

Chapter 3

Peasantry in Northern Ridges and Southern Frontiers of Chitwan Valley

3.1 Introduction

Chitwan district lies on the Tarai (Plain) region, which is often called “Grain Basket” as it has more capacity to grow crops and other farming products. The district is agriculturally significant as it is endowed with very fertile alluvial soil deposited by Narayani and Rapti Rivers, commonly known as Chitwan valley. The district is one of the biggest districts in the Central Inner Tarai¹, which is an important part of the country both from the settlement and from the economic point of view. The economy of the district mostly depends upon the agriculture. About 73% of the workforces derive their income from this activity. Crop and livestock farming is popular in the district. Besides, poultry farming, bee keeping, silk farming is also popular as their second strategy to fulfill their basic needs depending upon the area of locations inside the district.

Although Chitwan district is one of the most fertile districts in Nepal, it is hard for all the farmers to meet their food self-sufficiency due to the increasing population pressure and low level of farming technology. This is especially true for the peripheral regions of northern ridges and southern frontiers; *madi* area of the valley. Thus, the farmers of these peripheral regions are forced to clear forest to produce more crops that directly leads to deforestation. Realizing this fact, government established District Agricultural Development Office (DADO) in 1967 with an aim to improve food self-sufficiency level by transferring the modern farming technology to the farmers through commercialization and diversification of farming, and implementing bottom-up approach planning. However, most of the peripheral regions of the district, including the northern ridges and the southern frontiers, could not be influenced yet by the activities of DADO due to the lack of proper transportation and management.

Considering this background, this chapter tries to analyze the subsistence farmers and their activities pertaining to food security based on the village level survey of these peripheral regions. Two Village Development Committees (VDCs), Dahakhani VDC in northern ridge and Kalyanpur VDC in the southern frontier *madi* area were selected for in depth study. All the households were surveyed in Dahakhani where as in Kalyanpur only the households in ward nos. 1, 2, 3 and 7 out of nine wards were surveyed. These wards in Kalyanpur are the frontiers where people from all over Nepal, especially the hills, migrated and settled by cultivating the land after clearing the dense subtropical forest within last 40 years. Hence there are no Tharus, the indigenous ethnic dwellers of the region in these wards. There are many of them in age old settlements of other wards in the village. They have entirely different cultural and socio-economic conditions from the frontier migrants and are not considered for this study to avoid confusion.

¹ Tarai region in Nepal is divided into two parts Inner Terai and Outer Terai. Inner Terai is the river valley between Mahabharat Hills (Southern Hill-2000m) and Siwalik Hills (Tarai Hills-600m). Inner Terai is also divided into three regions. Eastern Inner Terai which includes Udaypur and Sindhuli districts, Central Inner Terai, which includes Chitwan and Makwanpur districts and the western Inner Terai that includes Dang district.

3.2 Major Characteristics of Chitwan and Study Villages

3.2.1 Physical Features

Chitwan is the western district of Narayani Zone in the Central Development Region of Nepal. It is located 146 kilometers south of Kathmandu and covers an area of 2,218 sq. km. It is surrounded by Makawanpur and Parsa districts in the east, Nawalparasi and Tanahu districts in the west, Dhading and Gorkha districts in the north and Bihar (India) in the south. The climatic condition varies according to the differentiation in heights from subtropical to temperate type. Administratively, the district is divided into 36 village development committees (VDCs) and two municipalities (Ratnanagar and Bharatpur). The district headquarter is Bharatpur, which is located in the Central Western part of the district at the bank of Narayani River (**Figure 3.1**).

The northern mountainous parts of the district with Mahabharat Range (2,000m), forming the ridges of Chitwan valley, are remote due to the steep elevation and dense forest. The central part of the district is the inner tarai basin (200m) along the Rapti River forming the central part of the valley. Between the plains and Chure Hills (Siwalik: 600m) lies the dense subtropical forest, rich with flora and fauna. World famous Chitwan National Park, the first one in Nepal, covers much of this forest area. The southern most part of the district in the foothills of Siwalik, bordering India and cut off from the rest of the valley by Chitwan National Park and Reu River, usually known as *madi* area, is also very remote.

Compared to other parts of the district, Chitwan valley is relatively accessible. Markets, hospitals, and

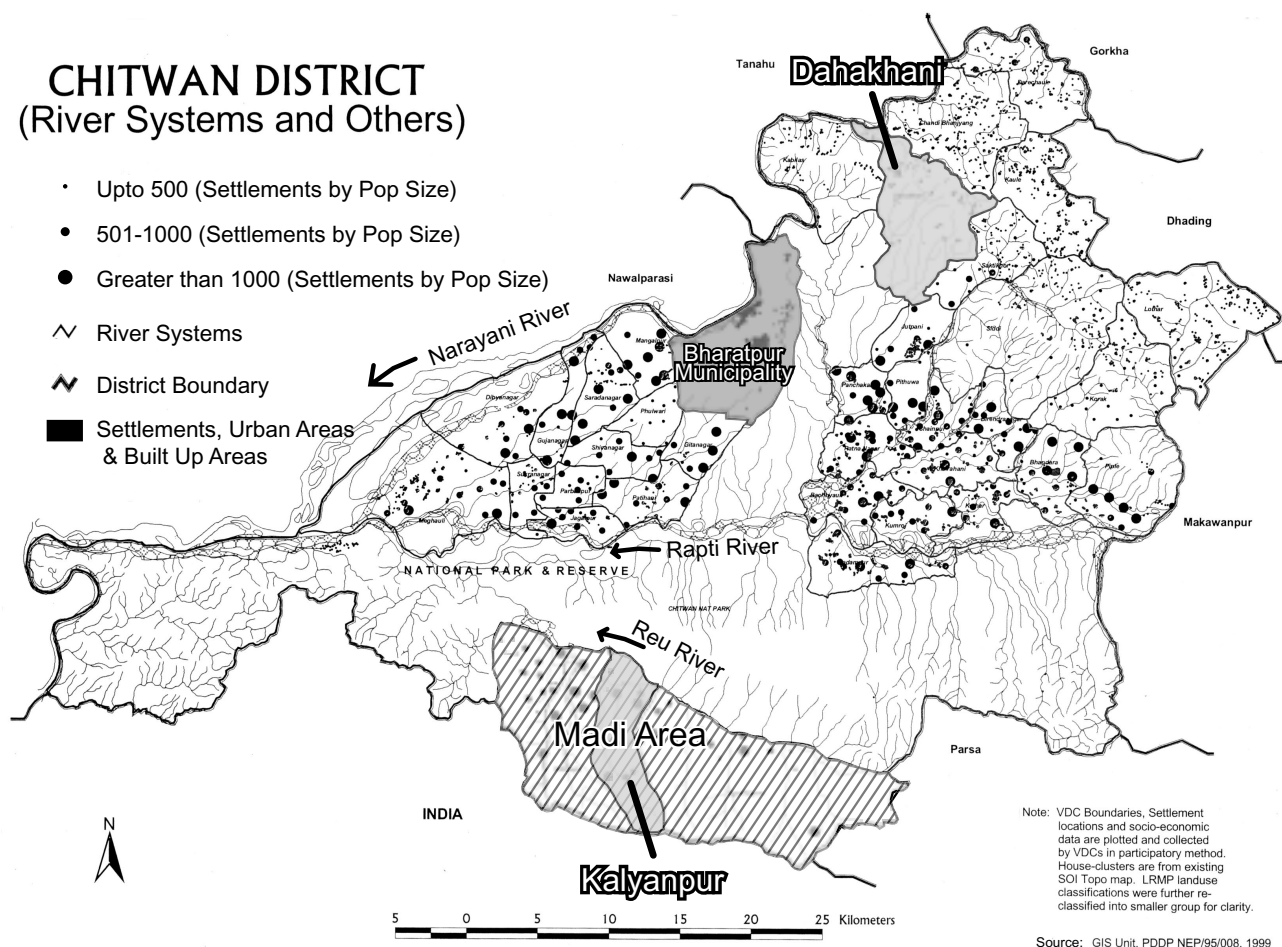


Figure 3.1: District Map Showing Study Villages

educational centers are within accessible distance and the transportation facilities are easily available. It has two main national highways and two airports. The 78km long Hetauda-Narayanghat highway, a part of east-west highway and the 61 km long Muglin-Narayanghat highway connects Chitwan with all other districts of the Tarai and some districts of the central and western Hills and forms the main junction of the national highway system of Nepal. It can be reached from Kathmandu by highway route bus in about four hours and connects Kathmandu and Pokhara to other major towns of Nepal. The airports are located at Bharatpur and Meghauli and linked to Kathmandu. The flight is less than an hour by small planes like beach craft and twin otter. Southern Chitwan is more accessible by roads having numbers of fair weather roads linked with major settlements and the national park. However, the roads do not reach *madi*. The northern ridges on the other hand are accessed only by foot trails. All the district level line agencies of the ministries concerned with forest, education, health, banking, etc. are situated in the district headquarter, Bharatpur.

Before 1950, Chitwan district was covered with dense subtropical forest prone with Malaria and was known as *Kalapani* i.e., the Death Valley. Only the Tharus with natural immunity to malaria lived here then. During the Rana period (1855-1951), when the Rana government had to punish an individual, they would send him/her to the Death Valley. This implies that when a person enters into the Chitwan valley he/she would surely not return. This area was also used by then rulers for hunting tigers, and other wild animals, often as a state event with foreign dignitaries, such as, royal families of British Empire and Maharajas of Indian subcontinent. With the launching of simultaneous programs of planned settlement and malaria eradication in late 1950s, people started to claim the land there for settlement. To encourage the *pahadis* (hill people) to permanently settle in Chitwan valley, government offered plentiful land and free tractor service to clear the forest. Chitwan then became an attractive place for the *pahadis* as the soil is fertile. There after people from all over the country composing of different caste and ethnic groups, culture and religions started migrating to this district. Many of the returnees from Myanmar and northeastern states of India; Assam, Meghalaya, etc. are also systematically settled here. Now, the forests are preserved along Char Koshe Jhadi, 16 km wide dense subtropical forest running east west in the valley between the plains and Siwalik, Chitwan National Park and its buffer zone.

Having an adequate number of educational institutions, the district literacy rate is 58.3% (male 65.7% & female 49.2%) according to the preliminary results of the 2001 census. But the unemployment of even the educated people is a big problem. Although the socio-economic status of the district seems to be good in general, the nine montane VDCs (including one study village) located at the northern ridges of the district and the four VDCs in the *madi* are deprived of various facilities such as education, health service, road, drinking water and other development activities.

3.2.2 Farming

The total arable land area of Chitwan district is 46,894ha of which 44,391ha is cultivated. It also has 142,422ha of forestland, 18,882ha of pastureland and 13,602ha of lands covered by rivers, mountains, settlements and so on. Only 28% of the cultivated land is irrigated throughout the year. Rest is only irrigated partially. Since Chitwan district is one of the most fertile districts in Nepal, it exports food grains to India and other parts of Nepal. **Table 3.1** shows the cultivated area, production of various crops, and yield in Nepal and Chitwan. This Table shows the yield per hectare of oilseed, maize and potato is higher in the district than the national yield. The yield of major cereal crops such as paddy, wheat, and barley are not significantly

Table 3.1 : Cultivated Area, Production and Yield of Major Crops in Nepal and Chitwan, 1999

Crops	Nepal			Chitwan		
	Cultivated area (ha)	Production (ton)	Yield (ton/ha)	Cultivated area (ha)	Production (ton)	Yield (ton/ha)
Paddy	1,550,990	4,030,100	2.60	33,685	92,500	2.75
Maize	819,010	1,414,850	1.73	28,742	61,083	2.13
Wheat	660,040	1,183,530	1.79	8,500	13,770	1.62
Millet	263,450	295,380	1.12	1,500	1,375	0.92
Barley	28,196	30,817	1.09	400	360	0.90
Potato	122,619	1,182,500	9.64	1,600	17,750	11.09
Oilseeds	189,628	122,751	0.65	18,000	70,200	3.90
Sugarcane	58,126	2,103,426	36.19	10	320	32.00

Source: CBS, 2001.

different with the national yield. The major crops grown in the district are paddy, maize, oilseed, potato and wheat. Besides, millet, barley and sugarcane are also grown.

