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Our cover

A picture of an underutilised agricultural land showing invasion of a number of weeds. **Photo: Racchya Shah**

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Qualitative Baseline Study on Underutilised Land in Kavre and Lamjung Districts, Nepal

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INTRODUCTION

Background

This is the qualitative baseline report of the Research Theme: Under-utilised land (UUL)¹ under EnLiFT project. The report captures information gathered from more than 30 Focus Group Discussions and 12 Key Informant Interviews as well as informal consultations in past one year of the project implementation period. The report has collated information from background scoping studies (Paudel et. al., 2012), site selection report (Paudel et.al. 2013), household survey consultations, introductory field visits consultations and discussions and interactions for baseline. This report is expected to compliment the quantitative survey in relation to the UUL key area/theme. The survey is carried out in six prioritized CFUGs in Kavre and Lamjung districts, along with a review of national policy and regulatory context².

Underutilized Land is one of the Research Area/Theme beside Community Forestry and Agroforestry in the research project (Enhancing livelihoods and food security from agroforestry and community forestry in Nepal: EnLiFT project). EnLiFT is a bilateral project funded by Australian Government (Australian Center for International Agricultural Research) and jointly implemented by consortium of research partners consisting of national and international organizations³ working in the area of community forestry, agroforestry and natural resource management to secure better livelihoods and food security for local communities. The research group responsible for carrying out this survey and preparation of report include members from all consortium partners⁴. The EnLiFT project under the theme Underutilised Land address the interdisciplinary issues associated with land abandonment and underutilization and tries to address this through research objective, “To improve the productivity of, and equitable access to, underutilized and abandoned agricultural land”.

This report explores the current emerging phenomenon of land underutilization in Nepal and tries to link this phenomena with community food security and livelihoods. The report describes the current state of UUL in the study sites, the extent of underutilization, the socioeconomic characteristics, and state of UUL and drivers of UUL.

Objectives of UUL Research-EnLiFT Project

This project shares the national vision, “Forestry for Prosperity” and “Enhanced Livelihood and Food security” by creating knowledge, and, within the bounds of a research project, facilitating an enabling environment for the emergence of productive reutilization of under-utilised land beside boosting community forestry and agroforestry. The one of physical outcomes of this project will be: community-based strategies for creating wealth and job opportunities from under-utilised land. Thus, the research objective of the UUL theme is to “to improve the productivity of, and equitable access to, under-utilised and abandoned agricultural land”.

Structure of the report

The first chapter of the report is the ‘Introduction’ which includes the objectives and methods of the qualitative baseline survey. The second chapter is about “Baseline Situation of UUL” in Nepal. The third chapter is about the “Research Site Information/baseline situation” of six sites of two districts of

¹ For the purpose of this research project, Under- Utilised Land (UUL) refers to private land that has been abandoned, underutilized or unutilized and left fallow (for at least one year), generally referred to in Nepali villages as Banjho Jamin. The project focuses primarily on Banjho Bari (rain-fed) and/or Khet (irrigated) only.

² District Lamjung: Nalma (Langdihariyali), Dhamilkuwa (Anap Chaur), and Tandrang Taxar (Lampata)

District Kavre: Chaubas (Fagarkhola), Methinkot (Sa Pa Ru Pa) and Dhugkharka (Kalapani)

³ Led by Dr. Ian Nuberg (University of Adelaide), co led by Dr. Krishna Shrestha (University of New South Wales), ICRAF (World Agroforestry Center as international partners and Community Forestry Division, Department of Forest, IUCN, Forest Action, Institute of Forestry, FECOFUN, NAF and SEARCH as the national partners.

⁴ Ram Chhetri, Krishna Paudel, Subarna L. Shrestha, Sujata Tamang, Yubraj Subedi, Madan Basyal, Bigya Gyawali and Racchya Shah

Lamjung (Nalma, Dhamilikua and Jita Taxar), Kavre (Chaubas, Methjinkot and Dhunkharka) respectively.

Context of Agriculture

In general, of the total 147181 sq. km. land area of Nepal, only about 21% of the country's land is cultivable (Agriculture Census 2011). The total cultivated land from 2001 to 2011 shrank by 4.7%. The mid hills shares 40.4% of the total arable land where 44.3% people are living (CBS, 2002). Over the past decade, the area of arable land⁵ is rapidly declining for a variety of reasons, including increased rate of rural migration. Arable land is very important in attaining food self sufficiency in Nepal since the land under temporary crops is under this category. However the national data shows that the majority i.e over 50% of farmers are small holders and are cultivating in less than 0.5 has0.5 (CBS, 2011). Similarly out of 56.6 million households 4.25 million farming households are landless and half of them are even deprived from a piece of land even for housing (CSRC, 2012). Given the scarcity of land resources, it becomes important to understand how the existing arable land is being used.

Land has a complicated and multi-dimensional relationship with the phenomenon of migration (Gartaula et al, 2012). Agriculture is the basis of livelihood for most rural people in Nepal. Almost 80% of households are involved in agriculture, and with 78.5% of the workforce (female 89.6%), it generates 1/3rd of total GDP (ADB, 2011). Over the last two decades, the mid hills region of Nepal has witnessed an increase in agriculture land under-utilisation. Multiple drivers of changes including social, economic, cultural, and ecological as well as agriculture technologies have contributed to this phenomenon.

Outmigration is not a new phenomenon in Nepal. In fact, Nepal has been sending youths for 200 years and is receiving remittance (Adhikari, 2006). A recent survey by the Government of Nepal shows that nearly 44 percent of households have at least one absentee member currently living either abroad or within country (NLSS 2010). Currently, there are more than 4 million Nepali young farmers serving as labour outside the country, and consequently, remittance contributes 30% of the GDP (World Bank, 2009). The remittance economy, associated with outmigration of economically active labour, mainly male, has become the most powerful force in transforming rural life and livelihoods. In the last ten years there is massive outmigration of rural youths, which has dramatically changed the rural landscapes of mid hills of Nepal (Paudel and Adhikari, 2010). There is increasing trend of labour shortage, feminization of agricultural work and dependency on imported foods. The average rural household in the mid hills derive significant part of its livelihood from non-farm income (33%) and remittance (16%). However, the share of remittance of the poor and marginalized household is nominal. The inflow of cash comes directly to the household, and a large part of it (>80%) is spent on food, clothing and other consumables. This is followed by repayment of loan (7%), acquiring household property, education and capital formation respectively (Paudel et al., 2012).

The traditional practice of the small-scale subsistence farming is not viable in terms of generating income to meet the household increasing cash demands. In addition the landlessness, decreasing access to productive natural resources, low return on labour and other investment and increasing demand for cash to pay for health, education and other social services are serving as disincentives to the farming communities to continue farming in the hills (Paudel et al., 2012).

However, in recent days it is assumed that the privately owned agriculture land has been left under-utilised, mainly by the households having one or more of out-migrated family members. This phenomenon of under-utilisation of previously productive land has tremendous impact on food security and local livelihoods, in areas already suffering from mass poverty and food deficits (Khanal and

⁵ Arable land comprise all land under cultivationto temporary crops

Watanabe, 2006). Equally, if such land is left idle, it also has several negative consequences for the fragile mountain ecology particularly on hill slope processes, where hill slopes have been terraced and managed for centuries protecting through massive inputs of family labors (Jodha, 1992).

Studies (Malla 1992, Khanal and Watanabe 2016) suggest the land abandonment is increasing including in Terai and high mountain. The major cause of abandonment in Terai is land use change wherein the land is being used for urban purposes.

In this context, this baseline survey (qualitative baseline) report documents information related to status, trends, types and drivers of under-utilised land in prioritized CFUGs of selected sites in Kavre and Lamjung.

Objective

The major objective of this qualitative baseline survey is to establish the baseline of UUL taking into account the following aspects such as:

- state, trend and nature of UUL,
- biophysical characteristics
- current land use system and practices and changes in it
- sources of livelihood
- migration-state, trend
- socio-economic characteristics
- drivers and dynamics of UUL
- potential use of UUL

The establishment of the current state of UUL situation through these qualitative baseline as well as quantitative baseline data is expected to help in understanding and measuring changes at different stages of action research implementation, including:

- change in farm-level productivity and income against the baseline data
- change in farmers' perceptions about livelihood opportunities
- change in nutrient dynamics of farming systems against baseline data
- change in farmer's practices in different institutional and governance options
- change in farmer's motivation for collective action to absorb risks, share knowledge, and exchange production inputs; and
- adoption survey: success of Farmer-to Farmer extension activity and capacity of social networks and extension services.

Beside this, the baseline data is also expected to directly contribute and respond to following research question and research activity proposed in the proposal,

- Research Question:** What are the drivers affecting the expansion of fallow land, and how could this land be better utilized?
- Activity 3.2.** Generate in-depth case studies (8 different household / farm level cases) of land abandonment and underutilization to understand how multiple drivers cause underutilization and abandonment

METHODS

Methods and Methodology

The qualitative baseline survey (UUL theme) has adopted participatory, consultative, reiterative methods to set a baseline data. The preparatory phase included discussion among researchers and preparation of broad UUL baseline framework considering different disciplines (policy, access/institutions, market, GIS, modeling). This baseline framework then is again used as a reference to construct checklists to conduct literature reviews, field observations, transects as well as FGDs and KIs at local level. Among six prioritized CFUGs in six sites of two districts, the Langdihariyali (Nalma) is taken as pilot site to test constructed baseline instruments by conducting FGDs, KIs and field observation. The site was approached by all of the UUL team. This was done to ensure that there is,

- common understanding on elements of checklist and instrument,
- methods on approaching the local community and
- methods of conducting FGDs and interviews.

Before approaching the community, an intensive meeting discussing various aspect of qualitative survey was conducted among the research team. The major summary points discussed in the meeting were as follows:

- Ethical standards are involved and should be followed since beginning
 - Principle and practices of FGDs, KI and field observations(FGD should be conducted at least with 6/7 informants and the informants should be homogenous, as far as possible)
 - FGDs should be conducted at least by 3 researchers principally one facilitator, one note taker and one observer
- Triangulation of the information is critical in qualitative research to verify and confirm the data

The Nalma's experience of both pretesting instruments as well as approaches was discussed in-situ (during field visit). The action and reflection afterwards were fruitful in terms of reviewing, reflecting, refining of the checklist and building common foundation and understanding on UUL qualitative baseline.

The focus group discussions and informant interviews were conducted both formally and informally in all sites. Separate meetings (introductory meeting with village leaders); focus group discussions were conducted among landowners and village elites, land less and Dalits and women. Some Key informants were identified during the FGDs as well as while interacting with local people, with whom interviews were conducted. The list of individuals participating in FGDs and KIs is presented in Annex 4.

Beside these transect walk on various sites/toles were conducted along with local people to assess the situation as well as to locate the UUL areas, this activity helped in internalizing the different facets (geographical, biological and socio-economic) characteristics of the site. The survey thus also relied on transect conducted by researchers in collaboration with local people and their observation of the situation. In some site for example Fagarkhola of Chaubas and Sa Pa Ru Pa of Methinkot, of Chaubas and Methinkot, a social map was also prepared.

This baseline survey also included literature review (scientific, grey, policy documents). In addition to that, CFUGs formal documents like constitution and operational plans were also reviewed during qualitative baseline survey.

BASELINE INFORMATION ON UUL

National Status

Agriculture is a key source of economic growth, poverty reduction and environmental sustainability in Nepal. The agrarian structures of the country are characterized by a very small land holdings scattered to different plots, where irrigation availability is very limited and seasonal. The average size of land owned by the household currently in Nepal is about 0.7 ha, which is frequently fragmented, averaging 3.3 parcels with average size of 0.24 ha per parcel (CBS, 2013). A large proportion of farm households (30%) are employed only partially (disguised employment). Population density on cultivated land is high where about 10 people are dependent on a hectare of land for their livelihood. Moreover, two-third of the cultivated area is rainfed, where agricultural production is risk-prone and marginal. Official statistics show that about 54 % of the cultivated area is irrigated, but in reality only one-third of the area (36%) has year round irrigation facilities. Above two-third of the agriculture is rainfed, where agricultural production is risk-prone and marginal. In recent years agricultural area is declining as a result of conversion of prime agricultural land into non-agricultural uses (e.g housing, industries and infrastructure development) through rapid urbanization and rural-urban migration. Hence, in the last 10 years net cultivated area has declined by 5% from 2.65 million ha in 2001 to 2.52 ha million in 2010 (CBS, 2013). Average farm size has also declined over the years from 1.11 ha in 1961/62 to 0.68 ha in 2011/12. At present about half (52%) of the farm households own less than 0.5 ha land with low farm labor productivity, and low level of intensification. Labor scarcity is chronic in agriculture as a result of massive youth migration from rural areas. Estimates show that about 6% of the population (mainly youth) are outside the country resulting in poor farm management and increasing proportion of land remaining fallow. Agricultural productivity and profitability from farming are low due to low use of modern technologies, limited commercialization and diversification of agriculture. Estimates show that the scale of rural out migration is increasing rapidly in recent years with almost half of all households (53%) has at least one migrant outside their residential location (CBS, 2012). Estimates of the number of Nepali migrants abroad vary widely, but the most frequently cited estimate (including those of seasonal migrants in India and those migrating from informal channels) is about 4 million – one-third of the working male population (Sijapati & Limbu, 2012). Outmigration is more prevalent among males resulting in increasing feminization of agriculture. Official statistics show that women headed households has increased significantly in the last 15 years from 13.6% in 1995 to 26.6% in 2010 (CBS, 2012).

Last few decades of national development agenda heavily focused on agriculture. There were design and formulation of The Agriculture Perspective Plan (APP), The National Agriculture Policy (NAP), The Three Year Interim Plan (TYIP) which highlighted agriculture by,

The APP emphasized on agriculture and other technical issues with increased focus on agriculture inputs as well as development of agriculture business

The National Agriculture Policy was more liberated and broad based in terms of commercialization and private sector investment and involvement as well as ensuring the sustainability of biodiversity and nature resources

- The Three Year Interim Plan thereafter tried its best in integrating and market promotion of the products
- The newly drafted Agriculture Development Strategy's focus is on addressing the gaps of APP through promotion of inclusive and sustainable growth with larger connectivity and participation of private and cooperative sectors. The strategy have target to increase the productivity.

The NLISS (2010-2011) shows that the average size of agriculture land and the number of the parcels per holding has decreased in the last 15 years. However the survey also indicated that there is increment in the irrigated area during the same period. On the other hand the number of households with 2 hectares or more operated land has decreased from 12 to 4 percent in the same period of time. The survey also indicated that the paddy, wheat and summer maize and millet growers as well as households with livestock's have decreased over this period.

Table 1. Selected agricultural indicators, 1995/96 – 2010/11

Description	1995/96	2003/04	2010/11
Agricultural households with land (percent of total households)	83.1	77.5	73.9
Percentage of irrigated land area	39.6	54.3	54.4
Average size of agricultural land (in hectares)	1.1	0.8	0.7
Average number of parcels	3.8	3.1	2.9
Holdings operating less than 0.5 hectares (percent of total holdings)	40.1	44.8	52.7
Percentage of holdings operating renting-in-land only	4.8	7.3	5.4

Source: Nepal Living Standards Survey (2010/11)

A majority of agricultural households depends on small farm size for cultivation. Out of total households in the country, 74 percent are agriculture households with land and roughly 2 percent are agricultural households without land. Of the total about 53 percent “small” farmers (operating less than 0.5 hectares of land) and other 4 percent are “large” farmers (operating in 2 hectares and more land). The number of households that operates in less than 0.5 has of land has increased by some 13 percent. The distribution of agriculture land is uneven. The small farmers are operating only in 18 percent of total agriculture land while 22 percent of the land is operated by large farmers.

In Nepal, the 2011 agriculture census indicates that the average area of holding is decreasing, whereas there is distinct increment in total number of holdings.

National context of land use and underutilization in Nepal

Depopulation due to high rates of outmigration, reduced scope for enhancement of productivity in traditional agriculture due to fragile mountain environments, reduced economies of scale due to highly fragmented and diversified biophysical conditions and resistance to adopting modern, market oriented farming practices by mountain people are some of the reason for growing trend of land abandonment (Khanal and Watanabe, 2006).

