

1. INTRODUCTION

1.1 Background

As a part of a wider study on **Policy and Strategy for Poverty Alleviation and Sustainable Household Food Security in Nepal** (SPDD)¹, a Participatory Rural Appraisal (PRA) was carried out in villages in the Kailali, Sunsari, Achham and Mugu districts of the western *Terai*, eastern *Terai*, western mid-hills and western mountain regions of Nepal, respectively. The major objectives of the undertaking were (a) to assess the household food security situation of people living in different environments (i.e. physical, social and economic) in the country and (b) to examine the major issues and underlying causes – including policy and institutional constraints – at the micro level.

This Annex has two purposes. First, it explores household food security and poverty issues at the local level to understand these more holistically. Second, it identifies linkages and gaps between (a) national policies and strategies on poverty alleviation and the improvement and maintenance of household food security (macro level), (b) the translation of these policies at the implementation level (meso level) and (c) field responses to these policies (micro level).

Since household food security is the key concept of this study, the question asked is: **When can one ascertain that a household is “food secure”?** This is important because food security is not simply a function of household food production. While there are many definitions of household food security, households cannot be considered truly food secure until two conditions relating to availability and accessibility are met. In this study, availability is defined by adequacy in staples such as vegetable and animal protein relishes, vitamin supplements and concentrated energy sources, while accessibility means that households are able to procure food through the transformation of their endowments (e.g. land, labour and capital). A key characteristic of household food security is the ability to secure access to sufficient amounts of nutrition at all times.

1.2 Objectives of the PRA

The broad objective of the PRA conducted in the villages was to explore how and to what extent macroeconomic policies and priorities were being translated into actions at the micro level and the impact they had on livelihood opportunities and food security as well as to assess how local level concerns translated back to policy-makers.

¹ The purpose of the SPPD study is to contribute to the formulation of a coherent and focused household food security strategy with an appropriate policy framework and corresponding programs. Specific objectives of the study are the following:

- To review the poverty and food security issues and concerns at the macro and micro levels as well as the policy and strategy framework to address these issues;
- To examine the reasons for the lack of sustained broad-based agricultural growth and poverty alleviation; and
- To suggest appropriate poverty policies and programme initiatives responsive to the needs and participation of the rural poor, including women.

Specific objectives of village-level PRA include:

- identifying the characteristics of rural people;
- understanding survival strategies and coping mechanisms of rural people;
- assessing how people perceive the importance and linkages of the different organizations functioning in the study area; and
- assessing the impact of macroeconomic policies on livelihood opportunities including food security at the micro level.

1.3 PRA techniques

This study used a variety of appraisal tools involving various types of villagers (poor and rich, women and men, high caste groups and *Dalits*) in the assessment of local conditions and livelihood situations and in food security and agriculture-related analysis at the household and community levels. While visually based PRA tools (e.g. social and natural resource mapping, seasonal calendars, Venn diagrams) enhanced understanding between outsiders and insiders, semi-structured interviews allowed cross-checking and supplemented the results. For semi-structured interviewing, a checklist was prepared and adapted according to the interview situation. Appendix 1 describes the different methods used in this study.

1.4 Study districts and PRA sites/ VDCs

The study was carried out in one Village Development Committee (VDCs) of each of the four districts – Kailali, Sunsari², Achham and Mugu – representing the three distinct agro-ecological regions of the country namely, the *Terai*, the hills and the mountain areas. Although these districts were selected based on factors such as poverty level, access to government development opportunities, planned interventions of local UN agencies, presence of local UN agencies and remoteness and relative backwardness of the area, an understanding was also reached with the UNDP and FAO regarding the selection of study districts. Of the four districts in focus, the first two, Kailali and Sunsari, represent the *Terai* region, Achham represents the hills and Mugu represents the mountain districts.

Table 1.1 below outlines the key features of the four study districts and compares them on the basis of some important variables influencing the level of poverty and food security such as per capita income, literacy rate and the state of the agricultural resource base.

² Earlier, the study aimed at carrying out PRA at three sites/VDCs of the three districts – Kailali, Achham and Mugu representing the three distinct agro-ecological regions of the country, namely, the *Terai*, hill and mountain regions. However, having completed the PRA study at Pratappur VDC (*Terai* region) of Kailali district, the need to include one more *Terai* VDC apart from Pratappur became apparent and the fourth PRA site, Amahibelha VDC of Sunsari district, was selected. This provided not only an opportunity for comparative assessment, but also increased confidence in generalizing the study's findings.

Table 1.1: Key features of the four study districts

Key features	Mugu	Achham	Kailali	Sunsari
1 Location and background				
1.1 Physiographic region	Mountain	Hill	<i>Terai</i>	<i>Terai</i>
1.2 Development region	MWDR	FWDR	FWDR	EDR
1.3 Altitude (m)	1 534-7 045	1 120-3 820	109-1 957	152-914
1.3 Number of municipalities	None	None	2	3
1.5 Number of VDCs	24	75	42	49
1.6 Major climatic pattern	Temperate, cool temperate and alpine	Subtropical and mild temperate,	Tropical, subtropical	Tropical, subtropical
1.7 Major economic activity	Farming and seasonal migration to India	Farming and seasonal migration to India	Farming	Farming
2 Demography and health				
2.1 Population (no), 2001	43,497	231 285	616 697	625 633
Male	22 250	108 998	312 311	315 530
Female	21 687	122 287	304 386	310 103
Life expectancy (yrs), 1996	36	49	53	60.5
Male	36	49	53	60.5
Female	34.5	46.2	51	58.3
Population density per sq km	12	138	191	498
Per capita income (NRs),1996	5 065	5 035	6 824	8 130
2.4 Major ethnic groups	<i>Brahmins, Chhetris, Thakuris,</i>	<i>Brahmins, Chhetris, Dalits</i>	<i>Tharu, Thakuri, Brahmins, Chhetris</i>	<i>Tharu, Yadav, Brahmins, Chhetris</i>
3 Educational variables				
Adult literacy ratio (%), 1996	18.96	24.52	34.88	45.18
Male	35.12	50.11	55.75	65.01
Female	2.42	5.73	15.27	25.73
3.2 Educational attainment index	0.144	0.192	0.272	0.364
3.3 Mean years of schooling	0.813	1.277	1.767	2.834
Male	1.583	2.532	2.686	3.427
Female	0.028	0.278	0.879	1.924
4 Agricultural resource base				
4.1 Agriculture land, (ha)	18 793	59 592	80 783	81 944
% of total area	5.2	35.2	24.9	64.5
4.2 Forest (ha)	91 927	88 098	231 090	23 204
% of total area	25.7	52.1	71.2	18.3
4.3 Pasture (ha)	111 099	15 139	4 837	4 912
% of total area	31	8.9	1.5	3.9
4.4 Others (ha)	136 463	6 394	8 081	17 016
% of total area	38.1	3.8	2.5	13.4
4.5 Total Area (ha)	358 282	169 223	324 791	127 076
4.6 Agri. land per capita (ha)	0.52	0.30	0.19	0.18
4.7 Natural resources rank, (1-lowest and 75 highest /better)	38	58	54	72
4.8 Poverty and deprivation rank, (1-lowest and 75 highest/ better)	5	1	20	52

Source: District Profiles of Nepal, National Research Associates, 1999, CBS 1999, Nepal: Human Development Report 1998, Nepal South Asia Centre, 1998, Districts of Nepal-Indicators of Development, ICIMOD, May 1997, District Demographic Profile of Nepal, Informal Sector Research and Study Centre, 2002

Note: Figures in parentheses denote percentages.

Of the four districts, Achham is the poorest with per capita income of less than US\$70³ in 1999, while Sunsari district, with moderate per capita income of US\$81.30, is the richest. Sunsari, which is located at the eastern part of the country, is economically better off than Kailali district, which lies at the far western border of the country. The mountainous district of Mugu has only marginal income largely due to geographical specificities, particularly the inaccessibility and heterogeneity of the region. From a development perspective, Mugu has also lagged in terms of adult literacy rate, the educational attainment index and mean years of schooling.

Above table, however, indicates that Achham is actually more vulnerable than Mugu District contrary to the perception that the incidence of poverty and food deprivation worsens moving from south to the north of the country and from the eastern to western parts. One reason for this is conjectured to be the size of agricultural land, found to be largest in Mugu, followed by Achham, Kailali and Sunsari. However, it should be noted that land degradation has been a major problem in mountain and hill districts such as Mugu, Mustang and Dolpa. This is due to overgrazing by livestock aggravated by uncontrolled expansion of farming into marginal lands resulting in landslides and soil erosion.

The study included only one VDC in each of the four study districts because of time and resource constraints. These VDCs were selected in consultation with key stakeholders based on criteria such as the physical location, access to development opportunities, presence of development organizations (GOs, NGOs and INGOs, etc.), the peace and security situation at the local level and representation of the respective agro-ecological environment and farming systems. Table 1.2 depicts broad features of the VDCs under study.

Table 1.2: Study VDCs/ PRA sites

District	VDC	PRA sites	Agro-ecological representation
Mugu	Rara	Murma (Ward 7 &8)	Mid western mountain
Achham	Sokat	Sokat (Ward 4)	Far western hill
Kailali	Pratappur	Kharaula (Ward 7)	Far western <i>Terai</i>
Sunsari	Amahibelaha	Belha (Ward 1)	Eastern <i>Terai</i>

Pratappur represents the far western *Terai* region, which is characterized by a recent opening of development efforts and generally less intervention due to slow development of rural infrastructure – particularly roads linking these areas to major cities of Nepal – and to the high influence of Indian agricultural research and development. Amahibelaha of Sunsari district, on the other hand, represents the eastern *Terai* region, which has better access to development opportunities, improved transport and communication facilities and easy access to Nepalese agricultural research and development efforts due to the presence of a regional agricultural research station in Tarahara and a regional agricultural training centre in Jhumka. Operation of the Morang-Sunsari Irrigation Project offered further reason for the selection of Sunsari district. This numbers among the irrigation projects funded by the World Bank that

³ Estimated based on an exchange rate of US\$1.00 to NR75.00

introduces the Training and Visitation System aimed at improving the agricultural extension system in Nepal.

Characteristic features of the four study villages are given in Table 1.3. Figure 1.1 pinpoints the districts under study in the map of Nepal.

Table 1.3: Characteristic features of the study villages

Study village	Murma	Sokat	Kharula	Belaha
Altitude of the study VDC	3 698	1 700	250	300
Dominant caste group in descending order	<i>Chhetris, Dalits, Brahmins</i>	<i>Dalits Brahmins/ Chhetris</i>	<i>Tharu, Brahmins, Chhetris</i>	<i>Tharu, Dalits, Chhetris, Brahmins</i>
Dominant farming system	Livestock-based	Upland rice-based	Rice-based	Rice-based
Nature of farming system	Subsistence	Subsistence	Shifting towards commercialization	Shifting towards commercialization
Major crops	Millets, wheat and barley	Upland rice, millet, maize	Rice, wheat, mustard, potato, sugar cane	Rice, wheat, sugar cane, vegetables
Major livelihood strategy	Men's winter migration to India	Men's migration to India	Farming, sugar cane cultivation, business	Farming, sugar cane cultivation and vegetable growing
Average landholding per household (ha)	2.14	0.405	0.95	1.79

1.5 Data analysis and processing

Both the qualitative and quantitative data generated through PRA tools were examined following a dual approach to analysis. Simple statistical parameters such as frequencies and percentages were used as applicable. Responses and suggestions were analysed qualitatively. Graphs and figures were prepared for better visualization of the poverty and food security situation at the district and village levels and to better portray the extent of agriculture development. Findings were presented after the triangulation of data and collection of information from different sources.

1.6 Report organization

The report has been divided into seven parts, including this introductory chapter, which summarizes the purpose of the study and the objectives of the PRA. Chapter two presents a brief summary as well as the microlevel findings of the poverty and food security situation of Mugu District. The third, fourth and fifth chapters describe the findings of PRAs carried out in the districts of Achham, Kailali and Sunsari, respectively. The outcome of the district interaction workshop is presented in chapter six, which also discusses district institutions and their functioning. Finally, chapter seven summarizes the main findings and conclusions from the PRA carried out in the four villages in the four districts under study.



Figure 1.1 Map of Nepal showing the study districts

2. MUGU DISTRICT

2.1 District background

2.1.1 Location

Mugu District is located in the country's mountainous region, in the heart of the Karnali Zone of the midwestern development region (MWDR). It is bordered by Humla in the west, Tibbet in the north, Dolpa in the east and Jumla, Kalikot and Bajura in the south. The altitude of the district varies from 1 534 m asl to 7 045 m. The district has temperate, cool or alpine climate. The district has 24 VDCs.

2.1.2 Land resources

With an area of 358 282 ha, Mugu is a mountainous district specifically characterized by inaccessibility, marginality, diversity or heterogeneity, niche or comparative advantage and human adaptation mechanisms. Table 2.1 shows the area's land use pattern.

Table 2.1: Land use pattern of Mugu District

Land use type	Area (ha)
Agricultural land	18 793 (5.2)
Forest	91 927 (25.7)
Pasture	111 099 (31.0)
Others	136 463 (38.1)
Total area	358 282 (100)

Figures in parenthesis denote percentages of the total.

Source: Nepal District Profile, National Research Associate 1999.

Of the total 18 793 ha of agricultural land, about 62.1 percent (11 762 ha) is cultivated. Table 2.2 outlines the agricultural land use pattern of the district.

Table 2.2: Agricultural land use pattern in Mugu district

Agricultural land use pattern	Area (ha)
Cultivated land	11 672 (62.1)
Irrigated	972 (8.3)
Rainfed	10 700 (91.7)
Uncultivated land	7 121 (37.9)
Total Agriculture land	18 793 (100)

Figures in parenthesis denote percentages of the total.

Source: Nepal District Profile, National Research Associate 1999.

About 19 percent of the total district is classified as national park area. Rara National Park in the southwest covers 3 percent of the total area whereas Shephoksumdo National Park in the east covers 15 percent.

2.1.3 Demography

In 1981, the number of people in Mugu was estimated at 43 705 with 8.19 persons per sq km. The 1991 census shows an absolute decline in population by 7 341, or a fall of about 1.82 percent compared to an overall increase in the national population of about 2.1 percent per annum. This is characteristic of the mountainous region where permanent migration, a high child mortality rate and men's seasonal migration to India in search of employment has contributed to a negative population growth rate. The child mortality rate in the district is very high (201 per 1 000 live births). Males outnumber females with a sex ratio of 1.04. Overall adult literacy rate in the district is 18.96 percent, at a low 2.42 percent for women and 35.1 percent for men. The total population and other key features of Mugu District are given in Table 2.3.

Table 2.3: Population and related key features of Mugu district

Particulars	Mugu
Population (no), 1991	36 364
Male	18 562
Female	17 802
Total no of households	6 837
Average household size	5.3
Child mortality rate (per 1 000 live births)	201
Economically active population (no)	21 724
Economically active population in agriculture (no)	20 188
Educational attainment index	0.144
Adult literacy ratio (%), 1996	18.96
Male	35.12
Female	2.42
Mean years of schooling	0.813
Male	1.583
Female	0.028
Population growth rate in percentage	-1.82
Population density (per sq km)	10.3
Life expectancy 1996 (yrs)	36
Male	36
Female	34.5

Ethnically, the *Brahmin*, *Chhetry*, and *Thakuri* groups comprise about 70 percent of the total population of Mugu followed by the occupational castes (16 percent), *Tamang* (4 percent), *Bhote/Sherpa*

(4 percent) and *Gurung* (2 percent). As shown in Table 2.1, the population density per sq km of the total land area, agricultural land and cultivated land are 10.3, 0.51 and 0.32 respectively. Cultivated land per household is 1.70 ha which exceeds Nepal's average. The economically active population above 10 years of age comprises almost 71 percent, which is high compared to the country's average estimated at 57 percent in 1991.

Table 2.4 describes the literacy status of Mugu District while Table 2.5 shows the distribution of the population by major occupation. Overall literacy in the district is 22 percent but only 5.1 percent among females. About 93 percent of the district's population is engaged in agriculture/farming.

**Table 2.4: Population (6 years of age and above)
by literacy status and sex in Mugu District**

Literacy status	Male	Female	Total
Literate	5 615	733	6 348
Illiterate	9 217	13 313	22 530
Not stated	207	230	437
Total	15 039	14 276	29 315

Source: CBS, 1999.

**Table 2.5: Population distribution (10 years of age and above)
by major occupation**

Major Occupation	Number	Percent
Farming	20 188	92.9
Service	338	1.6
Professionals/technical worker	311	1.4
Productive labour	281	1.3
Sales worker	246	1.1
Clerical worker	240	1.1
Administrative worker	14	0.1
Others	81	0.4
Occupation not stated	25	0.1
Total	21 724	100

Source: CBS, 1999.

2.1.4 Socio-economic indicators

Table 2.6 presents the main socio-economic indicators of the district. It ranks fifth (i.e. worst) in terms of poverty and deprivation and also fares poorly based on the UN Human Development Index (HDI).

Table 2.6: Major socio-economic indicators of Mugu district

Indicators	District position	Remark
Poverty and Deprivation Situation Rank	5	Worst
Human Development Index (rank)	75	Lowest
Gender-adjusted HDI (rank)	75	Lowest
Women Empowerment Index	3	Worst
Natural Resources Endowment Index (rank)	58	Best
Socio-economic Infrastructure Development Index	1	Worst
Households with less than 0.5 ha farm size (%)	63.47	Worst

2.1.5 Agriculture and food situation

According to a report by the International Centre for Integrated Mountain Development (ICIMOD) in 1997, the percentage of landless and marginal farm households (farm size <0.5ha) is very high (64 percent). Per capita daily food production (1 772 calorie) falls way below the per capita daily requirement (2 410 calorie). There are about five livestock units per household on average. In terms of composition, this consists of cattle (40 percent), buffalo (7 percent), sheep (16 percent), goat (34 percent) and *chauri* or yak (3 percent).

Table 2.7 shows that Mugu suffers from food deficits. Other figures indicate that the food situation in the district shows no sign of improvement.

Table 2.7: State of food sufficiency in Mugu district

Variables	1994/95	1995/96	1996/97	1997/98
Population (no.)	36 539	37 087	40 210	40 913
Total edible production (mt)	1 805	2 133	1 694	1 785
Requirements (mt)	6 979	7 084	7 680	7 814
Deficits (mt)	5 174	4 951	5 986	6 029
Deficit percentage (%)	74.14	69.89	77.94	77.16

Source: SINA different volumes

Note: Readers are requested to review Annex 2 of this study for the recent statistics on the changes in area, production and productivity of major cereal crops, number of livestock by species and production before and after the Agricultural Perspective Plan (APP).

2.1.6 Agricultural input use

Modernization of agriculture requires increased use of modern agricultural inputs such as seeds and fertilizers. Table 2.8 below shows the distribution of seeds and fertilizers over the last five years.

Table 2.8: Annual sales of chemical fertilizer and seeds in Mugu District

Year	Fertilizer (mt)				Seeds (mt)			
	Urea	DAP	MOP	Total	Rice	Wheat	Maize	Total
1995/96								
1996/97	2.35	1.30	0.3	3.95	0.1	0.3	0.05	10.016
1997/98	-	-	-	7.00				-
1998/99	-	-	-	8.00				0
1999/00	-	-	-	6.00	0	0	0	0

With the Nepalese Government's liberalization of fertilizer trade in November 1997, the Agricultural Inputs Corporation⁴ (AIC, now Agricultural Inputs Company Ltd.) began to reform its organizational structure to streamline its organization and reduce overhead expenses. Mugu numbered among the nine districts where operations were ceased because of the company's decision to close all branches selling less than 50 mt of fertilizer annually. After AIC closed its district office in Mugu, the responsibility of fertilizer and seed distribution was transferred to the District Agriculture Development Office (DADO).

2.1.7 Organizations responsible for the development of agriculture in the district

The types and number of organizations directly responsible for agricultural development and which particularly contribute towards the achievement of food security in the district are shown in Table 2.9.

Table 2.9: Agriculture-related line agencies in Mugu district

Name	Offices present	
	District HQ	Field/VDC
District Agriculture Development Office (DADO)	1	9
District Livestock Development Office (DLDO)	1	11
District Irrigation Office (DIO)	1	-
Agriculture Development Bank (ADBN)	1	-
District Forest Office (DFO)	1	4
District Development Committee (DDC)	1	NA
Nepal Food Corporation (NFC)	1	3

⁴ The Agriculture Inputs Corporation (AIC) is a public sector organization established by the government in 1966 for the procurement and distribution of agricultural inputs such as seeds and fertilizer. AIC's monopoly in the fertilizer trade was broken in November 1997 when the Government launched important policy and institutional reforms for the agriculture sector under the Second Agriculture Program Loan (SAPL) as agreed upon with the Asian Development Bank.

Of the above mentioned seven organizations present in the district, the first two, DADO and the District Livestock Development Office (DLDO), are designed to support agricultural production through improved agricultural extension, training and services (transfer of technology). The District Irrigation Office (DIO) contributes to agricultural production through improved irrigation facilities while the Agriculture Development Bank (ADB) supports rural development by improving access to agricultural credit. The National Food Corporation (NFC), for its part, is responsible for food distribution to the people. The District Forest Office (DFO) contributes to food security through the protection and management of forest resources while the District Development Committee (DDC), as a local government body, is responsible for the coordination of the district-based government line agencies. The Local Governance Act requires DDC's approval of district level programmes prior to being carried out by the government line agencies.

2.2 Background of Rara VDC

2.2.1 Location

Rara VDC, the district headquarters, is situated 20 km northeast of Gamgadi at an altitude of 3 600 m. This VDC is surrounded by Karnali River in the north, Rara National Park in the south and east and Seri VDC in the east. Main hamlets in the VDC are Kaccha, Anshidhara, Murma, Ruma and Nuwakot. This VDC has about 405.86 ha of agricultural land.

Rara is rich in terms of natural resources. About 76 percent of the area of this VDC is covered by forest and grasslands, with lakes comprising about 11 percent. Only 13 percent of the land is used for agriculture purposes. Local people have recently established Sauli Bhalla Community Forest. Apart from this, several patches of government-managed natural forests exist in the VDC.

2.2.2 Social features

According to VDC records, the total population of the VDC is approximately 935 spread among 189 households. The population density of the area is 10 whereas population density per ha of agriculture land is 230. Average household size is 4.95 while average agriculture landholding per household is 2.14 ha.

Dominant households in the VDC are *Chhetris* followed by *Dalits*, which include *Damai*, *Kami*, *Sharki* and *Kumal*. Only one *Brahmin* household was found in the VDC and this had recently migrated from Kathmandu to Murma to start a hotel business.