Multiple cropping is practiced in the district. The general cropping pattern differs according to rain and irrigation facility. Generally, paddy is grown during rainy season, mustard and wheat in winter and maize in dry season. The cropping pattern is also associated with the types of land within the district. Paddy and wheat are grown in the *ghol* (basin or lowland where water logging can be a problem) and maize and mustard in the *tandi* (higher dry land where water dearth/scarcity can be a problem). Mustard is the most important cash crop in the district, followed by paddy, a variety of vegetables and fruits. Although the varieties of fruits and vegetables are mainly grown for local consumption, small but rapidly expanding commercial vegetable cultivation along the national highway, and in and around large market centers have been emerging recently. Leguminous crops are grown and consumed either as food or fodder.

Livestock farming is also an important component of farming system in the district. Cattle, buffaloes and goats are the major livestock and they are raised mainly for milk, meat and draft power (transportation and land preparation).

3.2.3 Study Villages

Dahakhani VDC, one of the study villages, is located in the northern ridge of the district. The altitude of the village rises as high as 1,040 meters above sea level. The village is surrounded by Chandibhanjyag VDC in the north, Kaule and Shaktikhor VDCs in the east, Jutpani VDC and some part of National Park in the south and Kabilas VDC in the west. It is 22 km away from the district headquarter and covers the area of 60 sq. km. It takes about an hour by vehicle along the river road of Bumkhore River and about a one-hour jungle walk from Tandani in the dry season to reach Bhalumarejhul (ward 9), the lower plain part, in Dahakahni. During the rainy season it is not possible to go there by using vehicles. Instead, it can be reached by 2 hours of walking from Sagun Tole, Tandani. The local people in ward 8, 9 (Simal Dhap-8, Bhalumarejhul & Gardas-9) typically walk about two to three hours to Sagun Tole in order to get their daily basic needs such as food. About one-fourth of the villagers live in these two wards. Other part of the villages stretches up the mountain and the houses are scattered all over the slopes, along the foot trails joining the different settlements. The most

remote part of the village (ward 3) is 10-12 hours up-walk from ward 9.

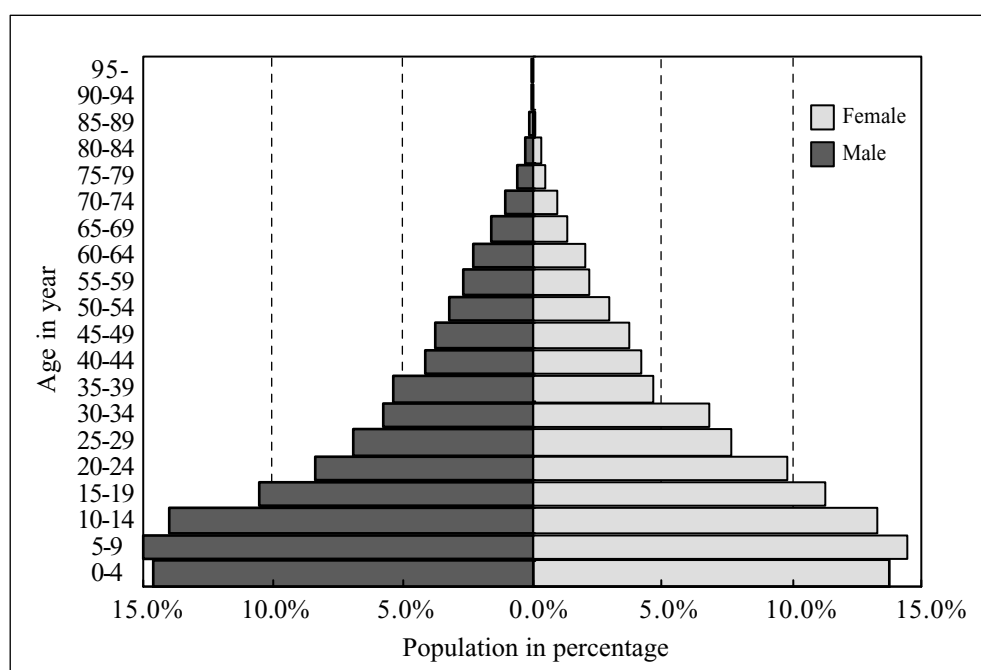
Kalyanpur VDC, the study village, lies in the southern part of the district, a plain region about 200 meters above sea level. It is surrounded by Ayodhyapuri VDC in the east, Baghauta VDC in the west, the National Park to the north and India in the south. Kalyanpur covering an area of 37 sq. km. is located 46 km away from the district headquarter (Bharatpur). In order to get to Kalyanpur, local transportation is available from Bharatpur around 9 o'clock in the morning up to the Jagatpur VDC, the northern boundary of the National Park. One needs to cross the Rapti River there and change buses and pass through the National Park towards the south. There is the famous Reu River between Kalyanpur and the National Park. One has to change buses here once again. This bus goes up to the Basantapur bazaar, the central focus of activities of Kalyanpur. Most of the cultivated lands in Kalyanpur and *madi* are irrigated by the water from Reu River. It should be noted here that these two remote and marginal villages from peripheral regions of a rather developed and food surplus district is undertaken for this study in order to better understand, perhaps with a contrasting difference, the subsistence farmers and their activities pertaining to food security in these regions.

3.3 Demography and Settlement

3.3.1 Population and Ethnicity

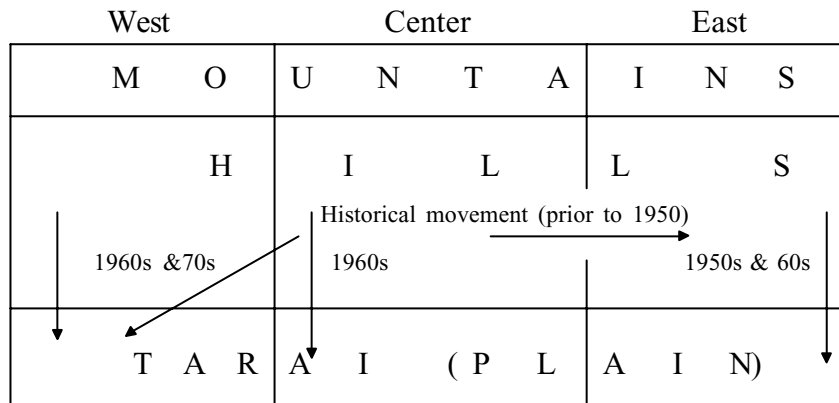
Chitwan district has a total population of 470,713 within 94,319 households making the average household size 5.0, according to the preliminary results of the 2001 census. This includes 233,044 males and 237,669 females, providing a sex ratio of 98 males per 100 females. The annual population growth rate is 2.9%, which is higher than the national average of 2.2%. The urban population is 27.7% in the district while population density is 214 per sq. km.

Population pyramid of the district shows that the male/female population is approximately equally distributed in most of the age groups and steeped upward (**Figure 3.2**). The female population, aged 20-24 and 30-34, is more than the male population. The number of children aged 0-14 is higher and the number of



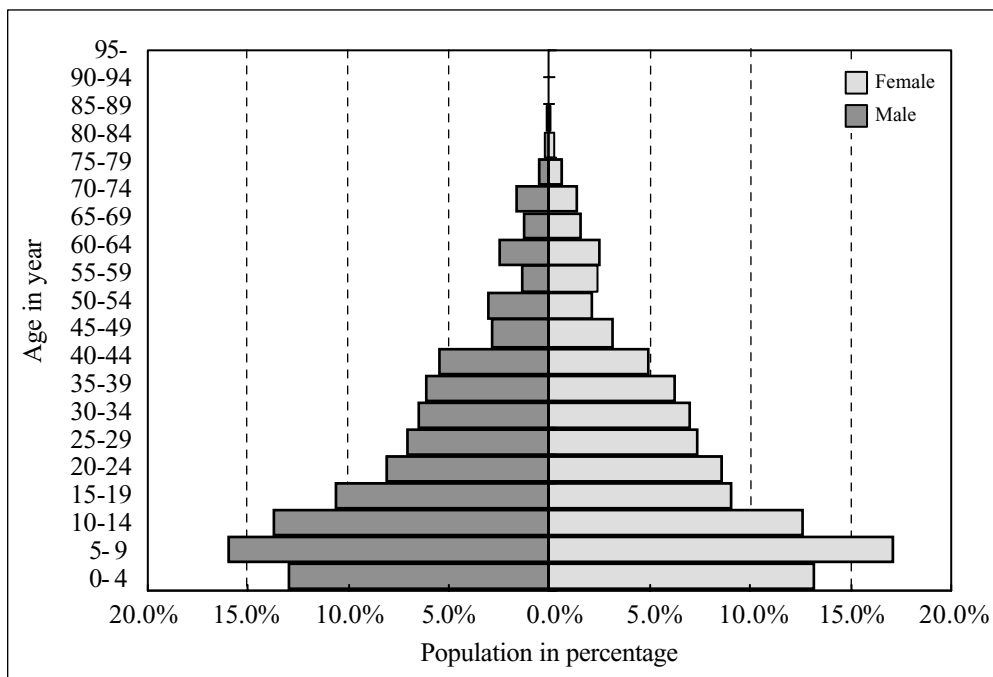
Source: CBS, 1993.

Figure 3.2: Population Pyramid of Chitwan District, 1991



Source: Pradhan & Routray, 1992.

Figure 3.3: Major Streams of Population Movement in Nepal



Source: Field survey, 2000.

Figure 3.4 : Population Pyramid of Dahakhani, 2000

people aged above 59 is small in the pyramid.

The district is highly influenced by migration from the hills, from different districts around the country and outside of the country, particularly from India. The phenomenon of migration from the hills, as shown in **Figure 3.3**, has been the most striking reason for rapid population growth in Chitwan. Thus, the population increased rapidly from 42,822 in 1954 to 183,600 in 1971, a growth of 429%, far greater than in any other districts in Nepal. From 1961 to 1971, the population growth was 171% of which 151% was growth due to the in-migrants (Khadka, 1997). By 1981, the population of Chitwan had increased to 259,571 persons with an annual growth rate of 3.5%, greater than the regional average growth of 2.9% and national average growth of 2.7%. The overall population increase between 1971 and 1981 was 41.4%. Two-thirds of this increase was again due to in-migrants.

The total population of Dahakhani is 3,025 living under 488 households. The average family size is 6.2 and the male to female sex ratio is 1.07 (**Table 3.2**), which is higher than national average of 0.99. Population pyramid of Dahakhani in comparison to the district pyramid and pyramid of Kalyanpur, is not uniformly

Table 3.2 : Population According to Caste/Ethnicity in Study Villages

Caste/ethnicity		Male	Female	Total	(%)	Household	(ave. size)
Dahakhani	Bahun	2	2	4	0.1	1	4.0
	Chepang	242	217	459	15.2	75	6.1
	Chhetri	10	11	21	0.7	2	10.5
	Gurung	607	589	1,196	39.5	186	6.4
	Magar	348	347	695	23.0	108	6.4
	Newar	56	39	95	3.1	17	5.6
	Occupational caste	136	109	245	8.1	41	6.0
	Tamang	163	149	310	10.2	58	5.3
Total		1,564	1,463	3,025	100	488	6.2
Kalyanpur	Bahun	828	766	1,594	46.8	245	6.5
	Chhetri	136	128	264	7.8	39	6.8
	Gurung	172	158	330	9.7	54	6.1
	Magar	78	78	156	4.6	19	8.2
	Newar	11	12	23	0.7	5	4.6
	Occupational caste	423	401	824	24.2	170	4.8
	Tamang	104	103	207	6.1	34	6.1
	Total		1,752	1,646	3,398	100	566

Source: Field survey, 2000 & 2001. Note: Survey covered 1, 2, 3 and 7 wards in Kalyanpur and all the households in Dahakhani.