Adhikari (1996) demonstrates how remittances, particularly from foreign labour migration to the British and Indian armies, increased the practice of renting land and made possible the creation of wage labour employment in agriculture. That study was based on research conducted in 1989-90, with follow-up studies in 1994 and 1999, when migrant destinations had expanded to other countries, particularly the Gulf, showing drastic changes in that pattern. With greater migration opportunities, villages were beginning to face labour shortages and farmers were losing interest in subsistence farming altogether. There have also been some new studies such as the one by Jha (2010), which showed that migration leads to reduction in both production and productivity in agriculture. In contrast, recent anecdotal evidences suggest that migration and remittances are being invested in commercial agriculture, particularly vegetable cultivation and livestock farming, although the extent of such investment seems rather limited.

Abandonment occurs on remote, less productive land of lower agriculture profitability and has extended to the land not considered marginal. Factors associated with this type of abandonment

include new connection to urban regions, leading to rural remittances and labor shortages impacting decision on intensive versus extensive farming practices as well as recent increases in global trade (Paudel et al., 2012).

Expectations of future opportunities may encourage people to stay on or retain rights to the land despite low agricultural revenue. Land abandonment may also be part of a process of land degradation and may be response to declining agricultural suitability. Agriculture abandonment can reduce the unique biodiversity found in managed landscapes and increase fire hazards.

Land abandonment also has implication for biodiversity and ecosystem function with restoration of large natural areas has in some cases resulted in nearly complete regeneration of natural ecosystems and facilitates reintroduction of indigenous species. The dynamics of abandonment and ecological regeneration are not reducible to just a single set of factors or actors across space and time. In order to develop a more complete picture of possible trajectories of land change over the next century; the understanding of rural dynamics driven by other agents and activities must be enhanced in addition to the focus on agriculture and on farmers as the primary agents (Munroe et. al. 2013).

- UUL and food security
- UUL and agroforestry
- Land use plan and prospects

District level context of land use and underutilization

The section tries to highlight the major significant characteristics in relation to land and trend of underutilization of land.

The entry point of Kavre district is located at 21 km from Kathmandu. The district headquarter is located at 32 km from Capital city. However the district does have its share of remote VDCs and settlements. The district famously is divided into six geographical areas: Dadapari, Koshihari, Roshihari, Pachkhal, Banepa and PurviUpatyaka.

Table 2. Land Use Pattern (Area in Has)

Districts	Forest Area	Agriculture Land	Barren Land	Shrubland	Water bodies
Kavre	46448	67492	750	29511	434
Lamjung	87552	30999	9116	22328	607

Table 3. District Characteristics

Aspects	Kavre	Lamjung
A. Geographic features		
Latitude	27° 20' to 27° 85' North	84° 11' to 84° 38' North
Longitude	85° 24' to 85° 49' East	28° 3' to 28° 30' East
Elevation range	275m – 3018m	385m-8162m
Area	140,486 ha	169220 ha
B. Socio-economic features		
Population	381,937	167,724
No of Municipalities	4	1
No of VDCs	82	57
Literacy rate (men and women)	69.8% (six years and above)	71.1% (six years and above)
C. Forest, agriculture and food security		
Forest area	77,552 ha	66673.60 ha
Area under agriculture	36,439 ha	36,478 ha
Major agricultural products and livestock	Cereal crops - Rice, maize, wheat, millet and mustard Commercial vegetables - tomato, cauliflower, capsicum, pumpkin, garlic, onion and bitter gourd Livestock - Cows and goats	Cereal crops - Rice, wheat, maize and millet Livestock - Buffalo, Goat, Swine, Chicken and Sheep
Major forest types	Sal, Sal/Salla, Katus-Chilaune, High altitude mix	Sal, Katus-Chilaune, Salla, Mixed

Table 4. Unutilized land across district

District	Unutilized land			Total
		Yes	No	
Kavre	Count	116	241	357
	% within District code	32.5%	67.5%	100.0%
Lamjung	Count	130	180	310
	% within District code	41.9%	58.1%	100.0%
Total	Count	246	421	667
	% within District	36.9%	63.1%	100.0%

Source: Quantitative Baseline Survey

The district context on the basis of quantitative baseline survey indicated that the extent of land underutilization is higher in Lamjung as compared to Kavre district. 36.9 per cent of the total sample HHs has some area of land which is currently unutilized. The case of unutilized land in case of Lamjung (41.9%) is more compared to Kavre district (32.5%).

Table 5. Reasons for Migration within Nepal

District code	Count	Absent within Nepal					Total
		Service	Education	Business	Treatment	Other	
Kavre	Count	63	14	11	1	14	103
	% within District code	61.2%	13.6%	10.7%	1.0%	13.6%	100.0%
Lamjung	Count	47	20	2	0	1	70
	% within District code	67.1%	28.6%	2.9%	0.0%	1.4%	100.0%
Total	Count	110	34	13	1	15	173
	% within District code	64.2%	21.1%	6.8%	0.5%	7.5%	100.0%

Source: Quantitative Baseline Survey

Both qualitative and quantitative survey indicated that large number of people shift to different places for work purposes (temporary migration) for service, education, business and other purposes. And all the research sites consultations indicated that the Service factor play important role in this kind of migration.

Table 6. Reasons for Migrating out of Country

District code	Count	Absent out of country				Total
		Service	Education	Business	Other	
Kavre	Count	68	1	3	1	73
	% within District code	93.2%	1.4%	4.1%	1.4%	100.0%
Lamjung	Count	146	2	0	0	148
	% within District code	98.6%	1.4%	0.0%	0.0%	100.0%
Total	Count	214	3	3	1	221
	% within District code	95.9%	1.4%	2.1%	.7%	100.0%

Source: Quantitative Baseline Survey

The findings of qualitative survey in both districts is supported by findings of quantitative survey, as both surveys indicated that large number of human resources move out of country (93 percent in Kavre and 98 percent in Lamjung) in search of employment opportunities offering better wage/income rate.

RESEARCH SITE INFORMATION

Nalma: Langdihariyali (Lamjung)

Introduction

Nalma is located in southeast of Besisahar (district headquarter) and takes 3 hours' drive from Besisahar. The prioritized (primary) CFUGs selected in Nalma is LangdiHariyali which includes Ward 6, 7, 8 and 9 of Nalma VDC. Nalma is moderately accessible, as the construction of seasonal road has improved the accessibility. However considering that these roads are seasonal, the access is challenging during wet season. The total number of households in VDC is 438 with total population 1779 (Male: 827, Female: 952). Total area of Nalma VDCs is 15.77 sqkm with Langdihariyali covering approximately percentage of area. The total number of Hhs in Langdihariyali is 164 as primary users.

Nalma has mainly indigenous and Dalit ethnic groups. The majority of the people in Nalma are Gurung (with larger land holding size) and the Dalits (with none or small land holding size), Dalits previously used to heavily rely on agriculture practices and are currently slowly shifting towards skilled labour (carpentry and masonry) as their major livelihood activity. The villagers of Nalma have adopted diverse livelihood sources which range from being migrant labour to off farm skilled based activities. During FGDs and KIIs, the local people expressed, “our major activity is agriculture and rearing livestock, and some family members have migrated to foreign country to support household living cost, to pay debts etc.” A participant in Dalit *Basti* revealed that, “Krishi (agriculture/farming) is not enough to provide food for the family, so working as masonry, carpentry, and keeping livestock helps to cover household expenditure”. Farming and livestock keeping still are in practice in Nalma, however the local people reported that the intensity and frequency has declined over the years. Local people during FGD and KII expressed that farmers prefer to keep fewer number of livestock and smaller livestock as there is lack of family labours for collection of grass and fodder, “before we used to have larger herds but now it is difficult for us to manage even few of them”. The average land holding size in Nalma is (.....).

Nalma has comparatively higher area of UUL compared to rest of the other five research sites. The practice of leaving land as UUL is speculated to begin from more than a decade ago. The major factors behind UUL are observed to be high rate of migration mainly because of permanent settlement to the UK and India as army recruits, and to other countries for any other kind of employment opportunities such as, security personnels, semi-skilled and unskilled labourers. “We, Dailits are also earn livelihood from skill based livelihood sources”. A Dalit man in FGD responded that nowadays sons go to foreign country to earn a living and they are less and less willing to do sharecropping in UUL of Gurung. People have also settled in other Nepalese cities (Besisahar, Pokhara and Kathmandu) because of their work in service sector. The respondents in FGDs expressed that “in our village people are going out mainly for, seasonal and daily labour work especially to nearby villages, cities and to settle down in nearby cities and in Kathmandu in search of better education services for youth and children.

Background on Socioeconomic Status

Caste and ethnicity

The survey consultation indicated that the major ethnic group in Nalma is Gurung. Gurungs (number of Hhs) have legacy of adopting employment as Lahure, migrant army recruits in either India, Hong Kong or United Kingdom. However these days the term “Lahure” is extended to those who have migrated in search of better employment opportunities and landed employment in other kind of jobs security personnel, drivers, laborers etc. Gurungs in Nalma are also the ones holding valuable asset (land) in larger area and higher percentage and previously used to own larger herd of livestock. The local

consultations indicated that the constant flow of remittance in addition to the inherited asset have made them well off with considerable holdings in nearby cities as well as Kathmandu. The members of family and youth/children from these families have settled in cities for better education facilities and other services. Another higher composition in the area is of Dalit's (number of Hhs – approx. number??). Dalits currently own very little land or no land at all. Some of them are sharecroppers. In present situation Dalits with low (mostly marginal in nature) or no land holdings have evolved from farm labourers, share croppers, traditionally defined role as tailor and blacksmith to more lucrative economic activities such as skilled labour in construction, carpentry and masonry. They have extended their livelihood sources to off farm activities which have distinct effect on their current socio-economic status.

Table 7. Ethnic composition in Langdihariyali, Nalma

Rangepost	Ward	CFUG	Area	Households	Hamlet	Ethnic Composition
Baglungpani	Nalma-3	Kagrodevi Hariyali	62.55	31	Sarayee	Gurung=9
					Kolmae	Gurung=2
					Labsai	Gurung=20
Baglungpani	Nalma-7,8,9	Langdi Hariyali	275.91	167	Gairei Gaun	Gurung=5 Dalit=45
					Dada Gaun	Gurung=50 Dalit=30
Baglungpani	Nalma – 5	Khundu Devi	158.43	44	Gairei Gaun	Gurung=30 Dalit=14
Baglungpani	Nalma-4	Sunkot Devi	133.02	37	Purano Gaun	Gurung=28 Dalit=14

FGDs with Dalits revealed that people still have orthodox beliefs and in some households they are still not allowed to enter.

Wellbeing Status:

The communities of Nalma are comparatively more food secure. The village people are found to rely heavily on remittance and off farm labour income which help them to secure year round food security. Although the status of food self-sufficiency from their own production or from that of locally produced food is declining rapidly. The survey group had an understanding that the communities are relying more and more on imported foods and goods as they have cash to spare. There are more imported packaged foods in the community such as noodles, locals pickels has been substituted by imported pickles. Correspondingly they have less interest and deficit labour to produce their own food even if most of them have productive land at their disposal, “we don’t have agriculture labour these days and family members have migrated, we cannot manage to cultivate large area of land”. The example of this is current decline in production of Millet in the area, which is highly favored crops both as a food grain and to make local alcohol.

Livelihood Diversification

The livelihood sources of villagers in Nalma are more diversified right now as compared to the past. The Dalit community in Nalma is exploring different sources of income beside agriculture (agriculture labour, sharecroppers). They have shifted from heavy reliance on traditional occupation of blacksmith and agriculture labour -based livelihood practices to skill based off farm livelihood activities that range from carpentry, masonry and migration to India and overseas. “We were able to feed our family members only for 3 months by farming and now we have extended our livelihood practices to masonry from just being agriculture labour in which we find work 10/11 months whenever we want” a

Dalit participant during FGD responded. He added “we also sometime combine this with share cropping because we only have very small parcel of land or none at all and our youths have also started going to foreign country to earn better income”.

During interaction with Dalit community, it was stated that the resource poor Dalit previously used to work as Haliya and Gothalas with the village elites. Because of increasing poverty among Dalit, they started exploring livelihood possibilities outside traditional occupation. Beside traditional livelihood practices, they have found their niche as local construction workers and carpenters, the skills which are in high demand locally. They are currently earning steady and good cash income by using these skills. As alternative livelihood options some members of the community have even started to leave their village for overseas employment. Dalit seemed willing to explore opportunities in different socio-economic activities (including their traditional caste based practices) within village such as a Katuwal⁶ (messenger) is also selected from Dalit community who is paid for his services and payment is usually grains from villagers. Livestock rearing (especially small livestock) is preferred by Dalits as compared to larger livestock among Gurungs. The reason stated that they do not have ownership of cultivable land except the house they are living in; therefore they cannot offer required bulk amount of fodder demanded by larger livestock.

Considering increasing shortages of agriculture labour (both household and hired) and regular flow of remittance money, dependence and interest on agriculture is slowly declining and more and more family members are seeking employment to overseas as army recruits (as far as possible) and in some cases employment in other sectors in India and abroad. The elder generations are the ones who have returned from their services and enjoy the privilege of pensions. This has strengthened their financial status. The younger generation (youths) are relatively more educated and thus are avoiding agriculture as major livelihood activities. The preference of settling in nearby cities for education purposes is also prevalent in Nalma. The local people perceive that the reason behind increasing dispirit among farmers towards agriculture is because of its inability to generate enough income to provide for household demand for not only food but also health and education.

Dalits claimed that they were being offered less daily wage rate in comparison with neighboring villages. However the Local Reform Committee (Sudhar Samiti) has slightly improved the situation as the local wage rate has been increased from NRs. 350 to NRs. 450 (the decision was made by Sudhar Samiti) in agreement with VDC. Even with increasing livelihood option in off farm sector as well as onfarm sector, Dalit are unable to acquire land as their asset. The reason could be unwillingness of landowners to sell the land (they are not in need of money as one of the UUL owner pointed out, “we are not interested to sell our land, however we are interested to explore different opportunities to utilize this land, some area might be good for cardamom or lapsi it all depends, that’s where we will need external help and assistance, such as yours”.

Dalit, with their income (both on-farm and off-farm) is able to fulfill household food demand and other expenditures associated with education and health. The cash income they earn is used in the repayment of loan, in covering household cost and education rather than acquiring land. They are not able to acquire fixed assets, during consultations, they shared that they are not even able to buy ox, which is a major asset and expensive to hire.

^{6 6} Katuwal is the traditional practice of delivering message in the village to make any kind of announcement related to any messages to be delivered to the villages and usually delivered by blowing drums (traditional instrument) and speaking loud. The person doing this job is paid back annually from all the villagers by grains..

Tenure System

Sharecropping status (bandaki, aandhiya, leasing) trend and practices (willingness and perception towards sharecropping among land owners and tenants):

- Bandaki: Bonded tenure (bonds in the form of cash charge for utilizing the land for agreed time period)
- Aandhiya: Sharecropping: Mostly this means sharing of inputs as well as outputs however lately sharing mechanism have been restricted to output and that too on one or two crops only. Different sharecropping arrangements are practiced.
- Leasing (Thekka/contract farming): Time bound agreement on agreed land use by paying certain amount of money. This is mostly in practice while communal or public land is used for different development purposes.

Aandhiya (sharecropping) system used to be very much in practice in Nalma until decade or so ago. Different modes or types of sharing mechanism were in practice such as sharing input and output, sharecroppers not being allowed to harvest from preexisting fruit and fodder trees and recent practice of sharecropping without any charges or sharing at all. But the land offered are frequently far away from settlement, prone to wildlife damage and/or marginal in nature. However, the practice is slowly in decline. Dalit communities claimed that they are less interested to continue sharecropping as livelihood practices as in many cases the offered land are less desirable in nature. They even claimed that they are offered different sharecropping proposals such that one in which they don't need to share any kind of the produce with landowner (as landowner doesn't want to leave their land abandoned). In some cases the sharecroppers only needs to share Millet or none at all. The lack of interest in farming is because of high cost of production, high cost of/lack of plough (Ox), lack of manure, expensive inputs and the fact that they can earn easier and faster cash from off-farm activities. The land offered for Aandhiya are of small parcel and not profitable. Mostly the parcels are fragmented (inherited property divided among brothers).

The land which are distant, relatively less fertile and need large amount of work are the ones which have been offered for sharecropping. And even without any payment, the landless Dalit are not interested to take the land. Even people with relatively less land holding and were previously sharecroppers are leaving their land uncultivated because of discouraging factors concerning labour, remoteness, high cost of inputs, marketing problems, inadequate irrigation etc, "we ourselves have left some of our parcels as UUL because of its remoteness and marginality and are currently sharecropping in nearby land areas which are easier to manage and are more fertile". The important observation is the contradictory point of view expressed by land owners and sharecroppers. The landowners claimed that it is hard for them to find the sharecroppers. However sharecroppers claim that the land offered for sharecropping is usually marginal and/or farm away from settlement. This calls for a platform wherein such issues could be discussed for reutilization of UUL.

