in the market among others. It needs a well thought out process to explore and pilot innovative alternatives with adequate legal space for experimentation. CFUGs and stakeholders should appreciate this gap, demonstrate readiness and develop trust for such innovation and experimentation.

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<sup>10</sup> A survey of 600 households of Kavre and Sindhupalchowk shows that people are not enthusiastic of timber-based revenue and instead prefer other products that they benefit directly.

## Effective and accessible service provisioning

The sub-division and DFO in Chaubas have faced challenges to respond to the increasing support need for CFUGs and private forest owners in the cluster. The S-DFO has limited human resources which has already stretched against demand of 80+ CFUGs, and hundreds of tree owners in the area. On the contrary, the regulatory provisions demand that they physically present in every institutional event (general assemblies, EC meeting, and annual planning), planning (annual plan or operational plan revision) and silvicultural operations and planning (forest inventory, tree marking, harvesting, timber auction etc.). There is little likely that the DFO human resources will be substantially increased to meet these demands in the near future.

In this context, alternative arrangements for service provisioning needs to be explored, piloted and adopted. These can be either CFUG led (CFUG clustering, collective fund raising and hiring services), local government led (local government providing such services) or private sector (from current individual consultant-based services to more institutionalised system of service provision financed by CFUGs or different levels of government). As local government is going to enjoy additional revenue from timber sale, local government led service provisioning sounds rational.

## Collaborative initiative

Weak governance, poor forest management and little benefits from timber sale/trade despite huge potential cannot be improved by sole attempts of CFUGs and private forest owners. This requires coordinated efforts from DFO, local government, FECOFUN and other actors (e.g. EnLiFT2). DFO/sub-division can take a lead role in coordinating this function and creating a favourable environment. Similarly, at the local level, local government can play an important role by supporting financial and human resources, mobilising CFUGs using their political influence, and coordinating with other agencies. Improved governance of the forest management and trade may lead to increased harvest and sale thereby increased revenue for local government. Also, it has interest in mobilisation of another 50% of CF funds in community development. This justifies the facilitation of LG towards improved institutional governance and forest management.

## Capacity building

Most of the CFUGs here are endowed with mature, ready to harvest forest after four decades of plantation and protection. Unlike sole protection measures, harvesting, sale and mobilisation of revenue require fundamentally different sets of skills. As discussed in section 7.1, CFUGs in this cluster need additional skills and expertise in organising events (EC meetings, general assemblies), maintaining records, various silvicultural operations, developing operational plans, furnishing several technical/administrative documents, dealing with market, planning and fund mobilisation.

As across the country, CFUGs and private forest owners in the cluster are left on their own in managing their institutions and their forests. They need intensive support through training, exposure visits, backstopping, on the job coaching. Most of these activities can be financed through their own funds. Additional support can be arranged through local government and from EnLiFT (at least in the short term). FECOFUN can take a lead in designing and implementing various capacity development activities using above potential financing options.

# ANNEXES

## Annex 1: Drivers and impact of rural migration: a case of rural area of mid-hill Nepal

### Introduction

The formalization of migration in Nepal dates back to the start of 19<sup>th</sup> century with the admission of Nepalese youths in the British Army (GoN 2014). The demand for labour workforce in the middle-east, Malaysia and other parts of the world has created an opportunity for the working age groups of Nepal aspiring for employment opportunities. On the one hand, remittances flowing from the migrants have had a significant contribution to national and rural economy, on the other hand, the effects it has had in the society and environment is gradually unfolding. Taking a case of Rachhma community forest user group (CFUG) of Chaubas, Kavre, this case study showcases the drivers and impacts of migration in the rural setting of Nepal.

Bhumlu rural municipality of Chaubas, Kavre is situated 30 kilometers northeast of Kathmandu. It can be reached after 3 hours of ride uphill from Dolalghat- a major settlement on the Araniko highway, a road that connects Kathmandu and Tibet. The people in this area are mostly subsistence farmers struggling to make a living on the steep hill slopes. Many supplement their farming by seasonal or longer-term migration for income elsewhere. Although some residents operate small businesses such as shops and tea/alcohol stalls, local employment opportunities are few. Among other community forests in Chaubas, Rachhma community forest user group is dominated by Tamangs and Newars. The forest was handed over to the community as community forest in 2048 BS. This brief elucidates the trend and impacts of out-migration of the people taking Rachhma CFUG as a case.