2.2.3 Economic features

Although agriculture is said to be the main source of livelihood of *Rarali* (Rara residents) and while agriculture landholding per household is nearly double that of the national average, this study reveals that the local economy is largely dependent on winter season migration of male villagers to India and the collection of local medicinal herbs. Livestock raising used to be one of the major sources of

livelihood, but recent years have seen reduced numbers of livestock. This occurred with the establishment of Rara National Park and the widespread promotion and popularity of the community forestry programme in which most of the public grazing lands in the lower belts have been converted to community forests.

According to collected statistics, less than 26 percent of households in Rara produce food in sufficient amounts year round. The average annual income and expenditure per household in the VDC is reported to be NRs 10 466 and NRs 13 804 respectively, with a net deficit of NRs 3 338. Residents cover this deficit mainly through income earned from seasonal migration to India. For daily subsistence, people collect NTFPs (medicinal plants such as *Yarsha Gumba*, *Guchi Chiyau*, forest mushrooms, etc.) from the national park and adjoining forests.

2.2.4 VDC resources

A social and natural resources map of the Rara VDC prepared by local communities using locally available materials such as coloured black board chalks, stones and sticks is presented in Annex 1⁵. As shown in the VDC map, Rara VDC has the following resources at present:

➤ **Infrastructure**

- Schools. The VDC has five schools – one lower secondary school at Ward 5, and four primary schools of which two are located in Ward 3 and one each in Wards 2 and 8.
- Hotels. This VDC has four hotels built for the tourism purposes.
- Temples. This VDC has four temples.

➤ **Local Institutions**

- Sauli Bhalla Community Forest Users Group Committee for forest management.
- Murma Buffer Zone User Committee for undertaking community development work in the area. Two credit and saving groups are formed under this programme.
- Murma Top Yubha Club, a club established by local communities that aims for socio-economic upliftment, cultural preservation and community development in the VDC.

⁵ This study used the village map purposely as an icebreaker that can initiate discussions. Other reasons for map preparation include the need to highlight important resources and the usefulness of a spatial guide. This method also raises awareness of existing facilities or natural resources, clarifies the present status or condition of a location, creates a focus for interest in discussions over resources, and enables facilitators to locate or identify places and stimulate debate on the importance of specific resources.

2.2.6 Development interventions

The development organizations present in this VDC include the Chotti Post Office, one health post and VDC office and one development intervention programme called the Park and People Programme (PPP).

2.3 Murma Village

2.3.1 Location

Located in Rara VDC, Murma Village (3 698 m asl) is situated southeast of Gamgadi (Mugu District headquarters), which is about four hours walking distance. Murma lies on an extremely steep slope of up to 70 degrees. Although Murma comprises Wards 8 and 9, this is a small village with just 55 households. These houses are typically packed and stacked upon each other.

2.3.2 Local resources

The village map prepared by local communities during the PRA exercise is given in Figure 2.1. As shown in the figure, major resources of the village apart from agricultural land and forests include the following:

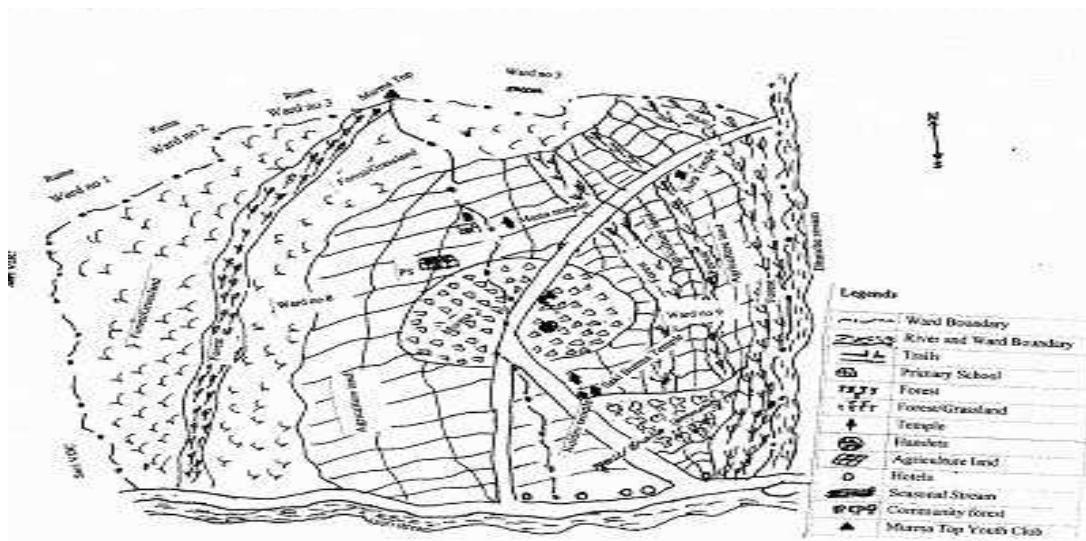


Figure 2.1: Social and resource map of Murma Village

Primary school	1	River/water springs/stream:	2
Drinking water tap	1	Murma Top Youth Club	1
Temple	4	Buffer Zone User Committee	1
Hotel/tea shops	4	Community forest	1

2.2.3 Agriculture System

Before describing the agriculture features in detail and cropping pattern, understanding the mountain farming system as practiced in Murma Village is important. Figure 2.2, which is prepared based on discussions with participants during the PRA, illustrates the Murma farming system.

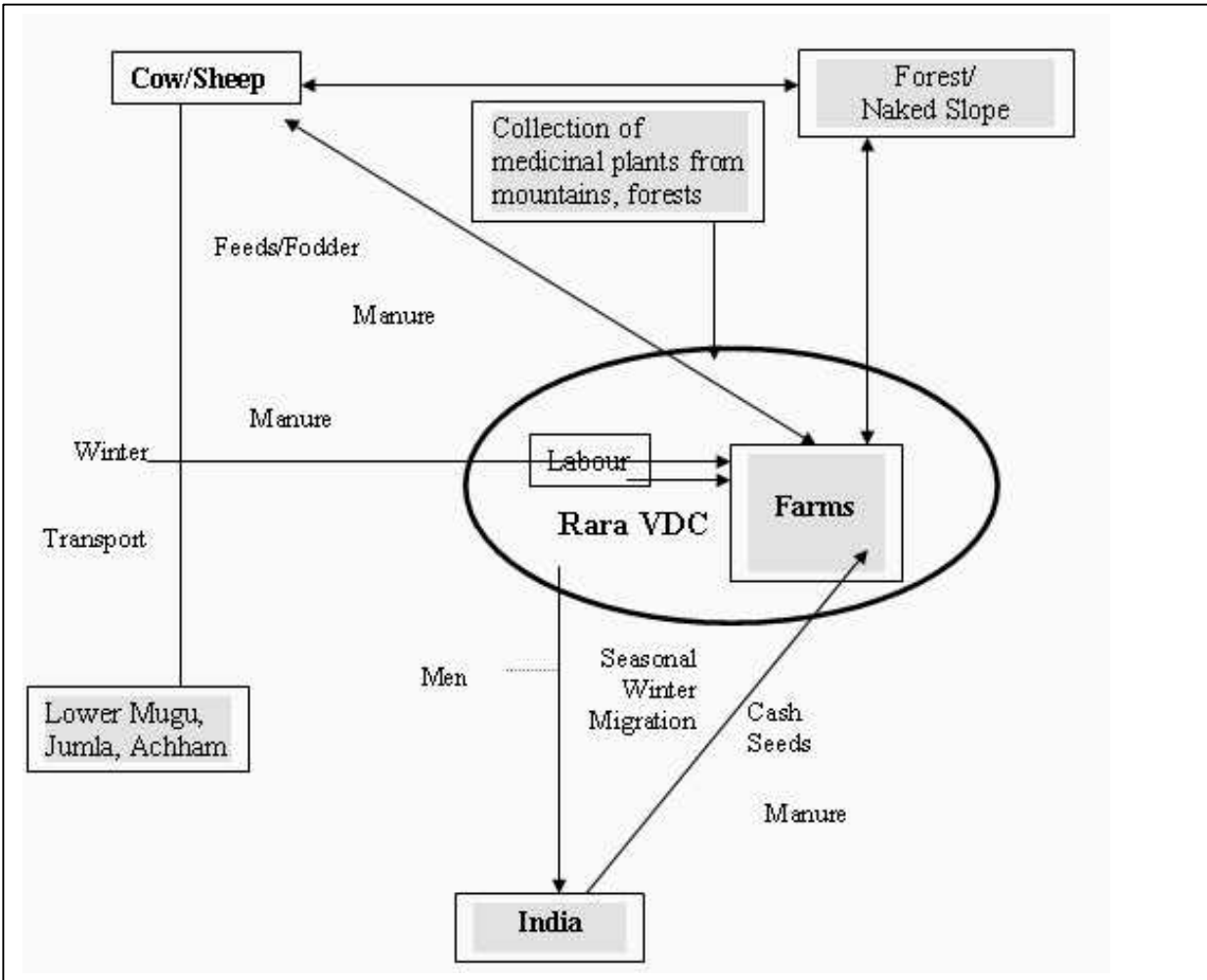
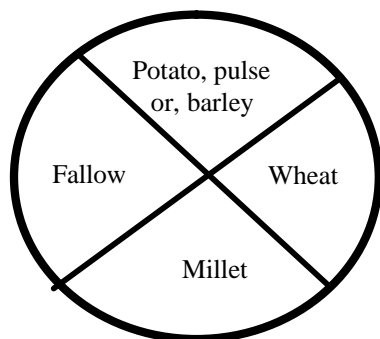


Figure 2.2: A typical mountain farming system (Mugu District, Rara VDC)

Agriculture is the main occupation of Murma residents. This largely involves subsistence farming, with wheat, millet and barley as the major crops. Farmers follow a four-year crop rotation pattern, dividing their land into four equal plots (i.e., millet and wheat in the first and second plot, barley, pulses or potato in the third and the fourth plot left fallow). The cropping sequence is altered every year in such a way that any particular plot remains fallow once every four years (see illustration below).

Crop cycle



Crop rotation (Example)

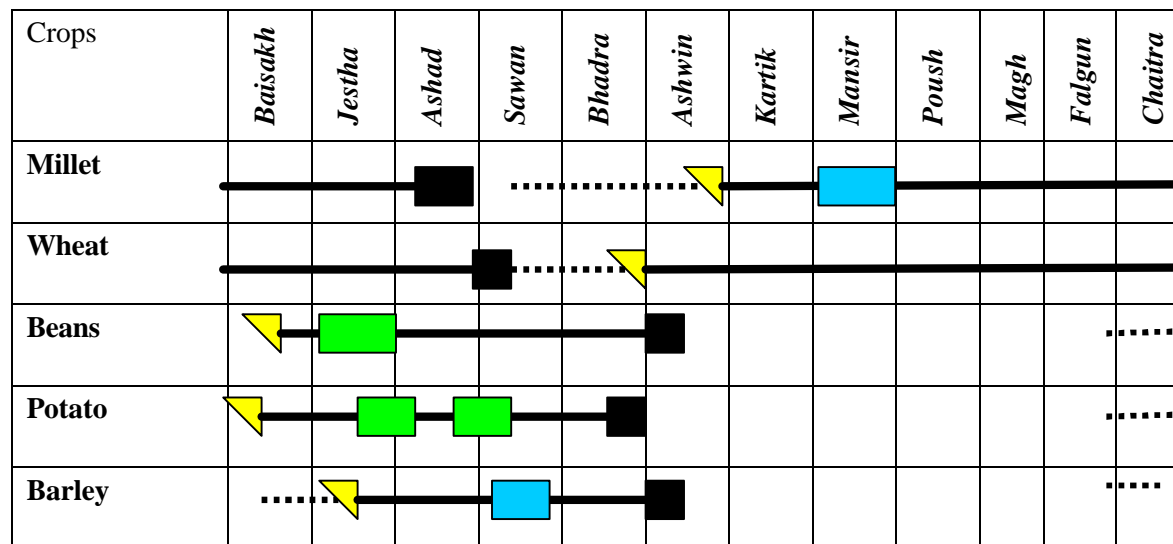
Plot No.	Years			
	1	2	3	4
1	Pulse	Wheat	Millet	Fallow
2	Fallow	Barley	Wheat	Millet
3	Millet	Fallow	Potato	Wheat
4	Wheat	Millet	Fallow	Pulse

Table 2.10 shows the monthly crop calendar of Murma Village in the Nepalese calendar. Appendix 2 of this report provides a conversion of the Nepalese calendar into the Gregorian calendar. The table reveals that crops mature late in Murma and take about a year to harvest.

Table 2.11 compares the average yield of major cereal crops as reported by key informants in the village with figures reported in a statistical report published by the Ministry of Agriculture in 1998/99. Figures in the table show that the average yield of cereal crops is lower in the village compared to that of the country as a whole. Murma's average figures were based on focus group discussions during the PRA exercise and triangulated with key informants.

Modern agriculture was found to be practically non-existent in the VDC. Respondents did not report use of modern varieties and chemical fertilizers except in the case of finger millet seedlings (i.e. applied when plants do not leave the ground due to the cold or other reasons). Many said they would be happy to leave the village just like the people of Chapru village who were transferred to Nepalgunj (Banke district) after the establishment of the national park. This indicates poor operation of food systems in Murma where food is not produced in sufficient amounts for all residents and where the situation of the poor and the vulnerable, particularly of women, is critical. Crop yields are low in Murma as wild animals, which are protected by national parks, often destroy the crops. Many note that the increase in number of wild animals due to the establishment of the national park has worsened their food problem.

Table 2.10: Cropping pattern



Legends

- Manuring
- Harvesting
- Planting
- Land preparation
- Weeding
- Manuring and land preparation

Table 2.11: Average yield of crops in Murma Village

Crops	Murma average (mt/ha)	District average, mt/ha
Millet	0.38	0.87
Wheat	0.78	0.98
Potato	2.88	6.30
Barely	0.48	1.0
Beans	0.83	1.53

Source: VDC record, Rara, DADO, 1998.

Livestock

Livestock raising is common in Murma although animals are kept mainly for farmyard manure purposes. Recent years have witnessed a significant reduction in the livestock population because of the overriding priority given to the community forestry programme, establishment of Rara National Park, decreasing use of sheep and goats for the transport of goods and the ban on grazing in pasturelands located in Tibet, an autonomous region of China.

People follow a livestock management schedule similar to other mountain areas. In summer (between the months of March and October), animals are kept in the village and used for farm activities.

During winter season (November to March), they are moved to lower altitude areas, particularly the Ruga, Ruwa or Srinagar VDCs.

2.3.4 Economic well-being

Villagers were asked to discuss what constitutes wealth and well-being and to reach an agreement on the main indicators of wealth. After villagers agreed on the criteria, they were then requested to identify and compare one household with another using the agreed upon indicators until all the households in the village were assessed. The purpose of this economic ranking was to understand the poverty status of the people and to look into their livelihood strategies according to economic class.

Table 2.12 gives villagers' definitions and indicators of wealth and well-being. This reveals that food sufficiency or "having enough to eat" is the foremost indicator by which people in Murma categorize themselves. Households with no land and no regular source of income or food are considered poor. The contribution of livestock to the household food security was found to be minimal.

Table 2.12: Villagers' indicators for wealth and economic status in Murma

Rank	Criteria	Remark
One	Food sufficiency in the family	Food sufficiency year round from the farm owned or cultivated by the family.
Two	Size of landholding	The bigger the land size, the richer the family.
Three	Jobs/services/employment	Regular sources of income through jobs/services.
Four	Seasonal migration to India	The greater the number of males, the richer the family.
Five	Number of livestock owned	The greater the number of livestock, the richer the family.

Murma residents use a set of indicators to define rich, medium and poor households in this village as follows:

- **Rich.** Households with enough to eat year round either through farm or off-farm sources. These typically have small pieces of land in many places and produce enough to eat from the land they till.
- **Medium.** Households for which agricultural production provides the family enough to eat for about six to nine months.
- **Poor.** Households without food to eat if they have no work for a day. Generally, these households do not produce sufficient food for more than six months a year from their land. These are mostly large households and often headed by women.

The above definitions show the extent to which mountainous people of Murma attach importance to food sufficiency and land size. A household is considered rich when it has small pieces of land in many places. Table 2.13 summarizes the economic classes categorized by participants in the village following indicators listed in the previous table.

Table 2.13: Economic stratification of people in Murma Village

Classification	No	%	Types
Rich	3	5	Food sufficient for the whole year, having land of more than 15 <i>ropani</i> and having other sources of income.
Medium	16	29	Food sufficient for 9 months, working outside and having land of 10-12 <i>ropani</i> .
Poor	8	15	Food sufficient for 6 months, and having land up to 5 <i>ropani</i> .
Very Poor	28	51	Food sufficient for less than four months, land of less than 3 <i>ropani</i> and lack of other sources of income.
All	55	100	

The above table shows that about 66 percent households in Murma Village were either poor or very poor, with not enough food to eat for more than 6 months. Table 2.14 shows the economic stratification of households by ethnicity/caste as distinguished by local people during the economic well-being ranking exercise. Compared to *Chhetris*, *Dalits* are seen to be poorer.

Table 2.14: Economic stratification of people in Murma Village by ethnic group

Economic class	Ethnic group/caste				
	<i>Brahmin</i>	<i>Chhetri</i>	<i>Dalits</i>	Total	
Rich households	no	1	2	-	3
	<i>Percent</i>	100	4		5
Medium households	no	-	16	-	16
	<i>Percent</i>	-	32		29
Poor households	no	-	8	-	8
	<i>Percent</i>		16		15
Poorest households	no	-	24	4	28
	<i>Percent</i>		48	100	51
All number		1	50	4	55
Percent		100	100	100	100

Table 2.15 further reveals that only three households in Murma (5 percent) had sufficient food to eat for about 10 to 12 months in a year, with the rest largely dependent on other sources of income for survival.

Table 2.15: State of food sufficiency in Murma Village

Food Sufficiency	Ethnic Distribution			Total
	<i>Brahmins</i>	<i>Chhetri</i>	<i>Kami</i>	
Up to 3 months	-	24 (48)	4 (100)	28 (51)
4-6 months	-	8 (16)	-	8 (15)
6-9 months	-	16 (32)	-	16 (29)
10-12 months	1 (100)	2 (4)	-	3 (5)
Total	1 (100)	50 (100)	4 (100)	55 (100)

Source: PRA, Murma

Note: Figure in parenthesis indicates percentages.

2.3.5 Seasonal food availability

To assess seasonal food availability, male and female participants were separately requested to illustrate their food situation in a 12-month calendar using bean seeds. The total available score for each month was ten. A high score (e.g. seven or eight) meant the food availability situation was good while a low score meant it was poor. The preparation of the calendar provided an opportunity to discuss in detail livelihood and coping strategies during months of food shortages.

Figure 2.3 shows that, in general, the food situation in the village tends to be poor for about seven months. Although women and men gave different responses in terms of magnitude or scale of food availability, they report the same months when asked to indicate periods when food shortages occur. For five months (from *Asadh* to *Kartik*), about 5 percent of households say they have enough to eat for five months while about 80 percent of households say they depend on other sources of income.

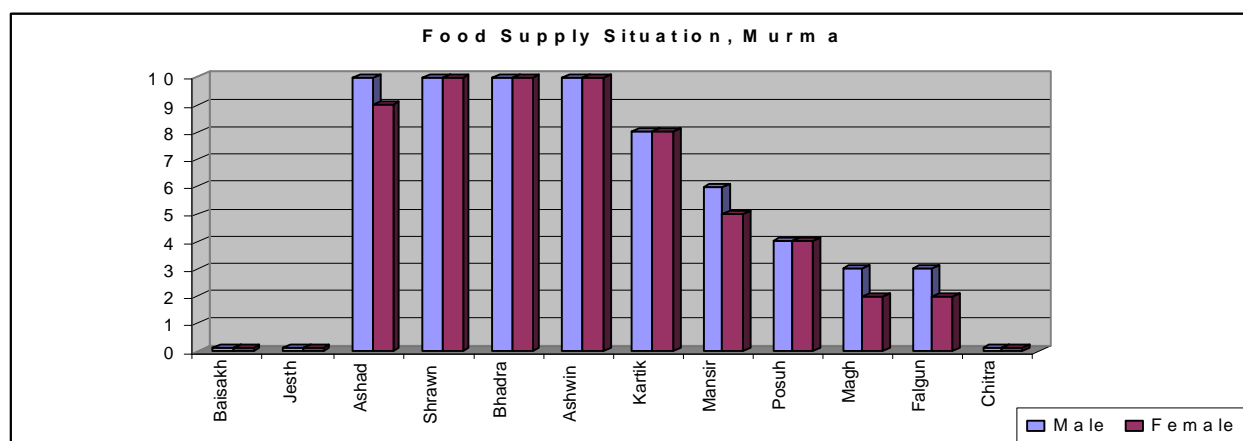


Figure 2.3: Food availability in Murma Village

Note: The horizontal axis represents months of the year according to the Nepalese calendar.

2.3.6 Income and expenditure

To identify livelihood strategies and expenditure patterns within households, villagers (PRA participants) were asked about their major sources of income as well as the items on which they typically spend. As shown in Table 2.16, the major source of income of poor households is seasonal migration to India, while for rich households, the main source of livelihood is farming. In addition, it can be seen that the contribution of seasonal migration decreases with improvement in economic status. This indicates an inverse relationship between farming and seasonal migration.

Table 2.16: Income sources by economic status in Murma Village (%)

Sources of income	Rich	Medium	Poor
Farming/cereals	50	40	10
Seasonal migration to India	20	30	40
Sale of livestock products and Livestock	20	10	20
Non-timber forest products	10	20	20
Services (Public sector)	Negligible	Negligible	Negligible
Wage labour	-	Negligible	10
Total	100	100	100

Although livestock supposedly abound in the mountain regions of Nepal, Murma happens to be an exception, partly due to the establishment of Rara National Park and partly because of the nationwide promotion of community forestry programmes, especially at lower altitude areas such as Jumla, Bajura and Achham districts. Nevertheless, the importance of livestock in sustaining poor households has not decreased substantially particularly during crisis periods despite the fact that people kept livestock mainly for providing manure and draught power in farming.

The collection of non-timber forest products, especially mushrooms (e.g. *guchi chayu*) usually collected by women and children, was found to be another income source of people in the village. These are sold at NRs 4 000 to NRs 5 000 per kg locally whereas its price is many times higher in the markets of Nepalgunj and the bordering cities of India. Local people say that tourists hardly purchase these products.

Borrowing from the rich also numbers among the major coping strategies of the poor. When asked about the process of lending money, villagers report charging interest on loans is not very common in Murma as only close relatives and friends lend to each other. No one is rich enough in the village to lend money. However, it is said that when a person obtains credit to go to India, he needs to return about IRs 100 for a loan of NRs 100, or a rate of nearly 60 percent interest for three to four months. In most cases, people just return what they had borrowed. Although everyone is poor in Murma, it is interesting to note how the relatively rich people helped the poor to survive by giving interest-free loans. However, this may simply be unique to this village. Apart from the above, poor people also work as wage labourers in development projects. For example, one participant repeatedly praised the PPP during focus group discussions for providing him work during the previous year.