Although sharecroppers shift from one landowners to another, they have not completely abandoned the practice of sharecropping. They find the situation improved in terms of arrangement between land owner and sharecroppers. They have continued the practice and one of the prime factors for this is need of fodder and forage for their livestock.

Institutional Mapping

Nalma has a number of local community based organisations functioning currently such as Aama Samuha (Mother's Group), saving and credit cooperatives, community study center, Bau Samuha, youth clubs, local NGO (Creative Education Society), women income generation group. The local people through Sudhar Samiti have lobbied for improved wage rate and negotiated the wage rate to 450

NRs (the demanded rate by Dalit community was 550 NRs and previously the wage rate used to be 350 NRs.). This has led to some positive changes in the community such as creating platforms to discuss local development issues, collaboration in local development activities such as in road and water provisions infrastructure construction and even some socio-economic issues such as fixing local wage rate. Implication: local norm, wage rate lobbying etc.

Table 8. Local Institutions operating in Langdihariyali, Nalma and their mandated role

Name of the institution	Mandated role
Youth clubs	Support in sport, entertainment and health and sanitation
Mother groups	Saving and credit
Gorkha Welfare Society (GWS)	Water supply and sanitation
VDC	Infrastructure development

Migration

Migration is major issue and legacy (handed over to new generation from their fathers) in Nalma. It is well understood and expected among Gurung community’s young men to join Indian or British army (locally referred as Lahure). If the recruitment is not possible the trend is such that youths search employment in other forms in India or Gulf countries. The pension and remittance maintain regular and enough cash flow in most of the Gurung household, leaving their family members choices of remaining in village or leading a more comfortable life in cities where they have choices of private school for their children and are disposed with better health facilities. Thus most of Gurung households have shifted to near-by cities or Kathmandu. The trend of going overseas in search of better labour charges can also be observed among Dalit communities (Gulf countries and India). Seasonal labour migration is also common wherein people manage to return to village during periods when labour demand is high in agriculture. The skill oriented off farm employment has led many of Dalits to pursue their daily activities outside the village. The following are the common types of outmigration in the VDC.

- Outmigration abroad/overseas (UK, India and Hongkong) as army recruits. Labour migration to India, Saudi Arab and Kuwait.
- Outmigration to Terai, Kathmandu, Pokhara, Besisahar (education and employment and services):
- Seasonal Labour migration (Dalit mobility towards India and Besisahar)
- Daily labour migration (among Dalit)

State of Land

Accessibility (Accessibility, market accessibility)

The major characteristics of UUL land in Nalma are their distance from farm household. The survey team observation as well as interviews and discussions with the local communities revealed that the land which are at considerable distance from settlement have more probability of being left as UUL. A farmer leaving his land UUL expressed that for him the most important factor is the proximity of the land to the forest and uninhibited Kharbaris⁷ and its distance from settlement area. Because this mean that it will take more of his time and energy in carrying out agricultural activities as well looking after the land to protect it from wildlife damage as well as human trespassing.

⁷ In Gurung language: Gharbari (Bari), Bari (Swara); Khet (Mro); Kharbari (Po Bari) and Ban (Ban)

Land Types (Utilization practices)

The indigenous classification of land in Nalma includes Khet, Bari and Kharbari. The Kharbaris are generally at higher elevation compared to Bari and Khet. Khet is mostly irrigated in Nalma. The FGDs revealed that around 30% of land in Nalma is left as UUL. UUL are mostly land facing south aspect. As the trend of leaving land UUL heavily relies on different locally relevant determining factor, in case of Nalma the major factor is the distance of land from the settlement/house. According to one of the villagers, (Trikashi: “I have to shrink the investment of her farm resources because my UUL are at some distance from my homestead”). The majority of UUL are far from settlement which demands extra labour input, as the KI said “Banjo Jagga (UUL) is farther away from where we live. This will take our extra time to carry fertilizer, come here and work as well as to guard the crop, for which we neither have time nor resources”. Considering the migration rate as well as off farm opportunities, Nalma has declining availability of families and hired labour for agriculture purposes. This also poses difficulty in protecting farm produce against human trespassing as well as wildlife destruction as land is far away from the farm household. It becomes difficult for regular inspection, crop management, and intercultural activities including transporting manure. Farmers claimed that wild animals such as monkey, birds can destroy crops to alarming state. A farmer commented that theft of fruit crop, has become common in area nearby house and wild animal attack is very common in uninhibited area causing difficulty to manage production in UUL. The land ownership in Nalma is fragmented (in all types of land) in small parcels. The highly fragmented land parcels pose constraints for intervention at large scale in collective approach.

Crops and Cropping Pattern: Local people shared that there is decline of Millet production in the area (this might be because people are discouraged with the hardship involved to produce very little grain output). People prefer to consume rice and less and less people are cultivating and producing other grain crops. The farmers are still practicing traditional integrated agriculture system millet-potato-rice. This might be because lukewarm interest of local community in actually perusing progressive innovative agriculture practices and lack of technical knowhow on effective utilization of productive agriculture land. Mostly millet-potato-rice, few vegetables and fruits are the common crops cultivated in the research area.

Land Use System

The land use system in Nalma is mostly agriculture based. Previously, the practice used to be integrated (livestock, crop and tree), now less emphasis is given to the livestock (dominant –goat keeping). “We used to do sharecropping and grow three crops. Nowadays, landowners are satisfied even if we share one crop production, they say that as long as you cultivate you don’t need to share the crop”. People living outside of village such as in Kathmandu are more inclined to give land for sharing. People are practicing/conducting stall feeding as opposed to grazing as this is more time consuming. Nalma shows practice of extensive agriculture land use system oriented towards subsistence rather than commercial. People showed declining interest in agriculture as primary livelihood activity. Number of farmers in multiple instances refereed agriculture being full of hardships with low productivity. Landowners expressed that the traditional farming with high labour demand is not favorable. (Tulshi: “My land is fallow because it is at some distance however there are people in community who have insufficient land. It is very difficult for me to manage this land alone. There are cases of theft and it is difficult for me to protect the production”). Sharecroppers expressed that sharecropping is not profitable, sometime difficult to sustain household food demand; (“my household could not provide hoousheold labour, now remittance and other income can provide cash so why do farming”). The system is integrated with incorporation of crop production, livestock keeping, horticulture crops and fodder trees. The farm practices included keeping their livestock close to the house with stall feeding. The emphasis on both crop production and livestock keeping is slowly declining compared to the past owing to labour shortages (both household and hired), “We think that this is because young people can earn more in foreign employment and they don’t think they need to do farming anymore”.

Land Use Changes: Local people during FGDs claimed that about 30% of land in Nalma is UUL which includes irrigated and previously rice cultivated land. The major land use changes in relation to UUL showed that the UUL near to the forest area slowly resembling forest with regeneration of tree species like Utis and other shrubs. The invasion of invasive species like *Gandhe Jhar* and *Banmara* is also abundant in the area. The previously crop focused farming (in Khet and Bari) is now slowly shifting towards horticulture focused farming with few fodder trees and grass incorporated into the system.

Local perception on drivers of UUL

Local people think that the main reason behind leaving land as UUL is the nature and location of land. People leave their land as UUL if it is far away from settlement or is marginal since it is very difficult to access for farming practices and protect from wildlife as human trespassing. Landowners of UUL prefer to leave their land as UUL and are not interested to sell the land as they are not in dire need of money and they consider land legacy of their forefathers. Some of the farmers who are landless are interested to sharecrop are out of their access, as the landowners are absent and have settled elsewhere and are neither interested in sharecropping nor selling. They are not interested to provide their land in sharecropping as they feel insecure of future consequences linked with the provision “Jasko Joat Usko Poat”(those who till the land own the land). Locals reported that one of the major reasons behind migration of the locals is the insecurity during insurgency. Most of the people who resettled during that time, didn't return and have rebuilt their life in the cities. This has increased the number of abandoned houses and underutilized farmland parcels.

Gurung have larger land ownership, they also have larger area of UUL. They cite reasons like labour shortage, people being less interested to sharecrop in the land parcel that they have left as UUL and remote land parcels which are difficult to access considering limited household labour.

Farming in Nalma is still traditional and integrated and not much effort has been invested in modernizing agriculture and exploring opportunities in agriculture interventions. One of the reasons might be inadequate or lack of technical knowhow among the villagers.

Local perception on dynamics of UUL

The previously cultivated land left as UUL have some biophysical and socioeconomic implication in Nalma. There is observed shift as well as increase in livelihood opportunities/alternatives among landless and small holders. They have now choice/alternatives of farming. This in addition to household labour shortage (owing to increased rate of migration) can further increase UUL area in Nalma. However, among the farmers who are left behind there is interest in improving traditional agriculture practices and exploring options to make reuse of UUL. Amidst contradictions and constraints they agree that this requires strategic planning as well as research. The disposal of cash income has increased the consumer culture in Nalma with increased demand for prepared processed food, which was not possible a decade ago. Although these food items made their way to Nalma from city centers, Nalma have yet to capitalize on the newly constructed road and increased accessibility by vending their products in nearby markets. The difficulty might be because of inability to produce in bulk.

Landowners, who have settled elsewhere, still feel insecure in letting their land reutilized because the law is still ambiguous to them. Landowners who are present in village most of the time are offering lands that are comparatively less productive or more remote. However the landless and small holders have less and less compulsion to sharecrop in that land unless terms and conditions are as they prefer. This dilemma might be another reason behind increasing in area of UUL.

Opportunities and Potentials to bring back UUL into Use

Ownership of fragmented land parcels discourage innovative practices as the initiatives become costly and farmers are unable to produce in bulk amount which creates difficulty in marketing. Farmers are

interested to conduct collaborative/collective farming, and are ready to initiate discussion with absentee landowners, however this requires group decision making and mobilization. Farmers showed interest to bring UUL into use again. “We are interested to explore less labour demanding more income generating investment opportunities in our UUL which do not attract theft and attacks of wild animals”.

Local perception on potential use of UUL

Local people are interested to bring UUL back into use; however the most important criteria for any interventions are: less labour intensive, safe from wildlife and human damage. Therefore any suggested intervention/initiation should be low cost and low labour intensive agriculture system such as tree based horticulture, agroforestry that wildlife like money avoids or perennial cash crop plantation. Some of the species that they are interested in are herbs, Lapsi, broom grass, Kiwi, Turmeric, Ginger, lemon grass, Allo, Amaro, Cardamom, Coffee and Amla. People feel that land left as UUL is not appropriate for seasonal or off seasonal vegetable farming because of the stated reason such as its distance, prone to wildlife damage. They have shown interest also in bee-keeping and poultry farming. As land ownership of the UUL land in any one place is highly fragmented, the situation demands for group level/collective farming activities which will generate product in bulk. The local people have shown interest in taking group approach (collective) to farming. People also believed that the practice of group farming might strengthen social cohesion contributing to socioeconomic up-liftment of the society.

Dhamilikuwa: Aanp Chaur (Lamjung)

Introduction

Dhamilikwa VDC is located in the south-east region of Lamjung district which is connected with Gorkha and Tanahu district. The VDC lies from 28° 05' N latitude and 84° 27' E longitude with the elevation of 600 to 1200 masl and sandwiched between two major rivers known as Marsyandi and Chepe. The VDC covers the area of 14008 ropani (701.80 ha). The total numbers of households are 1154 with the total population of 4425 comprising 1909 male and 2516 female. There are seven community forests and the range post is located in Dhamilikuwa.

Among seven community forests, four community forests (Aanp chaur, Lupu Gaun, Simalchor narighat and Garambesi) are selected for action research with the Aanp chaur being the most prioritized community forest for action research. Thus, the most of the information presented in this baseline report is based on the study with the community/farmers who are also the forest user of Aanp chaur Community forest. Users of Aanup chaur Community forest are mostly from Aanup Chaur, Major Gaun, Sahuli Gaun and Mangal Tar tole of Dhamilikuwa VDC.

This region is more or less food secure. During focus group discussion, an elder resident shared that due to good irrigation facilities, the production and productivity of cereal crops such as paddy is relatively high in low-land area as compared to up-land terraces. Therefore, majority of the households of user of Aanp Chaur CFUGs can produce grain sufficient for annual household demand. Generally, in dhamilikuwa, a household is considered as food secure household if they can produce enough food that are required for annual household consumption and a share of their production could also be sold for the purpose of household expenses. Moreover, few progressive farmers are also involved in commercial farming of vegetable such as tomato, sponge-gourd, potato, cucumber, cabbage, cauliflower etc for cash income. Considering local farmers' perception, Dhamilikuwa falls into "high" accessible region since the region is connected with road, communication and electricity.

Background on Socioeconomic Status

Caste and Ethnicity

The region has majority of Tamang households followed by Bhahamin, chettri, Magar, Sharki and Dhamai. The user of Aanp Chaur CFUGs lives in ward no. 6 & 8 where major toles are Sahuli Gaun, Mangal Tar, Aanup Chaur Gaun and Major Gaun. The tentative household with the ethnicity of these toles are tabulated below:

Table 9. Ethnicity and household information of Aanup Chaur CFUGs of Dhamilikuwa VDC

Name of Village /Tole	Aanp Chaur	Major Gaun	Sahuli Gaun	Mangal Tar
Ethnicity (Tentative)	Tamang = 37	Chettri =35	Dhamai =7	Bhahmin=15
	Magar =15	Bhahmin=58	Magar=4	Kami=27
		Sharki =8	Tamang=48	
			Bhahmin=8	

Most of the Tamang households are found migrated permanently from upper region of ward no. 8. Most of these migrated Tamang household holds significant amount of arable land which have good irrigation facilities. Therefore, agriculture is the major occupation of this community. During the interaction it was found that Tamang community has large amount of UUL in the upper region of ward no. 8 from where they are migrated. Similarly, Bhahmin as well as Chetteri households are second large community settled in this region. Whereas, Dhaliit community (Sharki, Dhami) have relatively low amount of land resource and their livelihood depends upon skills works such as carpentry, masonry, smithy, tailoring and so.

Livelihood system

In this region, three major type of livelihood pattern were observed which are described below:

- farm activity based livelihood
- non-farm activity based livelihood
- local business or services based livelihood

Mostly middle class family, who does not have 10 to 5 regular service works were found depending on farm based income for their livelihood. These household were found to have their own irrigated and/or un-irrigated lands, few numbers of cattle or buffalo as well as grazing or fodder collecting land to sustain their livelihood.

Likewise, Households particularly Poor and landless and do not have sufficient land to produce food for whole year were found engaged in non-farm activity such as labor and artisanal work like masonry, smithy, tailoring, carpentry for their livelihood.

Similarly, financially secure, resourceful household were found practicing local business. Some household were found with 10 to 5 regular service such as teaching, service in local government office, health post, local institutions as their major source of livelihood. These households were also found making supplementary income from their farm as well.

Tenure System

Sharecropping bonded tenure, exchange systems were found common in dhamilikuwa. In sharecropping system, agriculture products are divided equally between the landlords and the tenants. Now-a-days sharecroppers are allowed to provide half of the production of main crop (i.e paddy) keeping all production of the other crops of that particular year from that land.

In bonded tenure, landowner charges cash in the form of bonds to the farmer who lend the land for cultivation for a period of time. In this system farmer do not have to share any product that is product from bonded lands. When the landowner wants to take back the land then land owner should return the money kept as the bond from the farmer. During the discussion, it was shared that a 20-22 muri paddy producing arable land cost Rs. 50-60 thousands bonded loan. In recent years, this system is being popular as compared to sharecropping in this region.

Similarly, a peculiar type of tenure system i.e. exchange system was also found in dhamilikuwa. In this system, farmer exchange on-farm commodities with cash or dairy product with in the neighbourhoods. One of the examples noticed during the baseline study was exchange of standing farm trees with dairy product. A farmer women of mangal tar shared that last year she bought 15 standing trees (only fodder not the timber) in exchange of two 'mana' (Approx. 1.0 kg) of 'ghee' for one year. It was also found that in some cases farmer agree to exchange animal manure enough to the land from which they collect fodder and forage.