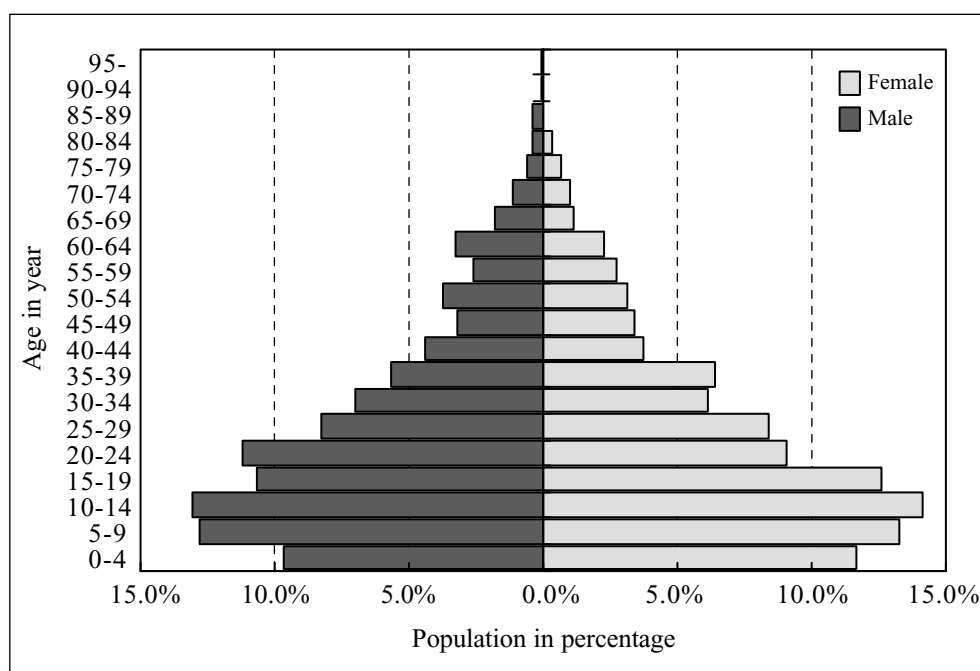
steeped upward (**Figure 3.4**). The number of females can be seen to be higher among the age groups of 5-9 and 55-59. In all other cases, the male/female population is approximately equally distributed.

According to the preliminary results of the 2001 census, the total population of Kalyanpur is 7,538 living under 1,575 households with a family size of 5.2. The population in ward numbers 1, 2, 3 and 7, where the in depth survey for this study was conducted, is 3,398 living under 566 households with a family size of 6, which is greater than the district family size of 5 and the national family size of 5.4. The largest family has 26 members while the smallest has just two members. The sex ratio (male/female) is 1.06 (**Table 3.2**).

The population pyramid of Kalyanpur is slightly distorted compared to that of the district. It shows that the male/female population is not equally distributed in some cohorts, such as 0-4 and 15-19 age groups where the female population is higher. The old aged (above 60) population is greater in comparison to the district pyramid. This may imply that the life expectancy is higher in this village than the district (**Figure 3.5**).

In regards to the ethnic composition, the population of the district is composed of various ethnic groups including Bahun, Chhetri, Tamang, Magar, Newar, Rai, Limbu, Maithali, Tharu, Gurung, Sherpa, Chepang and occupational caste, such as Damai, Danuwar, Kami, Sarki, Sunuwar, and so on. **Table 3.3** shows that the dominating castes in the district are Bahun and Chhetri, forming more than 65% of the total population. Most of them are migrants from the hill areas settling in the region after the eradication of malaria in 1954. Similarly, Bahuns are the dominating caste also in Kalyanpur covering 47% of the total population, followed by the occupational caste (24%), Gurung (10%), Chhetri (8%), Tamang (6%) and Magar (5%).

In Dahakhani, Gurungs are the dominating caste covering 40% of the total population, followed by



Source: Field survey, 2000.

Figure 3.5 : Population Pyramid of Kalyanpur, 2000

Table 3.3 : Ethnic Distribution in Chitwan District and Study Villages

Ethnicity	Chitwan		Kalyanpur		Dahakhani	
	Pop.	%	Pop.	%	Pop.	%
Bahun	178,058	37.8	1,594	46.8	4	0.1
Chhetri	130,748	27.8	264	7.8	21	0.7
Newar	12,823	2.7	23	0.7	95	3.1
Magar	5,802	1.2	156	4.6	695	23.0
Tamang	19,624	4.2	207	6.1	310	10.2
Gurung	11,249	2.4	330	9.7	1,196	39.5
Chepang	17,244	3.7	-	-	459	15.2
Tharu	54,179	11.5	-	-	-	-
Occupational caste	22,697	4.8	824	24.2	245	8.1
Others	18,289	3.9	6	0.2	0	0.0
Total	470,713	100.0	3,998	100.0	3,025	100.0

Source: CBS, 2001 and field survey, 2000 & 2001.

Note: Others include Bhojpuri, Limbu, Rai, Sherpa. Occupational caste includes Damai, Danuwar, Kami, Sarki, Sunuwar, etc.

Magar (23%), Chepang (15%), Tamang (10%) and occupational caste (8%). Chepangs are the indigenous people living in the montane lands of this area (including Makwanpur district) and their socio economic status in terms of landholding, income and education is generally low. Tharus are the indigenous people of the inner Tarai and comprise the biggest ethnic group in the plain areas of the district. But, currently it is said that the number of Tharus in Chitwan district is decreasing because of their migration to Nawalparasi and India in search of job opportunities. Many of them are also displaced by the National Park.

All these ethnic groups have different cultures and languages which they tend to preserve forming their

Table 3.4 : Religion According to Caste/Ethnicity in Study Villages

Ethnicity	Kalyanpur					Dahakhani			
	Hindu	Buddhist	Christian	Total	%	Buddhist	Hindu	Total	%
Bahun	1,573	-	21	1,594	46.8	-	4	4	0.1
Chepang	-	-	-	-	-	176	283	459	15.2
Chhetri	240	24	-	264	7.8		21	21	0.7
Gurung	82	248	-	330	9.7	1,128	68	1,196	39.5
Magar	108	48	-	156	4.6	107	588	695	23.0
Newar	23	-	-	23	0.7	5	90	95	3.1
Occupational caste	811	-	13	824	24.2	21	224	245	8.1
Tamang	39	168		207	6.1	251	59	310	10.2
Total	2,876	488	34	3,398	100.0	1,688	1,337	3,025	100.0
%	84.5	14.5	1.0	100.0		55.8	44.2	100.0	

Source: Field survey, 2000 & 2001.

respective communities. Majority of Gurungs and Tamangs are Buddhists but some of them also claim to be Hindus (**Table 3.4**). Many of Chepangs, Magars and Newars are Hindus. Fairly large number of Chepangs and Magars also claim to be Buddhists. Even some Chhetris in Kalyanpur claim to be Buddhists. Due to missionary activities in Kalyanpur some Bahuns and people of occupational caste have taken Christianity recently. But in general Kalyanpur can be regarded as Hindu dominated village with 85% of the people being Hindu where as Dahakhani can be regarded as Buddhist majority village with 56% of the people being Buddhists.

3.3.2 Settlement and Housing

The settlements inside the district vary according to the location and accessibility. The western Chitwan settlements have migrants from the west and central hills. The Newar communities, a traditional business caste group from the hills and Kathmandu valley, and those from India and Burma are mainly concentrated in the major market settlements. Some of these migrants, especially those returnees from Assam, Meghalay, West Bengal, etc., are also undertaking livestock and vegetable farming. They often become successful pilot farmers by applying knowledge acquired in those places. Currently, people are moving from the densely populated western part to eastern part of the valley.

The settlements in Dahakhani are spread among the terraced field with small size houses in general. In the village, the houses are separated from each other. The individual houses are lined parallel to the foot trail with a backyard surrounded by the agricultural field and animal sheds nearby the house. Most (90%) of the houses are *kaccha* thatched huts, made up of wood and straw/tree barks. Some (8%) are made up of wood or brick with mud mortar and tile/slate roof (**Table 3.5**). Very few are cemented with bricks/stones and roofed with galvanized zinc iron sheet. Such houses are found in the bazaar area of ward 9 only. The structure of these houses also represents the poorness of the village.

Kalyanpur, being mostly plain, has the settlements distributed according to the road accessibility. Most of the market centers are situated at the road heads and the houses are rather clustered. Population size varies from 201 to 800 in a settlement. Here too, most (85%) of the houses are *kaccha*; thatch roofed with walls

Table 3.5: House Type According to Caste/Ethnicity in Study Villages

Village	Caste/ethnicity and house type	Straw/thatched	Roof with tiles/slate	Roof with zinc iron sheet	Cement with bricks /stone	Total
Dahakhani	Bahun	1	-	-	-	1
	Chepang	71	4	-	-	75
	Chettri	2	-	-	-	2
	Gurung	159	12	10	5	186
	Magar	97	4	6	1	108
	Newar	17	-	-	-	17
	Occupational caste	39	-	2	-	41
	Tamang	52	2	1	3	58
	Total	438	22	19	9	488
Kalyanpur	Bahun	204	16	6	19	245
	Chettri	32	3	1	3	39
	Gurung	44	3	4	3	54
	Magar	11	5	2	1	19
	Newar	4	1	-	-	5
	Occupational caste	160	5	1	4	170
	Tamang	25	7	1	1	34
	Total	480	40	15	31	566

Source: Field survey, 2000 & 2001.

made up of either wood or brick with mud mortar. Some (10%) also have tile/slate and zinc iron sheet roof. Few (5%) well off people also have cemented house made up of brick/stone walls.

3.4 Language Ability, Education and Training

3.4.1 Language Ability

Regarding language ability, all people speak Nepali, the national language, in both the villages. It is the common language for communication between different ethnic groups in both the villages. In spite of that only 8.4% of people are good (fluent and can read and write) in the Nepali language (**Table 3.6**). In fact there are very few people in the village who are fluent in it. Most of the people fall under the category of “speak only”. The ability of Chhetri to read and write Nepali is better compared to other ethnic groups. Even in Kalyanpur, dominated by Bahuns, 44% of the people can only speak Nepali, and just 41% are good in it. The ability of the Tamang and occupational caste groups to read and write Nepali is poor compared to the Bahun, Chhetri, Gurung and Magar groups.

Regarding the mother tongue ability, most of the people (85%) don't understand their mother tongues in Dahakhani (**Table 3.6**). Some 15% can only speak their mother tongues. There are very few who are good at their mother tongues. Newars have almost forgotten their mother tongue where as Chhetris and occupational caste people don't even know their mother tongues.