Expenditures

Villagers were asked to depict how they usually spent their income and for what purposes. As revealed in Table 2.17, 70 percent of total income normally goes to food, followed by 20 percent to clothing and medical expenses. Greater spending on food indicates a high level of poverty.

Murma villagers spend very little in livestock. When asked why the proportion of income spent on farming is low, participants replied it is because they do not buy seeds or spend on fertilizer and soil fertility maintenance.

Table 2.17: Household expenditure by area/sector in Murma Village

Sector/Areas	Expenditures (%)
Food	70
Clothing	15
Medical treatment	5
Farming	4
Celebrating festivals	3
Purchasing livestock	2
Miscellaneous (Purchasing ornaments etc.)	1
Total	100

Although expenditure patterns vary by economic levels of households, these nonetheless reveal a general trend. Differences between the classes are insignificant, which suggests that majority of residents in Murma are poor and spend almost all their earnings on food. Figure 2.4 shows the seasonal differences in income and spending.

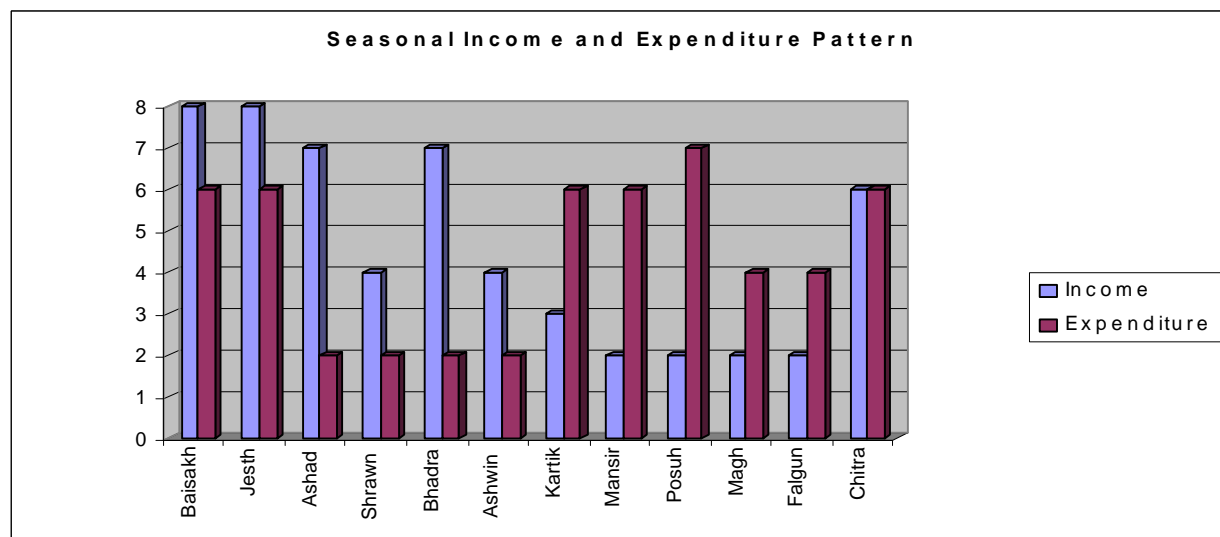


Figure 2.4 Seasonal income and expenditure pattern in Murma Village

Note: The horizontal axis represents months of the year according to the Nepalese calendar.

Expenditures in the months of *Baisakh*, *Jestha*, *Kartik*, *Marg* and *Pousha* are normally high due to spending on food items and because these comprise farming seasons. Income is likewise high when people start to return from India (in *Chaitra* and *Baisakh*) also due to the harvest season.

2.3.7 Livelihood strategies

Table 2.18 presents livelihood strategies of Murma residents by type of households (i.e. rich, medium and poor).

Table 2.18: Livelihood strategies of people in Murma village

Rich households	Medium	Poor households
Seasonal migration to India	Seasonal migration to India	Seasonal migration to India
Selling livestock	Selling livestock	Selling livestock
Selling NTFPs	Selling NTFPs	Selling NTFPs
	Daily wage labour	Daily wage labour
	Borrowing money	Borrowing money

Seasonal migration

As shown in the above 2.18, seasonal migration to India provides a way of living for all types of households in Murma. If people do not exert effort to walk for several days to find jobs at cities in Northern India, they will not be able to afford clothes, utensils and farm equipment. Almost all men, therefore, save for the children and the elderly and leave the village in search of work (during the months of *Kartik* to *Chaitra*), a practice dating back to their forefathers. From *Chaitra* (March) onwards, they start to return to Murma as they need to work on their own farms or else there will be shortages of farm labour. However, it is reported that people have begun to stay longer and return to the village late as there is not enough work in the farms these days. Figure 2.5 shows that maximum outmigration occurs in the months of *Pousha* and *Magha*.

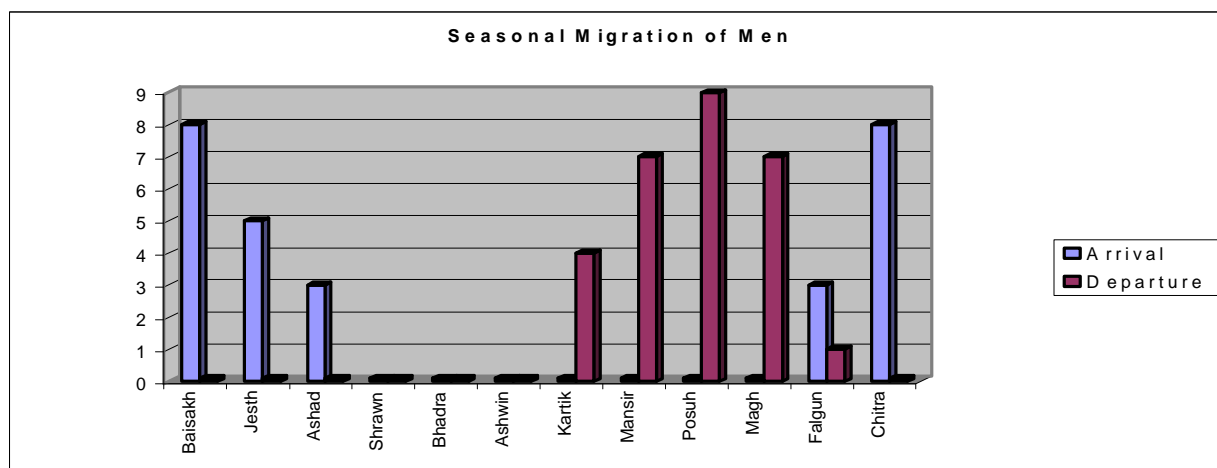


Figure 2.5 Seasonal migration of male members of households in Murma Village

Note: The horizontal axis represents months of the year according to the Nepalese calendar.

When asked if they would still go to India if there were sufficient jobs in the village, only a few respondents from Murma said that they would prefer to stay in the village. Majority of respondents, however, replied they would still need to travel to India to buy clothes and utensils and since no development work is possible during the winter months. This indicates that seasonal migration to India sustains the economy of Murma community just like in other remote mountainous regions of the country.

Although seasonal migration has provided opportunities for male migrants to work at modern farms and orchards in India, most respondents say they have not been able to benefit substantially in terms of importing modern techniques from India because of scarce financial resources, the different environment in Nepal, a lack of the technical support services in the district and problems with suitability of technologies. Nevertheless, some were confident they could eventually match the progress of their counterparts in India. A few indicated they have established apple orchards and grown vegetables in their farms owing to experiences gained while working in Indian farms. Many showed their frustrations not only because their farms were dry (*rukho*, in Nepali), but also because they did not receive any support from the Government.

In the discussions, it became evident that people go to India mainly because of a lack of alternative means of employment and livelihood in the village. When asked to indicate the most important benefit of seasonal migration, most villagers say that by going to India they save food for those who stay at home. All respondents confirmed that they bring back to their village only a few old clothes and a small amount of money sufficient to either pay the amount they borrowed to migrate or to buy food for their family.

The negative aspect of this phenomenon of seasonal migration, however, is job uncertainty and the generally hard life in India. According to villagers, jobs in India are also difficult to find these days. Due to oversupply of labour, workers are now paid less and often get cheated by contractors and employers. Some say they are unable to bring home their full daily wage because of robbery, theft and gambling (i.e. card playing in peer groups). Employers also do not pay them their full wages until work is completed. Since those who work with new contractors often get cheated, many prefer to serve old employers at lower rates instead of finding new jobs (*Malik*) that might pay reasonable wages for fear of being deceived by their new employers.

The consequence of seasonal migration to India has been to deny children their education and precipitate early dropouts from school, which is likely to push back the village even further in terms of development. When asked who suffer more as a result of male villagers' migration to India

(i.e. boys or girls), most respondents replied that girls suffer more. Society encourages young males to go to school since this can help them obtain higher salaries and prevent them from being cheated while they are in India. While boys go to schools, girls usually stay at home to support their mothers in activities such as farming, livestock grazing and caring for babies.

Box 1 presents the quite typical profile of an old man yearning for more jobs in the village and lamenting the government's decision to stop food distribution through the NFC at subsidized prices and to remove the transport cost subsidy. He believes the government can launch development projects and thus

create new employment opportunities by using the money currently spent on the transportation of food, an opinion supported by many in group discussions. This highlights not only the widespread dissatisfaction of the poor over the food distribution system of the NFC, but also the lack of employment opportunities in the village.

Box 1: Locals plead for opportunities to work in the village

Ram Janam B.K (not his real name) is 55 now. His 1 ha land is too small to feed his wife and three daughters throughout a year. When he was young, he used to go to India yearly to be able to feed his family and buy necessities such as clothes, utensils and farm equipment. If he had not gotten work at the Park and People Programme (PPP) last year, he said his family would have “probably died of hunger”. He would have likewise been forced to sell his land and livestock. “I am too old to go to India and neither (do) I have sons to go there,” he said.

When asked how much he earned last year working at PPP, Mr B.K enthusiastically said that what he earned three months in the village with that job exceeded what he could have earned five months in India. However, he was also quick to say that he spent almost the entire amount on food. When asked about the food distribution system of the Nepal Food Corporation (NFC), he complained, “the cheap food made available by the government through the food depots of NFC is for government employees, police, rich and village leaders, and not for poor *Dalits* like me”.

He questions why there are not enough jobs in the village. He suggests that government create more jobs by undertaking developmental activities and give food for work rather than cash. “Many young villagers would not go to India if only there were enough jobs in the district,” he claims.

2.3.8 Credit

As information on consumption credit accessed and used by families to purchase food during lean months has clear policy relevance, PRA participants were asked questions relating to their credit requirements for the procurement of food, availability of credit, sources of credit and interest rates. Although more than 90 percent of the participants indicated food shortages during the lean period, particularly the winter season, they said commercial banks and the village cooperative society did not provide consumption credit and private money lenders did not take their place.

Majority of the respondents said they had no money to buy rice from the sales depot of the NFC at Murma. Getting credit for procurement of food is said to be very difficult. Almost all say that credit needs in the village start to rise after the onset of the winter season when men begin to move to India. For this reason, the women have been highly encouraged to participate in saving and credit programmes run by the Women’s Development Section or non-governmental organizations (NGOs) such as the PPP. Many women demand loans especially during winter season so that they can send their male relatives to India. Interest rates hovered about NRs 2 to NRs 3 per month per NRs 100, placing the annual rate at about 24 to 36 percent, or still less than half of what was prevailing in the village (i.e. IRs 100 for NRs 100 or about 60 percent per annum where IRs 100 equals NRs 160).

2.3.9 Gender considerations

Earlier sections have indicated how both men and women struggle to feed their respective families in Murma through (a) seasonal migration to India, (b) collection of non-timber forest products (particularly mushrooms and medicinal plants such as *Jatmansi* [spike nard], *Nardostachys jatamansi*, *Panch Aunle* [orchid, *Galcaris stracheyi*], Yarsa Gumba [*Cordyceps sinensisthis*, a rare Himalayan mushroom collection of which is legally banned to protect biodiversity in the Himalayan region] and mountain wild mushroom) and (c) subsistence farming. As livelihood activities vary with seasonal cycles and gender, this section explores important gender issues in food and agriculture with focus on food security and poverty. This has implications on policy decisions that provide a specific gender focus in programmes and policies directed towards the poor.

Information gathered through the PRA with respect to gender issues in food and agriculture are described in this section in the following sequence:

1. Household food distribution
2. Daily activity schedules
3. Division of labour
4. Workload
5. Mobility
6. Decision-making

Household food distribution

Although many studies have shown that it is the women in the family who suffer first in the event of food scarcity in the household, in Murma, men, women and children suffer almost equally. This is because most of the families eat together and divide the prepared food proportionately to their ages. When there is less food to cook in a family, children are also fed less. Child malnutrition is hence very common.

Vegetables are virtually absent in the average diet. Typically, villagers would eat two medium-sized pieces of bread (e.g. wheat, barley, finger millet), a cup of bean soup, a few pieces of potato and a little chili-salt powder. During the summer and rainy seasons, some may eat vegetables such as broadleaf mustard and cucurbits.

The study reveals that, in Murma, even pregnant and lactating mothers do not get extra food allowances. This is irrespective of household category (i.e. rich, medium or poor). Although quantities differ, the same quality of food is available to all households. Villagers normally eat three meals a day – early in the morning before going to the farm, in the daytime as a snack and before bed in the evening usually between 7 to 8 p.m. (Table 2.19).

For people in Murma, eating rice is a luxury. Rich households usually eat rice once a week while the poor have to wait for festivals and social functions to be able to eat the viand. This also depends on the availability of rice at the sales depot of the NFC.

Table 2.19: Daily food schedule of households in Murma village

	Morning (7 to 8 a.m.)	Day (12a.m. to 1 p.m.)	Evening (7 to 8 p.m.)
Rich	Bread, Bean soup A few pieces of potato	Bread, Salt and chili powder	Bread, Beans soup A few pieces of potato
Medium	Bread, Bean soup A few pieces of potato (Occasionally)	Bread, Salt and chili powder	Bread, Bean soup A few pieces of potato (Occasionally)
Poor	Bread, Bean soup A few pieces of potato (Rarely)	Bread Salt and chili powder	Bread, Bean soup Occasionally A few pieces of potato (Rarely)

Daily activity schedule

Figure 2.6, which is based on drawings by participants during the PRA, illustrates the schedule of activities of women and men in a typical day in Murma Village. This shows that women work about 17 hours a day while men work only 12 hours. The study hews closely to other studies that report how, unlike men, women carry out 2 to 3 tasks simultaneously (i.e. both productive and reproductive tasks).

During the off-farm season, both men and women collect firewood and preserve these for the winter season. However, villagers failed to mention the daily time allocation for this chore. Nevertheless, working hours remain nearly constant whether in farming or in the collection of firewood and both males and females work until the late in the evening. Being poor and food insecure despite working very hard is a fact of life in Murma.

Table 2.20 below presents the gender-differentiated daily productive and reproductive tasks in terms of percentages. Table 2.20 and Figure 2.6 collectively illustrate that the activities women usually carry out are particularly labour intensive and physically demanding.

Table 2.20: Gender-differentiated daily activity schedule in Murma Village

Activities	Unit	Involvement of	
		Men	Women
Productive and reproductive work (Total working hours)	Hours	12	17
	%	50	71
Sleep/rest	Hours	12	7
	%	50	29
Reproductive tasks (Fetching water, cooking, carrying babies, cleaning houses, shed clearing)	Hours	3	10
	%	12	42
Productive tasks (Farming activities)	Hours	9	7
	%	38	29

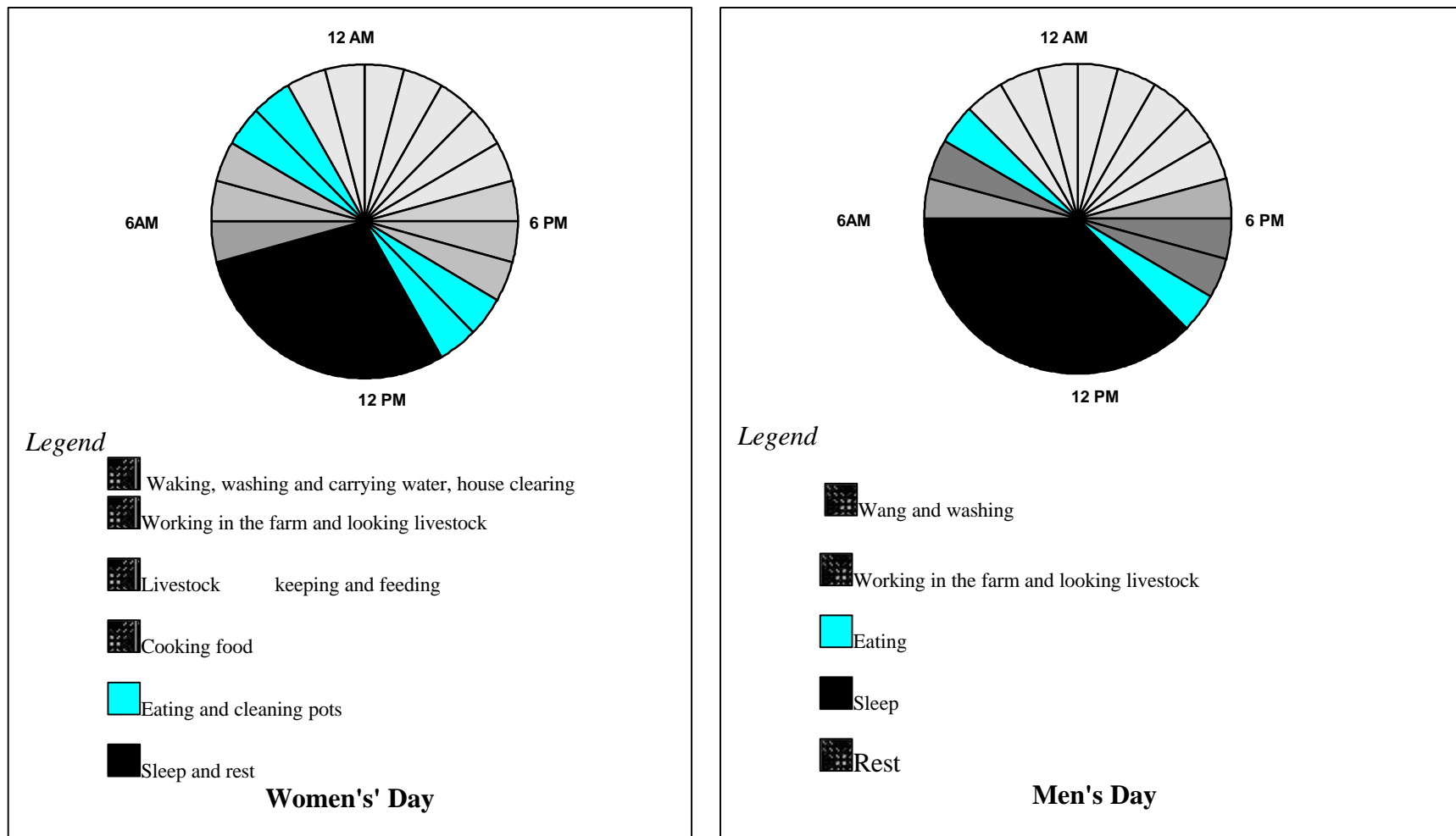


Figure 2.6: Twenty-four-hour calendar of women and men in Murma Village

Division of labour

Having explored how long women and men work in a day, participants in the men's and women's groups were asked to prepare a gender-disaggregated household activity table as shown in Table 2.21. They were also asked to report the division of labour in relation to agriculture (Table 2.22). Understanding who does what in farming has implications for directing interventions and identifying training needs and support services necessary to improve farming conditions. This would also help to identify areas and the nature of support required for villagers. The purpose was to examine the extent to which men support women in performing household chores and to identify the areas in which men and women work jointly.

The study reveals that women's participation in household chores is high, thus contributing significantly to the general development of the household. With primary assistance from young girls in the family, the females were found to be responsible for all daily domestic tasks (e.g. cleaning, washing, child care, cooking, livestock management and arranging food consumption needs such as water, fuel and fodder). While involvement of men in household chores was limited, women were on par with men even in farming and were involved in various tasks – from seed selection to harvesting and storage – except ploughing. This finding is not new and has been repeatedly reported in the literature discussing gender division of labour in farming.

Table 2.21: Gender-disaggregated household chores in Murma village

Months \ Activity	Baisakh	Jestha	Ashad	Srawan	Bhadra	Ashwin	Kartik	Mansir	Poush	Magh	Falgun	Chaitra
A. Household Task												
Cooking	●	—————	—————	—————	—————	—————	—————	—————	—————	—————	—————	●
Cleaning and washing	●○	—————	—————	—————	—————	—————	—————	—————	—————	—————	—————	●○
Firewood and NTFPs collection	●▲	—————	—————	—————	—————	—————	—————	—————	—————	—————	—————	●▲
Fetching water	●	—————	—————	—————	—————	—————	—————	—————	—————	—————	—————	●
Baby care and health	●▲○	—————	—————	—————	—————	—————	—————	—————	—————	—————	—————	○▲●
D. Others												
Working in India	—————	—————	—————▲					—————	—————	—————	—————	—————
Hand carving	▲	—————	—————	—————	—————	—————	—————	—————	—————	—————	—————	▲

Legends

- ▲ Male
- Female
- Children

Table 2.22: Gender-disaggregated farming calendar in Murma Village

Months \ Activity	Baisakh	Jestha	Ashad	Srawan	Bhadra	Ashwin	Kartik	Mansir	Poush	Magh	Falgun	Chaitra
A. Crops												
Millet			Harvest ▲ ● ● ▲	Land Preparation ▲ ————— ▲		Planting ▲ ● ● ▲		Manure ▲ ● ● ▲				
Wheat			Harvest ▲ ● ▲ ●	←	Plough ▲ ▲ ● ▲	→	Planting ▲ ● ● ▲					
Beans	Planting ▲ ● ● ▲	Weeding ▲ ● ● ▲				←	Harvest ▲ ● ● ▲					Land Preparation ▲ ————— ▲
Potato	Planting ▲ ● ● ▲	Weeding ▲ ● ● ▲	←	Weeding ▲ ● ● ▲	←	Harvest ▲ ● ● ▲						▲ Land Preparation ▲ ● ▲ Manuring ▲ ●
Barley	Land Prep ▲ ● ● ▲	Planting ▲ ● ● ▲			Weeding ▲ ● ● ▲		Harvest ▲ ● ● ▲					
B. Cattle Keeping/Carrying fodder												
Grass fodder	—————						▲ ● ○					▲ ● ○
Shed cleaning	▲ ●	—————						▲ ●				▲ ●
Grazing	—————						▲ ● ○					▲ ● ○
Feeding animals	—————						▲ ● ○					▲ ● ○

Legends

▲ Male

● Female

○ Children

Workload

Figure 2.7 below shows that males are often busier than females in the winter months (*Poush* to *Falgun*) because of their seasonal migration to India. The degree of daily work pressure increases or decreases according to the season, extent of landholding, presence of male members in the family and ethnicity and status of the member within the family. The workload of both men and women is usually high in the months of *Ashwin*, *Asadh*, *Shrawan* and *Bhadra*. In general, women work more than men in the months of *Bhadra* (weeding month), *Kartik* and *Marga* (harvesting months), while the males seem to have more chores in the remaining months.