Migration

Temporary out-migration of local youth force has been one of the major phenomena in this region. Farmer of Dhamilikuwa pointed that at least one in five households has a member in abroad (including India) for foreign employment. This tendency has reduced the presence of young generation in the village. Also, other remaining youth forces are either in town or evolved in other off-farm business. Therefore, migration induced labour shortage has resulted abandonment of farm activities.

Institutional/ Community based organization mapping

A number of formal and informal institutional bodies are established at VDC level. Each type of institution has their specific role and responsibilities for supporting the livelihood of the community. A number of institutions are supporting local people by proving credit funds to conduct farming activities. Few of the institution are also found providing direct incentives such as fodder seed/saplings, goats to improve the livelihood of the people. Few Mother groups are providing credit facilities in reasonable prices to poor and marginal households to invest in farming activities. Table 3 provides the detail mapping of institutions established in Dhamilikuwa with the defined role and their relation to livelihood and food security.

Table 10. List of various institutions/ Community based organization in Dhamilikuwa VDC

Type of the institution	Name of the institution	Situated Word no.	Mandated role	Relation of institution to livelihood & food security
Youth clubs	Nawa Kiran yuva club	1	Unite youth for collective activities such as sport function, entertainment program and mobilise youth in health sanitation awareness	There is no direct role of these institutions in livelihood and food security enhancement of the community.
	Sabhya shrijan yuva club	6 & 8		
	Karmada yuva club	9		
Mother groups	Champawati aama samuha	6 & 8	Saving and credit	Mother groups are provided with incentives such as fodder seed/saplings, goats which are supportive to improve livestock system.
	Hariyali aama samuha	1		
	Maha rudra aama samuha	3		
	Akikrit mahila samuha	3		Credit facility has help female to invest move in farming resulting on better livelihoods.
	Annapura aama samuha	4		
	Milijuly aama samuha	2		
	Nawa jagriti aama samuha	5		
Cooperatives	Annapurna macha palan krishi sahakari sanstha	3	Saving and credit , build collective action, acts outlet points of incentives	Few co-operatives are functioning as saving and credit unit as well.
	Gramin krishi sahakari sanstha	3		
	champawati bachat tatha rin sahakri sanstha	5		Support poor member by providing loans in low and reasonable interest.
	Marsayndi kalyankari sahakari sanstha	2		
	Nawa dhurga sahakari sanstha	4		
Financial institutions	Shrijana Bikas bank	-	provide loans and saving facilities	Reliable source for loan provision as well as resume saving unit
	Char tare bittiya sanstha			
	Pashchimanchal gamin bikash bank			support poor farmer by providing loans
	kirshak jagaran lagubittiya sanstha			

Land Type

Generally four categories of land type are observed in Dhamilikuwa. These land types can be classified as Khet, Bari, pakho bari⁸ and kharbari⁹. However, most of the farmer seems to acknowledge both bari or pakho bari as similar. So, based on the local description, three types of land are considered to be in Dhamilikuwa. Khet are generally found flat and larger in size with good irrigation facilities. In this type of land generally paddy is cultivated twice a year and land is less intact to forest. However, some fodder trees are found planted on the edges of the terraces. Livestock are allowed to graze after harvesting the crop products in this type of land.

Similarly, Bari lands are found to be in higher elevations and are mostly rainfed terraces suitable for rainfed crops. In some of the area due to Rainas tar irrigation facility, few Bari land are also found irrigated and suitable for vegetable and other cereal crops such as maize, wheat, barley, cucumber, beans etc. Generally, it was observed that the common type of Bari land are widely dispersed, having more parcels and located up to a distance of three or more hours of walk from the owners house. The Bari terraces of this region are mostly being under-used and the tendency of under-utilization or abandoning Bari land is increasing in recent years as compared to khet land. The farmer present in FGD, explained that due to scarcity of household labor, it is impossible to provide proper care to the crops grown in distant arable Bari land. Also, transportation of agriculture inputs and harvesting of crop and carrying to the resident are usually expensive due to which the farmer does not see profit on cultivating distant Bari lands.

Whereas, Kharbari of this region are mostly used for growing forage and fodder trees. Farmer explained that the productivity of crops in this type of land is comparatively low due to relatively marginal and sloppy in nature. Thus they prefer to grow tree species which are used for firewood and fodder purpose.

Land Use System

Majority of agricultural lands in ward no. 6 & 8 are plain and fertile where the users of Aanpu chaur CF live. This plain and fertile agriculture lands in besi region are good for cereal and vegetable cropping. Addition to this, a good irrigation facility due to the establishment of Rainas tar irrigation has enhanced the productivity of the land. However, in tar region, irrigation system has not been expanded as a result soil is dry and agriculture production is less. The baseline study revealed that prevailing land use system varies from simple agriculture system to highly integrated agroforestry system. The key components of land use system observed are agricultural crops, livestock, forest tree crops, fruit & NTFP tree crops, and vegetable crops. The degree of integration of these key components generally varies with the land use system of the locality. The most common type of land use system observed is the integration of agriculture crops, livestock and tree crops in a given space and time. Although, the majority of the people are found to be engaged in subsistence-based agriculture where integration of tree, crops and livestock husbandry seems to be inseparable, some progressive farmers of this region were also found practicing intensive vegetable farming in recent years.

⁸ Bari is terraces which are outwardly sloped, generally not properly leveled and relatively sloppier and suitable only for some rainfed crop.

⁹ If the degree of slope is more (generally 30 to 35) then the land is known as *pakho* or *pakho bari* which is suitable for very limited rainfed crop such as maize, millet, fodder and grasses. Soil in *pakho* or *pakho bari* is relatively marginal due to leaching of moisture and nutrient that is why the productivity of agricultural crops in *pakho bari* is low.

Land Use Change

In Dhamilikuwa, before rainas tar irrigation facility, farmer use to cultivate peanut, upland rice and maize which would require less water and could also be cultivated in dry upland terraces. But due to establishment of rainas tar irrigation, farmers have prioritized paddy and vegetable cultivation as the main crops. These changing patterns are most common on low-land irrigated areas however, lands of upland terraces are being under-utilized and in some cases they are converted into kharbari along with several tree species. This conversion of private lands into kharbari has also supported farmer to provide daily need of fodder and firewood.

Crops and Cropping Pattern: Due to good irrigation facilities precisely on low-lands, various types of agricultural crops are found cultivated. Mostly cereal crops such paddy, maize are grown predominantly followed by wheat and Millet. Similarly, Mustard and rapeseed are also grown in the region to supplement the oil demand of the household. Most commonly, several progressive farmer of Mangal tar and Shaulai Gaun (ward no.6), practice commercial vegetable farming. Vegetables such as tomato, cucumber, beans, sponge gourd, cauliflower, cabbage, sagana are found growing in commercial scale.

Similarly, three type of cropping patterns were observed during baseline study. The cropping patterns varied depending upon the availability of irrigation facility and distance from the household settlement. The observed cropping patterns are as follows:

1. Paddy- wheat/mustard- maize: In this type of cropping pattern, farmer plant paddy in mid July and harvest in October/ November. Once the paddy is harvested, the same land is prepared for planting wheat. Generally wheat is planted during November/December and harvest in March/ April. In some cases farmer also cultivate mustard instead of wheat depending upon the type of land, farmers preference and moisture availability. After harvesting wheat or mustard, farmer cultivate maize as the third crop in the same land. Usually, maize are cultivated during May and harvested in June/ July. This type of cropping pattern is predominantly practiced in well-irrigated low basin flat terraces.
2. Paddy-paddy; This cropping pattern is commonly practiced where irrigation facility is not sufficient. During the rainy season, lowland paddy is cultivated (June/July) and harvested on October/November then after land is left fallow for few period followed by plantation of upland paddy in march/April and harvest in June.
3. paddy-maize-vegetable: This cropping pattern is adopted on the lands nearer to the household. This cropping system is similar to previously described cropping pattern (i.e paddy-maize-mustard/wheat) except cultivation of vegetable crop in place of mustard or wheat crop. Farmer grows vegetables such as potato, cabbage, cauliflower etc instead of wheat or mustard during November/December and harvest in around March.

State and Drivers of UUL

As compared to other five research sites, Dhamilikuwa falls into "medium" region for having under-utilized land (UUL) as compare to Nalma which is "high" in terms of having UUL. The following table illustrates the UUL database drawn from focus group discussion.

Table 11. UUL data of Aanp Chaur CFUG derived from focus group discussion.

Name of tole	Household number	arable lands (ropani) (approx)	UUL lands (ropani) (approx)
Aanp Chaur	36	500 pako bari	50%
Major Gaun	66	1200 (irrigated)	8-10%
Sahuli Gaun	85	1000-1200 (irrigated)	15-20%
Mangal Tar	45	800 (partially irrigated)	25%

Source: FGD, 2014

During the baseline study, several drivers of under-utilized lands such as impact of rainas tar irrigation project, shifting of sharecropper towards bandagi, difficulties on bonded system (bandagi) and bondage papers accessibility/distance between land and farmers' house, high cost of production, shortage of labor force were identified in dhamilikuwa. There few drivers of UUL are discussed below:

Impact of rainas tar irrigation project

Under Rainastar Irrigation project, the land of three VDC i.e. Dhamilikuwa, Valayakharka and Chakratirtha are irrigated with the water diverted from Chepe River. The irrigation system has started from 1994 covering an area of over 580 hectare of land of three VDCs. The farmer shared that the irrigation facility has changed the cropping pattern of the village. Before irrigation facility, farmer use to cultivate peanut, upland rice and maize which requires less water and could also be cultivate in dry upland terraces. But due to establishment of rainastar irrigation, farmers are abandoning upland terraces and shifting to cultivate only low land which has good irrigation facilities. The farmers also pointed that production derived from 1 ropani low-land (with good irrigation facilities) is far more than the production derived from 5 ropani of up-land terraces in the comparison. Due to good irrigation facility in the lowland area, people are gradually migrating permanently towards the low belt as a result up-land terraces are being under-utilized. During FGD discussion, a farmer who migrated from upper belts, Dhan singh lama explained in his own word that " we, almost half of the villager living in aap chaur area , came from lak (upbelt). When this irrigation system stated, we also migrated from lak to this low regions. Due to this irrigation facility, we are able to increase our annual production in three fold. In lak mostly we could grow only maize and millet, but after starting of irrigation, we are able to grow rice enough for whole year. Usually, only 2 ropani lands are enough to produce food for whole year in low belts. So, one of the main reason to migrate to low belt is rainastar irrigation facility. It is difficult to carry production from low-belts to upper-belt each season so it is better to shift near to the khet area. Also more facilities are available in low belts. Therefore, most of us migrated permanently from upper belt to lower."

Shifting of sharecropper towards Bandagi (Bonded system)

Sharecropping system was common in dhamilikuwa few years back but the trend seems to decreased slowly over the recent years and people seems to shift towards bonded tenure. In sharecropping system, agriculture products are divided equally between the landlords and the tenants. During the interaction with sharecroppers it was explained that due to high cost of production, it is extremely difficult to sustain their livelihood all around the year by only having half share of the annual production. Even though, now-a-days sharecroppers are allowed to provide half of the production of main crop (i.e paddy) keeping all production of the other crops of the year, sharecropping system are not being viable source for livelihood. Therefore, farmers are either compelled to adopt diversified livelihood strategy or shift to the bonded system. In dhamilikuwa, ex-sharecroppers who have enough resource (cash) to rent the land are only doing Bandagi and the rest have started skill works such as

masonry, forging carpentry instead of sharecropping. This tendency has reduced the number of farming population resulting on low agriculture activities.

Difficulties on Bonded System (Bandagi) and Bondage Papers (Tamsuk):

A bonded farming system was quite common in Dhamilikuwa from a long period. However, farmers practicing this farming system expressed several hurdles which eventually lead to lower agriculture activities. One of the major hurdles expressed by the farmer is the issue of bondage papers (Tamsuk). Farmer explained that generally in Dhamilikuwa, Tamsuk is made for a year and each year that are renewed in the consent of land owner and mortgager (Bandagi kishan). But if land owner finds another mortgager who offers higher price, then they usually terminate the bondage papers with the previous mortgager and give land to new one. Due to this possibility, the mortgagers do not feel themselves secure in this type of farming system. Moreover, few farmers also shared that the price of bonded loan that are in practice are expensive due to which a large number of small-holder farmers are not able to afford and carry on the farming activities. It was shared that a 20-22 muri paddy producing arable land cost Rs. 50-60 thousands bonded loan.

Accessibility/distance between land and farmers' house

During the interaction with local farmer, it was explained that accessibility to arable land and distance between arable land and farmers' house are one of the major factors for under utilization of agriculture land. It was reported that it is very difficult to provide proper care to the crops and perform regular inspection of possibilities of external plant and animal invasion in the distant land. In shauli tole most of the tamang households were permanently migrated from higher region to lower belt. They still have a significant amount of arable lands in higher region which are now under-utilised. The land owners do not seem attracted to continue farming anymore on these lands due to scarcity of agriculture inputs such as labour, irrigation etc.

High Cost of production

During the interaction, farmer illustrated that current agriculture practices are highly expensive as compared to the return (production). This is common mostly on the remote and upland terraces. Due to costly agriculture inputs including labor, land owners are forced to leave the land fallow. Excluding the market input such as seed propagates, fertilizers, pesticides; the costs of other input such as labor and irrigation facilities were also noticed expensive in the locality. Generally, rent of ploughmen along with the bullock wages Rs. 1000 per day; male labor that makes the ridge/ riser of rice field wages Rs. 500 per day and labor cost for transplanting rice is Rs. 250 per day. This costly agriculture inputs has forced farmers to limit farming activities only on fertile and irrigated low lands.

Shortage of labor force

Farmer of Dhamilikuwa pointed that at least one in five households has a member in abroad for foreign employment. This tendency has reduced the presence of young generation in the village and also remaining other youth force are either in town or involved in other off-farm business. Now-a-days, it has also been common with wives and the children moving to the nearby towns once the husband is able to send remittance from abroad. Usually, only the old people are left behind who are physically unable to continue farming activities. This scarcity of agriculture labor due to mobility of youth force for foreign employment has lead to under- utilisation of agriculture land.

Opportunities and Potentials to bring back UUL into Use

During focus group discussion, a number of potential arenas were pointed out by the participant of FGD. The potentials arenas which could bring back UUL into use are discussed pointed below.

Private forestry

During the interaction farmer expressed the willingness to practice private forestry but in the mean time they also shared that they have very limited knowledge of current forest policies which are closely related to management and marketing of private forest products. Farmer doubted that converting agriculture land into forest would be financially sound since one has to wait very long period of time to get income from those product and there is also no guarantee either product will be sold and producer will get fair price of their product. But they are willing to take the initiation/risk if they are equipped with technical and/or financial support and with the provision of market guarantee. Tree such as Bhilaune (schima wallichii) ,Bakaino (Melia azedarach) ,Sisoo (Dalbergia sissoo) were some of their referenced tree species for private forestry.

Fruit/NTFP based agroforestry

On the other hand few farmers seem to be attracted towards fruit based agroforestry and/ or NTFP cultivation in the lands which are being in the process of fallow due to abandoning agriculture work. Farmer pointed that cash crop cultivation such as ginger, turmeric and fruit orchard plantation could also be other appropriate way of utilizing fallow lands by promoting NTFP or horticulture based agroforestry.

Collective farming

Collective farming of vegetable crop in a commercial scale was also pointed as the appropriate option for reviving under-utilized land and preventing arable lands from being fallow. Since few of the farmers are growing vegetables in commercial scale, farmer believe that if some potential vegetable commodity such as cucumber, tomato, sponge gourd, drumstick or fruit such as banana are produced in large scale by collative farming and farmers would get the fair prices of their products.

Goat enterprise

Small-scale based agriculture enterprises were also discussed as other viable option for reviving under-utilized lands. The most preferred enterprises such as goat farming, livestock raring were indicated. Since most of the abandoned lands in dhamilikuwa are distant Bari or Pakho bari which can be used for forage or fodder plantation.