In Kalyanpur majority (44%) of the people can speak their mother tongues and only some (9%) don't understand their mother tongues. Magars are better in their mother tongue ability after the Bahuns and Chhetris, whose mother tongue is Nepali itself. More than half of Gurungs and Tamangs don't understand their mother

Table 3.6: Language Ability According to Caste/Ethnicity in Study Villages

Caste/ethnicity		Nepali language ability					Mother tongue ability					
		Fluent	Read and	Read	Speak only	Total	Fluent	Read and	Read	Speak only	Don't understand	Total
Dahakhani	Bahun	-	-	-	2	2	-	-	-	2	-	2
	Chepang	-	3	18	343	364	6	-	-	112	246	364
	Chhetri	-	4	5	10	19	-	-	-	3	16	19
	Gurung	6	113	203	673	995	2	1	-	53	939	995
	Magar	4	43	164	380	591	4	-	1	124	462	591
	Newar	1	6	29	48	84	-	-	-	1	83	84
	Occupational caste	-	4	14	181	199	-	-	-	10	189	199
	Tamang	-	26	45	183	254	-	-	-	68	186	254
	Male	7	144	310	835	1,296	8	1	-	197	1,090	1,296
	Female	4	55	168	985	1,212	4	-	1	176	1,031	1,212
	Total	11	199	478	1,820	2,508	12	1	1	373	2,121	2,508
(%)	0.4	7.9	19.1	72.6	100	0.5	0.0	0.0	14.9	84.6	100	
Kalyanpur	Bahun	185	486	185	597	1,453	187	474	177	604	11	1,453
	Chhetri	18	88	36	92	234	18	86	32	91	7	234
	Gurung	18	121	47	107	293	11	37	9	97	139	293
	Magar	7	50	17	63	137	6	36	7	78	10	137
	Newar	5	5	3	7	20	-	-	-	2	18	20
	Occupational	27	183	135	357	702	27	180	131	363	1	702
	Tamang	4	43	27	94	168	2	9	2	75	80	168
	Male	198	593	224	594	1,567	187	510	182	593	208	1,567
	Female	66	383	226	807	1,440	65	314	175	789	232	1,440
	Total	264	976	450	1,317	3,007	251	822	358	1,310	266	3,007
	(%)	8.8	32.5	15.0	43.8	100	8.3	27.3	11.9	43.6	8.8	100

Source: Field survey, 2000 & 2001. Note: Includes only those above 5 years of age.

tongues. Here too, Newars are the worst. Almost all of them have forgotten their mother tongue. The fluency of mother tongue is proportional to Nepali language ability in this village. In both the villages females are always behind the males in terms of language ability, Nepali or mother tongues of respective ethnic groups.

3.4.2 Education

Before 1956, there were no formal education institutions in the district. Free compulsory primary education began only in 1969. The establishment of Rastriya Shikchha Paddti Yojana (National Education Plan) in 1971 and its efforts improved the education and educational institutions in terms of both quality and quantity in the district. Currently, there are 380 educational institutions, including 256 primary schools, 38 lower secondary schools, 54 secondary schools, 16 higher schools (seven public and nine private), nine campuses (two public and seven private), and five technical schools (CBS, 2001).

However, the educational situation is not good in both the study villages. In Dahakhani there are altogether six schools, including one secondary and four primary schools. All of these schools are public schools. There is no higher secondary school in the village. People have to go to nearby VDCs, Jutpani, Dharechok, or Bharatpur for higher education. Hence more than 60% of the people have no schooling in this village (**Table 3.7**). More than half of the people are illiterate. Of the literate 46%, most (35%) have only primary education where as some (7%) have become literate through self-learning/informal education. There are very few people who have reached up to the SLC level and above. With exception to one Newar no body has university education. About 80% of Chepangs, 66% of occupational caste and 51% of Tamangs are illiterate. Females are always behind the males in literacy and education level. Due to recent various

Table 3.7: Literacy and Education According to Caste/Ethnicity in Dahakhani

Caste/Ethnicity & Sex		No schooling		Schooling					Total	%
		IL	L	PS	SS	SLC	HS	GR		
Bahun	Male	-	-	1	-	-	-	-	1	0.04
	Female	1	-	-	-	-	-	-	1	0.04
	All	1	-	1	-	-	-	-	2	0.08
Chepang	Male	140	2	43	4	-	-	-	189	7.54
	Female	154	1	19	1	-	-	-	175	6.98
	All	294	3	62	5	-	-	-	364	14.51
Chhetri	Male	2	-	4	4	-	-	-	10	0.40
	Female	7	-	2	-	-	-	-	9	0.36
	All	9	-	6	4	-	-	-	19	0.76
Gurung	Male	166	41	209	82	2	1	-	501	19.98
	Female	292	44	138	19	-	1	-	494	19.70
	All	458	85	347	101	2	2	-	995	39.67
Magar	Male	95	16	125	61	2	1	-	300	11.96
	Female	160	15	101	10	2	3	-	291	11.60
	All	255	31	226	71	4	4	-	591	23.56
Newar	Male	16	-	22	10	-	-	1	49	1.95
	Female	16	2	12	5	-	-	-	35	1.40
	All	32	2	34	15	-	-	1	84	3.35
Occupational caste	Male	57	3	47	3	-	-	-	110	4.39
	Female	72	6	10	1	-	-	-	89	3.55
	All	129	9	57	4	-	-	-	199	7.93
Tamang	Male	51	6	59	21	-	-	-	137	5.46
	Female	69	11	32	5	-	-	-	117	4.67
	All	120	17	91	26	-	-	-	254	10.13
Total	Male	527	68	510	185	4	2	1	1,297	51.71
	Female	771	79	314	41	2	4	-	1,211	48.29
	All	1,298	147	824	226	6	6	1	2,508	100.00

Source: Field survey, 2001. Note: Includes only those above 5 years of age. IL: Illiterate, L: Literates have no formal schooling, but can read, write and understand written forms of day to day matter, ability gained through self learning/informal education, i.e., adult education and various other informal education programs. PS: Primary School (class 1-5), SS: Secondary School (class 6-10), SLC: School Leaving Certificate, HS: Higher Secondary School (class 11-12 or intermediate level), GR: Graduate (above bachelor's level).

informal education programs females have also become equally literate and can be taken as a good sign.

In Kalyanpur, there are nine schools, all public, including seven primary schools, one secondary and one high school. In this village, 66% of the people are literate, more than half having only primary education (**Table 3.8**). The education level of Bahuns/Chhetris is higher compared to other ethnic groups. Many of the Bahuns have gained university education, as well. About half of the Tamangs and occupational caste people are illiterate. In this village too, females are always behind the males in literacy and education level and unlike Dahakhani not many people have become literate through self-learning/informal education.

3.4.3 Training Program

Various training programs implemented by different organizations can be found in both the villages, though comparatively much less in Dahakhani. These programs are aimed at improving the livelihood of the people. But, only 15 people, 8 Gurungs and 4 Chepangs, 2 Tamangs and 1 Newar, said that they have attended such trainings in Dahakhani. This figure is 129 for Kalyanpur. Generally Bahuns are the active

Table 3.8: Literacy and Education According to Caste/Ethnicity in Kalyanpur

Caste/ethnicity & sex		No schooling		Schooling					Total	%
		IL	L	PS	SS	SLC	HS	GR		
Bahun	Male	168	8	244	250	56	25	19	770	25.61
	Female	274	20	237	127	15	9	1	683	22.71
	All	442	28	481	377	71	34	20	1453	48.32
Chhetri	Male	23	2	50	35	2	5	1	118	3.92
	Female	44	2	43	23	1	3	-	116	3.86
	All	67	4	93	58	3	8	1	234	7.78
Gurung	Male	31	9	45	58	2	2	-	147	4.89
	Female	52	-	55	38	-	-	1	146	4.86
	All	83	9	100	96	2	2	1	293	9.74
Magar	Male	23	1	25	20	2	-	-	71	2.36
	Female	29	2	26	9	-	-	-	66	2.19
	All	52	3	51	29	2	-	-	137	4.56
Newar	Male	3	-	1	4	-	2	-	10	0.33
	Female	3	-	4	3	-	-	-	10	0.33
	All	6	-	5	7	-	2	-	20	0.67
Occupational caste	Male	123	3	186	49	4	1	1	367	12.20
	Female	171	3	134	26	1	-	-	335	11.14
	All	294	6	320	75	5	1	1	702	23.35
Tamang	Male	34	-	30	16	1	3	-	84	2.79
	Female	51	2	27	3	1	-	-	84	2.79
	All	85	2	57	19	2	3	-	168	5.59
Total	Male	405	23	581	432	67	38	21	1,567	52.11
	Female	624	29	526	229	18	12	2	1,440	47.89
	All	1,029	52	1,107	661	85	50	23	3,007	100.00

Source: Field survey, 2000.

Note: Includes only those above 5 years of age. IL: Illiterate, L: Literates have no formal schooling, but can read, write and understand written forms of day to day matter, ability gained through self learning/informal education, i.e., adult education and various other informal education programs. PS: Primary School (class 1-5), SS: Secondary School (class 6-10), SLC: School Leaving Certificate, HS: Higher Secondary School (class 11-12 or intermediate level), GR: Graduate (above bachelor's level).

Table 3.9: Participation in Training Programs According to Caste/Ethnicity in Study Villages

Training program category		Bahun	Chhetri	Gurung	Magar	Newar	Occupational caste	Tamang	Chebang	Total
Dahakhani	Farming			2						2
	Education							1		1
	Forestry			1		1		1	1	4
	Health & sanitation			1					1	4
	Skill development			3					1	2
	Others			1					1	2
	Total			8		1			2	4
Kalyanpur	Farming	33	3		1					37
	Education	17	1				1			19
	Professional	9	2	1	1	2	3			18
	Health & sanitation	2		1						3
	Skill development	28	1	1	1	3	3	1		38
	Others	9		1			4			14
	Total	98	7	4	3	5	11	1	0	129

Source: Field survey, 2000 & 2001. Note: Farming: crop, livestock, fruit and silk; health and sanitation: *sudeni* (midwifery) and herbal training; skill development: driving, sewing, knitting, carpentry, painting and photography; others: social service and health volunteering, village mobilizing of development activities, such as group formation, savings and credit programs, etc.

participants of such programs. The high education level of Bahuns and the commencement of such programs in Nepali could be the reasons for their high participation (**Table 3.9**).

In Kalyanpur, one-fourth of the people have attended the training programs related to farming; silk farming, fruit farming, and nursery. Another one-fourth attended the skill development training programs of sewing, knitting, boat rowing, machinery, carpentry, electricity, biogas plants, and plumbing. Professional job training; photography, painting, chauffeuring, police and army, and education training; teaching, accounting and adult literacy, programs are each participated by about 15% of the people. Some (10%) are also getting training in social service, group formation and volunteering and become social workers of various development projects after the training. There are also people who have had trainings in livestock; veterinary training and goat farming, and health and sanitation; maternity, vaccination and herb utilization.

Participants in trainings related to skill development (4) and forestry (4); forest users group formation and forest environment management, are found to be higher than in other types of trainings. The trainees of the forestry training programs are working as social workers of the community forest users group in the village. About 6% of the total households are the members of the community forest users group. Other trainees are also working in related jobs, such as, forest group formation dealing with saving and credit activities and environmental education after getting respective trainings.

3.5 Land and Livestock Holding

3.5.1 Landholding

The total land holding of the villagers is 339 ha in Dahakhani and 270 ha in Kalyanpur, with average holding of 0.69 ha and 0.48 ha in each village, respectively (**Table 3.10**). In Dahakhani only about 20% of the total land holdings of the villagers is *khet* (plain and lowlands where paddy is the main crop cultivated) most of which lie in wards 6 and 9, the plain parts of the village. Most of this *khet* (80%) is irrigated in summer for paddy cultivation. The remaining 80% of the land is *pakha* (terraced and sloppy uplands where crops other than paddy is cultivated mainly), almost all of them non-irrigated. Since this village lies within the national forest area controlled by the government, no forest or pastures are own by the individuals and there is practically no land used for nonfarm purposes. The houses are rather small and virtually have no homestead land, as well. Tamangs have the highest (0.88 ha) land per household. Gurungs with 0.78 ha, occupational caste with 0.71 and Magars with 0.68 ha per household follow them. However, Magars have more *khet* than the Tamangs and the Gurungs. Chhetris (0.22 ha) followed by Chepangs (0.43) are the least landed people. They live in a rather miserable condition.