The workload of males is typically higher than the workload of females in the month of *Chaitra* when men would bring their cattle from low altitude areas back to the village. While people generally have more chores during these months, they also have enough to eat. People seem to suffer from hunger (food scarcity) at times when they have no work. Collecting NTFPs, wild food (forest products), saving from earnings from seasonal migration to India and borrowing were among the ways by which poor villagers lived during this period.

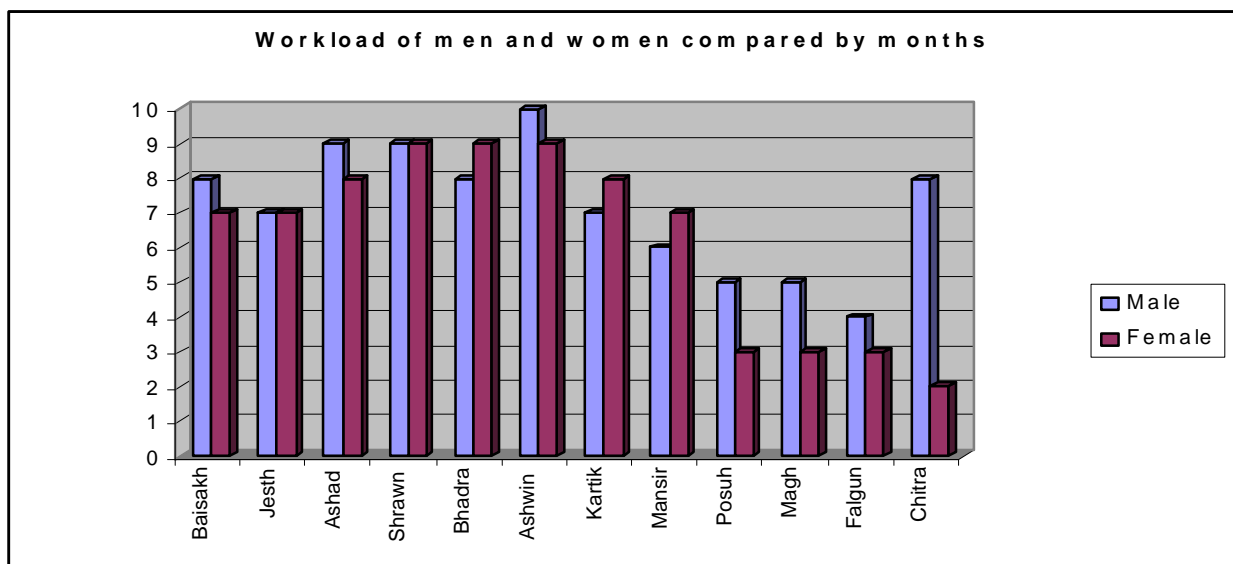


Figure 2.7: Workload of men and women in Murma Village

When asked who provides the additional labour required because of the seasonal migration of men, most respondents said girls typically carried the burden within households. The dropout rate from school is thus higher among girls than boys. Many women complain that due to their share of household activities they hardly had time to dedicate to the various programmes and projects organized by the PPP such as the formation of user groups (UGs), leadership training, book-keeping training and saving and credit programmes. It is worth mentioning that after the inclusion of Rara National Park under the PPP, more than 30 UGs were formed, 50 percent of which were female UGs.

Mobility

For both men and women, mobility is an indicator of how much contact they have with the outside world and how likely it is that they can get support from different developmental and intervening agencies. Access to resources by men and women can be assessed through mobility maps. Taking this into account, women and men were asked to sketch mobility maps separately during the PRA. Figure 2.8 shows that men are more mobile than women as men's seasonal migration to India has led to the confinement of females within the boundaries of farms and the village. Table 2.23 describes the destination, purpose and frequency of travels of women and men.

Decision-making

In order to assess the status of women and their control over resources, both women and men were asked who decides on key issues such as the education of children, provision of medical treatment to children and selling and buying of land. Table 2.24 reveals that women usually decide on issues concerning food such as how and what to cook while men usually dominate in all other areas, for example, regarding the education and health of children and land and cash income (i.e. how and where to spend). Interestingly, all PRA participants said that males and females made joint decisions on farm practices, be it seed selection, sowing, weeding or harvesting. Women's decision-making role in farming hence seems important in this sense.

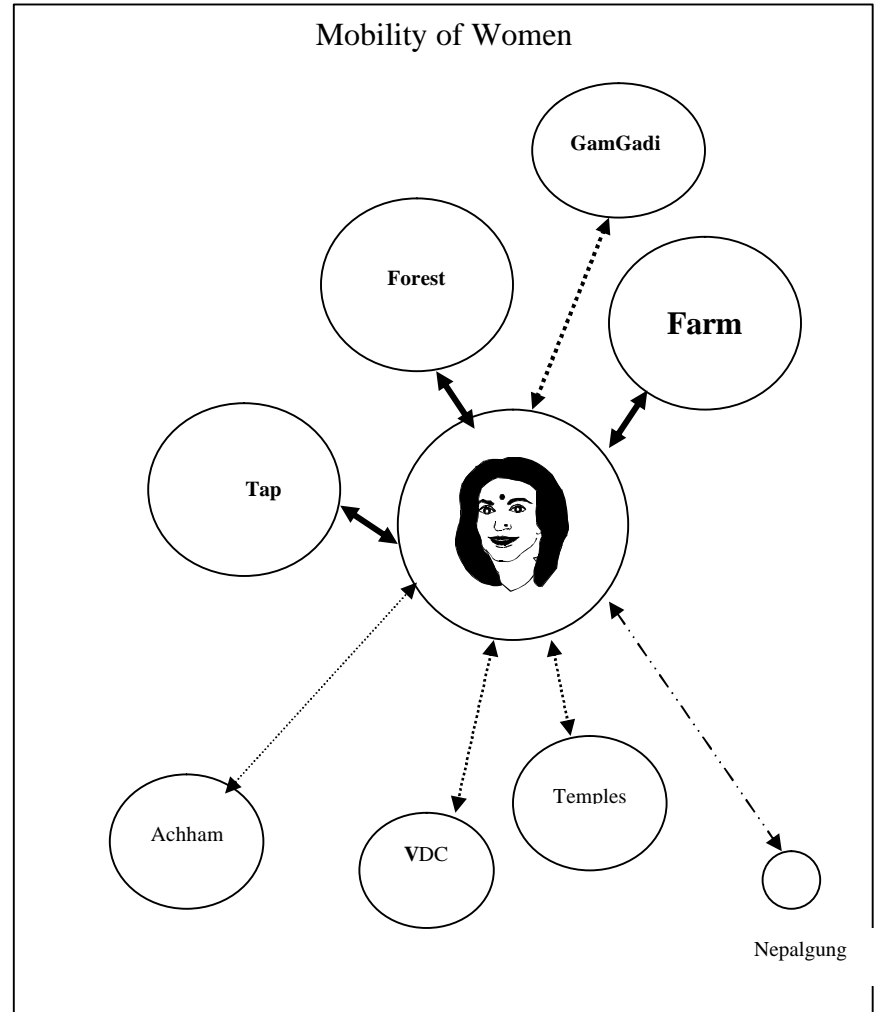
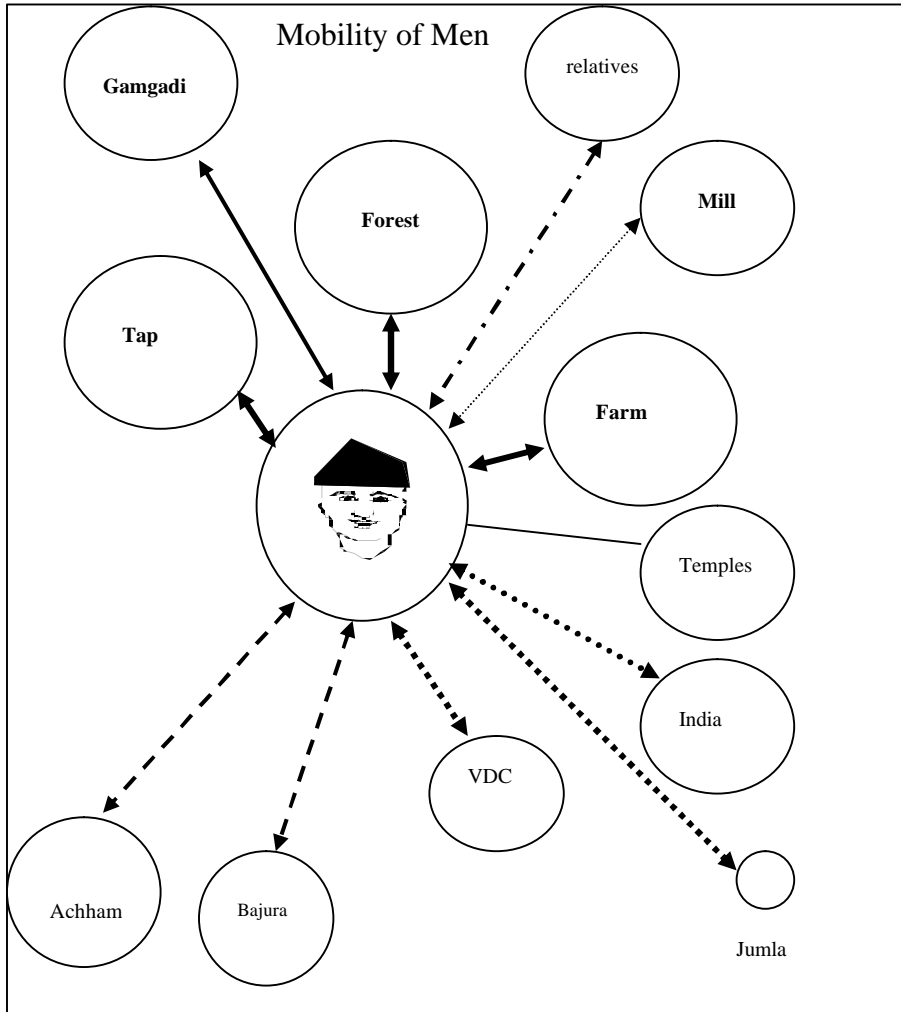


Figure 2.8: Mobility maps in Murma Village

Table 2.23: Details of the mobility of women and men in Murma Village

Place	Men		Women	
	Major Reasons	Frequency	Major Reasons	Frequency
Tap stand	– To fetch water – Washing/cleaning	Every day	– To fetch water – For repair and maintenance	Everyday
Farm	– Agri. production	Every day	– Agri. production	Everyday
Forest	– To gather firewood – To gather fodder – To graze animals	Every day	– To gather firewood – To graze animals	Everyday
Mill	– For crop threshing – For repair and maintenance of mill	Once a weak	–	
Gamgadi (District HQs)	– To purchase daily items – For medical treatment – To visit to offices	2 to 3 times a month	– To purchase daily necessities – For medical treatment	2 to 3 times a month
Relatives	– Social affairs /festivals – To deliver livestock	Twice a year	– Social affairs/festivals	Occasionally
Temples	– For worship	Occasionally	– For worship	Often
VDC	– To get VDC recommendations as required, particularly to buy food (rice) from NFC – To attend VDC meetings and take part in VDC affairs	Frequently	– VDC's recommendation to buy rice from NFC	Once or twice a year
Achham (Sanfe Bagar)	– To bring food, salts and clothes	Often	– To bring food, salts and clothes	Often
Jumla	– For legal affairs and exams	As required	– Legal affairs and exams	As required
Bajura	– To buy clothes and in transit to Nepal by plane	Rarely	–	–
India	– For work, usually in winter	6 months	–	–

Table 2.24 also suggests that focusing on women in developmental interventions in family planning will be more cost-effective as women dominate decision-making in this area. About 80 percent of the male participants indicate that women make most of the decisions on family planning matters while 75 percent of the females support this stating that they alone make such decisions. Only 15 percent of women said they made decisions jointly with their partners. This indicates the increasing control of women over their bodies despite poverty and even though they are poorly consulted by men on issues such as the education of children, use of land and spending of money.

Table 2.24: Responses of women and men on decision-making in Murma Village

Topics	Men's Responses in %			Women's Responses in %		
	Men	Female	Both	Men	Female	Both
Education of children	65	5	30	60	20	20
Health of children	65	15	20	40	50	10
Land	75	5	20	70	10	20
Food	-	100	-		100	
Cash/money	80	5	15	75	5	20
Farming activities	-	-	100		100	
Forest	-	-	100		100	
Family planning	10	80	10	5	75	15

2.3.10 Institutional mapping

As stated earlier, a number of institutions have been implementing different activities in Rara VDC. Although some are physically present in the VDC, some are not. While conducting the PRA, participants were asked to sketch institutional maps of the types of organizations present in the VDC as well as those situated outside the Rara VDC. The purpose was to understand villagers' perceptions of the importance and closeness of the various organizations.

The relative importance of the organization or institution is shown by the size of the circle representing it (i.e. the larger the circle, the more important the organization). The extent to which the different organizations interact with each other is shown by the degree of overlap shown in the diagram where the greater the overlap, the greater the interaction and closeness between the organizations. Likewise, the closer is the circle with the VDC, the closer the relationship or contact with the community. An analysis of how women and men perceive organizations in their vicinity in terms of their importance and linkages provides clues about the effectiveness, strengths and weaknesses of the organization in reaching the target group and achieving the purposes for which they were conceived.

Having listed institutions, participants were asked to rank these according to importance to their own lives and to locate these organizations in the map in terms of closeness with the VDC or community.

Figure 2.9 illustrates the Venn diagram of the institutions and organizations operating in the village while Table 2.25 briefly describes the main activities of the organizations appearing in the diagram.

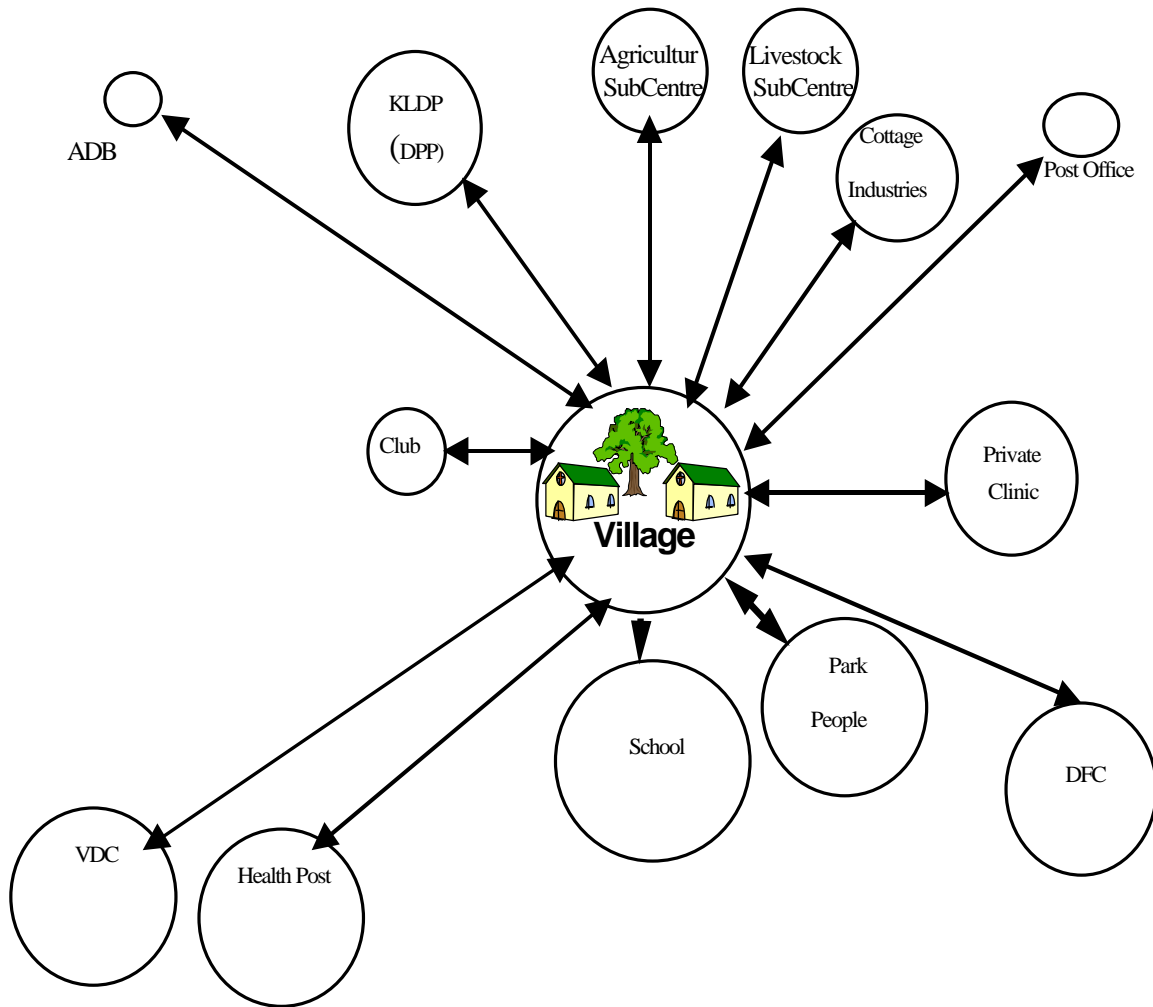


Figure 2.9: Perception of Institutional Networks

Even though most villagers were poor, the community viewed the school system as a very important institution. This was followed by the health post, the VDC and PPP. All these three institutions proved equally important to them, which explains the similar sizes of the circles. The circle representing the ADBN was not only one of the smallest, its position in the map was also farthest from the VDC. Villagers ranked the institution – the only source of credit in the village – in this manner not just because of its physical distance but because it was inaccessible to the poor. Many claim they have never obtained a loan through the bank. Procedures are reportedly lengthy, troublesome and require multiple visits. A few expressed their dissatisfaction with the financial institution for not making timely loans.

Table 2.25: Institutions operating in Rara VDC

Name of the organization	Type	Location	Major functions
VDC Office	LEB/ GO	VDC	Local development/ infrastructure improvement
Health Post	GO	VDC	Primary health treatment
Murma Top Youth Club	NGO	VDC	Youth activities and social service
Park People Programme	HMG/ UNDP Joint	VDC	Improve park-people relationship/ community mobilization/saving and credit
School	-	VDC	Education
Livestock Service Centre (LSC)	GO	Adjoining VDC	Livestock development/animal health services/extension & training
Agriculture Service Centre (ASC)	GO	Adjoining VDC	Crop production/horticulture development/training & extension
KLDP (DPP)	SNV/D DC	District	Local development/VDC capacity enhancement
Post office	GO	VDC	Postal services
Cottage Industry Office	GO	District	Microenterprise training and facilitation
Food Corporation Depot (NFC)	Govt. Corp.	District	Food distribution at subsidized prices
Agriculture Development Bank (ADB)	Govt. Corp	District	Credit
Private Clinic	Private	District	Health services/medicine

The circles representing the ASC and the LSC were of medium size suggesting their poor impact on the improvement of food security situations in the village. Many said that technicians of these institutions hardly visited their village and some might become available in the village at times when residents do not need their services, arriving mainly to collect demands for fruit saplings. Although many knew of the services extension workers provide, they do not appear to appreciate these since they claim not to receive any substantial benefits.

Table 2.26 below shows villagers' ranking of the different institutions. Agriculture and livestock offices were found to be very far from the villagers suggesting poor contact. The obvious reason was that these offices were not situated within the VDC. Thus, improving food security situations in the village becomes a Herculean task.

Table 2.26: Local perceptions on the importance of and relationship with institutions in Murma village

Institutions	Importance	Relative closeness/ Linkages
School	First	Nearest
Health post	Second	Very far
VDC office	Second	Very far
Park People Programme (PPP)	Second	Very near
Nepal Food Corporation (NFC)	Third	Very far
Livestock Services Centre (LSC)	Four	Far
Agriculture Service Centre (ASC)	Four	Far
Private clinic	Four	Near
KLDP	Fifth	Far
Cottage industries	Fifth	Far
Murma Top Club	Six	Near
Post office	Seven	Very far
Agricultural bank	Eight	Farthest

The NFC was found to be far from the village/community despite the food shortages in the village. Some participants said this was because the state corporation was “for rich and government officials” while others stated it had neither “food to sell, nor the money to buy”. The NFC allegedly serves mainly government officials, tourists and visitors. According to the villagers, the PPP lies closer to them than either the ASC or the LSC because of the seasonal employment this programme provides.

2.3.11 Changes as perceived by villagers

In order to determine the pace of development in the village, villagers were requested to discuss among themselves the changes they have perceived over the last 10 years. For majority of villagers, Murma Ward 1 has not changed substantially. However, as a result of discussions, villagers were able to identify the changes in different sectors as summarized in Table 2.27.

As seen in this table, both positive and negative changes have occurred in the village. Although people have experienced improved access to education and the development of trails and village roads, the economic condition of the majority of people in the study has deteriorated. According to key informants, until a few years ago, seasonal migrants used to make timely returns from India to work in their farms. These days, many villagers have tended to return late and overstay in India. Lack of employment in the district, declining food availability and decreased income from livestock suggest a weak impact of development efforts on the lives of the people.

Many respondents said that in the past they used to have sufficient food but now often suffer from hunger due to a decline in income. “ If we do not have work in India, we will die of hunger,” they said. Only the elderly and young children can be found in the village during the winter season as men typically proceed to India. On the other hand, migrating to India has become more risky and problematic these days as jobs have become scarce while cheating and looting has become common.

Table 2.27: Overview of changes perceived by villagers in Murma

Perceived change	Reasons for change
Improved access to education	Establishment of a primary school in the village in 1977 and promotion of tourism in the area.
Improvement in trails and village roads	Establishment of Rara National Park/PPP and development of tourism.
Improvement in drinking water facilities	DDC’s support.
Increase in areas planted to apples, beans and vegetables	Promotion of tourism industry, establishment of Rara National Park and opening of opportunities to work as daily wage labourers in fruits and vegetable orchards in India.
Decrease in crop damage due to wildlife	Construction of a wall by the PPP around the boundary of Rara National Park.
Decrease in livestock number	Prohibition of grazing within Rara National Park area, lack of veterinary services, decrease in grazing/pasture land and establishment of community forests
Increase in seasonal migration to India	Lack of employment in the village or district, decrease in the income from livestock sources and decline in food availability.
Increased awareness levels of villagers	Improved access to education, establishment of Rara National Park and seasonal migration to India

The above table reveals the establishment of Rara National Park to be an important event for residents of Murma. Increased seasonal migration to India suggests outsiders benefit more from the development of tourism than insiders. The following flow diagram (Figure 2.10) illustrates this.