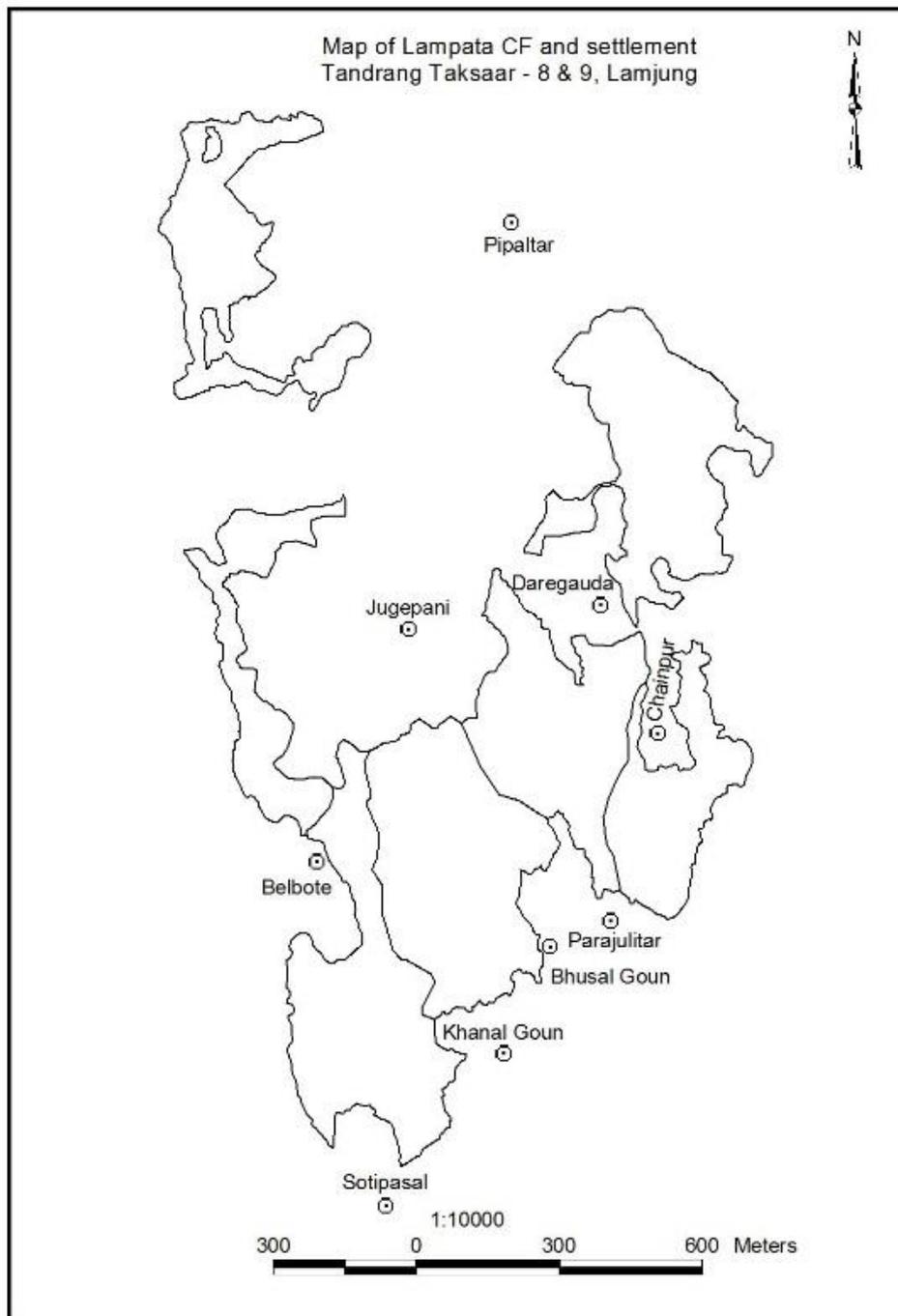
Tandrang Taksar: Lampata (Lumjung)

Introduction

This section of the report describes the qualitative baseline of UUL theme of the field sites - Tandrang-Taksar of Lamjung district. The information presented in the report are based on the focus group discussions (FGD), key informant Interviews (KII), field observation, and transact walk during field visits. Some of the information are also derived from site selection report and quantitative baseline. The report presents briefly on baseline background on; socio-economic and biophysical status, current state of UUL, drivers of UUL and, opportunities and potential of UUL to bring back into productive use.

Background on Socioeconomic Status

Out of the four selected CFUGs in Tandrang Taksar and Jits, Lampata CFUG was priority site for the action research. This CFUG covers the Tandrang Taksar ward no. 8 and 9. This is situated in Ramgha range post: N28°04.934' and E084°14.317' with altitude of 600-800 meter from sea level. Total numbers of user households of the CFUG are 246 and the total area of the forest is 74.58 ha. This is natural mix forests with Sal, Chilaune and Katus are the major species. The users of the CFUG are settled in 4 major toles: Juke pani, Bel Bote, Soti Pasal and Dohori Chautara.



Among these toles, Soti pasal is small town centre situated in low land with road head access linking Sunderbazar to Damauli. Bel Bote, Juke pani and Dohori Chautari toles are in up hills and in a walking distance of one to one and half hours from Soti pasal.

Many of the families near the roadside in Sotipasal have more productive land and other income sources for their livelihood. However other toles situated in uplands are Pakho Bari and Khar Bari with some irrigated land patches around the villages.

Brahmin Chhetry, Dalit and Janajati are the major caste/ethnic groups in the village. Caste/ethnic composition of the different toles is as follows:

Table 12. Ethnic Composition in Lampata CFUG, Tandarang Taxar

Tole	Brahmin/Chhetri	Dalits	Janajati	Total HHs
Juke Pani	10 (Giri)	8		18
Bel Bhote	1 (Giri)	8		9
Soti Pasal	9	10	100 (Magar, Gurung, Newar)	119
Dohori Chautara	100 (Giri)			100

The HHs/families in the site have diverse food security and livelihood status. Most of the Bhramin/Chhetris are engaged in subsistence agriculture and services (government job) while many Janajatis are in foreign employment/remittance. Some of the Gurungs and Magars are in Indian Arm force whereas many youths mostly from Gurung Magar and other caste/ethnic groups are in gulf countries. Some of the youths have been able to earn enough to settle their families in the cities or in village center 10-12 HHs/Families are migrated from nearby villages from the same CFUG (Lampata) and now living being able to buy and construct land and house in Sotipasal. Some of them have set up small scale business while some other who cannot earn enough are living in rented houses. Some HHs have also migrated in other nearby cities; Damauli, Pokhara, Kathmandu. Most of the Dalit families are engaged in agriculture labour and skill based works (masonry/carpentry) and increasingly some Dalit youths have been able to go for foreign employment.

Traditionally occupational caste Dalits' livelihoods now depend on daily wage labour from the agricultural activities. Some members (7 out of 9 HHs in Bel Bote) of the Dalit communities of the Bel Bote tole have gone to gulf countries for employment. 5 Dalit males are involved in carpentry and masonry. Villagers also shared that some of the Dalit families are still practicing their traditional occupation of leather works and black smith. However earlier arrangement of Bali Partha (exchange with grains) has been changed and now they get cash for their services. Villagers said that there are only three household engaged in their traditional occupation (goldsmith 2 and tailoring 1).

Many household migrated to Soti Pasal and other town centres have left the lands either underused or left ageing population to look after. Some of the HHs in the Soti Pasal area are also migrated from the upper hills of district for better education and services.

Traditionally farmers grow food grain such as paddy, maize, millet, beans, potato, pumpkin and guards. Mango and bananas are the major fruits found in this area. Goat, cow, buffalo and chickens are the major livestock. Bel (marmelos) a wild fruit was abundant in the area which is disappearing now.

According the villagers, earlier they used to grow three crops in a year in irrigated lands. But now the intensity of cropping is decreasing. A villager in a FGD shared that "these days all children go to school, my brother is in Malaysia and his wife in Damauli for their children's education. Till last year one Dalit family was cultivating their (brother's) Khet but now no one is ready to cultivate in Adhiya (share cropping), they say "it is better to go for wage rather sharecropping" this is common perception and practice of many families in this villages.

Locally agriculture lands are classified as Pakho, Khet and Bari. Most of the Khets are along the riverside and some Khets are in between the forest with small rivers (Kholcha). Most of the Baris and Pakho are below the forest line. Traditionally settlement were in the Bari and Pakho near the forest boarder and less houses were settled in Khet but now with the road crossing the Khet areas new village market center is developing along the road in the Khet in Sotipasal. Increasingly Khet is being sold as residential plot (Ghaderi).

In Bari people grow mainly maize, millet, vegetables, fodders and fruits while mostly Pakho Bari is used for grass and fodder along with fruit trees. Mostly farming is traditional and integrated with livestock and crop. Increasingly, many farmers are shifting into vegetable farming. Farmers are now using tunnel technology for off season vegetable production. Villagers shared that they still have high potential and demand for meat products particularly goat but there is not sufficient goat production to meet the demand of the villagers.

With the changes in family structure, introduction of modern agriculture, market facilities, and the cropping pattern has been changing. These days, vegetables are grown in irrigated and accessible areas and distant fields are left fellow.

Because of the low production, villagers are increasingly dependent on imported food grains as there are not sufficient food grains available from local production. Along with rice and pulses, all other food items such as fruits, vegetables and milk and meat products come from neighbouring markets. As mentioned above, this import of the foods is possible because of the remittance and other off farm income of the villagers.

Traditional institutions are also rapidly changing in the villages. In the villages there are saving and credit cooperatives, farmers groups, mother groups, and youth clubs. Most of these are formed by the development partners, program and some of them are running well.

Table 13. Institutions and their mandated role in Lampata, Tandarang Taxar

SN	Name of the institution	Mandated role	Year of establishment
1	Chainpur yuva club Chitij yuba club Janachetana Youth club	Support in sport, entertainment	2067/68 2067/68 2066
2	Major Mother groups (Pipal dada aama samuha, Chainpur aama samuna, Bhusal gaun aama samuha)	Saving and credit, community work, cultural programs	These groups are formed in every toles of the village during 1065-2068
3	Sustainable development and peace society	Support in education, environment awareness program	2065
4	Major Cooperatives: Janakalyan Sajha Sahakari Deepjyoti Sahakari Jalpadevi bhu pu bidhut sahakari Janakalyan Sahakari Mahendri Dudh Sahakari	Saving and credits Bidhut (electricity) distribution	2035/36 2066 2064/65
5	VDC	Invest in infrastructure development activities	It is a local representative body but there is no election for 16 years and VDC secretary manages VDC operation with the support from major political parties

Land Type and State of Under-Utilisation of Land

Although this area is highly accessible there are some patches of under-utilised lands. Tentative abandoned land in this area is up to 15 %. Mostly, un-irrigated, distant, close to forest Pakho Bari are abandoned. Tandarang Taksar falls on medium UUL as compared to other five sites. The villagers shared that there were not much lands underused before 12/13 years but now it is increasing. The major determining factors of the UUL observed during visits and based on the sharing of the discussion

participants are; labour shortage (less family member to work in field), alternative sources of income (non-farm labour and small business in road side), migration towards foreign employment and towards the road side within the villages and nearby cities for employment, better education and services and lack of irrigation. During FGD villagers shared that many of the active labour force have been migrated for foreign employment. One of the implications of it is that increasingly villagers are less interested in agriculture related work. During the FGD Goverdan Puri of BelBote tole said “People are less interested to participate in social/communal/volunteer works for example earlier we collectively used to repair our irrigation canal (Kulo) but these days it’s not been working properly for several years but no one wants to repair it.” Similarly, another participant of the FGD Mr. Prem Nepali said that UUL is increasing day by day. He said “some people have willingness to cultivate but they do not have enough resource or labor, but some have resource and labor but they do not have interest. He also mentioned that one of the reasons people are leaving their land underused is because now everyone is becoming more prosperous (Sukhi)

Mostly isolated Khet and marginal lands are UUL (remoteness being prime factor). Many families have been moved towards the road side leaving their land situated in the northern part of the village.

Most of the small holders cultivate crops in their own land. Some poor farmers cultivate in sharecropping, Bandaki and leasing, which are common practices in the village. Sharecropping is the most common practice in the village. In earlier days the tenant used to serve hard to make the land owners happier to get the land but nowadays fewer of them wish to do share cropping as they have to share half and every inputs including labor is becoming expensive. Since this arrangement is not profitable, there are changes in share cropping arrangements. For example, these days land owners ready to share 1/3rd of the products and give them 2/3rd.

The value or prestige of the having land and getting land to share crop have been changed. According to Goverdan Puri “earlier they were needed to serve (both in terms of some special food like ghee, honey or by providing free labor) the landowners to make them happy but now land owners have to look for sharecropper whether they can share crop their land.” Landowners shared that even if they want to give the land in share cropping there are less people to share crop in the village. However, sharecroppers shared that they usually do not offer the accessible and irrigated one. In the area there also few cases that some of the sharecroppers just allow their land for sharecropping though its productive because of distance and they are farming in less productive ones. However majority of the sharecropper shared that they get offer of less productive land and mostly un-irrigated lands to sharecrop/Leasing (Thekka/contract farming) is also in practice in the area. This is practiced by absentee landlords mostly leased for livestock farms and vegetable production.

Drivers of UUL

Lack of human resources/labour

This is the main driver of UUL in this area. As mentioned above many people are migrated within and outside of the country for employment and education. As villagers shared lack of human resource/labor force is one of the drivers of UUL.

Those who can work actively have been migrated already. In the response of the question from the researcher (in the discussion with smallholder group mostly Dalits) that we still can see some of youths in villages and they might be able to work in agriculture, one of the Dalit youth who works as carpenter said “when I work in farming we do get some products after working hard but when I go for carpentry on daily basis or contract basis I can get some cash (700 per day) and I will be able to bring some foods/goods including meat for kids/family at home. If we go on daily wage on agricultural work we have to work harder than in carpentry but we get less. So I prefer carpentry.”

Not suitable for agricultural crops & farming

Many villagers having land parcel close to forest area said that their lands are not suitable for farming. In these parcels monkey and other wild life destroy the crop at harvesting time. “Earlier all villagers were cropping in their piece, we used to monitor turn by turn to save our crop but when young people moved away, there are no one to do this job. Therefore we are leaving to cultivate.” said by a farmer in a FGD meeting. In this area, mostly UUL is Pakho Bari and also less productive “We work hard for whole year but we donot get as much as our investment and labor, therefore we are forced to leave land underused than cropping”.

Farm accessibility

Accessibility to the farm land is a major factor of keeping land fallow. Mostly both irrigated as well as un-irrigated distant agriculture land is now UUL. According to villagers, their piece of agriculture lands are scattered around the travel distance of at least 10-15 minutes to more than half an hour. Many farmers have left UUL which is distant from their home. However, some accessible lands are also UUL. According to villagers, these are left ULL because these are less productive, and with no irrigation facilities.

Market accessibility in Tankrang Taksar is not a big issue these days as they have motorable road linked to Besisahar, Damauli and Pokhara. Some of the villages do not have direct access to road but these villages are close to the road heads. Villagers shared that some of the local products have high demand but there is no production at village level for example, milk products. The villagers (focus CFUG users) have easy access to the market so most of the household items including dairy/livestock products are imported in the village. However they produce rice and vegetables at local level as they have most of the Khets along the roadside with irrigation facility.

Migration

Most of youths are migrated to gulf countries; few are in Indian Army and Nepal Army. Some of the youths are migrated to Indian and Nepalese (Army and Service) while most of others are migrated to Arab, Dubai, Qatar, Malaysia. Many youths are also migrated to Kathmandu and other cities for better education while some families/youths are migrated to Terai, Kathmandu, Pokhara, Besisahar for education, employment and services and even for permanent settlement. Similarly there are few migrants as seasonal labour migration (Dalit mobility towards India and to Pokhara and Besisahar within country). Those migrated particularly permanently to other cities leaving their lands in village are also interested if they can do anything profitable in their land.

Opportunities and Potentials to bring back UUL into Use

During discussions villagers were worried about their lands being underused. Their worry was on less production of the local food and increasing dependence on imported food while their own land being fallow where they used to grow almost everything possible for household consumption before. “We worked hard before but now even if we want we cannot work as much as before and everyone is leaving farming villages, we want to anything possible in it”. However, while discussing with Dalits and marginal farmers in FGD, they shared that there is increasing opportunity to get lands in share cropping and lease, but it is less profitable than going for the skill based labours. “it is not certain how will be the crops, if I go for labour it is certain I get money...there are enough lands available for sharecropping but these are less productive lands therefore not profitable to do sharecropping. Also these days land lord change sharecropper frequently with the fear of tenant rights" [Bali ropyo falcha faldaina thaha hunna jyala ma gay eta paisa aaihalcha, garne ho bhane ta pahila jasto chaina prasastai paincha adhiya garne jagga ta tara falda nai kam falcha ani aadha badda khasai faida

nai hudaina hamilai tyai mathi mohiyani hak lagcha bhanera adhiya garne manche ni paribartan garirahanchan].