In Kalyanpur, about 94% of the land is cropland, most of it (77%) being *khet* where paddy is cultivated mainly. Nearly half of the *khet* is irrigated with the surface water. However, the *pakha* is not irrigated. Chhetris and Bahuns are better landed with 0.65 ha and 0.63 ha per household, respectively. Where as occupational caste, Newars and Tamangs are least landed with 0.25 ha, 0.28 ha and 0.3 ha per household, respectively. Besides, people in this village also have some land around the house as *bari* (homestead area mainly used as kitchen garden), agro forest with fruit and fodder trees, pasture and grasslands for grazing animals and lands for not direct farm use, including ponds and fallow lands.

According to the farm size in Dahakhani, there are 20 (4%) landless households, including “landless with livestock” having less than 0.0127 ha (4 *ana*) of crop land but raising at least two big productive animals;

(Unit of area: ha)

Caste/ethnicity and land type	Khet (paddy land)		Pakha (upland)		Homestead (Bari)	Agro forest	Nonfarm use	Pasture	Total land	Total land/household
	Irrigated	Non-irrigated	Irrigated	Non-irrigated						
Bahun									0.50	0.50
Chepang	4.92	2.81	0.64	23.18	23.82				31.56	0.42
Chettri	0.20		0.20	0.23	0.23				0.44	0.22
Gurung	14.17	2.31	0.13	126.74	126.87				143.35	0.77
Magar	22.34	5.39	0.17	45.02	45.19				72.93	0.68
Newar	3.89		3.89	5.53	5.53				9.41	0.55
Occupational caste		0.44	0.44	28.61	29.28				29.71	0.72
Tamang	5.83	0.80	6.63	43.58	43.85				50.48	0.87
Total	51.36	11.76	63.11	273.40	275.27				338.39	
%	81.37	18.63	18.65	99.32	81.35				100	0.69
No. of household	128	42	6	396					488	
Area per household	0.40	0.28	0.31	0.69					0.69	
Bahun	52.84	52.08	104.92	39.09	39.36	1.52	1.59	4.42	154.82	0.63
Chhetri	3.33	19.49	22.82	2.13	2.18	0.16	0.21	0.01	25.38	0.65
Gurung	13.57	9.58	23.15	3.07	3.07	0.77	0.28	0.77	28.37	0.53
Magar	2.59	1.48	4.07	2.06	2.16	0.06	0.06	1.13	7.49	0.39
Newar	0.33	0.67	1.00				0.40		1.40	0.28
Occupational caste	10.90	24.15	35.04	5.88	5.90	0.32	0.05	1.33	42.81	0.25
Tamang	0.29	4.59	4.88	4.79	4.79	0.07	0.09	0.33	10.16	0.30
Total	83.85	112.03	195.88	57.02	57.46	2.89	2.69	7.99	270.43	
%	42.81	57.19	72.43	99.24	21.25	1.07	0.99	2.96	100	0.48
No. of household	182	289		438		410	389	23	566	
Area per household	0.46	0.39		0.06	0.13	0.01	0.01	0.35	0.48	

Source: Field survey, 2000 & 2001.

Table 3.11: Number of Households According to Farm Size and Caste/Ethnicity in Study Villages

Caste/ethnicity and farm size		Landless with livestock	Landless without livestock	Small	Medium	Large	Total
Dahakhani	Bahun	-	-	-	1	-	1
	Chepang	-	4	46	24	1	75
	Chettri	-	-	2	-	-	2
	Gurung	4	5	57	104	16	186
	Magar	-	5	40	60	3	108
	Newar	-	-	8	9	-	17
	Occupational caste	1	-	13	24	3	41
	Tamang	-	1	20	33	4	58
	Total	5	15	186	255	27	488
Kalyanpur	Bahun	20	4	123	84	14	245
	Chhetri	1	1	21	15	1	39
	Gurung	2	3	28	18	3	54
	Magar	-	-	14	5	-	19
	Newar	3	-	1	1	-	5
	Occupational caste	19	10	111	29	1	170
	Tamang	3	2	23	5	1	34
	Total	48	20	321	157	20	566

Source: Field survey, 2000 & 2001. Note: Landless with livestock is household with farmland less than 0.012 ha, but raising at least two big productive animals (ie cow buffalo, ox, horse, mule, donkey, yak) or five small productive animals (i.e., goat, pig, sheep, etc.) or twenty fowls (i.e., chicken, duck, turkey). Small: 0.012ha and under 0.5 ha, Medium: 0.5 ha and under 2 ha, Large: 2 ha and over.

either a combination of cows, buffaloes, oxen, horses, mules or donkeys or its equivalent; five goats, sheep, or pigs, or a combination of twenty chicken, ducks or turkeys. However, there are 68 (12%) such landless households in Kalyanpur. The share of small (with lands under 0.5 ha), medium (with lands 0.5 ha and above and under two ha) and large (with lands two ha and above) farms in Dahakhani is 38%, 52% and 6%, respectively. These figures for respective farms in Kalyanpur are, 57%, 28%, and 3% (**Table 3.11**).

In Dahakhani, two-third of the large households is Gurungs. They also have a big share in medium farm size category. Where as in Kalyanpur, Bahuns have more land compared to other ethnic groups. They constitute three-fourth of households in large farm size and more than half in medium farm size categories (**Table 3.11**). Thus, according to landholding structure, Dahakhani can be said to be Gurung dominated where as Kalyanpur, Bahun dominated.

3.5.2 Livestock Holding

Cows, oxen, buffaloes, and goats are commonly kept domestic animals for dung, draft, milk, and meat in Chitwan. They are generally grazed in the open spaces, farm roads and nearby forests when ever feasible and are given cut fodder plants, straw and at times grains and oilcakes. One pair of oxen can earn NRs. 210 per day for ploughing a field. Renting oxen for ploughing and pulling carts to transport farm goods is also an income-generating source in the district. These days, poultry farming, bee keeping and dairy farming are also gaining popularity. There are 14 poultry farms and 11 milk-chilling centers inside the district. Some also keep pigs for meat and sheep for meat and wool. Chickens are kept by many for meat and eggs and are fed with daily left over food and kitchen garbage. They are often found scavenging the back yards.

In Dahakhani, 68% of households have cows and 72% have oxen (**Table 3.12**). They are highly

Table 3.12: Livestock Holding According to Caste/Ethnicity in Dahakhani

Caste/ethnicity and livestock		Cow	Buffalo	Ox	Sheep	Goat	Pig	Fowl
Bahun	No. of livestock	3				6		3
	No. of household	1				1		1
	No. per holding household	3.0				6.0		3.0
	Share of holding household	100%				100%		100%
Chepang	No. of livestock	132	10	98	2	235	10	198
	No. of household	43	8	46	1	49	8	75
	No. per holding household	3.1	1.3	2.1	2.0	4.8	1.3	2.6
	Share of holding household	57%	11%	61%	1%	65%	11%	100%
Chettri	No. of livestock	1	2	2				6
	No. of household	1	2	1				2
	No. per holding household	1.0	1.0	2.0				3.0
	Share of holding household	50%	100%	50%				100%
Gurung	No. of livestock	524	156	343	5	950		962
	No. of household	144	75	149	2	153		186
	No. per holding household	3.6	2.1	2.3	2.5	6.2		5.2
	Share of holding household	77%	40%	80%	1%	82%		100%
Magar	No. of livestock	303	35	214		604	66	439
	No. of household	73	22	87		87	32	108
	No. per holding household	4.2	1.6	2.5		6.9	2.1	4.1
	Share of holding household	68%	20%	81%		81%	30%	100%
Newar	No. of livestock	19	2	26		93		48
	No. of household	6	1	10		13		17
	No. per holding household	3.2	2.0	2.6		7.2		2.8
	Share of holding household	35%	6%	59%		76%		100%
Occupational caste	No. of livestock	49	12	58	2	138	4	114
	No. of household	20	9	30	1	26	4	41
	No. per holding household	2.5	1.3	1.9	2.0	5.3	1.0	2.8
	Share of holding household	49%	22%	73%	2%	63%	10%	100%
Tamang	No. of livestock	141	17	114		369	4	293
	No. of household	44	10	50		49	2	58
	No. per holding household	3.2	1.7	2.3		7.5	2.0	5.1
	Share of holding household	76%	17%	86%		84%	3%	100%
Total No. of livestock		1,172	234	855	9	2,395	84	2,063
Total No. of household		332	127	373	4	378	46	488
Average No of holding household		3.5	1.8	2.3	2.3	6.3	1.8	4.2
Share of Total holding household		68%	26%	76%	1%	77%	9%	100%

Source: Field survey, 2001. Note: Fowls in the study villages are almost all chickens.

Table 3.13: Livestock Holding According to Caste/Ethnicity in Kalyanpur

Caste/Ethnicity & Livestock		Cow	Buffalo	Goat	Ox	Fowl
Bahun	No. of livestock	100	401	530	145	883
	No. of household	46	175	189	78	129
	No. per holding household	2.2	2.3	2.8	1.9	6.8
	Share of holding household	19%	71%	77%	32%	53%
Chhetri	No. of livestock	29	75	116	12	153
	No. of household	12	31	29	8	19
	No. per holding household	2.4	2.4	4.0	1.5	8.1
	Share of holding household	31%	79%	74%	21%	49%
Gurung	No. of livestock	23	83	87	36	377
	No. of household	8	36	30	16	38
	No. per holding household	2.9	2.3	2.9	2.3	9.9
	Share of holding household	15%	67%	56%	30%	70%
Magar	No. of livestock	28	19	22	8	103
	No. of household	6	11	9	5	9
	No. per holding household	4.7	1.7	2.4	1.6	11.4
	Share of holding household	32%	58%	47%	26%	47%
Newar	No. of livestock		6	7	1	27
	No. of household		3	2	1	3
	No. per holding household		2.0	3.5	1.0	9.0
	Share of holding household		60%	40%	20%	60%
Occupational caste	No. of livestock	79	112	162	97	476
	No. of household	43	76	76	52	113
	No. per holding household	1.8	1.5	2.1	1.9	4.2
	Share of holding household	25%	45%	45%	31%	66%
Tamang	No. of livestock	29	23	66	11	113
	No. of household	10	15	20	6	26
	No. per holding household	2.9	1.5	3.3	1.8	4.3
	Share of holding household	29%	44%	59%	18%	76%
Total No. of livestock		288	719	990	310	2,132
Total No. of household		125	347	355	166	337
Average No of holding household		2.3	2.1	2.8	1.9	6.3
Share of Total holding household		22%	61%	63%	29%	60%

Source: Field survey 2000. Note: Fowls in the study villages are almost all chickens.

valued for dung, draft, and milk. Buffaloes are being kept by only 26% of the households, also for dung, milk, and meat. The average numbers of these animals per holding household are 3.5, 2.3, and 1.8, respectively. Although Magars tend to keep slightly more number of these animals there is no significant difference among the different ethnic groups. Most of the households (77%) also keep goats, as insurance for sudden economic needs as they can be easily sold locally for meat. The average number of goats kept per household is 6.3, and relatively lesser number of Chepangs and occupational caste households keep them than the Tamangs, Gurungs, and Magars. About 9% of the household, especially Magars, Chepangs, and occupational caste also keep pigs for meat. All the households keep chicken for eggs and meat, which also serve as insurance for sudden economic needs like goats but for lesser amounts. Their average number per household is 4.2 and relatively more for Gurungs and Tamangs (more than five) than Chepangs and Newars (less than three).