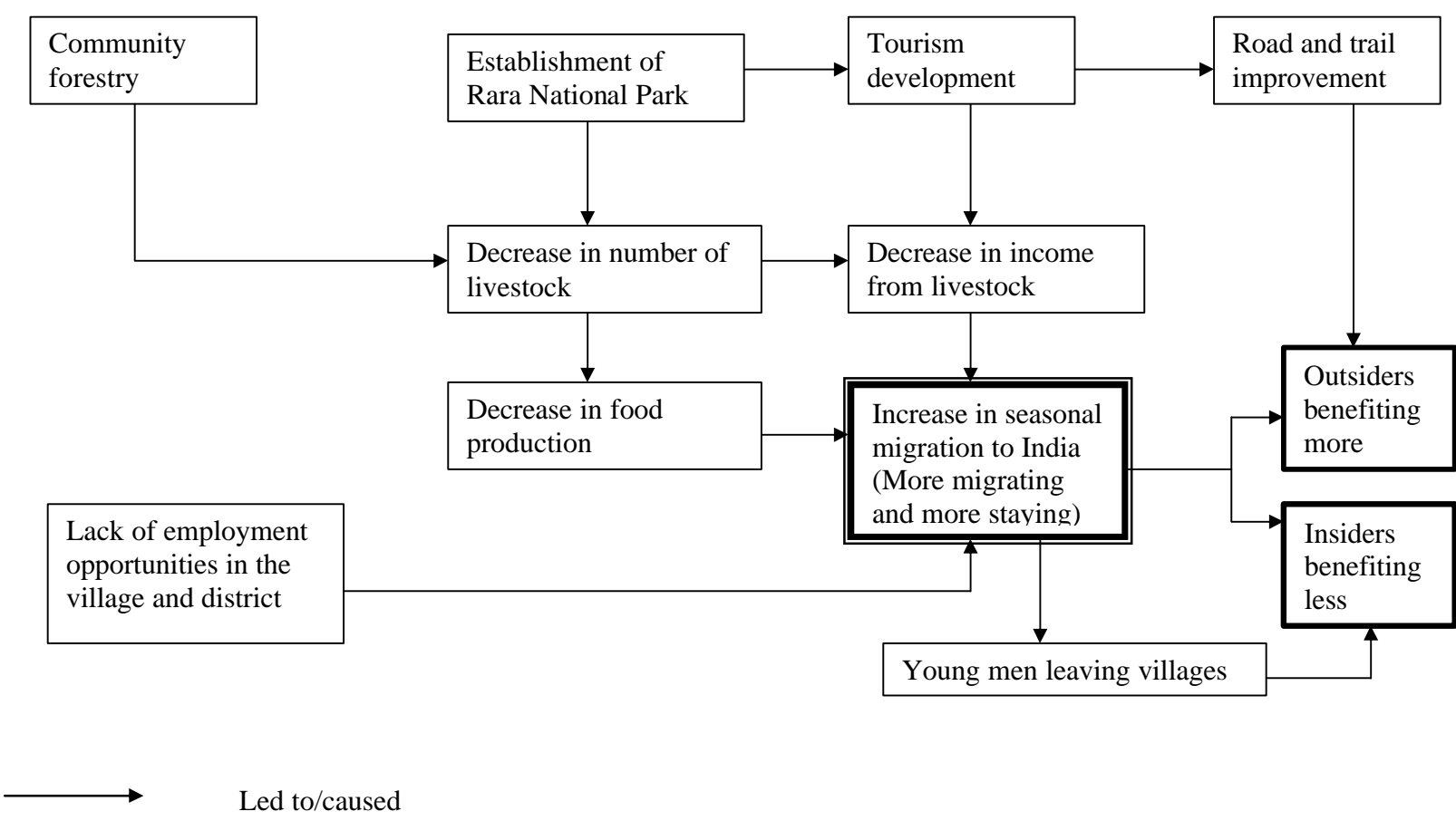


Figure 2.10: Maurma Village in the present situation

2.3.12 Problems and their prioritization

A pairwise ranking technique was used to determine local perceptions of the critical problems villagers faces with regard to agricultural development. During the PRA, separate groups of women and men were asked to list their most pressing agriculture problems and then prioritize these through pairwise ranking to identify the different problems and priorities of each gender

Table 2.28 lists the problems mentioned by women and men and their corresponding priorities. This table reveals that the problems of the agriculture are almost similar in both groups although for women, lack of appropriate agriculture tools and equipment was considered the second most important problem, an issue not mentioned by male participants.

Table 2.28 Agriculture-related problems and prioritization

Men's priorities	Problems	Women's priorities
First	Crops damaged by the wildlife	First
Second	Lack of improved seeds	Second
Third	Lack of skills and technical knowledge	Third
Third	Lack of credit	Fourth
Fourth	Lack of improved varieties of cattle	Fifth
Fifth	Lack of pesticides and herbicides	Fourth
Sixth	Lack of incentives, training and tours	-
Sixth	Lack of chemical fertilizers	Fourth
Seventh	Lack of medicines for cattle	-
-	Lack of modern agriculture inputs	Second
-	Only one crop in a year	Sixth

The table reveals that villagers come across all sorts of problems related to agriculture. In general, crop damage by wildlife was seen as the biggest problem in the area followed by a lack of improved seeds and technical knowledge and skills to enhance agricultural production. No significant differences were found between the ranking of men and women for the different problems.

2.3.13 Key findings and conclusions

The major challenge facing Rara VDC is clearly the production of adequate food supply. With people in the area being relatively poor, food sufficiency is naturally the prime objective. Although agriculture provides a basis for livelihood, it is seasonal migration of male villagers to India that has sustained the local economy. Therefore, residents are likely to suffer and die of hunger if this practice gets disturbed. This is not likely in the near future, as India too needs cheap sources of labour for its development. However, there is a strong need to develop a strategy to create sufficient jobs within the country to lessen the number of migrants.

The study reveals that public support of agricultural development is inadequate and that people hardly appreciate government efforts. The study failed to trace any positive or negative effects of the present economic liberalization policy of the Nepalese Government during the PRA in either the institutional analysis or problem prioritization process. Farmers still face problems typical of traditional agricultural development such as a lack of improved seeds, fertilizers and equipment. Access to external inputs such as chemical fertilizers, seeds, veterinary medicine and credit was also found to be relatively poor.

In terms of gender differences, women had less contact with the outside world compared to men and they were generally confined within the village or district. The daily activity and workload of women is high although everyone suffers in cases of household food shortages.

Although multiple agencies were found operating in the VDC, villagers could not trace any meaningful interactions among them. This indicates the lack of coordination and linkages of the different organizations operating in the VDC. The importance of complementarities has yet to be realized by people working in these different organizations.

While the PPP claims to take into account the needs and aspirations of adjoining communities in natural resource conservation, the study indicates gaps between the perception of local communities and that of the PPP. As revealed in this study, people were upset with the increasing poverty level, destruction of crops by wild animals, declining food availability, lack of jobs and employment opportunities and inadequate support of the PPP and other government line agencies. It has come to the extent that some even prefer to leave the village and settle in the *Terai* as has been the case in a neighbouring VDC.

3. ACHHAM DISTRICT

3.1 District Background

3.1.1 Location

Located in the Seti zone of the Far Western Development Region (FWDR), Achham District has a total area of 1 692.24 sq km. The district is bordered by Bajura and Kalikot districts in the north, Surkhet to the south, Dailekh to the east and Doti to the west. The altitude ranges from 350 m asl to 3 820 m. Nearly one-fourth of the total district area lies below 1 000 m altitude, 64 percent between 1 000 to 2 000 m and the remaining 11 percent above 2 000 m.

The district lies in very rugged terrain with about 51 percent of the total area having a slope of above 30 degrees. All VDCs in the district are situated in hilly areas, although portions of a few VDCs are situated below 400 to 500 m in altitude. The airport at Sanfebagar lies at an altitude of 579 m.

With regard to political administration, the district is divided into 75 VDCs. Major economic activities of the district include farming and seasonal migration to India. The climate ranges from subtropical to mild temperate.

With the construction of a road from Dipayal to Sanfebagar and its extension to Mangalbazar, the district headquarters, the district is now linked to Dhangadhi market in the south.

3.1.2 Land resources

Achham has a land distribution pattern as shown by Table 3.1. Of the total 169 223 ha of agricultural land, 23 percent (39 342 ha) is cultivated. About one percent of the total district area falls under the Khaptad National Park.

Table 3.1: Land use pattern in Achham district

Land use type	Area (ha)
Agricultural Land	59 592 (35.2)
Forest	88 098 (52.1)
Pasture	15 139 (8.9)
Others	6 394 (3.8)
Total Area	169 223 (100)

Figures in parentheses denote percent.

Source: Nepal District Profile, National Research Associate 1999.

The agriculture land use pattern of the district is presented in Table 3.2. According to the Land Capability Survey about 40 percent of the total district area is suitable for agricultural use.

Table 3.2: Agricultural land use pattern in Achham district

Agricultural land use pattern	Area (ha)
Cultivated land	39 342 (66)
Irrigated	3 389 (8.6)
Rain-fed	35 953 (91.4)
Uncultivated land	20 250 (34.0)
Total agricultural land	59 592 (100)

Figures in parenthesis denote percent.

Source: Nepal District Profile, National Research Associate 1999.

3.1.3 Demography

According to the 1991 census, the total population of Achham District was 198 188 with an average household size of 5.31 persons in 38 934 households. Relevant features of the district are summarized below in Table 3.3:

Table 3.3: Population and related key features of Achham district

Particulars	Achham
Population (no), 1991	198 188
Male	93 108
Female	105 080
Total no of households	38 934
Average household size	5.31
Life expectancy (yrs), 1996	49
Male	49
Female	46.2
Child mortality rate (per 1 000 live births)	115
Per capita income (NRs), 1996	5 035
Economically active population (no)	111 351
Economically active population in agriculture (no)	101 829 (96.5)
Population growth rate (%)	0.68
Population density (per sq km)	117
Educational variables	
Adult literacy ratio (%), 1996	24.52
Male	50.11
Female	5.73
Educational attainment index	0.192
Mean years of schooling	1.277
Male	2.532
Female	0.278

Ethnically, the *Brahmin*, *Chhetry*, *Thakuri* and *Sanyasi* groups comprise about 68 percent of the total population followed by the occupational castes (26 percent) and the *Magar* (1 percent). As indicated by the 1991 census, the gross population density per sq km of the total district area is 117 while that of agricultural and cultivated land are 332 and 503, respectively.

Unlike in Mugu, females outnumber males in Achham, which has a sex ratio of 1: 1.12. Adult literacy rate is 24.52 percent with a rate of 50.11 percent for men and 5.73 percent for women. Males are encouraged to gain an education in order to survive in India given the need for seasonal migration. Since women rarely join men in such pursuits, they seem reluctant to learn to read and write.

The population growth rate in the district is less than 1 (0.68), which is still below the Nepal average (2.1 percent), indicating the trend towards seasonal and permanent migration from the district to neighbouring *Terai* districts. Poverty in the district is much more severe in Achham than in Mugu as landless and marginal farm households (farm size <0.5 ha) comprise about 85 percent of the total number of farm households. Cultivated land per household is merely 0.28 ha.

Tables 3.4 and 3.5 present the population of Achham District by literacy status and major occupation.

Table 3.4: Population (6 years and above) by literacy status and sex in Achham District

Literacy status	Male	Female	Total
Literate	32 654	4 597	37 251
Illiterate	39 487	78 992	118 479
Not stated	1 265	2 170	3 435
Total	73 406	85 759	159 165

Source: CBS, 1999.

Table 3.5: Population distribution (10 years of age and above) by major occupation in Achham District

Major Occupation	Number	Percent
Farming	107 456	96.5
Service	876	3.5
Professionals/technical workers	869	
Productive labour works	576	
Sales workers	488	
Clerical workers	342	
Administrative workers	28	
Others	451	
Occupation not stated	265	
Total	111 351	

Source: CBS, 1999.

As shown in Table 3.5, 96.5 percent of the people in Achham are engaged in agriculture. Moreover, the district's per capita daily food production (1 197 calorie) is less than half the total requirement of 2 410 calories (ICIMOD 1997).

3.1.4 Socio-economic indicators

Table 3.6 presents the main socio-economic indicators of the district. In terms of poverty, Achham was ranked the worst among seventy-five districts.

Table 3.6: Major socio-economic indicators of people in Achham district

Indicators	District Position	Remark
Poverty and Deprivation Situation Rank	1	Worst
Human Development Index (rank)	68	Lowest
Gender-adjusted HDI (rank)	68	Lowest
Women Empowerment Index	1	Worst
Natural Resources Endowment Index (rank)	38	Medium
Socio-economic Infrastructure Development Index	33	Medium
Households with less than 0.5 ha farm size (%)	84.69	Worst

Source: Districts of Nepal, Indicators of Development, ICIMOD, 1997.

3.1.5 Agriculture and food situation

Food self-sufficiency and agricultural production

Table 3.7 depicts the food sufficiency situation in the district as reported by the Ministry of Agriculture and Cooperatives (MOAC).

Table 3.7 State of food sufficiency in Achham district

Variables	1994/95	1995/96	1996/97	1997/98
Population (number)- est.	204 120	205 548	219 992	223 923
Total edible production (mt)	12 458	18 171	18 654	21 479
Requirements (mt)	41 028	41 315	44 218	45 009
Deficits (mt)	28 570	23 144	25 564	23 530
Deficit percentage (%)	69.6	56.0	57.8	52.3

Source: Statistical information on Nepalese agriculture 1998/99 and 1997, Statistical Division, Ministry of Agriculture.

Above figures show that the food situation in Achham is very poor, being one of the food deficit districts. Readers are requested to review Annex 2 of this study for the recent statistics on the changes in area, production and productivity of major cereal crops as well as changes in the number of livestock by species and production before and after the introduction of the Agricultural Perspective Plan (APP).

3.1.6 Agricultural input use

Table 3.8 below shows the distribution of seeds and fertilizers over the last five years.

Table 3.8: Annual sales of chemical fertilizer and seeds in Achham district

Year	Fertilizer (mt)				Seeds (mt)			
	Urea	DAP	MOP	Total	Rice	Wheat	Maize	Total
1996/97	207.5	60.5	1.0	269.0	0.700	1.720	0.170	2.790
1998/99	141.6	48.10	0.75	190.450	0.0	0.920	0.00	0.920
1999/00	136.26	46.44	0.57	183.27	0.234	1.320	0.00	1.554

Source: AIC.

Table 3.9 compares the status of input use in the district before and after the liberalization of the fertilizer trade in 1997 or before and after the APP.

**Table 3.9 Changes in agriculture input use:
The situation before and after fertilizer trade liberalization**

Variables	Change (%)
Irrigated area	34.30
Fertilizer use	-14.61
Agriculture credit	20.9
Improved seeds	-25.45

Source: Statistical Information on Nepalese Agriculture, Agricultural Statistics Division, MOAC.

The Nepalese Government terminated transport cost subsidies related to the use of fertilizers and seeds in Achham District with the liberalization of fertilizer trade in November 1997. Such subsidies were no longer given as the Dhangadi-Dipayal road to Sanfebagar of Achham District had already been extended, a decision said to be made without regard to road conditions (i.e. gravel road) and the distance between the nearest road head points (Sanfebagar and the district headquarters, Mangelsen). A drastic decrease was then observed in the use of fertilizers and seeds. This forced AIC to reduce its distribution targets of fertilizer and seeds. Farmers in turn had no other option but to reduce or cease usage of fertilizers and seeds.

During discussions under the PRA, many farmers said nobody in government had the time or inclination to listen to their plight, even with prices of fertilizers almost doubling. "Big politicians are busy forming groups to grab the power in the government," several said. When asked whether they know the reasons behind the sudden hike in fertilizer prices, some said higher procurement prices were simply due to a "play for commissions". During the study, the team did not encounter even one person capable of pinpointing the reasons for the hike in fertilizer prices.

3.1.7 Organizations responsible for the development of agriculture in the district

The types and number of organizations directly responsible for agricultural development, particularly concerning food security, are given in Table 3.10.

Table 3.10: Agriculture-related line agencies in Mugu district

Name	Offices present	
	HQ	Field/VDC
District Agriculture Development Office (DADO)	1	13 (3 ASCs and 10 ASSCs)
District Livestock Services Office (DLSO)	1	14 (6 LSCs and 8 LSSCs)
District Irrigation Office (DIO)	1	-
Agriculture Inputs Corporation (AIC)	1	
Agriculture Development Bank (ADBN)	1	-
District Forest Office (DFO)	1	
District Development Committee (DDC)	1	-
Nepal Food Corporation (NFC)	1	3
District Cooperative Office (DCO)	1	

Of the above-mentioned organizations present in the district, the first two – DADO and DLSO – are responsible for supporting agricultural production through improved agricultural extension, training and services (i.e. transfer of technology). The DIO contributes to increasing agricultural production through improved irrigation facilities, AIC through improving the supply of seeds and fertilizers and ADBN by widening access to agricultural credit. The NFC, on the other hand, is responsible for distributing food to the people. The DFO contributes to food security through the protection and management of forest resources while the DDC, as a local government body, is responsible for the coordination of district-based government line agencies. The DCO's job, meanwhile, is to register cooperative societies.

Out of the 75 VDCs in the district, the Sokat VDC was selected for this study. The following section briefly describes this village.

3.2 Background of Sokat VDC

3.2.1 Location

The Sokat VDC is situated 45 km south of Achham District's headquarters at an altitude of about 1 700 m. This VDC is surrounded by Dotipokahari VDC in the north, Seti River in the south, Doti Gauda VDC and Seti River in the east and Tirwaka VDC in the west. This VDC has about 405.86 ha of agricultural land.

3.2.2 Social features

The Sokat VDC has a population of about 5 500 comprising about 1 000 households, the average size of which is 5.5 persons. The population density of the VDC is 10 whereas the population density per ha of agriculture land is 230. Dominant households in the VDC are *Chhetris* followed by *Brahmins* and *Dalits*.

3.2.3 Economic features

Like in Murma, agriculture in Sokat comprises mostly subsistence farming even if agriculture is the main occupation of residents. Upland rice, maize, wheat, barley and finger millet are the major crops. Major cropping rotations include: rice-wheat/barley, finger millet-wheat, finger millet-mustard and maize-wheat. Again, just as in Murma, modern agriculture is also non-existent in Sokat. None of the respondents reported use of either modern crop varieties and very little of chemical fertilizers. A few have applied chemical fertilizers on lowland rice (*khet*) at the seedling stage, particularly in the case of pest infestation of rice seedbeds or when seedlings fail to grow properly.

People keep livestock basically for farmyard manure purposes. According to local people, the number of buffaloes has been decreasing due to the lack of markets in which to sell milk and milk products as well as the absence of grazing fields.

3.2.4 Natural resources

This VDC seems quite poor in terms of natural resources. No community forests exist in the VDC. People freely use the natural forest in the area, which has been denuded and is currently not in good shape. A perennial river flows down the VDC but this is hardly used for irrigation purposes.

Due to the poor quality of forests, income-generating activities based on these resources have supported crop and livestock production only minimally. To date, residents have not exerted any effort to protect and manage the forest sustainably, reasoning that “the men are in India” and the women are “too busy with household chores and farming activities to care for forests”.

3.2.5 VDC resources

The social and natural resources map of the Sokat VDC prepared by local communities using locally available materials such as coloured black board chalks, stones and sticks is presented in Annex 2. The resources of Sokat include only the following:

➤ Infrastructure

- Schools. A secondary school in Ward 8, a lower secondary school in Ward 9 and a primary school each in Wards 4, 5 and 6.
- Drinking water. One each in Wards 2, 3 and 7.

- Temples. One each in Wards 2,3,7,8 and 9.
- Water Tank. One each in Wards 6 and 9.

3.2.6 Development interventions

The following institutions are present in this VDC:

- VDC Office in Ward 3
- Field office of the Lutheran World Service (LWS)
- PCO in Ward 5
- One Subhealth post in Ward 4

3.3 Sokat

3.3.1 Location and ethnic composition

Located at an altitude of 1 700 m asl, Sokat, which has a slope of nearly 45 degrees, is situated almost in the middle of the VDC. Six villages, namely, Rakhoj, Bhatkira, Ritharookh, Biju Gada, Aarukh and Banskot form Sokat Village (ward 4). All these villages are densely populated.

Table 3.11 summarizes the ethnic composition of households in the VDC. It shows that *Dalits* (*Sakri*, *Damia* and *Kami*) comprise the dominant caste group in Ward 4 followed by *Brahmin* and *Chhetris*.

Table 3.11: Ethnic composition of Ward 4 in Sokat Village

Caste	Household	Percentage
<i>Sarki</i> (DAG)	31	16
<i>Damai</i> (DAG)	16	8
<i>Kami</i> (DAG)	53	27
<i>Brahmin/Chettris</i>	93	48
Total	193	100

3.3.2 Local resources

The village map prepared by local communities during the PRA is given in Figure 3.1. As seen in the figure, the village has, apart from agricultural and forest land, only one primary school, a few rivers and streams and a single temple.