### Pattern of migration

Nepal is experiencing an incremental trend in outmigration, especially from the hills to the plains and beyond. While various reasons can be attributed to why people migrate and how it has been impacting the locality, the case of Rachhma is a good illustration of it. At the time of its handover, Rachhma comprised of 61 hhs however now, it has come down to 47 hhs while rest of the population appear to have migrated to cities and elsewhere. The existing data shows that a total of 121 male and 104 female do not live in the locality. Most of the male members of the households have travelled abroad for foreign employment or are living in cities with their families, while female have most been living in the cities with their children. While there has been an increasing trend in terms of youth migration across the country, Racchma is not an exception to it. So far XX youth, both male and female, have remained absent for almost XX years in the area. Most of them have migrated to the cities, mainly Kathmandu and Banepa, for education and search of employment, while others have travelled to the middle-east and Malaysia for foreign employment.

Following the devastating earthquake in 2015, several new houses have been (re) constructed. The constructions have mainly been supported by the Government, while others have self-financed. Those new constructions, other than those supported by the Government, have primarily been the

remittance money. Moreover, remittance has also brought about changes in the lifestyle of people. Few houses in the locality now have a vehicle, mainly motorbikes, and other facilities that were not in existence some 10 years back.

### Drivers of migration

The rationale for people migrating has been almost common across the country. Following the armed conflict in mid-1990s until 2005, a vast population, mainly from the hills, migrated to cities for security reasons. Back then, armed conflict was a primary push-factor for migration. However, with the political stability following the peace accord in 2006, the country is still experiencing the phenomenon and there is not a single factor contributing to this. The case of Rachhma shows that there are multiple reasons why people migrate.

One of the reasons and perhaps most prominent across Nepal is lack of employment opportunities. It is obvious to the fact that a small rural area of Kavre may not offer much employment to the people residing in the locality. Indeed, not much has changed to what it was 10 years back in terms of jobs and income opportunities for the people in the area. This is clearly illustrated by the opinion of the secretary of Rachhma CFUG *'I am very enthusiastic to work for the betterment of my village. But I have to work in Kathmandu in order to earn for my family. We don't have hospitals and good schools here, so we are compelled to go'*. Tulsi Man Tamang has a house in Chaubas, but he mostly lives in Kathmandu with his wife and daughter and partly visits Chaubas if his role, as a CFUG secretary, demands.

Lack of infrastructure and facilities has also been forcing people to move out of their locality. Absence of hospitals, schools, and even basic facilities including water supply has convinced people to move out. There has been (re)construction of houses following the earthquake in 2015, however not much has been done towards improving the other facilities. According to Dil Laxmi Tamang, a woman in her late 50s says, *"I am a bit unhealthy and get difficulties working on farms. So, my son has called me in Kathmandu so that he can take me to hospital on timely basis and also for the reason that I could look after the house and my grand-children when my son and daughter-in-law go to their work."*

Those who have still been living in Chaubas are involved in farming including crops, vegetables in addition to sale of milk and dairy products. Sale of these products could contribute to additional household income, however, lack of market access and facilities has demotivated people in getting involved. Instead, people have opted for jobs in the cities to secure their income. Man Bahadur Shrestha, a local resident of Chaubas expressed his grief, *'It has been 3 days my wife passed away. My son has come back to village only to finish the death rituals and return to Kathmandu. He provides catering services there. My son will be gone in few days and I will be all alone. But, my son has promised that he will frequently visit me and send me money time to time'*. For those who completely rely on agriculture for their livelihood, crop raiding by wild animals has been a major concern. Moreover, there has not been much support from the government side either to address this issue.

Students following the completion of their schooling are forced to migrate to Kathmandu/Banepa in search of better options. Moving to cities are even more convincing due to the fact that they can study in colleges and at the same time opt for part time jobs, which mostly covers their living expenses. In

most cases, girls work in departmental stores, super markets and apparel stores while boys work in hotels and party palace as waiters and kitchen helpers. Young boys who dropped out of their schools mostly work as drivers in city areas.

Chandra Bahadur Tamang, a middle age man who completed his primary level studies from Ganesh Elementary School has a strong feeling that if he had the opportunity, he would also have been settled elsewhere in city area. He narrated, *'Who wants to stay in a place where somehow 5000 comes in return if we spend 10000 in farming crops. You see our fields going barren. If we want also, we don't find people willing to plough our field. If somehow, we find one then s/he demands more than Rs 800 per day. We cannot afford that sort of money so it is better we leave the field as it is. If you visit the village, you will get to see 25% of the houses are closed and only old-age people stay in the rest 75% of the HHs. We do not have infrastructures here. If only trekking was stable and I could get to go to trekking all year round, I would have settled in Kathmandu with my family. You cannot compete with city children by getting education in a village school. It has been a necessity for at least a member to migrate to city areas in order to sustain'*.