In Kalyanpur only 22% households keep cow with an average number of 2.3 per holding household and oxen by 29% with average number of 1.9 per household (**Table 3.13**). Where as most of the people (61%) keep buffaloes and their average number per holding household are 2.1. More of the Bahuns and the Chhetris tend to keep buffaloes for milk and draft. On average 2.8 goats are kept by 63% of the households and 6.3 chicken by 60% of the households. Bahuns and Chhetris also rear more goats than others. However, the households keeping animals of all kinds are much fewer in Kalyanpur than in Dahakhani. Even landless with livestock have a large number of livestock in Dahakhani indicating their dependence more on livestock farming to acquire the basic needs. Livestock holding tends to increase according to land holding size in both the study villages.

3.6 Farming and Crop Production

As mentioned above, farming is not only the main industry of Chitwan but also the mainstay of life and most of the people are engaged in it as their main occupation. Farming includes all land-based activities such as crop farming, livestock farming, vegetable farming, horticulture, and forestry, which are organically interlinked with each other. The farming system and production differs according to the geographical condition, quality of land and irrigation situation. Paddy, maize, wheat, and millet are the main cereal crops while potato and mustard oilseed are the main cash crops grown in the district.

Most of the *khet* land in Kalyanpur is used as paddy field with about 42% of them being irrigated. Paddy can be grown twice a year from the end of June to early October and from the end of November to the end of March. Generally, people prefer to grow paddy from June to October. After that, wheat is grown as a winter crop from the end of October to February. Mustard is grown from October to January. Some farmers grow vegetables such as potato, red chilli, ginger, *dal*/beans, and fruits instead of paddy, especially in *tandi* area. However, most of the farmers who have irrigated paddy field usually grow paddy at least once a year. In non-irrigated *pakha* land, maize is the main crop. It is grown from the middle of April to the end of August. After maize, most of the farmers grow *dal*/beans and mustard. On irrigated *pakha* land some farmers plant paddy, wheat, and maize also. They also prefer to grow vegetables and fruits such as banana, pineapple and citrus fruits on the *pakha* land. In *bari* (homestead) land farmers prefer to grow mostly vegetables, which can earn instant cash and also can be used for household consumption.

In Dahakhani village, since the land is mostly non-irrigated *pakha* land, there are not many differences in cropping pattern. Maize is the main crop cultivated in these *pakha* land, grown from February to July.

After maize, mustard is grown in the same land from October. *Dal*/beans are grown almost through out the whole year on the *pakha* lands. Beans are also intercropped with maize. Potato is grown in the patches where water supplementation is possible. Millet is grown in the marginal *pakha* land. Paddy and wheat are grown in summer and winter, respectively, on the same *khet* land in the plain part of the village. Often, potato, mustard and pulses are grown between these two crops.

The amount of livestock manure used in the farming is high in both the villages. The average amount of manure used is 1,237 kg per hectare of land, including 2.5% purchased manure in Kalyanpur. People prefer to use manure in their field as they rear livestock. Some farmers are also using chemical fertilizer along with manure. On average about 1,205 kg of manure, 2.3kg of urea and 0.8 kg of DAP are used per hectare of land in this village. In Dahakhani, only manure is used in farming. No body uses chemical fertilizers for farming. They apply the manure during the land preparation for planting any crops. Since they keep large number of domestic animals, they have plenty of manure at their homes and if they lack some at the time of land preparation they can easily borrow from the neighbours. Farmers generally do not use chemical fertilizer in this village because it is not easily available there.

In Dahakhani, the area where paddy is cultivated is only about 7% of total farmland and the yield is about 2 ton per ha. This is much less than the area coverage of farmland (50%) and yield, 2.9 ton per ha in Kalyanpur (Table 3.14). The area coverage of wheat is also very low (2.3%) in Dahakhani comparing to Kalyanpur with the area coverage of 24%. However, its yield is 1.1 ton per ha in Dahakhani, much more than that of Kalyanpur (763 kg per ha). For the rest of the crops, such as maize, millet, mustard, potato, the area coverage and the yield per hectare is much higher in Dahakhani than in Kalyanpur. It seems that while farmers in Kalyanpur put concentrated efforts in producing paddy to secure their main food; rice, the farmers in Dahakhani put their efforts equally to produce various crops through out the year, using all their resources; land, livestock, labour, thus avert risk, and secure their food. However, due to the marginal farming conditions, the yields of all these major crops in Dahakhani are lower than the average yield of the district. Accordingly, people in this village mainly consume maize as *dhindo* (paste) or *roti* (bread). Most of the wheat grown

Table 3.14 : Area Coverage, Production and Yield of Major Crops in Chitwan and Study Vilages

	Crop	Paddy	Wheat	Maize	Millet	Mustard	Potato	Pulses
Chitwan	Area (ha)	33,685	8,500	28,74	1,500	18,000	1,1600	4,180
	Area coverage (%)	35.0	8.8	29.9	1.6	18.7	1.7	4.3
	Production (ton)	92,500	13,770	61,083	1,375	70,200	17,750	881
	Yield (kg/ha)	2,746.0	1,620.0	2,125.2	916.7	3,900.0	11,093.8	210.8
Kalyanpur	Area (ha)	24.6	11.8	8.4	1.5	1.1	0.4	
	Area coverage (%)	50.4	24.2	17.1	3.2	2.2	0.8	
	Production (kg)	70,702.5	9,010.2	3,507.8	265.3	77.3	341.6	
	Yield (kg/ha)	2,876.3	763.1	419.8	172.6	72.9	838.4	
Dahakhani	Area (ha)	7.2	2.2	40.2	15.0	3.8	1.3	27.1
	Area coverage (%)	7.5	2.3	41.5	15.5	3.9	1.3	28.0
	Production (kg)	14,542.5	2,514.4	50,369.0	11,595.7	2,541.1	2,049.6	591.7
	Yield (kg/ha)	2,017.7	1,138.7	1,251.6	772.9	666.6	1,569.1	21.8

Source: Field survey, 2000 & 2001 and CBS, 2001.

is also for self-consumption. Only well-off families who can buy rice or cultivate paddy eat rice. Rice is used mainly during festivals and other important occasions. The production amount of these major crops in the study villages and Chitwan is shown in **Table 3.14**.

In Dahakhani, about 15% of total paddy production is sold by large farmers. The rest of the paddy is self-consumed by all other farmers. Both medium and small farmers sell about 9% of their wheat. The remaining agriculture products, such as millet, *dal*/beans, mustard, buckwheat, and vegetables are used only for self-consumption. About 10% of maize is used for livestock feeding. In Kalyanpur about 20% of total paddy production is sold by large farmers and about 17% of other products, such as wheat, maize, vegetable and fruits are sold by medium and large farmers. The rest of the production is used for self-consumption.

3.7 Occupations Structure and Cash Income

3.7.1 Occupation Structure

The economy of Chitwan district largely depends upon agriculture, as it is one of the most fertile districts in Nepal. About 73% of the total population take farming as their main occupation. According to the District Profile 2001, 43.6% of the total land area is cultivated agricultural land. In most of the areas of the district, mixed farming with crop and livestock is a common practice. Agricultural-led businesses such as processing and marketing of eggs, milk, vegetables, meats, and food crops are prospering in the area.

Although agriculture is the mainstay of the village economy, some people of the district have been shifting to trading, industry, and service (government/ private) as their main occupation. During the off-farm season, people migrate to towns and market centers in the same district such as Narayanghat, Bhandara, Sauraha, Parsadhap, and Sharadanagar to get involved in different nonfarm jobs. They work there as labourers for construction companies and industries and as tourist guides in the National Park and surrounding areas, manufacturing companies, soft drink companies, textile companies, rice mills and feed companies. It is also a way to increase their household income during off-farm season and secure food.

In Dahakhani, of the 1,636 working (economically active) people, almost all (96%) are engaged in farming as their main job since there are fewer opportunities to get involved in other nonfarm activities within the rural area and commuting from the village to the possible work places is very difficult (**Table 3.15**). Only a few people are engaged in other nonfarm activities such as professional; police, army (2%), salaried job; teaching, clerical work (1%), manual labouring (0.5%) and business; teashop keeping, cottage industry managing (0.3%). Most of these nonfarm job engagements are in various urbans of the country including Kathmandu. Recently, few have gone to work in middle-east countries under the contract basis with the manpower supply agency in Kathmandu.

Such contract periods are generally for few years initially and can be extended if desired by both the parties. All the nonfarm workers working beyond rural area are males in this village. Females however are equally engaged in farming and nonfarm jobs in and around the village. Some 440 people (about 27% of economically active people) are also engaged in side jobs mainly within the rural region in such jobs as, livestock farming (390), professional (3), and two each in salaried job, skilled labouring and others. Some are also engaged in manual labouring (34) and business (5) in urban areas. Undertaking of livestock farming by so many people as a side job indicates its importance in subsistence farming of the village and the region as a whole. Magars and Gurungs are the most active in holding nonfarm jobs as the main job in and around the

Table 3.15: Occupation Structure According to Job Kind, Working Place and Sex in Dahakhani

Job kind, working place and sex	Rural area		Sub-total	Urban area		Sub-total	Kathmandu		Sub-total	India		Sub-total	Total	%
	Male	Female		Male	Female		Male	Female		Male	Female			
Farming	778	798	1,576										1,576	96.3
Business	5		5										5	0.3
Professional job	7		7	12		12	10		10				29	1.8
Salaried job	4	3	7	5		5	3		3	3		3	18	1.1
Labouring	4	2	6							2		2	8	0.5
Total	798	803	1,601	17		17	13		13	5		5	1,636	100.0
Business				5		5							5	1.1
Labouring				29		29	5		34	1		1	37	8.4
Livestock farming										1		1	391	88.9
Professional job													3	0.7
Salaried job													2	0.5
Skilled labouring													2	0.5
Total	363	36	399	34		34	5		39	2		2	440	100.0

Source: Field survey, 2001.

Note: Rural area includes neighbouring villages commutable daily from the villages, urban area includes other cities/districts such as Pokhara, Birgunj, Mahottary, Lalitpur, Trushuli, Sarlahi, Gaidakot and Dipayal. One male Magar labouring in Saudi Arabia is accounted in India.

Business: Tea shop, cottage industry, Professional jobs: Army, police, Salaried job: Service, teaching, Skilled Labouring: Ironsmith

Table 3.16: Main Job Holding According to Caste/Ethnicity in Dahakhani

Job kind, working place and caste/ethnicity		Bahun	Chepang	Chhetri	Gurung	Magar	Newar	Occupational caste	Tamang	Total
Rural area	Farming	2	247	13	634	359	52	127	142	1,576
	Business				3	2				5
	Labouring				3	3				6
	Professional job				5	1		1		7
	Salaried job					5			2	7
	Sub-total	2	247	13	645	370	52	128	144	1,601
Urban area	Farming									
	Business									
	Labouring									
	Professional job				7	3	2			12
	Salaried job			1	1	2			1	5
	Sub-total			1	8	5	2		1	17
Kathmandu	Farming									
	Business									
	Labouring									
	Professional job				1	9				10
	Salaried job				2	1				3
	Sub-total				3	10				13
India	Farming									
	Business									
	Labouring				1	1				2
	Professional job									
	Salaried job					3				3
	Sub-total				1	4				5
Total		2	247	14	657	389	54	128	145	1,636

Source: Field survey, 2001. Note: Same as Table 3.15.

village, and urban areas, including Kathmandu and India/middle-east (**Table 3.16**).