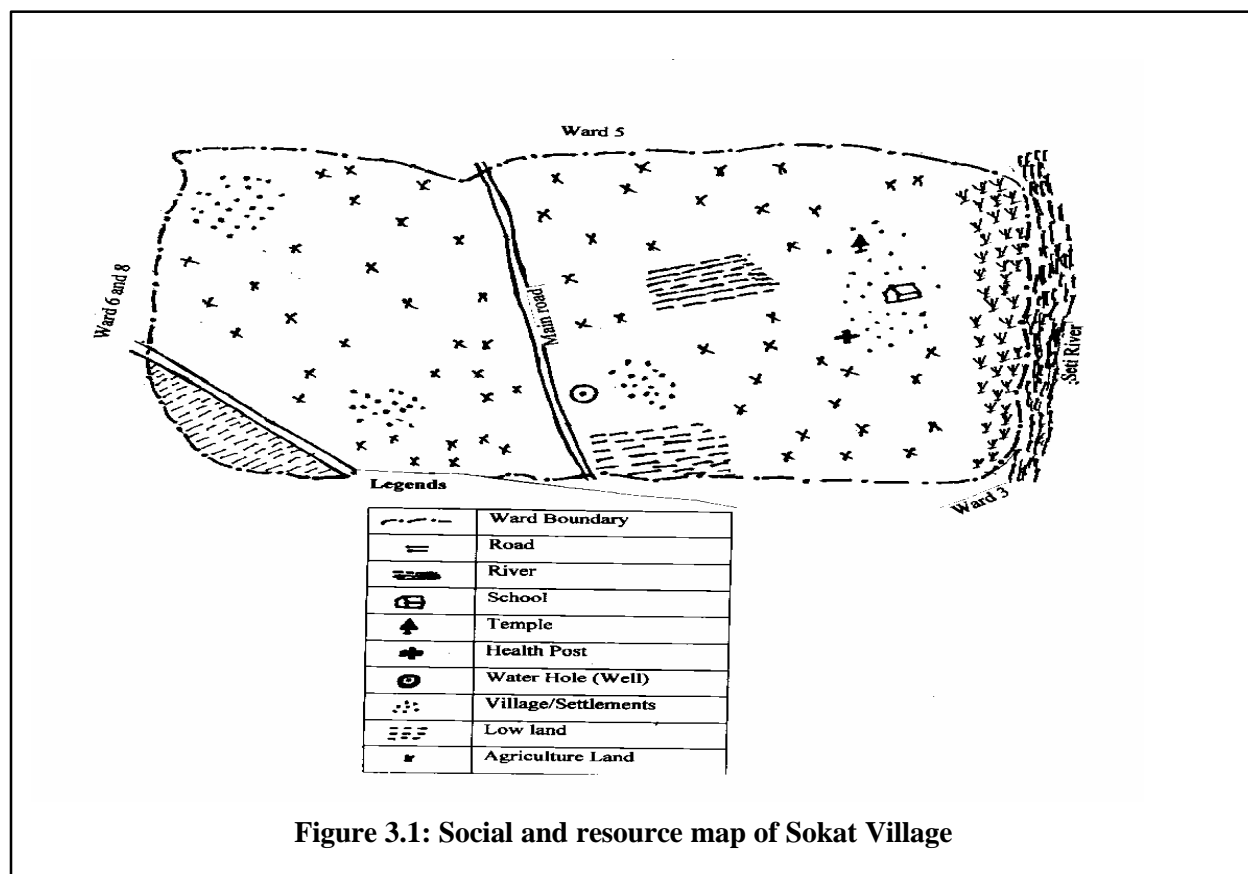


Figure 3.1: Social and resource map of Sokat Village

3.3.3 Agriculture system

Before describing the area's agriculture features and cropping pattern in detail, it is important to understand the farming system practiced in Sokat Village. Figure 3.2, which is based on discussions with participants during the PRA, illustrates this.

Figure 3.2 shows a complementary relationship between crops, livestock and seasonal migration of male members of families in farming systems in Sokat VDC. While crops provide feed and bedding material for livestock, the animals provide draught power for farming as well as manure for healthier crops. As mentioned earlier, the contribution of forest-based activities was found to be insignificant in terms of supporting crop production and livestock because of the degraded condition of forests. Villagers are not likely to be very concerned about protecting and managing natural resources when they are fighting poverty and suffering from hunger. Subsistence farming is the characteristic feature of Sokat agriculture.

Cropping pattern

The major crops of Sokat include upland rice, maize, wheat, barley and finger millet. Major cropping rotations include: rice-wheat/barley, finger millet-wheat, finger millet-mustard and maize-wheat. Table 3.12 presents the village's monthly cropping calendar.

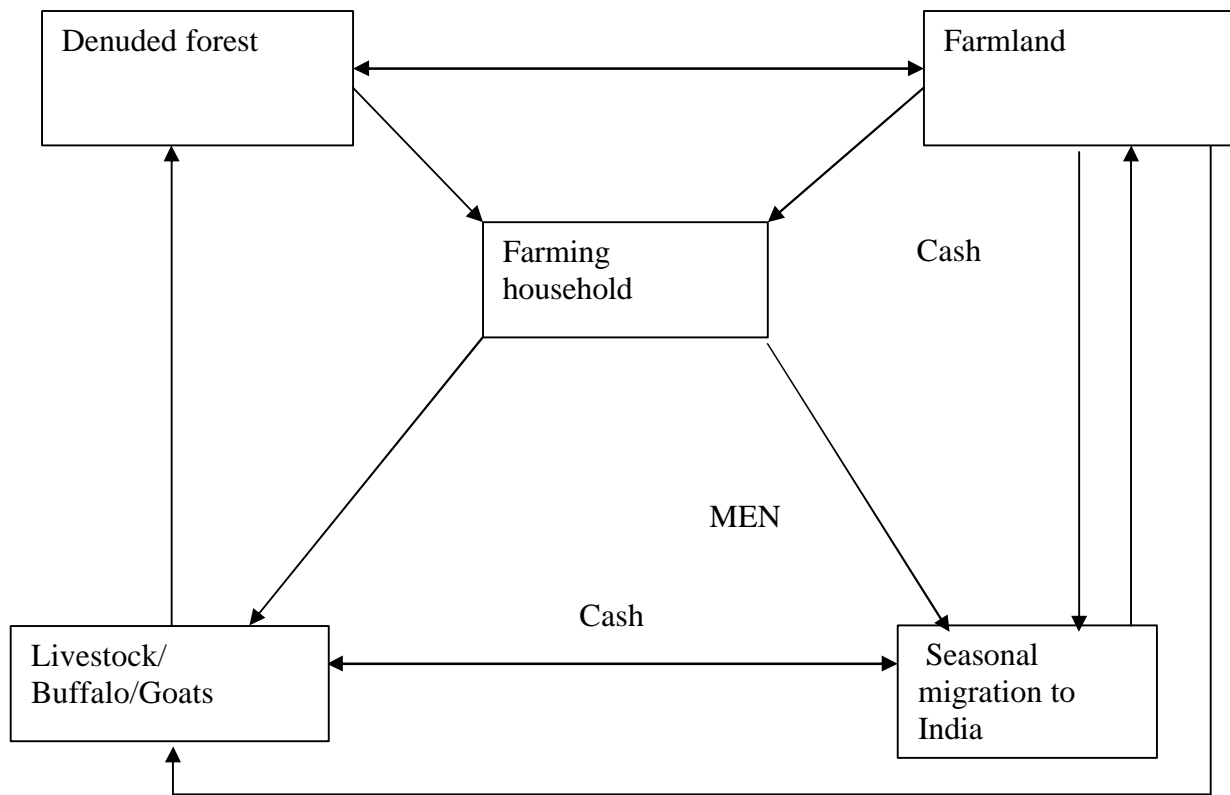


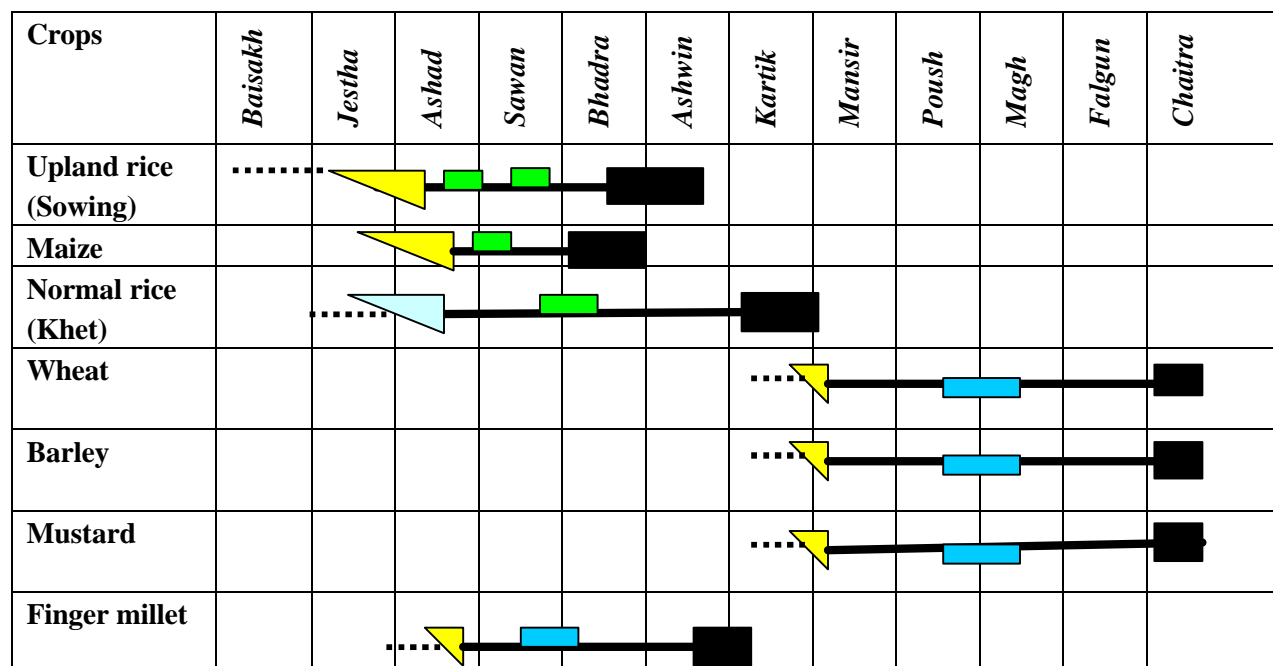
Figure 3.2: Farming systems in Sokat VDC

Crop yields

Table 3.13 compares the average yield of major cereal crops reported by key informants during the PRA exercise in the village with figures reported in the statistics report published by the MOAC in 1998/99. Figures in the table show that the average yield of cereal crops is comparably lower in the village compared with that in nationwide statistics. As before, average figures for Sokat were taken based on focus group discussions during the PRA exercise and were triangulated with key informants.

Modern agriculture was found to be non-existent in the VDC, with respondents reporting none or very little use of modern crop varieties or chemical fertilizers. Some villagers use chemical fertilizers on rice seedlings, albeit rarely, when these do not grow properly or when pests attack them. During the discussions, many said the village, which suffers from decreasing yields and poor conditions, is too far off for district officials to give it attention.

Table 3.12: Monthly cropping calendar



Legends

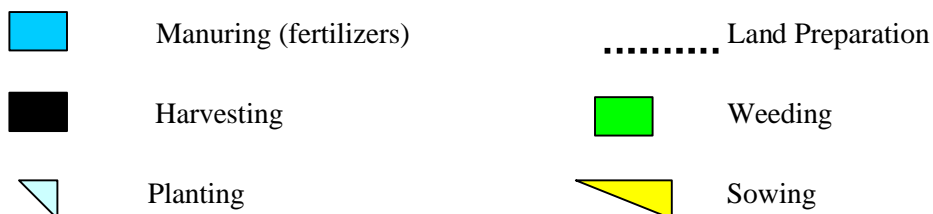


Table 3.13: Average yield of crops in Sokat village

Crops	Sokat average (Mt/ ha)	District average, Mt./ha
Upland rice	0.90	
Normal rice (<i>khet</i>)	1.45	2.38
Millet	0.45	1.34
Wheat	0.80	1.49
Maize	1.25	1.56
Barely	0.58	1.03

Source: VDC record, Sokat, DADO, 1998

Livestock

As in other hilly districts, people keep the livestock mainly for farmyard manure purposes. With denuded forests and irregular rainfall, there is meager supply of forest products and fodder for raising cattle. Women in the village said that managing buffaloes has become very difficult for them because they are too busy with household chores and farming. Of the many factors responsible for the decrease in the number of livestock, the absence of male villagers has emerged as a very important one. Other reasons cited were (a) a dearth of grazing land, (b) scarcity of drinking water, (c) lack of veterinary services and increased animal diseases and (d) absence of a market for milk and milk products.

3.3.4 Economic well-being

Using the same method as previously in Murma Village, villagers came up with their own definitions and indicators of wealth and well-being as shown in Table 3.14. This table reveals that people in Sokat VDC measure poverty of households in terms of food sufficiency at the household level. Larger land size implies that the household has enough to eat.

Residents view seasonal out migration to India as an indication of poverty. Increasingly longer stays and frequent travels to India further illustrate the lack of employment opportunities in the village. According to villagers, males from poor households travel more frequently to India and stay longer there.

Table 3.14: Villagers' indicators for wealth and economical status in Sokat

Rank	Criteria	Remark
One	Food sufficiency year round from the farm owned by the family	The larger the size of the landholding, the richer the family.
Two	Employment/services	Number of family members working and types of employment (permanent/seasonal) .
Fourth	Business	Shops, selling and buying livestock, milk products, etc.
Three	Sources of income (wage labour, working in India, small enterprises)	The more frequent the outmigration to India, the poorer the family.
Fifth	Schooling of children	The greater the ability to send schools children to school, the richer the family.
Sixth	Number of livestock owned	The greater the number of livestock, the richer the family.

Table 3.15 presents the economic classes of Sokat households as categorized by villagers using the indicators listed above as the criteria .

Table 3.15: Economic stratification of people in Sokat Village

Classification	No	%	Types
Richest	7	3.6	Owns business, bigger land size, selling cereal to others, no seasonal outmigration to India.
Rich	27	14.0	Have land to support the family year the round, less frequent seasonal outmigration to India.
Medium	11	5.7	Food sufficient for about 6 to 9 months, having other sources of income such as keeping and goats and seasonal outmigration to India.
Poor	37	19.2	Food sufficient for 6 months and lack of other sources of income except seasonal outmigration to India.
Poorest	111	57.5	Food sufficient for less than three months and lack of other sources of income except for seasonal outmigration to India.
All households	193	100	

The above table shows that about 77 percent households in Sokat Village are poor, not having enough food to eat for 6 or more months and living in a situation of chronic food insecurity. This suggests that three out of every four households are poor. One reason given is the predominance of *Dalits* in the village. However, Sokat is still highly skewed in terms of economic stratification or economic well-being (Table 3.11). Sokat residents define rich, medium and poor as follows:

- **Rich.** Households that have enough to eat year round, produce an amount sufficient to engage in selling, are engaged in businesses such as construction contracting, send children to private boarding schools, rarely migrate to India to work and lend money to others. Rich households often take part in the village politics.
- **Medium.** Households where agricultural production provides the family enough to eat for about 6 to 9 months. Seasonal migration of men is common but they will usually not stay in India for longer than 3 to 4 months at a time. Children from these households are sent to the government-run school.
- **Poor.** Households that do not have food to eat if they do not work for the day. Generally, these households do not produce sufficient food for more than 6 months a year from their land. Seasonal migration to India is frequent and migrants stay longer in that country. They depend on daily wages for survival.

The above definitions show the extent to which hilly people of Sokat attach importance to food sufficiency and land size. Like in Murma, seasonal migration also serves as an indicator of poverty in Sokat Village. During the discussions, most of the respondents said that they would not even choose to go to India if only work were made available in the village.

Table 3.16 presents the economic stratification of households by ethnicity or caste as characterized by the villagers during the PRA. This table reveals that all *Dalits* in the village except one (a *Kami* household) belong to the last two economic categories (poor and very poor).

Table 3.16: Economic stratification of people in Sokat Village by ethnic group

Economic Class (households)		<i>Brahmins/Chhetris</i>	<i>Sarki</i>	<i>Damai</i>	<i>Kami</i>	Total
Richest	no	7	0	0	0	7
	%	7.53	0.00	0.00	0.00	3.6
Rich	no	26	0	0	1	27
	%	27.96	0.00	0.00	1.89	14.0
Medium	no	11	0	0	0	11
	%	11.83	0.00	0.00	0.00	5.7
Poor	no	25	4	2	6	37
	%	26.88	12.90	12.50	11.32	19.2
Poorest	no	24	27	14	46	111
	%	25.81	87.10	87.50	86.79	57.5
HH number		93	31	16	53	193
		100.00	100.00	100.00	100.00	100.00

Table 3.17 further reveals that in Sokat, only 33 households (17.6 percent) had sufficient food to eat for 12 months or more. The rest need to find other sources of income for survival.

Table 3.17: State of food sufficiency in Sokat

Food sufficiency	Ethnic distribution				Total
	<i>Brahmins Chetri</i>	<i>Sarki</i>	<i>Damai</i>	<i>Kami</i>	
Up to 3 months	24 (25.8)	27 (87.1)	14 (87.5)	46 (86.8)	111 (57.5)
4-6 months	25 (26.9)	4 (12.9)	2 (12.5)	6 (11.3)	37 (19.2)
6-9 months	11 (11.8)	-	-	-	11 (5.70)
10-12 months	26 (28.0)	-	-	1 (1.9)	27 (14.0)
More than 12 months	7 (7.5)	-	-	-	7 (3.60)
Total	93 (100)	31	16	53	193 (100%)

Source: PRA, Sokat

Note: Figure in parenthesis indicates the percentage

3.3.5 Seasonal food availability

As shown below in Figure 3.3, the food availability situation in Sokat Village was generally poor over eighth months (i.e. *Chitra*, *Falgun*, *Shrawan*, *Bhadra*, *Asadh*, *Baisakh Magh*, and *Poush* in

descending order). Even if upland paddy could be harvested in *Bhadra*, food shortages were still reportedly common, as rice requires time for processing and milling before it can be consumed.

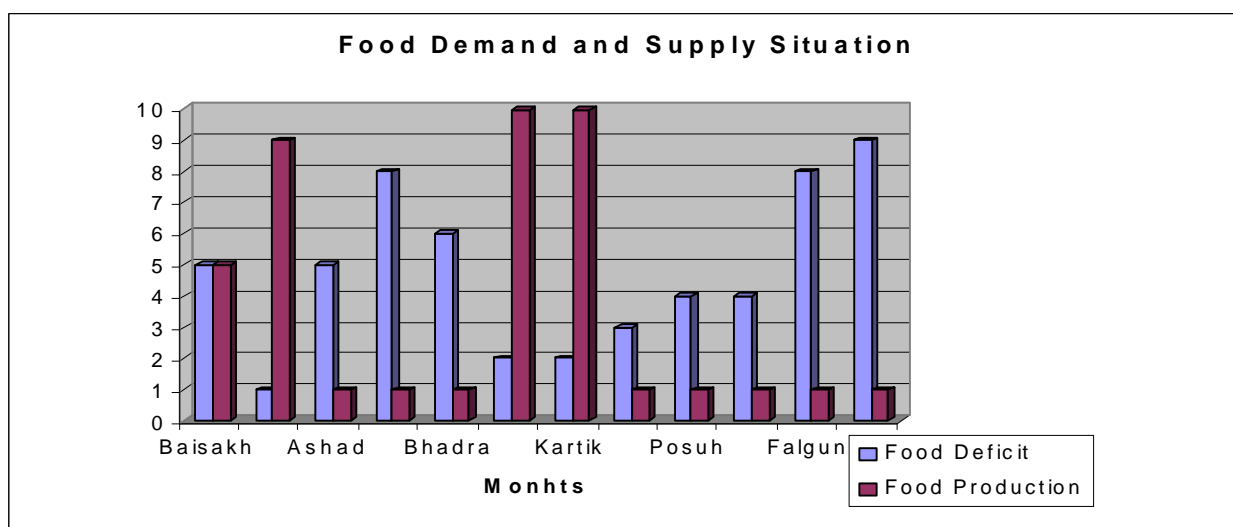


Figure 3.3: Food availability situation in Sokat Village

3.3.6 Income and expenditure

Table 3.18 and 3.19 illustrate income sources and expenditure patterns of the various types of households (rich, medium and poor).

Table 3.18: Income sources and economic status in Sokat Village (%)

Sources of income	Rich	Medium	Poor
Farming	75	50	15
Seasonal migration to India	5	35	60
Livestock raising	15	10	5
Cottage industry	5	5	-
Services (Public sector)	Negligible	Negligible	Negligible
Wage labour	-	Negligible	20
Business and contract	5	-	-
Total	100	100	100

The contribution of livestock to the local economy seems meagre, while the contribution of horticulture is almost nil. Borrowing money from richer households emerges as one of the major coping strategies of poor households. Many villagers repeatedly expressed their dissatisfaction over the neglect of the VDC by district authorities. Many feel that development has not reached their village.

Expenditures

Table 3.19 summarizes the sources of expenditures (i.e. where villagers spend their income and for what purposes) by households in Sokat. According to their own narration, residents allot about 75 percent of their income on food. As stated earlier, the higher the amount people spent on food, the higher the poverty level. Clothes and medical treatment came after food in the spending list, with very little allotted to livestock. Since farming was traditional and did not make use of modern production inputs such as improved seeds, chemicals and fertilizers, expenditures on farming was nearly zero. People do not count labour as a cost since it is considered a free good to be exchanged with labour. Using wage labour in farms was not common in the study area due to the lack of cash flow.

Table 3.19: Household expenditures by areas/sector

Sector/Areas	Expenditures (%)
Food	75
Clothing	10
Medical treatment	5
Farming	5
Celebrating festivals	3
Purchasing livestock	2
Miscellaneous (Purchasing ornaments, etc.)	Negligible
Total	100

Although expenditure patterns vary by the economic level of households, the data illustrate a general pattern. Seasonal differences in income and expenditures are presented in Figure 3.4.

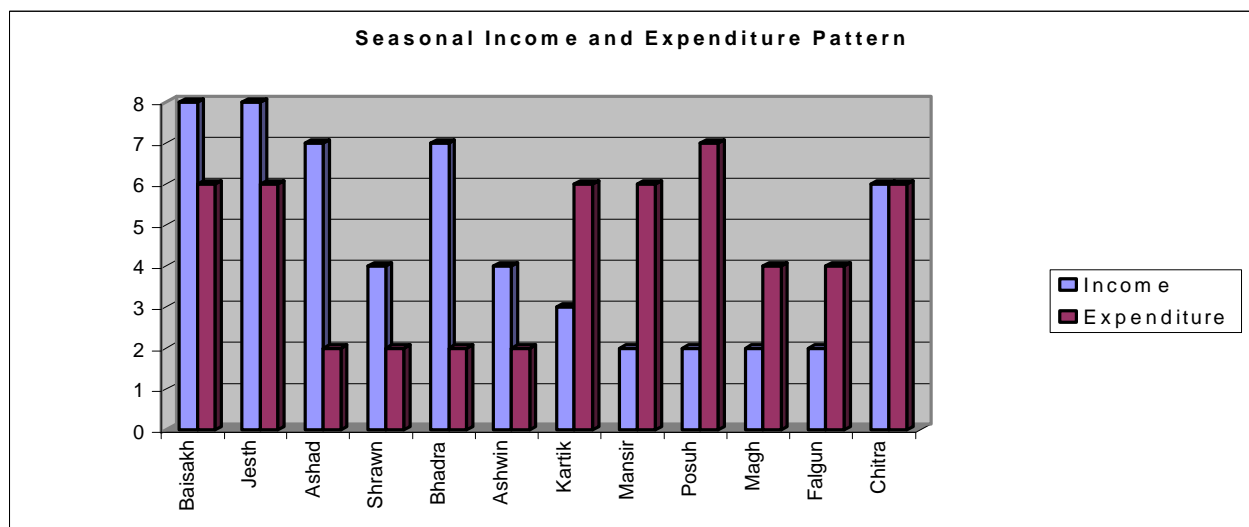


Figure 3.4: Seasonal income and expenditure pattern in Sokat Village

Income normally exceeds expenditure in the months of *Baisakh*, *Jestha* and *Asadh* when men return to the village. Spending in *Baisakh*, *Jestha*, *Kartik*, *Marg* and *Pousha* is high as villagers tend to spend more on food items during these months.