Following the peace agreement, there were an increasing number of youths flowing back to village with an ambition to do something. However, after the devastating earthquake people migrating from the village drastically increased. People went back to their villages merely for the purpose of reconstructing their houses.

### **Impacts of migration**

There have been both positive as well as negative impacts of migration in Racchma. On the positive side, the influx of remittance has brought about changes in the village. Compared to what it was several years back, people now have money to spend on food and amenities. People have started rearing livestock while others have initiated cash crop farming. Likewise, though women are perceived to have an added burden in household chores due to the absence of their male counterpart, on the positive note, women have had opportunities in various ways. In absence of the male members, women are invited to workshops, trainings, community activities among others. Lately, there has also been an increase in the number of women joining cooperative groups and mother's group. As a result, there has been an increase in women participation in various groups and have also been effective in terms of serving the role of a watchdog in the society.

Notwithstanding the positive side, there are many ways in which migration has negatively impacted. Notable impact of outmigration can be seen in abandonment of agricultural land. With shortages in labour, people have either abandoned their land or have opted for cash crops like beans, turmeric, ginger, and onions among others, in place of major crops including rice and wheat. Traditional agricultural practices have been abandoned due to presence of active population in Rachhma as per a 71-year-old Gyani Maya Tamang *'Few years back, people cultivated rice, wheat, barley, mustard in huge areas. Now, many people have stopped cultivating them. This is because of migration. And oldage people like me are not capable of farming'*. Not only has the farms been abandoned, they have been heavily infested with invasive species, thus having a negative effect on the land productivity.



With increasing number of people moving to the cities, there is lesser children enrollment in the local schools. In one of the local schools in the area, the number of students is gradually declining. According to the headmaster of Ganesh Elementary School, Bhumlu, *'there were 290 students in the year 2039 BS in this school which gradually decreased to 90-100 students during the insurgency and now there are merely 14 students in the whole school'*. Although the fees, admission, school dress and stationaries are all freely provided to the students, the number of enrollments is declining. The headmaster further added, *'the school will be closed one day or merged with another school if the same trend continues'*.

The impact of migration has also been evident in the collective action in managing forest. Almost half of the executive committee members of Racchma CFUG live in Kathmandu and Banepa while their stay in Chaubas is seasonal. Because of this, regular meetings of the executive committee and even the organizing of general assembly has quite often been affected. Similarly, the Chaubas-Bhumlu sawmill was revived after a long concerted effort and deliberation. Unfortunately, it has closed down again where lack of human resources among other reasons has been attributed to the closure. People have started relying on timber available in their private lands instead of buying timber from the community forests.



Bhumlu rural municipality had announced a budget of NRs. 5,00,000 in the previous year for utilizing it in environment conservation. However, not a single person showed up with an interest to utilize the money. Citing the lack of interest from the people, the rural municipality has planned to double the amount this year and implement in programs in coordination with the FECOFUN.

### Conclusion

Nepal has been experiencing an outstanding number of people migrating out of the country as well migration from rural area to cities. There have been several cases of positive impacts that migration has brought about, the grim side of it is equally evident. The case of Rachhma is testimony to how migration has been costly to the society as well as the ecology of certain rural setting. Lack of employment opportunities, facilities and market access are some of the prominent factors driving migration in the rural areas. Lack of educational facilities is driving youths from their region in search of better options. Migration of families to cities is leading schools in rural areas to closure. Likewise, collective action in managing natural resources is slowly fading due to absence of people. Though remittances have brought about positive changes, the essence of rural development and society is gradually diminishing.