There are 1,363 economically active people in Kalyanpur. Most of them (75%) are undertaking farming as their main job (**Table 3.17**). About 10% of them are engaged in manual labouring almost within the rural region and another 10% in salaried job, mostly outside the village. More than half of them are working in India in various jobs in service sector. Those working in foreign countries other than India (Malaysia, Qatar, and Saudi Arabia) are sent to those countries by manpower agencies on contract basis as in Dahakhani. Other nonfarm jobs in which the villagers engage are, business (2%), professional work (1%) and skilled labouring (2%). About 12% of these economically active people are also engaged in various works as a side job. Farming, with the share of 82%, is the most common side job undertaken by the villagers who are engaged in various nonfarm works as the main job in the village. Almost all the villagers engaged in nonfarm work in rural region undertake farming as the side job. Most of the other nonfarm side jobs are almost limited within the village. It is not possible to commute from this village to even nearby towns due to the problem of

Table 3.17: Occupation Structure According to Job Kind, Working Place and Sex in Kalyanpur

Job category	Rural area		Sub-total	Urban area		Sub-total	Kathmandu		Sub-total	India		Sub-total	Foreign Country		Sub-total	Total	%
	Male	Female		Male	Female		Male	Female		Male	Female		Male	Female			
Main Job	Farming	541	482	1,023	2	1	3								1,026	75.2	
	Business	18	6	24	2	1	3	1				1			28	2.1	
	Professional job	8		8	5		5								13	1.0	
	Salaried job	16		16	22		22	10	1		68	3	71	10	130	9.6	
	Skilled labouring	16	5	21	3		3				1		1		24	1.8	
	Labouring	57	44	101	28	11	39	1			1		1		142	10.6	
Total	656	537	1,193	62	13	75	12	1	13	69	3	72	10	1,363	100.0		
Side Job	Farming	76	55	131											131	81.9	
	Business	1		1											1	0.6	
	Salaried job	3	2	5	1		1			8	2	10			16	10.0	
	Skilled labouring	5		5	4		4								9	5.6	
	Labouring	2		2	1		1								3	1.9	
	Total	87	57	144	6		6			6	8	2	10		160	100.0	

Source: Field survey, 2000.

Note: Rural area includes neighbouring villages commutable daily from the village, urban area includes other cities/districts such as Tanahu, Hetauda, Dailekh, Asham, Pokhara. Foreign country: Qatar, Malaysia, Saudi Arabia.

Table 3.18: Main Job Holding According to Caste/Ethnicity in Kalyanpur

Job kind, working place and caste/ethnicity		Bahun	Chhetri	Gurung	Magar	Newar	Occupational caste	Tamang	Total
Rural area	Farming	464	81	116	59	2	210	91	1,023
	Business	11	3	5	2	1		2	24
	Professional job	7		1					8
	Salaried job	10		4	1	1			16
	Skilled labouring	2					17	2	21
	Labouring	7	7	3	1		81	2	101
	Sub-total	501	91	129	63	4	308	87	1,193
Urban area	Farming	3							3
	Business	2		1					3
	Professional job	4					1		5
	Salaried job	18	2		1		1		22
	Skilled labouring	1					2		3
	Labouring	3	1	2	3		27	3	39
	Sub-total	31	3	3	4		31	3	75
Kathmandu	Farming								
	Business	1							1
	Professional job								
	Salaried job	7		2		1	1		11
	Skilled labouring								
	Labouring						1		1
	Sub-total	8		2		1	2		13
India/foreign country	Farming								
	Business								
	Professional job								
	Salaried job	41	5	5	5		22	3	81
	Skilled labouring								
	Labouring							1	1
	Sub-total	41	5	5	5		22	4	82
Total		581	99	139	72	5	363	94	1,363

Source: Field survey 2000. Note: Same as Table 3.17.

transportation. Thus, the people engaged in nonfarm work as side job in urbans and India migrate seasonally to the working places. In this village too, males and females work together in farming, whether undertaken as main job or side job. However, in nonfarm jobs females working beyond the rural region are almost nonexistent.

Females engaged in manual labouring as the main job in rural area are all farm labouring and most of them (80%) are from occupational caste (**Table 3.18**). In fact, occupational caste people are most active in undertaking nonfarm work, perhaps obvious, as they constitute the most numbers of landless household in the village. Bahuns, the dominant group in this village, are also very active nonfarm job undertakers. However, unlike occupational caste people, they are exclusively males engaged in business, professional and salaried jobs. There is no significant difference in nonfarm job engagements of other ethnic groups.

Table 3.19: Main Job Holding According to Education in Dahakhani

Job place	Job kind	IL	L	PS	SS	SLC	HS	GR	Total
Rural area	Farming	1,001	133	308	126	4	3	1	1,576
	Business	3	1		1				5
	Labouring			2	3	1	1		7
	Professional job	1		3	3				7
	Salaried job	2	1	2	1	1			7
	Sub-total	1,007	134	315	134	6	4	1	1,601
Urban area	Farming								
	Business								
	Labouring								
	Professional job	1		2	9				12
	Salaried job				5				5
	Sub-total	1		2	14				17
Kathmandu	Farming								
	Business								
	Labouring								
	Professional job			3	6		1		10
	Salaried job			2	1				3
	Sub-total			5	7		1		13
India	Farming								
	Business								0
	Labouring	1			1				2
	Professional job								
	Salaried job	2	1						3
	Sub-total	3	1		1				5
Total		1,011	135	322	156	6	5	1	1,636

Source: Field survey, 2001. Note: Same as Table 3.7 and 3.15.

Since education level of people in Dahakhani is low in general, the education level of economically active people is not high either. Except for few people engaged in professional and salaried works in urbans who have secondary school education generally there is no relationship between the education and nonfarm job engagement (**Table 3.19**). Where as in Kalyanpur, the education level of people, mostly Bahuns, engaged in professional and salaried jobs are relatively high with education more than S.L.C., and some are even university graduates (**Table 3.20**).

3.7.2 Cash Income

Among the main jobs in Kalyanpur, the average income earned from professional work is the highest; NRs. 38,417 per annum, but the number of people involved in it are few. The average annual income from salaried work, NRs. 32,511, comes in second position. Though the involvement of the people in manual labouring is high, its annual average income is low, just NRs. 4,316 (**Table 3.21**). As for the average cash income in side jobs, business has the highest amount, NRS. 100,000. In fact this is highest amount of cash income from any job in the village.

Table 3.20: Main Job Holding According to Education in Kalyapur

Job place	Job kind	IL	L	PS	SS	SLC	HS	GR	Total
Rural area	Farming	545	39	184	222	20	12	1	1,023
	Business	7	1	4	7	2	3		24
	Professional job					4	2	2	8
	Salaried job	2		2	10		1	1	16
	Skilled labouring	8		8	5				21
	Labouring	65	3	28	5				101
	Sub-total		627	43	226	249	26	18	4
Urban area	Farming	1				1	1		3
	Business	1			2				3
	Professional job			1			1	3	5
	Salaried job				9	10		3	22
	Skilled labouring			2		1			3
	Labouring	26		9	4				39
	Sub-total		28		12	15	12	2	6
Kathmandu	Farming								
	Business							1	1
	Professional job								
	Salaried job	2		1	3	2	1	2	11
	Skilled labouring								
	Labouring	1							1
	Sub-total		3		1	3	2	1	3
India/foreign country	Farming								
	Business								
	Professional job								
	Salaried job	7		19	41	12	2		81
	Skilled labouring								
	Labouring			1					1
	Sub-total		7		20	41	12	2	
Total		665	43	259	308	52	23	13	1,363

Source: Field survey 2000. Note: Same as Table 3.8 and 3.16.

In Dahakhani, the highest contribution is from manual labouring giving an average annual income of NRs. 42,000. It is followed by salaried job and business. Although only one person is involved in skill labouring as a side job, it generates more cash income per annum than others do. Many people are involved in livestock, but the average cash income per annum is one of the lowest compared to the other occupations in both the villages. This may be because most of the people self-consume their livestock products.

People who do not own much land or are landless are mostly engaging in nonfarm jobs for survival where as people in bigger farms engage in these nonfarm jobs to earn extra income. **Table 3.22** gives the picture of cash income of different ethnic groups in Kalyanpur. Gurungs, Bahuns, and Newars have a higher cash income per worker in the case of main jobs as they are engaged more in professional jobs and businesses. Gurungs and Newars, who are the highest earners in the main job, are not involved in any side jobs. However, Bahuns are employed in side jobs and earn a good income from it. This is one of the reasons that the economic status of the Bahuns is higher than other ethnic groups. Chhetris and Tamangs earn more cash income from the side job.

People who do not own much land or are landless are mostly engaging in nonfarm jobs for survival

Table 3.21 : Income From Nonfarm Main Job and Side Job in Study Villages

VDCs	Job Categories	Main Job			Side Job		
		No.	Income	Average	No.	Income	Average
Kalyanpur	Business	31	611,000	19,710	1	100,000	100,000
	Professional job	12	461,000	38,417	-	-	-
	Salaried Job	150	4,876,660	32,511	16	403,000	25,188
	Livestock	222	1,150,500	5,182	115	595,700	5,180
	Skill labouring	16	269,000	16,813	9	96,500	10,722
	Labouring	141	608,600	4,316	3	49,000	16,333
	Grand Total	572	7,976,760	13,945	144	1,244,200	8,640
Dahakhanai	Business	4	46,400	11,600	-	-	-
	Salaried Job	42	1,214,500	28,917	5	63,500	12,700
	Livestock	-	-	-	41	155,976	3,804
	Skill labouring	-	-	-	1	14,400	14,400
	Labouring	3	126,000	42,000	3	36,000	12,000
	Grand Total	49	1,386,900	28,304	50	267,476	5,350

Source: Field survey, 2000 & 2001.

Note : Nepalese Rupees (NRs.), US \$ 1= NRs. 75, in 2001.

Table 3.22 : Income From Nonfarm Jobs According to Caste/Ethnicity in Kalyanpur

Ethnicity	Main Job			Side job			Total
	No.	Income	Average	No.	Income	Average	
Bahun	132	3,737,960	28,318	8	410,000	51,250	4,147,960
Chhetri	21	339,200	16,152	8	118,000	14,750	457,200
Gurung	25	916,800	36,672		-	-	916,800
Magar	13	249,200	19,169	4	33,000	8,250	282,200
Newar	4	104,000	26,000		-	-	104,000
Occupation caste	142	1,265,600	8,913	7	61,600	8,800	1,327,200
Tamang	13	213,500	16,423	2	26,000	13,000	239,500
Total	350	6,826,260	19,504	29	648,600	22,366	19,723

Source: Field survey, 2000 & 2001.

where as people in bigger farms engage in these nonfarm jobs to earn extra income. **Table 3.22** gives the picture of cash income of different ethnic groups in Kalyanpur. Gurungs, Bahuns, and Newars have a higher cash income per worker in the case of main jobs as they are engaged more in professional jobs and businesses. Gurungs and Newars, who are the highest earners in the main job, are not involved in any side jobs. However, Bahuns are employed in side jobs and earn a good income from it. This is one of the reasons that the economic status of the Bahuns is higher than other ethnic groups. Chhetris and Tamangs earn more cash income from the side job.

3.8 Financial Transaction

Financial transaction plays an important role in uplifting the farmers' economic status by supporting various activities of the villagers. So this section will examine the institutions that people use in the two study villages for their saving and credit needs. In terms of formal institutions, the Agricultural Development Bank (ADB) and its special saving and credit program related to rural development; Small Farmers Development Program (SFDP), Rastriya Banijya Bank, Nepal Bank Ltd, Himalayan Bank, Lumbini Bank, and other finance companies are the main formal institutions that have been providing banking services to the people in the district as a whole. But there are no formal institutions inside both the villages and the villagers have to go to the city areas for such banking activities. Generally, people in Kalyanpur use SFDP of ADB in Baghauda and those in Dahakhani use banks in Bharatpur municipality. Informal institutions such as merchants, shopkeepers and neighbouring individuals are the active loan providers in both the villages. There are also some saving groups, cooperatives and local groups formed by NGOs who facilitate these saving and credit activities and also provide loans to the villagers in accordance to their respective programs and mandates.