3.3.7 Livelihood strategies

Table 3.20 summarizes livelihood strategies of Sokat residents by type of households (rich, medium and poor) based on the economic classes as categorized by villagers themselves.

Table 3.20 Livelihood strategies of Sokat residents

Rich household	Medium households	Poorer households
Business/Contracts	-	-
Services	Services	Labour work
Selling cereals/food	Seasonal outmigration to India	Seasonal outmigration to India
Selling of livestock	Selling of livestock	-
Earning interest from the cash and cereals lent to others	Borrowing money	Borrowing money

The above table shows very little options for the poor. Since borrowing money and finding daily wage labour are not easy in the village, their only option is to work in India. Since seasonal migration to India has sustained the village economy, this issue is further discussed below.

Seasonal migration

Seasonal migration to India provides a way of living for the majority of households except for a very few. This indicates that the process of seasonal migration could be reduced if there were jobs made available within the village. Many poor *Dalits* said that they would not be able to pay back their loan and feed their families if they did not work in India.

The inflow and outflow of people appear the same in every month in Sokat and Murma, although Sokat appears poorer. If the long winter season was an important contributing factor to outmigration in Murma (which represents the mountain areas), this does not apply to Sokat. Here, poverty is the main reason for outmigration. If male villagers do not work in India, then their families will not be able to afford clothes, utensils and farm equipment. Furthermore, they will hardly have cash needed to manage day to day living.

As there are typically shortages of farm labour from *Jestha* (June) and onwards, there is thus plenty of work for men in their farms. Male villagers then start to return to their village to work in the farms. Figure 3.5 shows the seasonal migration pattern for twelve months. This shows that maximum outmigration occurs in the two months of *Pousha* and *Magha*. The number of people engaged in outmigration was nearly equal to the number of people returning to the village.

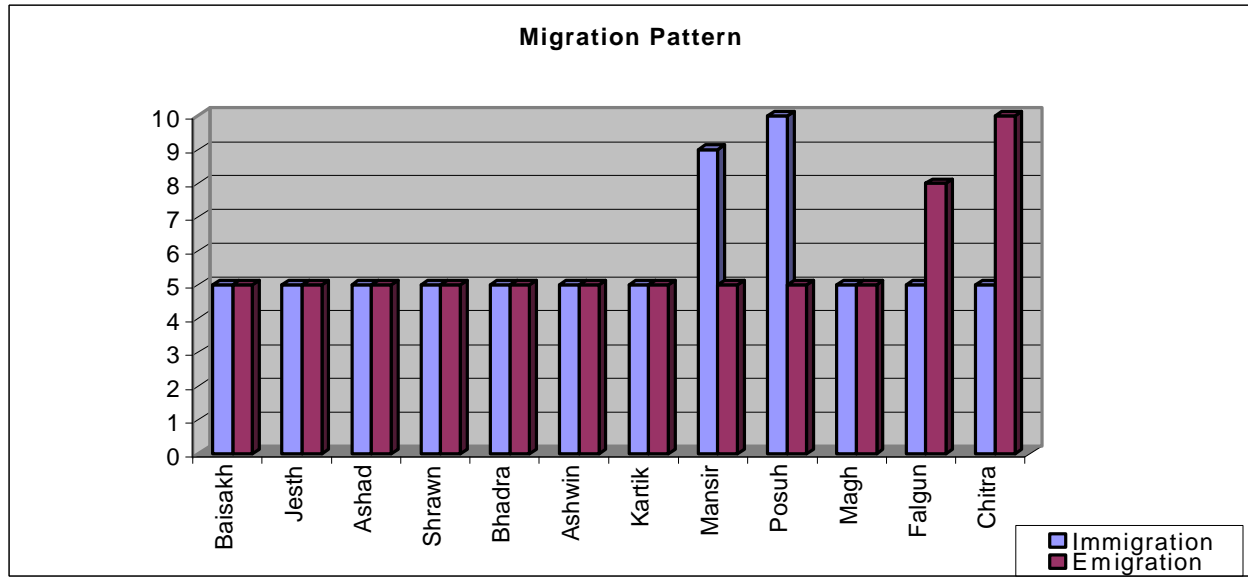
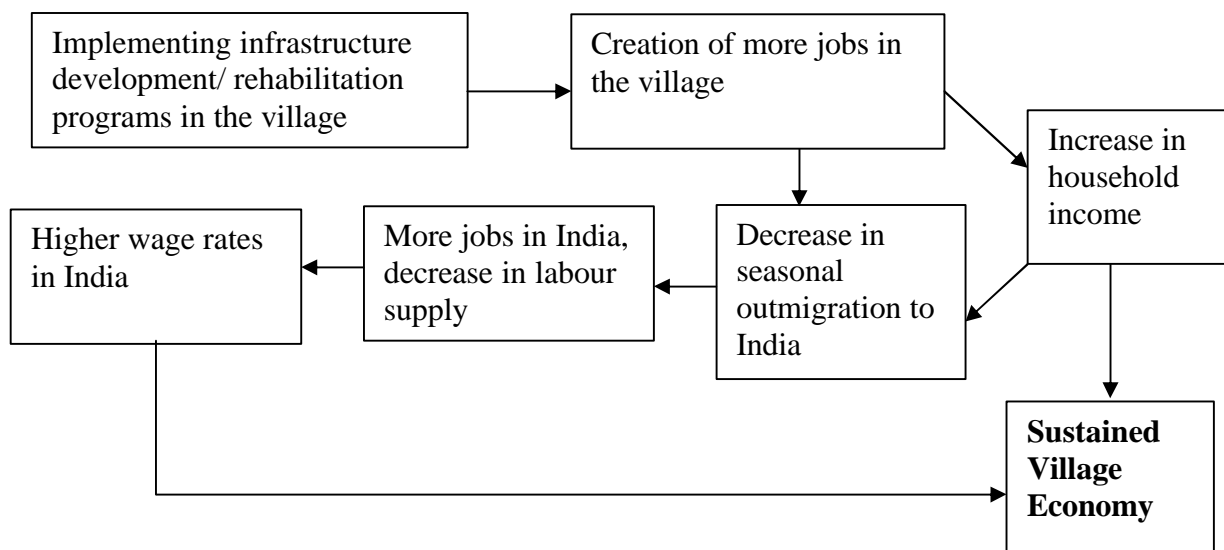


Figure 3.5: Seasonal migration of male members of households in Sokat Village

As in Murma, the consequence of seasonal migration to India is either to deny children their education or to precipitate early dropouts from school. Again, girls suffer the most from this problem since they usually remain in their homes to support their mothers in farming, grazing livestock and caring for babies. Villagers said finding skilled and highly paid jobs in India is not possible although working as wage labourers in road and bridge construction and in bus stations is not a problem. Seasonal outmigration has sustained the economy of the village and provided the source of cash income of villagers given the subsistence nature of farming, and equally, poor Nepalese people living in remote mountains have supported the development of India by providing cheap labour. This seems to be a win-win situation for both parties.

Most of the people in Sokat Village said they would die of hunger if the Indian Government banned them from working in India. However, they believe that this is not likely since India needs cheap labour. When asked if seasonal migration will still occur if sufficient employment is made available in the village, most of the respondents replied that the magnitude of outmigration would certainly decrease because of the low wage rates elsewhere and the possibility of cheating by their employers or agents. Nevertheless, a few said they would still need to go to India to buy cheap cloths, utensils and equipment.

Therefore, creating sufficient jobs within the village and adjoining areas will not only support the development of local areas and improve the economic status of the people, but also indirectly help to spur reasonable wages in India. PRA participants drew the following flow diagram to show the consequences of creating more jobs in Nepal through the development of village infrastructures.



The flow diagram indicates two things. First, it displays the people's good understanding of the linkages between poverty and seasonal outmigration. Second, it illustrates that unless income-generating opportunities and jobs are created through infrastructure improvement in this part of Nepal, there is very little chance for poor migrants to receive reasonable wage rates in other parts. However, when asked if there were any ongoing development activities implemented in the VDC in the last two to three years, the response was negative. There is a notable lack of programmes to encourage and motivate young men to contribute to the development of their own village.

When asked how much they earn while working in India, majority of respondents replied that they go to India to save food for other family members living in the village (i.e. women and children) and that they earn very little since the daily wage rate in India is less than IRs 100 per day (NRs 160), which they use to buy food. What is left after food purchases is said to be less than half of this amount. Apart from this, they say they often get cheated by labour contractors as well as lose whatever they earn from gambling. It is hence no wonder if they return to their village empty handed, a few old clothes and further indebtedness to pay back loans.

3.3.8 Credit

As in Murma Village, PRA participants in Sokat were also asked questions relating to their credit needs. Majority of respondents reported that obtaining credit for procurement of food is almost impossible in the village but borrowing money to move to India is easy. The most common practice for this involves to paying IRs 160 for a loan of NRs 100, for a time period of one year. If the person fails to show up after this time frame, the amount will be converted into Nepalese Rupees for the purpose of charging interest.

Sokat women have also begun to organize themselves into saving and credit groups. Many women had heard of such programmes in neighbouring villages and expressed their interest to participate in this programme because of its obvious advantage of greater loan availability when needed to finance

male villagers' movement to India. A few participants admitted that the credit they obtain for livestock maintenance or agriculture modernization usually gets spent on food for the family and on sending their male members to India. As banks do not provide consumption credit, villagers have apparently found an alternative arrangement to solve the problem. This indicates that it would be a gross mistake to make further plans to improve agriculture production system by distributing credit on the assumption that bank loans are used solely for this purpose.

Even if a bank shows that it has allotted a certain proportion of its credit to the production of rice or livestock development, this may not be true in reality. Although this is a clear case of loan misuse, it is hard to prevent since banks have to show achievements in terms of loan distribution while villagers will always prioritize their funds according to their needs. Interestingly, one participant narrated this typical story: "I applied (for a) loan to buy a pair of bullocks, and the bank gave me credit to improve agricultural land for irrigation purposes. The reason was that it had already overspent the budget available for bullocks and was not able to distribute loans allocated for the land improvement programme. For me, it made no difference. I was planning neither to buy bullocks or improve my land. What I needed was money to send my sons to India."

When asked how easy it is to obtain credit from banks, many laughed and said "It is better not to ask this question." They claim three out of five people who approach a bank for a loan are usually turned down due to various reasons such as insufficiency of collateral, non-availability of loan for the purpose requested and lack of time for bank managers to assess the land of the borrowers. Two will reportedly receive loans but in amounts far less than is required and only after making several visits .

3.3.9 Gender considerations

Earlier sections discussed the agricultural and socio-economic features of Sokat and villagers' livelihood strategies. This section explores some gender issues with regard to food and agriculture with a focus on food security and poverty problems. Like the case of Murma in Mugu District, information gathered through PRA with respect to gender issues in food and agriculture are described in terms of household food distribution, daily activity schedules, division of labour, workload, mobility and decision-making.

Daily food calendar and food distribution

Although household food scarcity is likely to affect everyone, the study revealed it is the women who suffer first in the situation of household food scarcity in Sokat. Women usually eat last in the family and are therefore likely to be affected when the food cooked is not sufficient for the family and if guests and relatives arrive after the food is cooked. Many women said that occasionally they have to cook less than what would be required for the family because of shortages in grains. Children usually eat first as they go to the school and because they are young. Nevertheless, malnutrition of children was observed in Sokat.

Stray dogs were usually seen in most of the villages but it was unusual in Sokat. When residents were asked about the absence of stray dogs in the village, they replied, “How could dogs survive in this village, when there is no food to eat even for the people in this village?” This reflects the situation of food scarcity in the village.

Depending on the season, villagers eat (upland) rice and bread. Their normal diet consists of rice, pulses and vegetables. While vegetables such as broadleaf mustard and radish are common in winter, cucurbits are common in the rainy season. Potato is usually a kitchen garden crop.

Responding to question related to the diet made available to pregnant and lactating mothers, participants said they were too poor to provide extra food or additional nutrients for pregnant and breastfeeding mothers. This was true for women of all economic classes – rich, medium or poor. However, they were aware that women need a specific diet during these periods.

As shown in Table 3.21, slight differences were noted regarding daily food habits of rich, medium and poor households. If rich households eat rice twice a day almost regularly, medium households eat rice and bread almost fifty-fifty while majority of the poor consume only bread. Poor people have to wait for festivals and social functions to be able to eat rice. In general, the people of Sokat eat food two times a day, with lunch taken around 9 to 10 a.m. and dinner at about 7 to 8 p.m. Farming activities usually start after lunch. People eat light snacks at about 2 to 3 p.m. when they have heavy work pressures or are working in the farm.

Table 3.21: Daily food schedule

Economic class	Morning (9 to 10 a.m.)	Day (2 to 2.30 p.m.)	Evening (7 to 8 p.m.)
Rich	Rice Pulses Vegetables	Bread (maize, wheat, finger millet)	Bread/Rice Pulses Vegetables
Medium	Rice/Bread Pulses Vegetables (Occasionally)	Bread (maize, wheat, finger millet)	Bread/Rice Pulses Vegetables (Rarely)
Poor	Bread/Rice Pulses Vegetables (Rarely)	Bread (maize, wheat, finger millet)	Bread/Rice Pulses Vegetables (Rarely)

Daily activity schedules

Figure 3.6 depicts the typical 24-hour activity schedule of each gender separately drawn by male and female villagers during the PRA. Table 3.18 shows that women generally work about 17 hours a day while men work only 14 hours. The study supports similar studies, which state that women are burdened with multiple productive and reproductive chores while men mostly perform productive work. This figure also reveals that men are engaged mostly in productive tasks while women are overloaded with both reproductive and productive tasks.

In farming, men and women work almost equal hours. This suggests that unless gender sensitive methodologies are designed to address women's issues and enhance their access to technology development and dissemination, the goal of improving food security and livelihood conditions are unlikely. If interventions target only men or are more friendly to men (i.e. further burdening the women), then women will become either indifferent to new technologies or will resist them. If new technologies reduce the workload of women, the probability of technology acceptance will likely be high, other things constant, such as costs, availability, divisibility, adaptability, etc.

The table below shows the gender differentiated daily productive and reproductive tasks in percentages. Table 3.22 and Figure 3.6 collectively illustrate that a number of activities that women carry out are particularly labour intensive and physically demanding.

Table 3.22: Gender-differentiated daily activity schedule in Sokat Village

Activities	Unit	Involvement of	
		Men	Women
Productive and reproductive work (total working hours)	Hours	14	17
	%	58	71
Sleep/Rest	Hours	10	7
	%	42	29
Reproductive work (Fetching water, cooking, carrying babies, cleaning houses, shed clearing)	Hours	4	8
	%	16	33
Productive work (Farming activities)	Hours	10	9
	%	42	38

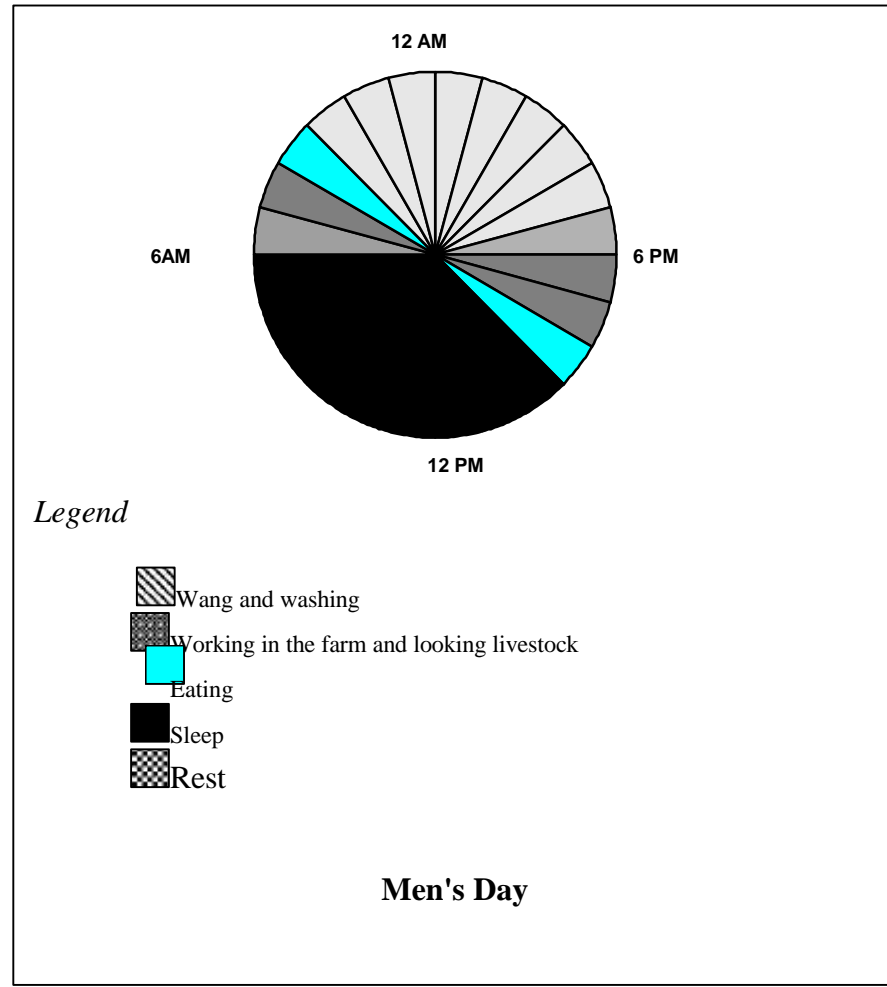
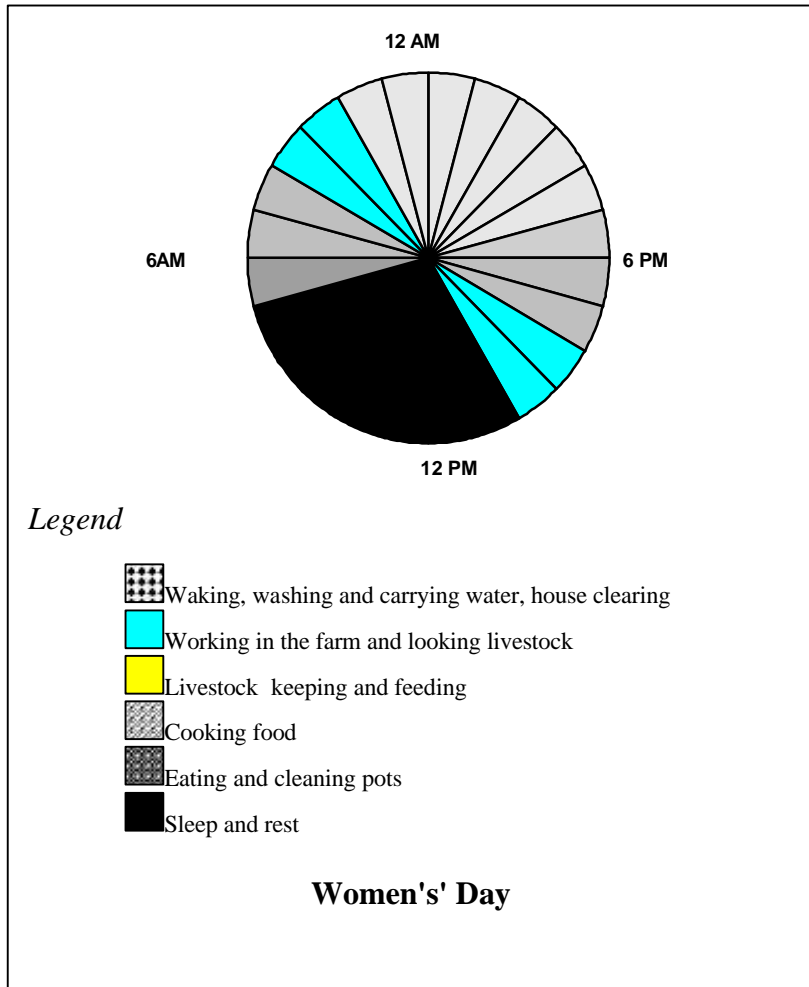


Figure 3.6: Twenty four-hour calendar of women and men, Sokat village

Gender-disaggregated division of labour

The study reveals that women, with the help of young girls, carry out most of the household chorus such as cleaning, washing, childcare and cooking. Yet even though women are loaded with household chores, they work nearly as hard as men in farming and are involved in all types of farm work – from seed selection to harvesting and storage – except for ploughing. As farming is mainly subsistence in nature, households have very little or nothing to sell. Tables 3.23 and 3.24 encapsulate the distribution of household activities according to gender and the division of labour in relation to agriculture.

Workload

The workload of the both men and women is often high in the months of *Jestha*, *Asadh*, *Shrawan* and *Ashwin* (Figure 3.7). *Ashwin* is the month for harvesting (upland) rice while *Jestha*, *Asadh* and *Shrawan* are weeding and planting seasons for rice, maize. Women are busier in the months of *Asadh* and *Marga* than men because they are usually engaged in maize weeding and rice transplanting. Although men and women have equal workloads, the sharing varies by month, size of the landholding, family size and seasonal outmigration of males.