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## Annex 2: Forest product stocks in CFUGs of Bhumlu cluster

S.N	Name of CFUGs	Location	Area (Ha)	Effective Area (Ha)	Stock per hectare				An. Allowable Cut	
					Seedling (No)	sapling (No)	pole (No)	tree (No)	Timber (cu ft)	Firewood (bharis)
1	Pokhari Chaur Thulokhola CFUG	Ward-4	51.0	45.9						
2	Maidali Dhadinge CFUG	Ward-4	34.2	30.8	5502	5595	1949	246	1457.9	676.0
3	Fagar Khola CFUG	Ward-4	58.5	52.6	2483	565	288	34		
4	Thople Kamere CFUG	Ward-4	48.9	44.0	5040		670	400	1714.3	296.0
5	Chap Gaira CFUG	Ward-4	4.5	4.0	8400	8600	750			
6	Lamrang Aahaldanda CFUG	Ward-4	21.0	18.2	2000		600	40		
7	Chapani Gadidanda CFUG	Ward-4	83.5	77.5	5000	300	198	460	7850	1790.0
8	Lakuri Rukh Bhulbhule CFUG	Ward-4	39.2	37.3	2865	675	192	172	11331.0	
9	Chhekarpa CFUG	Ward-5	6.5	5.8	5632	3466	1615	198		
10	Rachhma CFUG	Ward-5	45.7	43.4	3510	710	213	139	18224.0	4816-23230
11	Chaurkuna Bhirpani CFUG	Ward-5	46.9	42.2	2694	1327	523	468	3404.3	
12	Dharapani CFUH	Ward-4	43.0	40.9	3510	710	245	166		

(Source: CFOPs)

## Annex 3: Status of CFUG Operational Plans in Bhumlou cluster

S.N	Name of CFUGs	CF Handover	First OP approved	OP amended for (times)	latest OP amended	OP's duration (years)	OP's status	Basis of harvesting prescription
1	Pokhari Chaur Thulokhola CFUG	2/12/2051	2/12/2051	3	8/19/2064	5	Expired	
2	Maidali Dhadinge CFUG	8/26/1905	2066/67	1	2066/67	10	Expired	
3	Fagar Khola CFUG	5/1/2048	5/1/2048	1	1/8/2071	10		
4	Thople Kamere CFUG	2052/53	10/3/2064	1	10/3/2064	10	Expired	
5	Chap Gaira CFUG	3/3/2056	3/24/2070	4	3/29/2075	5		
6	Lamrang Aahaldanda CFUG	2054/55	2054/55	2	3/29/2071	5	Expired	
7	Chapani Gadidanda CFUG	10/19/2046	10/19/2046	1	3/24/2070	10		
8	Lakuri Rukh Bhulbhule CFUG	2052	2052	4	12/27/2073	5		
9	Chhekarpa CFUG	11/29/2054		2	3/31/2069	5	Expired	
10	Rachhma CFUG	11/28/2048	11/28/2048	5	12/27/2073	10		
11	Chaurkuna Bhirpani CFUG	2052/53	11/20/2052	1	12/7/2070	10	Expired	
12	Dharapani CFUH	10/19/2046	10/19/2046	5	8/10/2073	10		

## Annex 4: Details of demand and supply of forest products

S.N	Name of CFUGs	Location	Annual Demand of Forest Products					Annual Supply of FPs												
			Timber (cu ft)	Firewood (bharis)	Grass (bharis)	Leaf litter (bharis)	NTFPs (Kg)	Timber (cu ft)			Firewood (bharis)			Grass (bharis)			Leaf litter (bharis)			
								CF	PF	Others (CFs, PFs)	CF	PF	Others (CFs, PFs)	CF	PF	Others (CFs, PFs)	CF	PF	Others (CFs, PFs)	
1	Pokhari Chaur Thulokhola CFUG	Ward-4																		
2	Maidali Dhadinge CFUG	Ward-4	116	5050		20275		116			2500	2500					20275			
3	Fagar Khola CFUG	Ward-4																		
4	Thople Kamere CFUG	Ward-4	750	14862	25085	22860	1360	400	100	250	6575	1545	6742	8090	1265	15730	7525	1895	13440	
5	Chap Gaira CFUG	Ward-4	490	2940	10500	8820		79.27	410		33	3507		200	10300		50	8770		
6	Lamrang Aahaldanda CFUG	Ward-4	250	17210	33271	60533		322.44	145		2215	14995		2050	230517		552	59981		
7	Chapani Gadidanda CFUG	Ward-4	1511	16141	15602	14052		5916			1790	14351		5602	10000		4052	10000		
8	Lakuri Rukh Bhulbhule CFUG	Ward-4	2200	10560				11331												
9	Chhekarpa CFUG	Ward-5																		
10	Rachhma CFUG	Ward-5	1525	7320				18224			4816-23230									
11	Chaurkuna Bhirpani CFUG	Ward-5	1540	41665	48744	48344		340	1200		6145	36520		2000	110000		1600	46744		
12	Dharapani CFUH	Ward-4	1155	9240				3425-32802			2230-18698									