Villagers shared the scope of UUL bringing back to use by planting fodder and fruit trees. They said “it’s hard to bring back the labor force back to farming but we really do not want to leave it fallow it makes us hurt”. Even if they want they cannot work hard as before with limited labor force available they wanted to go for less labor demanding work i.e planting trees, fruits, fodders so they so at least get some income from selling these. Some innovative farmers are willing to plant high income NTFPs and medicinal plants. One family have already started Puri Goat Farm by utilising 40-50 ropani of underused lands. They have already planted some fodder trees and rearing 30-35 goats.

According to villagers, earlier (before 10 year) sharecropping, it used to share half production without any input from landlords. All inputs including manure and seeds have to manage by tenants. But nowadays those inputs are also shared (invested) half by owner as well. Some of the tenants feel happy that at least there are plenty of lands available for sharecropping. But their worry is that there is no return of the investment. On their views, land availability will go for long as no one will come back soon in the villages but they said since there is no certainty of long term use of the land they afraid to make long term investment.

Most of the better and irrigated lands are still cropped by owners themselves. In one hand, they want only marginal lands to give for share cropping, they do not want to lose share croppers because they do not want to leave their land fallow and they cannot do all of their land as well but in another hand they shared that usually land owners are afraid of tenure rights (mohiyani hak) that they keep changing sharecroppers not to prove land to only one share cropper for long. It is irony such tenure rights were abolished before (2063) but many of the villagers do not know about it.

Local farmers think that increasing under-utilised land is because of youth migration, lack of labour force and young generations are not interested doing labor work in agriculture. Also there is massive scale of plotting for housing purpose where lands have been divided into small pieces and owned by many individuals, therefore it is being kept fallow. At the same time, production and productivity is also decreasing which is disincentive to the farmers. They shared it's hard for them to leave their land UUL (until now many of the farmers are managing somehow) but within next few years there will be lots of UUL in the villages. However, local villagers are interested to bring UUL to use (less labour and input intensive) many of the farmers in Tandrang/Taksar are interested and have already started planting fodder trees with the hope that it does not demand that much time.

From the informal discussions with individuals, FGD and field observation, it is revealed that farmers who own lands are interested to utilise their under-utilised land. They hope project will support to find ways to bring back into use. Some of the innovative farmers already started planting fruit trees and fodders in their marginal lands. They think less intensive and low input cropping, high value NTFPs and livestock are the viable option. In the area, it can be observed that the farmers are still in traditional agro-forestry practices. There is huge potential for livestock based agro-forestry in these UUL.

Chaubas: Fagarkhola (Kavre)

Introduction

Chaubas VDC is located in one of the remote parts of the district. The Chaubas VDC is located towards north east and connected by seasonal road with the highway and district head quarter of Kabhre district. The altitude ranges from 1800- 2100 meter. The CFUG prioritized for action research in this VDC is Fagarkhola which included Ward numbers 1,2,3,4 and 9 of Chaubas VDC. This Fagarkhola CF has 53.25 hectares of forest area. The total household number in Fagarkhola is 84.

Table 14. VDC Profile of Chaubas

	Distance from district	Area (sq. km)	Number of hhs	Population	Male population	Female population	Economically depend
Chaubas	14	13.13	491	2447	1144	1144	339

The altitude of Chaubas ranges from 1700 to 1900m with temperate to subtropical climate. Based on slope characteristics (north facing/south facing) the productivity of land is found to vary in Chaubas. The north facing slopes have water sources and thus there is possibility to grow a variety of crops as opposed to the south facing slope which is very dry. Based on this, the household food security status also varies in Chaubas. The Hhs with north facing land are comparatively more food secure than south facing ones. Chaubas have medium accessibility with newly constructed seasonal road and regular public vehicle movement. However the roads and vehicle movement are unreliable during wet season. The average land holding size of Chaubas (BQTL). The caste and ethnic composition of Chaubas is diverse in nature.

Accessibility: Chaubas VDC have been found to have medium accessibility with newly constructed seasonal road and minimum vehicle movement. The different wards and toles in Chaubas (Fagarkhola) are ½ hour to 2 hours of walking distance from Chaubas bazar. Some of the toles in Chaubas can be considered remote in terms of travel time required to get to these household (Sarki Tole).

Background on Socioeconomic Status

Caste and ethnicity

The qualitative baseline survey revealed that the major ethnic groups in Chaubas are: Chhettis, Brahmins, Janjati (Tamang and Paharis) and Dalits (Sarki, and Darji). It was reported by Key Informants that locals believe that the Chhetri and Bhramins have comparatively larger land holdings therefore correspondingly also known to have larger UUL.

Table 15. Ethnic composition in Fagarkhola, Chaubas

Ward No.	Settlement	Number of Hhs @ethnic group				
		Brahmin+Chhetri	Newar	Dalit	Janjati	Total
1	Fagarbasti	15				15
1	Chilaune Pakha Dada			3		3+3
1	Mathlo okhre	13			4	18
1	Pallo okhre	2			9	11
3	Kaule				5	5
3	Tallo okhre	16			3+1	20
3	Patle basti	9		1		10
3	Katuse			2+2		4
3	Gufa				6	6

Wellbeing Status

Kills expressed that the Pahari's in Gufa and Sarkis of Chilaune Pakha Dada are hardly able to secure year round food security from their own productions as most of their lands have scarce water sources with little production potential. Paharis of Gufa complained that their water scarcity problem hasnot been properly addressed during the FGDs and Paharis in Mathillo Okhre reported that they have initiated Potato cultivation in more productive land which have some potential to contribute in uplifting food security.

Livelihood Diversification

People are more interested in forest crop rather than field crops, as a respondent expressed during FGD, “we have now understand the value of forest crop (Pine and Utis) and extent of cash money that it can generate”. The survey revealed that the local people of Chaubas (with their long and intensive exposure to forest based livelihood) have developed expertise in various skill of tree harvesting. As an elder during FGD noted “labour in Chaubas do not have to sit idle or wait for work, they have sufficient work as *Dakarmi/Sikarmi*, forest harvesting laborers”. The locals reported that the work in forest harvesting and forest labour is one major source employment for wage laborers. The local assured the survey team that they are very high in demand for their skill and can earn good money (upto 2000/day). Local reported that the wage rate in agriculture is only NRs. 170-180. Kils expressed that “If forest development had not been started in Chaubas 30 year ago, we could have died of starvation, because of this development, different development alternatives started to opened up in Chaubas”, as compared to the wage rate in agriculture the wage rate in forest and in construction and other enterprises (in Banepa- loading and unloading of goods) is high. This has created shortage of agriculture labour. Thus, it was indicated during survey that Chaubas have forest enterprise based livelihood as major source of livelihood beside agriculture and off farm livelihood sources. The elders of the community reported that, “our youths prefer to move out of gaun/village to cities and overseas countries”. And increasingly youths are becoming wage labourers for different enterprises or construction works as it provides instant cash as well as little hardship as compared to agriculture. In their own words, “it has become very difficult to harvest 30 pathis Millet after working in all rainy season”.

The survey team noted that the people having land in north facing slopes have started producing Cardamom, and this is becoming a very profitable alternative for these people. The Pharis in Gufa and Sarki Basti are reported to be suffering from acute water problem, this as they complained have implication in their livelihood practices, and “the Hhs with south facing slope have very limited potential agriculture intervention. They are unwilling to continue traditional agriculture practices; they commented that, “we cannot explore growing vegetables and crops because of dry soil and lack of water”. Local people are interested to find out/explore crop compatible with Pine and can grow in drier environment, “we are interested in crops that are compatible to grow with pine, can be harvested in between and suitable in dry areas”.

Tenure System

The FGDs respondents informed that increasingly people who do not live in Chaubas, have tendency to give land to sharecroppers, “people give land to people whom we/they trust (to people whom they trust). They indicated that there is no overarching rule of sharing in sharecropping (landowners are having difficulty finding sharecroppers), “the sharecropping arrangement different between different people and cases as it depends on relationship between sharecroppers”. During FGDs it was revealed that in only Fagarkhola around 13 landowners (characteristically well off with various sources of income and who are absentee in nature) have sharecropping arrangement. However, local people also reported that mostly potential sharecroppers (including those who are present there in the discussion) will only agree to take land for sharecropping if the land is nearer to their settlement/farms. In some cases they say that. “we agree to do the sharecropping out of personal relationship as well”. The traditional modality of sharing is giving half of main crops (rice, sometime people tend to share hay as well), but now the arrangement varies.

Table 16. Institutional mapping and their mandated role in Fagarkhola, Chaubas

Institutions	Mandated role
Decentralized Action for Children and Women (DACAW)	Protect children and women against violation, exploitation and abuse
Paralegal	Protection of rights of women and children
Micro Enterprise Development Program (MEDEP)	Promotion of entrepreneurship
Sericulture promotion (Khopasi)	Promotion of sericulture
Saving groups (women, men and children)	Establishing the saving culture
Awareness program (sachetana karyekram) through DDC	Aware citizen about their rights, roles and responsibilities
VDC	Govt services to citizen and infrastructure development

In response to query regarding collaboration between local communities and District Forest Office the local people responded that “we have not gone to them and they have not seeked us out to provide technical guidance.

Migration

The FGDs, KIs and consultations revealed that people in Chaubas have migrated to different destination in search for better employment opportunities. Labour opportunities in cities and other activities even within village (forest related activities) are offering higher wage rate as compared to agriculture. The majority of people have resettled to cities and/or send their youths to cities or overseas during the time of political conflict.

- Temporary outmigraton overseas (Malaysia, Saudi)
- Seasonal/Daily movement to Banepa, Kathmandu
- Temporary outmigration to cities (Children’s education)

A FGD participant expressed, “people are trying to buy house in cities as their alternative residence. People are moving out of the village in search of better education and employment opportunities aside from their daily and/or regular movement to the nearby town centers and cities.

State of Land

Land Types

KIs indicated that the traditional classification of land include Pakhobari (Kharbari), Gharbari (farm land adjacent to settlement), Tarikhet (Rainfed), Khet (irrigated), forest (private as well as community). Majority of land is Bariland (hill slopes). The consultations with local people revealed that around 35 percent of the arable land has been left as UUL.

Table 17. UUL profile of Fagarkhola, Chaubas

Tole	Total Arable Land (ropanis)	Underutilized Land (ropanis)
Fagarbasti	250	101
Chilaune pakha Danda	100	11
Mathlo Okhre	900	76
Pallo okhre		22
Kaule	300	16
Tallo Okhre	700	63
Patle basti	500	18
Katushe		15
Gufa	124 (Chaubas)+75 (outside Chaubas an Fagarkhola CFUG)	3

Crops and Cropping Pattern

Maize, millet, paddy, potato and assortment of vegetables and fruit trees. Local said that the major introduced crop in the area is potato and cardamom. It was expressed during FGDs that because of serious water scarcity in the area especially in south facing slopes, people are interested and have been growing plantation crop such as Pine and Utis.

Baisakh: Keeping millet seed for seedling, intercultural operation of maize

Jestha: Intercultural operation of Millet, second intercultural operation in maize

Ashad: Harvesting potato, planting millet, planting paddy, broadcasting Sesame(Til)

Shrawan: Planting rice, intercultural operation in millet

Bhadra: Harvesting maize, Ploughing field, Broadcasting Fapar, mustard, wheat. Vegetable planting

Ashwin: Brodcasting Mustard

Kartik: Millet harvesting, Paddy harvesting, Sesame (Til) Harvesting

Mangsir: Storage of harvested millet, sesame, Ploughing field

Poush: Ploughing field, Planging potato; Cleaning field

Magh: Planting potato, cleaning field

Falgun: Broadcasting maize, intercropping beans

Chaitra: Leftover maize broadcasting, preparation of nursery beds for millet

The traditional crop farming practice of cultivating maize (Bari) and millet and paddy (in Khet) is still prevalent with integration of livestock (both large and small). The practice of growing potato is also expanding (rice-potato) in rainfed Khets. Some places showed high potential of fruit cultivation. Local til or mustard cultivation is still ongoing. There is motley of farmers adopting vegetable farming and few poly houses could be seen in the area. The households with very scarce labour are finding difficulty even in growing only one crop such as maize. The introduction of cardamom is also expanding especially in Kholso area. There is general tendency of growing cardamom in lower elevation and grasses in higher elevation where there is less access of water. People in Fagarbasti expressed preference for forest crop in the context of lower water availability, less labor demanding and having high economic value.

Land Use System

Land use system includes integration of agriculture, livestock, private forestry in private land (“we have grown trees in our kharbaris, pakobari/ UUL). The system observed by the study team in Chaubas is primarily subsistence based with some exception of progressive farmers. The KII disclosed that is integration of livestock, crops, fodder sources, fruits and vegetable in different intensity and forms, which is still traditional in nature. The farming practice as discussed during local consultation is still labour intensive and tree product (private land- mostly regenerated) is the major part of land use system with considerably large plantation of Pine in private land in different parts of the VDCs. From the discussion, it is indicated that people in Chaubas now have realised the value of timber, some even reported to manually broadcast the seeds in their Kharbaris to facilitate the regeneration of Pine where as in most cases the regeneration is natural. The locals also reported that the land use system has transferred from free grazing land to extensive plantation in private and public land.

Similarly, the survey team observation noted that the Bari lands are found to be near to the settlement and are relatively at higher elevations than Khets and are mostly rainfed terraces suitable for rainfed crops. Bari land (as observed by the survey team) in some cases (where water is available) have irrigation facilities extended from infrastructures built for household water source purposes, this is mostly in north facing slopes wherein there is opportunities of growing different kind of vegetables (greens, cucurbits etc). Some fodder trees are found planted on the edges of the terraces in Bari land.

The land in Chaubas is slopy in nature including those where people are practicing agriculture activities. The terrace in some parts are very small. In south facing slopes of Chaubas there is reported problem of water availability with no water available for farming purposes so the land/soil is very dry. People expressed that Pine has further dried already dry land in this area.

In other areas of Chaubas with north facing slopes and better water facilities both integrated agriculture based and lately introduced and adopted agroforestry based farm system can be observed. The major features of land use system observed are agricultural crops (cereals +vegetables), livestock (both large and small), forest tree crops (Pine and Utis), fruits (they are trying out the best one for their soil type), fodder (Mulberry, Dudhilo) and Cardamom. However the intensity and combination of these elements are different based on progressiveness of farmers, their soil/land type as well as availability of water. The Key Informant Mr. Kunwor informed that majority of the people are engaged in subsistence-based agriculture where integration of tree crops and livestock husbandry is inseparable. Vegetable farming based land use system is being practised among only few progressive farmers of this region. However, growing number of farmers with land suitable for Cardamom are cultivating the crop, understanding the high demand and market value of the crop.

Land Use Changes

Key Informant, Mr. Kharel indicated that the kharbari and some of the distant baris are slowly converting into UUL (stopped cultivating owing to different reasons such as wildlife damage, labour shortage) “*Badel, Badar* are making our life impossible, just now we broadcast seed and they destroyed all the seeds, they destroy crops and everything. We have to fire guns to chase them away. They have slowly encroached upon our cultivated land after encroaching in area nearby forest”. With almost all household having some area of land left as UUL in Fagarkhola, local people also often responded with answers like “there is no other way for us other than leaving land as UUL, there are no members (*Jahan*) in the house who will do the required work”. However, the UUL that local people pointed out to the team is also slowly transitioning into forest area with natural regeneration of Pine and Utis in most of the land. Kharbari are still being utilized for Khar (most of which are naturally generated without any human interventions) which is still very much in demand. There is regeneration of Pine and Utis in Kharbaris as well. Farmers are content with these changes as this mean they can harvest Khar and grass as short term benefits and trees harvest in long term basis without much inputs and labour from them. In some cases only there is regeneration of some invasive species like Banmara.

Few farmers especially those having land in north facing slopes, are seen to have integrated fodder and fruit trees. The local people said that the trend of leaving land as UUL was started from 2052 or so. The trend took its momentum from 2057 B.S, the major reason behind this, as cited by locals, is “political conflict”.