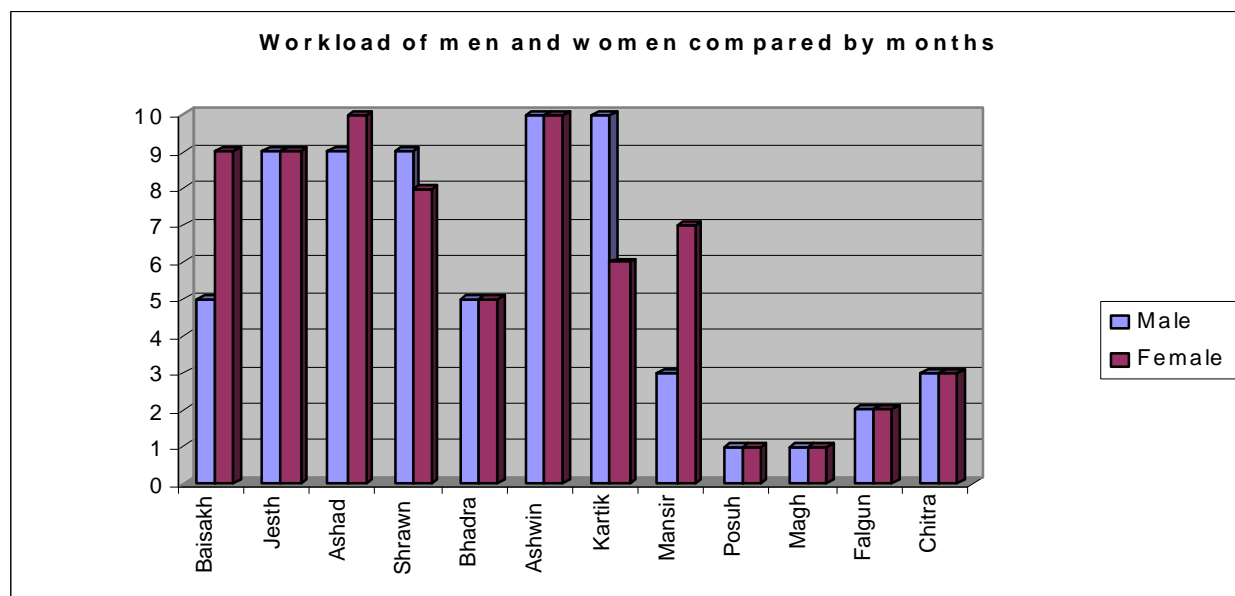


Figure 3.7: Workload of men and women by months in Sokat village

Mobility

With a view to assessing resource access by gender, both men and women were asked to sketch their mobility showing the places, frequency, purpose and distance of their travels. All participating women showed they were mostly confined to farms, water springs, forest, religious places (Khaptad, Bada Mallika temples) and houses of relatives, which includes parents' houses. This reflects the weak access of women to development opportunities and interventions.

Table 3.23 Gender disaggregated household chores in Sokat Village

Months \ Activity	Baisakh	Jestha	Ashad	Srawan	Bhadra	Ashwin	Kartik	Mansir	Poush	Magh	Falgun	Chaitra
A. Household Task												
Cooking	● ————— ●											
Cleaning and washing	●○ ————— ● ○											
Fetching Water	● ————— ●											
Baby Care and Health	●▲○ ————— ○▲●											
B. Others												
Working in India	————— ▲ —————											
Hand Carving	▲ ————— ▲											

Legends

- ▲ Male
- Female
- Children

Table 3.24: Gender disaggregated farming calendar in Sokat Village

Months \ Activity	Baisakh	Jestha	Ashad	Srawan	Bhadra	Ashwin	Kartik	Mansir	Poush	Magh	Falgun	Chaitra
A. Crop												
Rice (Upland)	LP ▲	▲ ●	P ▲ ●	W/M ▲ ●			H ▲ ●					
Paddy (Lowland) (Transplanted)	LP ▲	▲ ▲	P ▲ ●	W/M ▲ ●			H ▲ ●					
Wheat						LP ▲	P ▲ ▲ ●			M ▲		H ▲ ● ▲
Millet						LP ▲	P ▲ ▲ ●			M ▲		H ▲ ● ▲
Mustard						LP ▲	P ▲ ▲ ●			M ▲		H ▲ ● ▲
Kodo		LP ▲	P ▲ ●	W ▲ ●			H ▲ ●					
B. Cattle Keeping/Carrying fodder												
Grass fodder	←											→
Shed cleaning	←											→
Grazing	←											→
Feeding animals	←											→

Legends

- | | | | | | |
|---|----------|----|------------------|---|---------|
| ▲ | Male | LP | Land preparation | W | Weeding |
| ● | Female | M | Manuring | | |
| ○ | Children | P | Planting | | |
| | | H | Harvesting | | |

When asked how often they go to Sanfe Bagar, the nearest market, and Mangelsen, the district head quarters, many women stated they often go to Sanfe to buy essential household items and clothes, while some said they have been to Mangelsen only once or twice to date. A few reported they visited Mangelsen only once just to see the district headquarters. In contrast, the males frequently left village, especially to find jobs in India.

Majority of the women were not even aware of government centres such as the ASC or the LSC. A few said that they have visited LSC in Sanagaon while their men were out of the village and their animals were sick, but none ever visited ASC. After the arrival of the Lutheran World Services (LWS) and the formation of women groups for saving and credit, women have begun to participate in the meetings and programmes, activities that are held mostly within the village. Like women, men also reported rare visits to ASC and LSC, which entail 3 to 4 hour walks with no certainty that technical workers will be available when they arrive.

Figure 3.8 presents the mobility maps prepared separately by women and men during the PRA, which shows the greater mobility of men compared to women. This study shows that women should have wider access to technology development and dissemination if the aim is to improve agriculture. While the business of men revolves around seasonal migration to India, that of women involves farming. Enhancing women's access to training and extension activities would thus effectively influence farming decisions and help modernize agriculture. Table 3.25 describes the place, purpose and frequency of mobility of women and men.

Table 3.25: Details on the mobility of women and men in Sokat Village

Place	Women		Men	
	Major Reasons	Frequency	Major Reasons	Frequency
Tap stand	– To fetch water – Washing/cleaning	Everyday	– To fetch water	Everyday
Farm	– Agri. production	Everyday	– Agri production	Everyday
Forest	– To gather firewood – To gather fodder – To graze animals	Everyday	– To bring firewood – To graze animals	Everyday
Sanfe Bagar	– To purchase daily household items – For medical treatment	Sometimes	– To purchase daily necessities – For medical treatment	Often
Mangelsen, DHQs	– Legal work – To accompany husband/relatives	Rarely	– Legal work – To attend district meetings	Sometimes
Relatives	– To attend social affairs /festivals	Sometimes	– To attend social affairs/ festivals	Occasionally
Temples/ Holy places	– For worship	Occasionally	– For worship	Occasionally
VDC	– To get VDC recommendations as required	As necessary	– To get VDC recommendations – To attend VDC meetings and take part in VDC affairs	Frequently
India	– For work, usually in winter	Six months	–	–

Decision-making

As shown in Table 3.26, women in Sokat Village are usually responsible for decisions on food-related issues such as the daily menu. Men typically dominate women in areas related to the education and health of children, use of land and the spending of household cash income. Interestingly, all PRA participants claim that women and men make joint decisions on farm practices, be it seed selection, sowing, weeding or harvesting. Although the question related to access and control over the sale of agricultural produce appears not very relevant in Sokat, responses from a few rich households that produce food to sell at the local market reveal that the decision is usually made jointly. Women have as much say as men, but men often make the final decision in cases of disagreement. One woman indicated how weak she was to stop her husband from selling food at the local market and using the money to gamble. Gambling is said to be a big problem in the village.

Table 3.26: Responses of women and men on decision-making

Decision areas	Men's responses (%, n=15)			Women's responses (%, n=10)		
	Men	Female	Both	Men	Female	Both
Education of children	67	-	33	70	-	30
Health of children	33	27	40	4	4	2
Land	53	-	47	50	10	40
Food	-	73	27	-	90	10
Cash/money	80	13	7	30	10	60
Farming activities	7	60	27	-	70	20
Forest	7	60	27	-	70	20
Family planning	7	13	80	60	10	30

The above table suggests that there differences exist in opinion with respect to family planning decisions across gender. Majority of women (60 percent) said they needed to get permission from their husbands to adopt birth control measures (permanent or temporary), but majority of men (80 percent) said they make joint decisions. This indicates men's domination over women even on family planning issues. On issues such as the education of children, use of land and spending of money, men were the prime decision makers. However, on the issues relating to forest and farming activities, women dominate men. Again, the reason is the seasonal migration of the men to India.

3.3.10 Institutional mapping

As women could not list institutions present in the VDC except LWS and schools, they naturally gave the greatest importance to the VDC followed by the school system and the LWS. But although relationships with the LWS are strong, the women were not asked to draw Venn diagrams for the institutions. The results indicate weak participation of women in activities and programmes of development organizations present in the VDC.

After listing all organizations operating in the VDC and the organizations with which they have linkages, the men were asked to draw a Venn diagram to showing how each ranked in terms of importance and their relationships with the institution. The relative importance of the organization or institution is shown by the size of the circle representing it (i.e. the larger the circle, the more important the organization). As before, the extent to which the different organizations interact with each other is shown by the degree of overlap between the circles in the diagram.

Table 3.27 summarizes the main activities of organizations present in Sokat while Figure 3.8 and 3.9 shows the Venn diagram drawn by villagers. Again, the VDC turned out to be of highest importance followed by the health and school systems (Table 3.28). When asked to give reasons for their selection, majority said that the VDC proved useful in obtaining recommendations and support, for example, in getting citizen certificates and entitlement certificates, purchasing rice from the office of the NFC, resolving local conflicts and issues and getting funding support for roads construction, installation or repair of drinking water taps and rescues during landslides or other natural calamities.

Table 3.27: Institutions operating in Sokat village

Organization	Type	Location	Major functions
VDC office	LEB/GO	VDC	Local development/ infrastructure improvement
Health post	GO	VDC	Primary health treatment
Youth club	NGO	VDC	Youth activities and social service
School	-	VDC	Education
Lutheran World Service	INGO	VDC	Community development/saving and credit
Family planning office	NGO	VDC	Family planning
Post office/ Telecom office	GO	VDC	Communication services

Table 3.28: Local perceptions on the importance of and relationship with institutions in Sokat Village

Institutions	Importance	Relationship
VDC	First	Near
Health post	Second	Very Near
Schools	Third	Most Nearest
Clubs	Fourth	Near
Lutheran World Service	Fifth	Far
Family planning	Sixth	Very Far
Post office/communication	Seven	Farthest

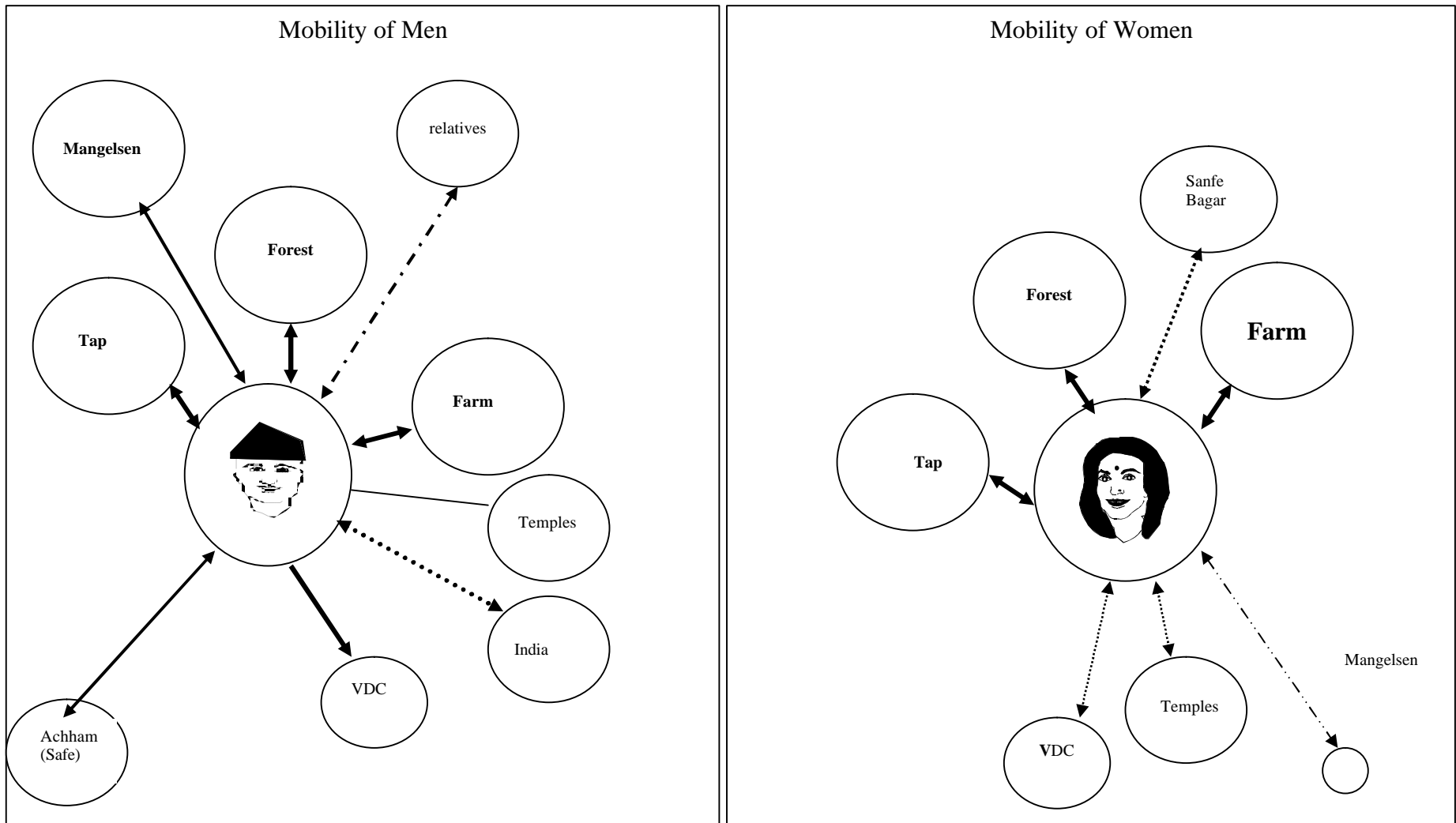


Figure 3.8: Mobility Map, Sokat

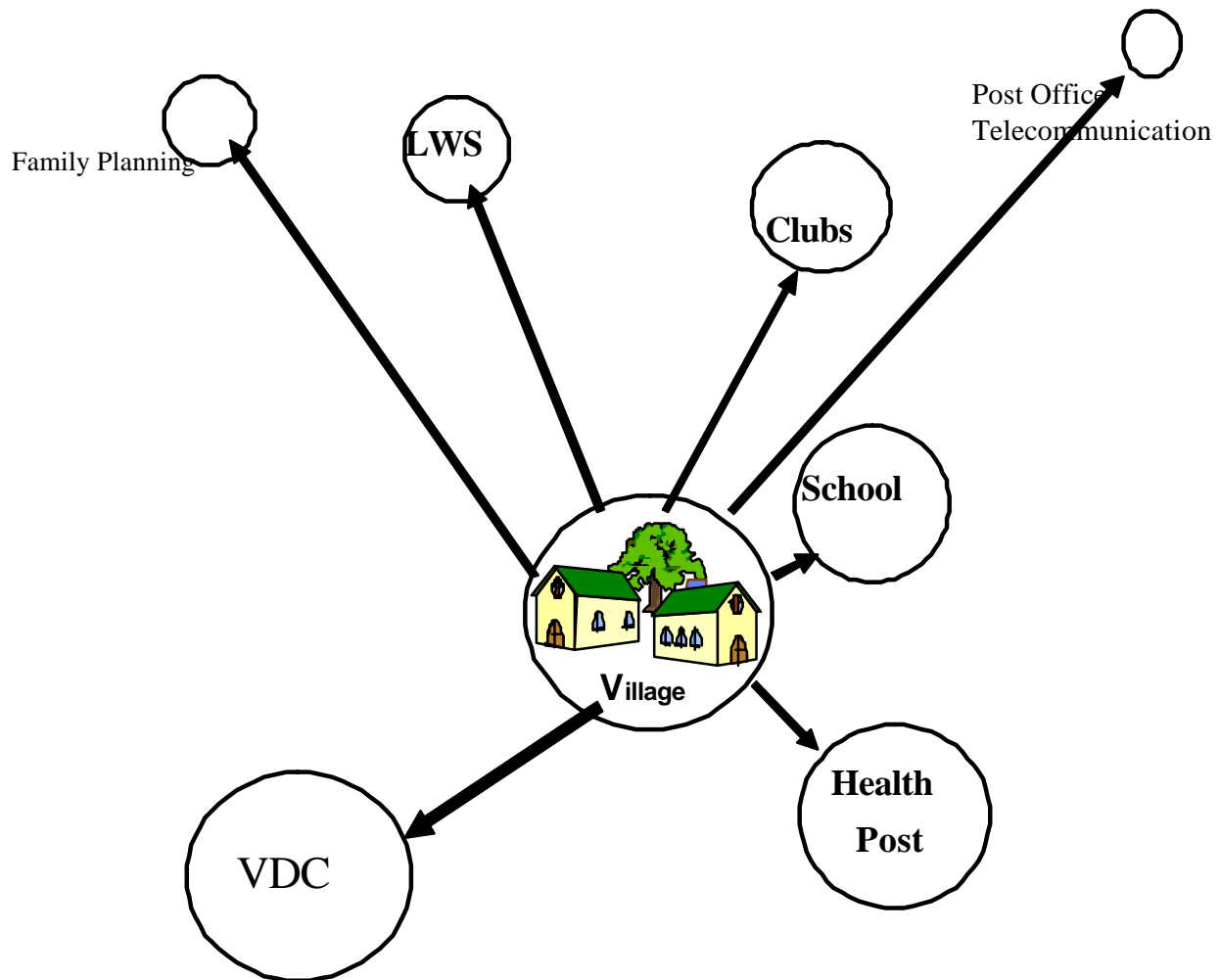


Figure 3.9: Perceptions on the institutional network in Sokat

3.3.11 Changes as perceived by villagers

In order to know the pace of development in the village, the villagers were requested to discuss among themselves changes they have perceived over the last ten years. Majority of villagers say Sokat Ward 5 has not changed. They had seen development in the neighbouring VDC, Ladagada of Doti district, where a road was being constructed to link Shantinagar on Doti Shilgadi-Sanfe Road to Dang, Ward 5 of Ladagada VDC which borders Sokat, Ward 1. This was in addition to a 15-bed hospital, irrigation channels and drinking water supply improvements.

Sokat had just one drinking water programme installed a few years ago in the VDC, but water no longer flows from the taps. The VDC has a (temporary) secondary school building, which is about to fall. Farming remains traditional in character while the seasonal migration of male villagers to India has

increased. Two years ago the LWS expanded its activities to Sokat and hired village motivators and the youth seem pleased with this organization for the additional employment provided.

In general, villagers are poor and feel that there has been little or no change in their lives over the last two decades. For many, the establishment of a public communication system in the village has been a very positive change as they can now call their relatives in Nepal, assess the work situation in India and talk with their relatives or family while they are abroad and vice versa. Although the local school was upgraded due to efforts of the VDC, people hardly consider it as a change. For them, the school system is important in enabling them to read, write their names and keep accounts, which are skills needed to get work in India, but getting a higher education is not really a dream of villagers.

Table 3.29 summarizes the changes in the village identified by Sokat residents during the PRA. The table reveals that both positive and negative changes have occurred in the village. However, increasing seasonal migration to India, lack of employment in the district, declining food availability and decreasing income from livestock are some of the problems villagers currently encounter where there has been no significant support from the development organizations present in the VDC or in nearby VDCs.

Table 3.29: Overview of changes perceived by villagers in Sokat

Perceived change	Benefits
Positive Changes	
Improved facilities for communication (i.e. telephone)	Means to contact family members while at work in India and to remain updated on the job situation abroad
Establishment of a secondary school in the VDC	Increase in literacy (especially in reading and writing)
Establishment of a subhealth post in the VDC	Health treatment and disease and parasite control
Initiation of family planning activities	Birth control through temporary and permanent measures
Establishment of clubs in the VDC	Local development and the creation of greater awareness
Operation of LWS in the village.	Establishment of saving and credit groups, community development, adult education
Negative Changes	
Occurrence of natural disasters especially floods (<i>Jestha 2057</i>)	–
Spread of cholera	–
Spread of livestock diseases	–

3.3.12 Problems and their prioritization

A pairwise ranking technique was used to determine the villagers' perceptions of the most critical problems they face in agricultural development today. During the PRA, separate groups of women and

men were asked to list their most pressing agriculture problems and then prioritize them through this technique.

Table 3.30 lists the problems mentioned by women and men and their corresponding priorities. This table reveals that the agriculture-related problems mentioned are almost the same in both the groups although the second most important problem for women – the lack of appropriate agriculture tools and equipment – was hardly mentioned by the men.

Table 3.30: Agriculture-related problems and prioritization

Men's Priorities	Problems	Women's Priorities
First	Lack of irrigation	Third
Second	Lack of skills and technical knowledge and technical services	First
Third	Lack of market and road facilities	-
Fourth	Lack of medicines for cattle	Second
Fifth	Lack of modern agricultural inputs	Fourth
Third	Livestock diseases	Fifth
-	Damage of the crops by the floods	Second

This table reveals that, villagers grapple with various problems in maintaining sustainable livelihood activities. In general, the lack of irrigation facilities and poor access to improved technologies counted as the two most critical problems. Women in the village seemed much more worried about floods and landslides than men, for whom the problem was not a major concern. Women also considered poor access to agricultural extension services a major problem next to the lack of irrigation facilities. No significant differences were found between the ranking of men and women for other problems.

3.3.13 Key findings and conclusions

This section recapitulates the main findings and conclusions derived from the PRA conducted in the Sokat VDC of Achham District. Although Sokat performed better than Murma of Mugu District in terms of access to transport and communication facilities, it appeared much more desperate than the latter. The main reason for this is the location of the VDC, which is lodged at the southern border of the district. The major challenge facing Sokat is the production of adequate food supply for the village residents and the creation of more local employment. Securing sufficient food is the prime objective of majority of people in Sokat as three out of every four households in this village are considered poor.

Although agriculture serves as a source of livelihood, it is the seasonal migration of men that has sustained the village economy. The available land is insufficient to provide employment for the family throughout the year and is inadequate to produce food sufficient for more than six months. Hence, there exists widespread poverty in Sokat.

Farmers cultivate only traditional varieties of rainfed crops such as upland rice, maize and finger millet. Low productivity in all these crops has been noted, with farming basically at a subsistence level. The majority of the households in Sokat keep only a few cattle and buffaloes due to shortages in water and forest resources.

Extension support is also found to be lacking. The women serve as the major actors in managing farms as men usually migrate to India to work, but the ASC has exerted little effort to support them. Many have never seen or met a technical extension worker of the government. Villagers feel they are often bypassed by the district authorities. Only a few development programmes are implemented in the VDC because of its remoteness from the district headquarters.

In terms of technology, farmers normally do not make use of chemical fertilizers. If people need to buy fertilizers, they have to walk for at least a day to the nearest markets in either Shanti Nagar of Doti district or Sana Gaon of Achham District.

In general, the study failed to trace any positive or negative effects of the present economic liberalization policy of the government. Farmers still face the same problems encountered in traditional agricultural development such as a lack of improved seeds, fertilizers and equipment.

Women had less contact with the outside world as compared to men and their mobility has generally been confined to the village and the district. They typically have a heavy daily workload and are also the ones to suffer from food scarcity in households. Some organizations, however, have directed efforts toward them. The LWS, an international NGO, has started to operate in the VDC, implementing community development activities and creating saving and credit programmes specifically for women in order to enhance income-generating opportunities.

Villagers call for improvements in infrastructure as a way to ease their plight. Sokat residents particularly demand the construction of the irrigation channel in the VDC from Gosalle River, which flows north to south in the VDC.