## Annex 5: Institutional performance of CFUGs (2072/73-2076/77)

S.N	Name of CFUGs	Location	CFUG's events (From 2072/73 to 2076/77)				Audit process	
			Meetings that had to be conducted	Meetings conducted	GAs that had to be conducted	GAs conducted	Method	Regular audit after 2072 BS
1	Pokhari Chaur Thulokhola CFUG	Ward-4	60	0	5	0	Social audit	No
2	Maidali Dhadinge CFUG	Ward-4	60	0	5	0	Social audit	No
3	Fagar Khola CFUG	Ward-4	60	60	5	1	Registered Auditor & social audit	Yes
4	Thople Kamere CFUG	Ward-4	60	0	5	0	Social audit	No
5	Chap Gaira CFUG	Ward-4	60	0	5	0	Social audit	No
6	Lamrang Aahaldanda CFUG	Ward-4	60	4	5	0	Reistered auditor	No
7	Chapani Gadidanda CFUG	Ward-4	60	60	5	0	Registered Auditor	Yes
8	Lakuri Rukh Bhulbhule CFUG	Ward-4	60	48	5	4	Registered auditor	Yes
9	Chhekarpa CFUG	Ward-5	60	0	5	0		No
10	Rachhma CFUG	Ward-5	60	13	5	3	Registered auditor, Social audit	No
11	Chaurkuna Bhirpani CFUG	Ward-5	60	24	5	5	Registered auditor	No
12	Dharapani CFUH	Ward-4	60	60	5	5	Registered auditor	Yes

## Annex 6: Status of forest-based enterprises in ward 4 and 5 of Bhumlu RM.

Enterprise name	Ownership/ management modality	Scale/size (employment generation, fund, investment, volume)	Nature of business (raw material, market)	Remarks- status
Chaubas Bhumlu saw-mill	Owned by four CFUGs. Rented out for management	3-4 people employed Rent amount- Rs 211,000/annum Had sown 18214 cu ft in yr 2016-2017	Provides sawing service to timber from individual households (Rs 80/cu ft)	Established in 1996 and was in loss between 2005-2007; was ceased operation during 2007-2014; resumed during EnLiFT 1; was in joint operation till 2017 but rented out since then to a private company.
Lapsi candy enterprise	Owned by individuals (Business performed without registering)	Annual production: 50 to 100 Kgs of candy and 500 to 700 Kg of titaura Two members of HHs on average engaged in preparing candy and titaura Candy sold at Rs 200 to 300 per Kg and Titaura sold at Rs 200 per Kg Sold by own in the market of Banepa, Kathmandu and Dhulikhel	Prepare lapsi candies and titaura	1 week training on lapsi candy preparation provided in 2003 AD. Business has started since then. In recent years, due to Covid, the scale of manufacturing candy and tiraura has been reduced.
Lapsi processing machine	Chaurkuna Virpani CFUG	A machine (Rs 75000) supported by DFO	Could not operate due to institutional confusion, one individual wanted to run, but community did not agree.	Machine is sitting ideal, not in operation
Cardamom enterprise	Owned by a group of women within Fagarkhola CF (9 women + 5 men);	Sold 20 kg of caramom in year 2019/20 with total value of Rs 9000. Processing facility (Rs 350952) supported by D-MEGA/SESDEC District small and cottage industries association	Collective production with 10% profit to CFUG.	production problem due to new disease, not in operation these days

## Annex 7: Details of respondents during KII

S.N	Name of Respondents	Affiliation
1	Binda Kharel	Chairperson of Chapani Gadidanda CFUG
2	Binda Darji	Treasurer of Chapani Gadidanda CFUG
3	Sushila Kunwar	Chairperson of Fagar Khola CFUG
4	Sarmila Pahari	Vice Chairperson of Fagar Khola CFUG
5	Binita Kunwar Khatri	Treasurer of Fagar Khola CFUG
6	Maiya Darji	Member of Fagar Khola CFUG
7	Urmila Pahari	Member of Fagar Khola CFUG
8	Basanti Darji	Member of Lakuri Rukh Bhulbhule CFUG
9	Urmila Pahari	Member of Lakuri Rukh Bhulbhule CFUG
10	Kumar Khadka	Entrepreneur (Lapsi candy and titaura)
11	Ram Kumar Khadka	Entrepreneur (Lapsi titaura)