Drivers of UUL

Local Perception on drivers of UUL

The different meeting with local people indicated that local people have become unwilling to continue farming as it needs high investments and have harvested low return. As they say, “we only get low return from our investment which is not even sufficient to cover cost of labour, and we have to consider other cost such as fertilizers, sometime have to buy seeds”. Their expression and responses indicated that the alternative income channels may be better and more rewarding than farming. After all their hardships, people reported that they are barely able to harvest 20/30 muris of grains. It has become very difficult to acquire labour for agriculture activities. The land nearer to the forest and far from settlement (some reported even near to the settlement) are being constantly destroyed by wildlife for example: porcupines, monkeys are increasingly become more and more nuisance destroying crops. The local people reported that, “we are fed up with these animal destroying our crops and field and the intensity of the attacks has increased over the years within last 10 years or so”.

The land/land ownership as indicated by local consultation and KII is fragmented and dispersed in small parcels of each household (local people said that this fragmentation created constraints in mobilizing agriculture inputs including available water). The Bari terraces which are at considerable distance from house are difficult to access. In some Bari land which has been left under-utilised for long period of time, there is regeneration of *Khars* or Pines. Interesting, local people seemed to have understood the market value of the Pine timber. In few occasions (FGDs as well as informal consultations), they expressed that, “If we have left Pakhobari as UUL or facilitated growing of trees, we could have become Sahu by now because of timber, we realized this now, if we have known before that so much money could be harvested then....”.

Whereas, Kharbari of this region are mostly the source of *Khars* (local reported that they still rely on these) and grasses used for feeding livestock. Farmer explained that the productivity of crops in this type of land is comparatively low due to relatively marginal and sloppy in nature and lack of water. Thus they prefer to grow trees species which are used for firewood and have timber value. There is regeneration of Pines in these lands in most cases (farmer understanding the timber value seem happy with this regeneration, as it did not require any input or effort from them), “we are more happy with the value of Pine as compared to *Utis*, demand of Pine is also high”, “Chap also has potential in this area but Chap takes more time to mature as compared to above two”. “People in our community are selling timber here and there, and earning lots of money”.

Local Perception on potential use of UUL

Local people said that, “we are interested in enterprises which have potential to grow in dryer environment and are less labour and input intensive”. They have been expanding and exploring newer crops such as; potato, cardamom in more favorable environment. They are keen on exploring potentials of ginger and turmeric. They have started innovative livelihood alternatives where possible, like keeping silkworm, practicing improved agroforestry to boost their livestock production.

Although farmers in Chaubas are interested to find alternatives, they are also pleasantly surprised by the present status of their Pine plantation and cash generated via Pine. Private Forestry is currently very popular in Chaubas. They are ready to explore crops considering medium time horizon and short term horizon (like cardamom) beside tree plantation especially in drier areas. They want to explore

opportunities in Cardamom and Turmeric/Zinger. Any crop that is compatible in Pine plantation will be very welcoming in Chaubas context.

Methinkot: Sa Pa Ru Pa (Saune Pakha, Patle Rumto, Padali Pakha)

Introduction

Methinkot VDC is located in the east side of district center, 'Dhulikhel'. The site is located in western aspect and an altitude varies from 700- 900m. The VDC has total population 4721 comprising 2079 male and 2,379 female in 1055 HHs. Saune Pakha, Patle rumto, Padali Pakha (Sa. Pa. Ru. Pa.) Community Forest is one of the entry points of study site (Methinkot) in Kavrepalanchowk district. The altitude of the forest area ranges from 1200 to 1500m from the sea level. The forest covers the area of 297.75 ha. The climate of the area is subtropical type witnessing very little rain because it lies in the rain shadow area. Total household number of Sa. Pa. Ru. Pa. CFUG is about 268, holding tentatively 1746 population number. Methinkot occupies fairly large number of UUL especially in Sahu tole followed by Ojha Gaun. Sa. Pa. Ru. Pa. is at distance of 30 minutes vehicle ride from Dhulikhel, the district HQ of Kavrepalanchowk district. We can say that Sa. Pa. Ru. Pa. is fairly accessible considering quality of road and vehicle movement. The roads linking toles and hamlets within village are different than other rural hilly tracks of Nepal. Water scarcity is one of the major problems people of Methinkot are facing currently.

Background on Socio-economic Status

Caste and ethnicity

The consultations and discussion during qualitative survey disclosed that there are Brahmin, Chettri, Sarki, Newar, Kami, Tamang, Damai, Gharti and Bhujel comprises the basic ethnic composition of Sa. Pa. Ru. Pa. CFUGs. Mixed ethnicity with good proportion of Dalit population is observed by the survey team.

Table 18. Ethnic composition of Sa.Pa. Ru. Pa, Methinkot

Settlement	No. of HHs @ ethnic group			
	Brahmin+Chhetri	Newar	Dalit	Janjati
MathiloSarki	4	7	1	3
Bhadaure	8			
Shri Ram Basti	5	6	2	
Phusre Dada/BhirPakhaBasti	15	2		
Sansaribasti	3		29	
Thumka		2	16	2
BesiNewarTole		20		
Surya Basti(sau tole)	16	2	4	
Siddhi BinayakBasti	36	9		7
Arutar	13			
Ojha Gaun	23		10	
Baghakhar Basti				
Kami Tole	2		9	

Tenure system

Sharecropping is reported by the locals during FGDs as a system which is decreasing, they reported that this might be because of lack of water resources, agriculture labour deficit and low output and high investment, cost of manure and machinery (tractor) inputs. A farmer (Budha Bahadur Bisunkhe) revealed during interview that ‘we bear loss in aadhiyaa because in uphill (*danda*) we have to pay for only 1 crop but in plain (*besi*) we have to divide our crops by 50/50 and these days cost of everything is high”. Moreover, huge UUL holders are not even willing to let other villagers sharecrop in their land. During consultation with members of Sahu tole, an elder member expressed that ‘we would not prefer and allow sharecropping with lesser benefit, in our community if benefit is less we do not prefer to deal for example we opted to burn the maize residue rather than selling it in low price’. However, during discussions it was reported that, in the past the Fushre Danda and other Dalit basti had evolved as a result of traditional forms of land tenancy, wherein landowners let them farm the land as they considered it not so productive.

In terms of wellbeing, the KII with Kendra Ojha revealed that, Brahamin/ Chhetri, holding valuable assets of *besi khet* and comparatively high proportion of *danda gaun* (uphill) and have higher education level compared to other ethnicities. The land owners would not prefer to sharecrop in their UUL. There is certain issues against social cohesion and solidarity between Ojha tole and Sahu tole (People prefer to burn the maize by product rather than providing it to nearby farms in lesser price: for example one farmer let burn 10,000 rupees worth dhod instead of selling it). Some progressive farmers have practiced vegetable farming as well as seed production in Methinkot with the help of CEAPRED initiative. Fusre danda, have managed water by constructing water storage tank, waste water use practices, etc and have innovatively practiced agro forestry, vegetable farming and livestock keeping with the resources they have.

Source of Livelihoods

The main source of livelihoods is crop farming and animal keeping (buffalo, poultry, goats, etc.) which is seen practiced more intensively in villages. The Key Informant (Mr. Ramesh Thapaliya) informed that the communities major livelihood practices are: farming and animal keeping (buffaloes, goats, etc.), teaching and service in different sectors, commercial farming (few farmers are producing seeds of tomato). During community consultations people revealed that “the animal keeping is looked after by women mostly, although there is no strict distinction”. In settlements like Fusre danda where each household is holding relatively small land size and most Hhs are involved in seasonal labor (six months) in Bhaktapur for brick making, but the farming practice is not much affected by this”. Farmers during FGDs revealed that major problem is their rain fed farming and lack of irrigation system. They said that the cost of labour, oxen ploughing, tractor is also very high. Currently agriculture labour rate is NRs. 400, NRs. 200 and NRs. 600 for *godmel*, *katne* and *jojne* (intercultural/harvesting/ploughing) respectively. Bishunke brothers from Sansari tole indicated that their sons go to Bhaktapur from Mangshir to Baisakh for brick making and they are involved in household agriculture work for the rest of the year (up to Kartik). The brick making is more like a *thekka* (makes brick in contract). They get NRs. 600 for 1000 bricks. The FGDs and KII revealed that the major off farm based livelihood practices are teaching in government/ non-government schools at local level and foreign employment (to Gulf countries and Malaysia) with few numbers of government services. The people of Methinkot are primarily discouraged by water scarcity for both household use and irrigation. Urban migration for business, services and studies of children and youths; foreign employment are taken as alternative to cope the problem of unemployment.

Migration

Young people are more involved in seasonal, urban and foreign migration. A man during brief local consultation expressed that ‘we have few household manpower to contribute in farming’. The community consultation revealed that young people are exploring economic opportunities in Dubai,

Qatar, Saudi and Malaysia. Aside from that they also said that young people have moved to cities and Kathmandu, Banepa for education and employment and there are only few who are involved in farming. The FGD participant stated that “before we used to get labours at cheaper rate and greater number but now we and the labour both have migrated downhill (*Besi*) to have easier access to education services for children”; before labour used to work/weed (*godmel ko kam*) for NRs. 10 which has now increased to NRs. 300”.

A man from Sau Tole in FGD responded that, ‘youngsters aren’t moving to abroad (gulf countries) for no reasons, there is very little or no work opportunities here in farming and in Nepal’. A young youth during consultation with youth added that “even elders in community feel that youth should move away from village as remaining in village and adopting farming is perceived by society as something inferior and done by uneducated people’.

Table 19. Institutional mapping and their mandated role in Sa.Pa.Ru. Pa, Methinkot

Name of the institution	Mandated role
CIPRED	Provide seeds to the local communities
VDC	Support in all village development program
Seed production cooperatives	Support in providing credit to the users
Livestock insurance	The scheme is only applicable to cows and buffaloes.
Mahila Bikash samuha in <i>siddhibinayak basti</i> led by Gita.....	Saving, credit and investment
Mahila samuha in <i>Fusre danda</i> led by Maya Tamang	Women ,children and social welfare
Ojha tole mahila samuha	Informal elderly education and other

State of Land

Land types

The local consultation (FGDs and KIs) revealed that the land can be classified into five types on the basis of location, nature, productivity and use in Methinkot VDC. The land categories are locally named as *beshi khet*, *khetbari*, *gharbari*, *pakhobari* and *kharbari* in the order of decreasing productivity. *Beshi khet*, land suitable for paddy; *khetbari*, land in the *danda gaun* (uphill), where crop farming is practiced; *gharbari*, farmland adjacent to house; *pakhobari*, land relatively steeper where farming is practiced and is adjacent to *gharbari* and *kharbari*; land very steep where cultivation is not much possible and merely utilized for harvesting *khar*. Mr. R. Thapaliya and K.Ojha reported that the local pattern of productivity is in the order of decrement from former type to the latter due to nature of soil and accessibility to water, distance, etc. dynamics.

Land use system

KIs revealed that the farm practices is more intensive and commercialized in poultry, dairy and vegetable farming. However, the focus of these livelihood practices especially dairy is always in *Besi*. But like in other sites, they said that poultry has not become the stable business due to huge loss from diseases and abrupt market down during bird flu outbreak. Stall feeding has become burdensome compulsion for the cattle keepers due to the greater distance of settlement from *pakho bari* and *gharbari* (the abandoned land that has become the source of grass and fodder) in case of *sahu tole* and *Ojha gaon* as for fodder now they tend to go to *Dada* as *Besi* doesnot have *Bari* land so fodder and forage are not available there. The local people said that their *Besi khet* is used for cash / staple food crops such as paddy and wheat in the downhill, mostly rainfed. *Khetbari* has been utilized in some cases and left underutilized in some sites of Methinkot. *Gharbari* is intensively farmed (as observed in *Fusre danda*, *Ojha Gaon*, *Siddhi Binayak Basti*) and somewhere, left underutilized (*Sahu*

tole). Pakhobari and kharbari is of the least concern for productive farming and is almost in the state of being UUL, however Khar and grass in these are regularly collected.

Crops and cropping pattern:

Major crops are maize and millet in the danda for those following traditional practices. However, tomatoes, cabbage, etc....are the major commercialized vegetables in the toles like Fusre danda. And in beshi khet, paddy and wheat, mustard, maize, vegetables are major harvests depending upon access to water. Traditional three crop cycle has changed to one crop per year in danda (uphill) due to scarcity of water, high labor/ manure input and low product farming economy.

Table 20. Seasonal calendar in Mithinkot

Month	Monthly Work Description
Baisakh	Maize sowing, soyapean, beans, vegetables, cucurbits, tomato (khet- cultivation time), ginger, turmeric cultivation, garlic and onion harvesting
Jestha	Intercultural operation on maize as well as other crops. Keeping nursery bed of paddy
Ashad	Fertilizing maize, depending on water availability plating rice, fertilizing vegetables and cucurbits
Shrawan	Intercultural operation in Paddy, if possible planting rice in remaining land, planting different species of fodder and forage as grasses
Bhadra	Intercultural operation in Paddy, Planting radish, cauliflower, cabbage etc. harvesting maize
Asoj	Broadcasting mustard and wheat in Bariland, planting vegetables, broadcasting coriander
Kartik	Harvesting Paddy, Broadcating wheat in Khetland, Intercultural operation in vegetable
Mangsir	Harvesting mustard. Harvesting beans, planting beans
Poush	Keeping nursery of Onion
Magh	Planting onion, intercultural operation of garlic
Falgun	Planting maize in Khet land, Keeping nursery bed of tomato, Intercultural operation of onion/garlic
Chaitra	Plough land, harvest what, Composting Khet and bariland, harvesting ginger and turmeric, coriander

Source: KI- Mr. Kendra Ojha (Methinkot ward no 3- Sa. Pa. Ru. Pa. 1, 2, 3)

Land use changes

The observation of the UUL indicated that the land use changes are very visible in Sahu tole where the entire settlement consisting gharbari and pakhobari is converted into UUL that has its greater part covered by grass. Houses are locked up and people have migrated to Besi. They say that “we were compelled to do that because there are no other facilities in Dada except easy access to fuelwood”. Besides, this other toles in the danda gaon (uphill) are also showing slow trend of UUL. Land has been encroached by the invasive species. In some of the areas it was observed that some villagers have started to initiate the introduction of o introduction of fodder crops and bamboo plantations in these UUL.

Drivers of UUL

Local perception on drivers of UUL

Problem of water was one of the factors for leaving land underutilised; “we had chronic water problem in Danda, which is the reason behind leaving, animal rearing had become impossible”. It is one of the reasons cited for shift from Dada to Besi as at that time Besi used to have good water sources. Besi is also in more accessible area and nearer to basic services like educational and health institutions; “khet is nearer and is accessible to transport animal manure”. Shifting to Besi helped the activity of carrying manure to Khet, which became less laborious. But now water is scarce even in Besi and people reported that Besi Khet donot have fooder and grasses.

Local perception on potential use of UUL

To make the UUL productive, or do some plantation there, local people are seeking expert consultations; ‘we planted fruit trees/fodder trees like Lapshi and but they can develop only in moist and shady sites”, “we do not have fruitful results from plantations and we are hoping that Malysian Sal will work in the dry place”. They are curious on type/species of crop that can be grown in the UUL considering water constraints. They have tried number of crops and tree species without any success. They do not have compulsion to sell this land and neither want to give it for sharecropping; “If others are given for sharecropping, they will take away all the grasses and fuelwood”, ‘We don’t have intention to sell our land. It is not that big land and is inherited property form our forefathers and we are neither interested to add neither to sell in low value, however we might consider if we get good price”. They want to keep the land for future generations (Ground peanuts, Pidalu, Pine, Bamboo are potential crops.

Dhunkharka: Kalapani (Kavre)

Introduction

Dhungkharka is located in south-west side of Kavre and Kalapani is located in Dhunkharka-9 and Chalal-1. The total households: 1,035 with total population of 4916 (2260 male and 2656 female) in Dhunkharka VDC. The area has temperate to subtropical climate and have potential of growing wide range of crops, tree species and other crops. The UUL discussion revealed that there are not/or very few UUL in Kalapani. This Kalapani CFUG has 291 user households and 168.16 ha of community forest land. The area is thus an outlier, as it has very limited number of migrated youths and people are still continuing their agriculture business which is focused on livestock. The accessibility status of Dhunkharka has improved over the years. Now there is frequent vehicle movement in comparatively good road (as compared with other research sites of Kavre).

Background on Socioeconomic Status

Based on the discussion with the KIIs, it was indicated that the study site have the indigenous peoples (IPs) form the majority of population (236) followed by Brahmin/Chhetri (38) and Dalits (4) and Paharis.

Institutional Mapping: There are several local level institutions working in different area of community development. Their focus mainly is in saving-credits, agriculture (vegetable farming), and fish farming among other sectors.

Table 21. Institutional mapping and their mandated role in Kalapani, Dhunikharka

Name of the Institution	Mandated Role
Clubs(Pratibhasil and Janajagaran Namuna)	Support in health, sports and sanitation
Agriculture Cooperative and groups	Support in credit and savings
Mothers group	Health volunteer and saving/credit
Micro Enterprise Development Program (MEDEP)	Promotion of entrepreneurship
Prabal Samuha	Goat keeping

The Dairy institution is very prominent in Kalapani. There are private collection centers (collectors from village itself) which have out beaten cooperatives. During FGD a participant responded that “it becomes easy for private collectors to maintain the value of their product rather than the cooperatives, as cooperatives have rules, regulations as well as inflexible marketing policy”. Farmers find more profit from the milk collectors. There are altogether nine milk collection centers in the study site.

Sources of Livelihoods

The local people expressed that, “people in this belt can hardly feed themselves if they don’t work in farmland.” The farmers in this village are known for their hard work and labor. The KI reported that all the local people of different age group (young to mature age) are busy working in the farm. The local people boast about no one in village wanting to stay idle and youths in village seldom wanting to leave village to pursue higher studies. The local people heavily rely on animal husbandry and milk production. It was reported during discussion that another livelihood option in the community is the daily or seasonal wage laborer (masonry, construction, carpentry) in nearby areas. However, according to the locals, the two forms of employment is well synchronized i.e farming and off farm activities such as masonry and carpentry.

Vegetable farming business has flourished and is better than before. The FGD participant reported that the representatives from the Agriculture office supports by bringing sample plants and made tunnels for organic farming. In addition to that they also get support from Small entrepreneur (laghu udham) in small development initiatives. It was observed during surveys that some farmers have built up to 3 to 4 tunnels to produce vegetables (cabbage, tomatoes, cauliflower, onion and potatoes). One of farmers during FGD confirmed of selling vegetables, “I sell tomatoes and was able to harvest tomatoes of about one lakh from 3-4 tunnels and also managed to get technical support from District Agriculture Office”.

A respondent during FGD reported that, “we have of about peas of 2-3 lakhs sold from this area. Besides this, potatoes, tomatoes, cabbage, etc are also marketed from here, so vegetable farming is good business here; however, it requires plenty of water. Generally, it was observed during survey that the areas where water is ample, the sprinkler are used here for the irrigation, managing the drinking water during the night by taking in lease. Some household in Chalal, Ganesthan are also involved in Cardamom production (Ganesthan : 2-4 Hhs, Prabal tole : 15 Hhs, Pokhare danda : 2 Hhs). Some farmers are reported to be very progressive in nature such as Mr. Narayan Shrestha, “who was advised and trained by Neppo Nepal, Satdobato to do Tea farming. He decided to practice farming in his UUL. He said that, “out of my eight ropanis plot I have managed to plant in one ropani. It has been 2-3 years since and now I am seeking technical guidance on grafting, cutting, harvesting and processing tea”.

Local people revealed that there is a problem of water for irrigation. In some of Hhs they have constructed pump for distributing the waste water from the household. This initiative, Sano Sinchai, is

being supported by the agriculture office through group formation. Since the area lack sources (muhan) of water due to higher altitude, they considered this as a major problem in improving their agriculture practice. We do cabbage farming depending upon monsoon rain. In some areas wildlife also damage the crops such as wild boar and deer.

Significance of Animal Husbandry

There is high demand of grass and fodder in Kalapani; “our main livelihood is animal keeping and we are more concerned about grass and fodder and quality of it to feed our livestock”. “We think that the Pine is causing the dryness and even the Quercus (Bajh) is being destroyed because of this”. “We are barely able to harvest 2 bharis of grass from our community forest, before it used to be more than 8 bharis of grass from the same forest”. The availability of grass has reduced up to 50% now than before. A respondent from FGD said that the scarcity of fodder is so much that during lean season they have to buy hay and every Hhs now buys one truck load (tripper) of hay. They reported that the dependence in government forest for grass (Khasru for fodder and Thingre Salla for mulching) has increased over the years. From the KII it was reported that local people currently rely on maize stalks, pellet feed (dana) and grass from Pakho bari as animal feed. The KI also reported that even through the hardships the livestock population has not declined, as the return from selling milk is really good. People of Chala-Ganesthan rely on their own private forest. They also rely on Kabuliyati (Khorbhanjyang) forest for grasses and fodder which has fodder plants like dudhilo, gogan.

Migration

The general discussion with the local communities reported that the migration rate in Dhunharka is lower as compared to other research sites. There may be 15-18 people who went to foreign country (Pokhara Danda: 1-2 Hhs, Ganesthan Chala: 7 Hhs Prabal tole: 7-8 Hhs). Local people claim that it is easy to earn 2- 15 thousand monthly, very easily in Dhunharka through livestock and farming. The locals reported that the wage rate varies for off farm laborers, for those who go to Nala, and work whole day spending their nights get Rs. 800 per day and who stays and work within the village gets Rs. 500 per day. The people working as labor are generally involved in carpentry and masonry. In some toles like Ganesthan-Chalal- Prabal upto 50% of people seek income as wage labour in Banepa, Bhaktapur. People can produce milk up to two trippers for kyuwa production from animal keeping.

Perception on Technical Knowhow and Support

The survey team noted that the farmers in Kalapani are very enthusiastic in trying new things, as few farmers are seen trying new crops and cropping system such as planting Aloe Vera, initiating tea plantation. One farmers explained his story of trying to plant and produce Lapsi and how he failed in it, (he explained that he got the seedling from Godavari but Lapsi could not survive). Farmers in Kalapani are in need of technical suggestions, they expressed that they only get incomplete suggestions from different sources. The technical support is also lacking in CF wherein they are suffering from Angeri (hemiparasitic plant) in 90% of Khasru (Quercus semicarpifolia). There is no problem of Angeri in government forest.

State of Land

Land types: The local consultation (FGDs and KIIs) informed that the land in Kalapani Dhunharka can be classified into different types on the basis of location, nature, productivity. The land categories are locally named as in the order of decreasing productivity as Khet, Bari and Kharbari. The irrigated Khet lands are situated at the foothills and generally are fertile where paddy is grown during wet season. The majority of land type here is terraced Bari in hill slopes which is rainfed and which major crop during summer while mustard/potato are major crops during winter season.

Crop and cropping pattern: The major crops grown are: winter crops (wheat, mustard, barley, lentils, maize, etc) and monsoon crops (maize, soyabean, beans etc).

Baisakh: Maize, soyaean, Beans, Vegetables (bittergourd, Cucumber, Bottle gourd etc. nursery preparation)

Jestha: Nursery for Paddy and Millet, Planting Beans

Ashad: Intercultural operation in maize, planting paddy and millet

Shrawan: Intercultural operations of crops

Bhadra: Phapar broadcasting, Potato planting, Radish etc

Aswin: Mustard broadcasting, maize harvesting

Kartik: Wheat/Peas broadcasting, Paddy harvesting

Mangshir: Paddy harvesting, Wheat and Black Sesame broadcasting

Pouash: Garlic/Onion

Magh: Intercultural operation in Potation

Falgun: Intercultural operation on Off seasonal vegetable production

Chaitra: Mustard harvesting, Intercultural operation in potato, coriander nursery etc.

Source: KI (Mr. Sujan Shrestha _Dhunkharka)

Land Use System and Land Use Changes:

As reported during FGD, the system of sharecropping does not reported to exist in the Kalapani site. Farmers are found to be very concerned regarding the facility of irrigation “inspite of opportunities of vegetable production, we have good production of organic manure and good soil, we could not produce more vegetables because of water problems, our altitude is high and there are not so many water sources left to tap on”. Some people in Chalal are producing Cardamom. The District Agriculture Office has recognized the area as Cardamom Pocket Area. In Chalal and Ganesthan the intensity of the water problem is not so intense and there is even higher probability of vegetable production as reported during FGD. The locals claimed that the major changes is brought about by the Pine plantation “the patgar (the fallen leaves) of Pine has is the cause behind the lack of regeneration of grasses in our Kharbaris, there are no grasses at all; Sallo ali Kharo Chij raheccha”. During discussion the local people also informed that, the good aspect of the Pine plantation is that “Pine doesnot allow the soil to washed away/get eroded, it decreases water runoff; however we still think that it doesnot helped us rather we bear losses because of Pine plantation”.

Land Use Changes

Table 22. State of UUL in Dhunkarka

UUL profile of Kalapani, DhunkarkaName of tole	Data of UUL	Remarks
Danda gaun, Sher tole	-	No UUL
Danda gaun, Gurase	-	No UUL
Parthali bagar	-	No UUL
Parthali danda , ladku	-	No UUL
Bhanjyangkharka, patgaun	-	Renuka khatri may have some , because she left the village and is in Banepa.
Chapal Danda	-	No UUL
Danda Gaun	1 ropani	Prem Prasad in ward no.3 towards Chalal VDC owns the land.Land is too far to carry animal manure and productivity is very low.
Parthali, Sana bhanjyang	-	No UUL
Pokhare danda	-	The land which had been worked adjacent to Kabuliyati forest in Panche dada has been covered by pine trees now.
Kolkate geldung	1 ropani (Khom Bahadur) and 5-7 ropani(Tek Prasad Timilsina)	The land is far from settlement and is situated by the edge of forest.
Prabal Tole	-	Sane Tamang has been unable to generate any income from his farmland and is frustrated of farming in land that is nearby forest. Because from the past three years his crops has been raided by deer. He is making thought of <i>utis</i> plantation in the land.
Kune kharka	-	No UUL

Perception on why there is no UUL/Drivers of UUL

A respondent in FGD revealed that “one of the main reasons behind lack of UUL in our area is may be because we don’t have anywhere to achieve higher education here, neither any place to utilize the education acquired. Because rural youths tend to move out of city once they have education and they want to study further or wants to work in sector other than agriculture but here we don’t have other alternatives”.

SYNTHESIS

UUL Drivers and Dynamics:

Migration and mobility of labour

All the sites have predominant agrarian characteristics with currently attached additional dimension of migration in it. Migration is prevalent in all study sites however the nature and magnitude of the migration and labour mobility varies. Kavre district is near to National capital therefore having more wage labour opportunities in local enterprises, construction works, brick industries etc. The daily and seasonal labour mobility from Methinkot, Dhunharka and to lesser degree (daily) from Chaubas is high especially to Banepa and Bhaktapur. Most of these are people with farms and agriculture land and until now most of them have managed to balance both farm and off farm livelihood sources (clearly visible in Dhunharka) and in case of Dalits of Methinkot (as their land holding size is small). There is additional dimension in the case of men wage labourer in Chauabs, who works as labourers in tree harvesting and are in demand because of their technical knowhow of the techniques of harvesting (in nearby villages and settlements), which help them to earn good cash income.

There are differences in migration pattern and resulting remittance across different sites. High remittance and pension does not automatically mean that the migrant Hhs would invest money in their subsistence farming or readily invest to improve their farming, however it is quite apparent among migrant Hhs investing in comfortable lifestyle, consumer goods and good education. The low remittance however means that money is used to cover household expenditures and repayment of debt in most cases (taken to organize oversea employment or any other household cash need).

Any kind of migration will change the nature of labour availability in the migrant Hhs as well as in the farming community. Migrant Hhs automatically demand more hired labour to maintain their farm as well as put more pressure in female household members (as overseas migrant as well daily/seasonal are mostly men, however trend has expanded to women as well). Landless and small holders and Dalits who are previously available as farm labourers now opt for off farm activities (masonry, construction work, carpentry) , forest enterprises (Chaubas) rather than being engaged in agriculture livelihood in which wage rate varies from NRs. 150-200 only. The wage rate of agricultural labour could not be higher as this means increasing the already hiked up cost of production. This causes dilemma among farmers who is faced with the decision of leaving their land uncultivated.

Political Conflict

The decade long political insurgency in Nepal and its impact on local politics affected different dimension of rural lives and livelihood. Among others, it also elevated the number of migrants and migrant households in rural hills. All research sites indicated that during the insurgency and time after that the migration rate increased and remains so until now. The people who had been displaced have rebuilt their lives (mostly in nearby cities or capital) permanently leaving their abandoned farms and UUL in the aftermath of the insurgency.

Human-Wildlife Conflict

Although not cited in all sites, it is one of the drivers behind UUL. Farmers complained that with increase in Kharbaris and tree cover, the cases of wildlife (monkeys, porcupines, wildboar, deer) attacks in field and crops have also increased. The urgency of the problem has increased from the case of inconvenience to destruction of whole crops. The increasing rate of these type of incidence combined with other drivers of UUL has promoted farmers to stop farming their land especially land near Kharbaris and forest area where they could not regularly inspect and protect their crops.

Livelihood Diversification

The predominantly agrarian nature of livelihoods in rural hills has now shifted to more diversified livelihood practices. Overseas migration, seasonal wage labour, wage labour (carpentry, masonry) and even in forest enterprises (mainly harvesting and transportation), service sector like teaching are favored than farming. Along with political transformation and social awareness, the deprived and marginalize Dalit communities are exploring different options of livelihood. With increasing cost of production, lack of technical knowhow and decreasing production and lack of assets, Dalits opted to work on off farm activities as compared to on farm and they do not readily agree to become sharecroppers.

People who are still practicing farming in the villages currently seem to favor non-traditional cash crops like cardamom, Pine plantations, grass cultivation. This might be because of the fact that they are less labour intensive, is compatible in the microclimate and compatible with the existing crops and trees and when harvested generate more cash income. This changing preference has drastically reduced the traditional system of sharecropping.

UUL Characteristics and land use transformations

The land owned by one single household is not located in one area, rather these land are small parcels located at distance in different areas. This poses challenge to a farmer who already is operating under deficit labour situation. Farmers are forced to choose parcels of land that are near thus easy to manage as opposed to far which requires more effort not only farming but also protecting from wildlife as well as human trespassing. The land which are farther from the settlement and are marginal in nature are the land which become UUL first. In some cases such as in Chaubas, the large scale Pine plantation and people realizing its value have boosted land value, local people reported that there is some buying-selling land having pine plantation.

UUL stages differ in different cases and sites

The trend of leaving the land under-utilised have started with non-productive Kharbaris to distant Baris and now to irrigated Khets. In some cases the UUL have converted to Kharbaris, upon which local people depend for Khar used for different purposes. While in some UUL, there is regeneration of Pine, Utis which farmers preferred as they can generate income without much by selling the timber. In some cases the regeneration is in the form of invasive species which are not useful for farmer at all.

Potential issues and options for action research and in-depth case studies

Considering all the above identified drivers and dynamics underlying UUL, following could be the key issues and questions that need to be considered while undertaking in-depth case studies and also for conducting action research,

- Reason/motivation (perceived) behind migration
- Why don't Hhs spend money on land management
- How can agriculture labour be more attractive than another competing employment opportunities
- Why is there still a sense of tenure insecurity in relation to sharecropping
- What can enable people to opt for on-farm labour?
- How cropping pattern does associated with socio-economic class...e.g between land poor and land-rich farmers? I think we need to retain a lens of equity / access in presenting these details.

ABBREVIATIONS

ACIAR	Australian Centre for International Agricultural Research
AF	Agroforestry
CBS	Central Bureau of Statistics
CF	Community Forest
CFUG	Community Forest User Group
DADO	District Agriculture Development Office
DDC	District Development Committee
DFO	District Forest Office
DLSO	District Livestock Service Office
DLMO	District Land Measurement Office
DoF	Department of Forests
EnLiFT	Enhancing Livelihoods and Food Security from Agroforestry and Community Forestry in Nepal
FAN	Forest Action Nepal
FECOFUN	Federation of Community Forestry Users Nepal
FGD	Focus Group Discussion
GO	Government Organization
HHs	Households
ICRAF	World Agroforestry Centre
IOF	Institute of Forestry
IUCN Nepal	International Union for Conservation of nature
KII	Key Informant Interviews
MAP	Medicinal and Aromatic Plant
MoFSC	Ministry of Forest and Soil Conservation
NAF	Nepal Agroforestry Foundation
NGO	Non Government Organization
NRs	Nepalese Rupees
NTFP	Non Timber Forest Product
OP	Operational Plan
PAR	Participatory Action Research
SN	Search Nepal
UA	University of Adelaide
UK	United Kingdom
UNSW	University of New South Wales
UUL	Under-Utilised Land
VDC	Village Development Committee

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