3.8.1 Procurements of Loans

Farmers procure loans mainly in three different ways, formal, informal and semiformal, to meet their various needs in both the villages. The nature of these different loans, respective stakeholders, terms and conditions, procuring ways and preferences of the loan takers are discussed in the pervious chapter in detail, hence avoided here not to make repetition.

In Dahakhani 228 numbers of people are reported to have at least one loan. Of them 49 have loans

Table 3.23: Loan Amount and Interest Rate According to Loan Source in Study Villages

Loan source, loan amount and interest rate			No. of borrowers	Total loan amount (NRs.)	Biggest loan amount (NRs.)	Smallest loan amount (NRs.)	Average loan amount (NRs.)	Interest rate per year
Dahakhani	Formal	Bank	49	511,300	50,000	1,000	10,435	14%-36%
	Informal	Merchant	175	1,194,105	80,000	100	6,823	18%-60%
	Semiformal	Praja Bikash	1	4,200	4,200	4,200	4,200	18%
		Cooperative	3	4,300	1,800	700	1,433	16%-18%
Total			228	1,713,905			7,517	
Kalyanpur	Formal	ADB	58	1,295,810	200,000	2,000	22,342	15-24%
		Banijya Bank	17	355,400	75,000	5,000	20,906	16-24%
	Semiformal	Saving group	211	1,361,950	170,000	100	6,455	10-36%
		Cooperative	12	77,900	20,000	200	6,492	18-24%
	Informal	Neighbour	36	599,500	60,000	1,000	16,653	18-36%
		Lender	234	3,023,500	150,000	200	12,921	0-36%
Others		3	38,000	20,000	2,000	12,667	15-18%	
Total			571	6,752,060			11,825	

Source: Field survey, 2000 & 2001. Note: For Dahakhani, Bank means mostly Agriculture Development Bank, For Kalyanpur: Others means biogas company and shopkeeper. Households having plural numbers of loans are counted plural times. US \$ 1= NRs. 75.

Table 3.24: Purpose of Loan According to Farm Category and Loan Source in Study Villages

Loan purpose, farm category and loan source		Farm category				Loan source			Total		
		Landless	Small	Medium	Large	Formal	Semi-formal	In-formal			
Dahakhani	Farming	Crop farming		1	8	1	6	3	1	10	62
		Buying buffalo		2	1		1		2	3	
		Buying ox			1				1	1	
		Goat farming		14	31	3	39	1	8	48	
	Business	Shop keeping	1	1	1		1		2	3	3
	Asset building	Buying land			5		1		4	5	5
	Household use	Marriage		2	1				3	3	186
		Daily expenses	3	57	111	12	1		182	183	
Total		4	77	159	16	49	4	203	256		
Kalyanpur	Farming	Buying buffalo	2	9	25	1	5	9	23	37	92
		Buying cart		3		1	1	3		4	
		Fertilizer		14	6		3	10	7	20	
		Goat farming	1	9	7	1	2	7	9	18	
		Buying ox		3	1		1	1	2	4	
		Making pond			1		1			1	
		Poultry		1				1		1	
		Silk farming		3	4		3	1	3	7	
	Business	Buying bus	2	2	6		1	5	4	10	19
		Factory		1					1	1	
		Buying machine		1	2			1	2	3	
		Milling		1	3		2	1	1	4	
		Shop keeping	1					1		1	
	Asset building	Making house	2	6	6	3	7	3	7	17	44
		Buying land		12	15		7	6	14	27	
	Household use	Festival	1	5	6			6	6	12	470
		Daily expenses	31	254	116	14	26	151	238	415	
		Health expenses	3	16	3		4	10	8	22	
		Marriage	1	14	5	1	6	14	1	21	
	Others	Foreign job hunt	1	7	3		2	3	6	11	25
Bio-gas plant			11	2	1	10	2	2	14		
Total		45	372	211	22	81	235	334	650		

Source: Field survey, 2000 & 2001. Note: Others include bio-gas company, SFDP and shopkeeper.

Table 3.25: Loan Source According to Caste/Ethnicity and Farm Category in Study Villages

Loan source, amount and interest rate		Caste/ethnicity								Farm category				Total	
		Bahun	Chettri	Gurung	Magar	Newar	Occupational caste	Tamang	Chepang	Landless	Small	Medium	Large		
Dahakhani	Formal	1		20	12	4	1	7	4		15	31	3	49	
	Semiformal (program)								1			1		1	
		Cooperative			2	1							3		3
	Informal	1	1	90	39	3	26	20	24	4	62	124	13	203	
Total	2	1	112	52	7	27	27	27	29	4	77	159	16	256	
Kalyanpur	Formal	50	10	6	2		10	3		1	45	32	3	81	
	Semiformal (program)		1	1			5				12	4		16	
		Saving group	111	14	13	9	3	65	5		18	123	71	7	219
	Informal	Money lender	112	20	21	5		102	13		23	172	71	8	274
		Neighbour	38	7		2		5	5		3	19	31	4	57
		Others	1		1	1						1	2		3
Total	321	52	42	19	3	187	26	26		45	372	211	22	650	

Source: Field survey, 2000 & 2001. Note: Bank; Agricultural Development Bank. And Rastriya banijya Bank, Praja Bikash; a program to uplift Chepang community.

from formal banks, with about NRs. 10,000 average loan amount, the highest and the lowest amounts being NRs. 50,000 and 1,000, respectively. The annual interest rates for these formal loans vary from 14 to 36% (**Table 3.23**). The lower interest rates are generally preferential loans and are subsidized where as the higher ones are mostly acquired for some kind of investment almost against the collateral of some sort of fixed assets. However, the official maximum interest rate is 24% where as the villagers perceive it as 36% and actually pay it. The difference between the two must be the rent sought by the banking officers and or the intermediate people. About 30% of the total loan amount in the village is procured from this formal channel.

About three-fourth (175 cases) of the people borrow loans from informal source; merchants and forms 70% of the total loan amount in the village. The biggest and the smallest loan amounts vary from NRs.80,00 to meagre NRs.100 with the average loan amounting to NRs. 7,000 and the interest rates per annum varying from 18 to 60%. The more common interest rate in the village for these informal loans is 36% and 42 to 48% for emergency needs. Any loans with interest rate less than 30% are special consideration according to the social relations of the lender and the borrower, where as 60% is a shark loan with vested interests on both parties. Loans from relatives are free of interests and can be as little as some hundred rupees. Being a very remote village more informal financial transactions are done here and people in this village are paying rather high interest rates for their loans. Chepangs and people of occupational caste pay the highest average interest of 48% per annum.

The rest of the people (just 4 cases) borrow from semiformal sources; cooperative based on PDDP and Praja Bikas Program (development program empowering Chepangs). The loan amount from PDDP cooperative is relatively smaller, varying from NRs. 700 to NRs. 1,800 and interest rates between 16 to 18% per annum. There is only one case of loan (NRs. 4,200) from Praja Bikas Program with the interest rate of 18% per annum.

About 72% of these loans are used for household use, such as marriage and other daily expenses and bulk of it comes from informal source. However, formal and semiformal loans are almost exclusively used in production activities, such as farming, business and asset building. Small and medium category farmers are the most frequent borrowers as the large farmer may need not borrow and the landless are often regarded as not worthy of lending even by the development programs, supposed to be the champions of development and advocators of the poor and alleviators of poverty (**Table 3.24**). Since merchants are the dominant lenders of money in this village all the people use them for borrowing the money to meet their various needs. However, Gurungs and Magars, the majority ethnic group in the village, actively borrow from formal and semiformal sources. Some Chepangs also borrow from Praja Bikas Program, especially aiming to alleviate the poverty and dearth of the Chepangs (**Table 3.25**).

In Kalyanpur, there are 571 borrowers, which is more than double in number and borrow about four times in amount than in Dahakhani. About 13% of them borrow from formal banks, the loan amount per case varying from NRs. 2,000 to NRs. 200,000 and the annual interest rate from 15% to 24% (**Table 3.23**). About 40% of the people borrow from semiformal sources; saving groups and cooperatives. Such loan amounts vary from few hundred rupees to NRs. 170,000, the average amount being about NRs. 6,000. Their interest rates also vary from 10 to 36%, depending up on nature of the saving group and the objectives of the loans.

Nearly half of them borrow loans from informal sources; neighbours, money lenders and others with loan amounts varying from NRs. 200 to NRs. 150,000. Being also a remote village more informal financial

Table 3.26: Saving Method, Saving Amount and Interest Rate in Study Villages

Saving method		Way of saving	No. of savings	Total amount	Smallest amount	Largest amount	Interest rate
Dahakhani	Bank	Monthly	1	20,000	20,000	20,000	8%
	Saving group	Monthly	68	5,345	85	4,000	10%-36%
	Mother group	Monthly	1	12,000	12,000	12,000	36%
	Total		70	37,345			
Kalyanpur	Bank	Monthly	32	12,004	100	5,000	8%-24%
	Saving group	Weekly	641	6,844	20	1,000	12%-24%
	Provide loan	Monthly	111	4,917	80	2,000	12%-24%
	Total		784	23,765			

Source: Field survey, 2000 & 2001. Note: Some cases of weekly savings in bank were found in Kalyanpur.

Table 3.27: Purpose of Saving According to Saving Method and Farm Category in Study Villages

Purpose of saving		Saving method				Farm category				Total
		Bank	Provide loan	Mother group	Saving group	Landless	Small	Medium	Large	
Dahakhani	Household use				7		3	4		7
	Future use	1			57		24	30	4	58
	Temple making			1			1			1
	Total	1		1	64		28	34	4	66
Kalyanpur	Farming	1	4		26		19	12		31
	Business	3	4		8	4	9	2		15
	Asset building		7		27	7	17	9	1	34
	Household use	1	6		28	3	13	14	5	35
	Future use	4	24		171	15	121	55	8	199
	Development				19	1	15	3		19
	Loan	3	19		99	17	58	43	3	121
	Others				12	2	7	3		12
	Total	12	64		390	49	259	141	17	466

Source: Field survey, 2000 & 2001. Note: Household use: all kinds of house expenses, including wedding and medical expenses; farming: crop and livestock farming; business: petty shops, factory and mill operation; asset building: house and land; future use: contingency and educational expenses; development: participation in various development programs and group activities; loan: giving loan as a means of saving; others: biogas plant making, forest conservation, helping friends.

transactions are done here, although they are being reduced to some extent by successful formation of saving groups, either spontaneous or under the influence of various development programs. Here, around 40% of the formal loans and about 20% of the semiformal and informal loans are used in productive activities, such as farming, business, asset building and others where as 80% of the semiformal and informal loans are used in household consumption to make the ends meet (**Table 3.24**). Most (about 90%) of the borrowers are from small and medium farms. Nearly half of the borrowers are Bahuns. Next in line of the borrowers are the people of occupation caste (**Table 3.25**). Bahuns are also the most active borrowers from formal and semiformal sources.

Table 3.28: Purpose of Saving According to Caste/Ethnicity in Study Villages

Caste/ethnicity		Bahun	Chhetri	Gurung	Magar	Newar	Occupational caste	Tamang	Chepang	Total
Dahakhani	Household use			1		3		3		7
	Future use			30	9			7	12	58
	Temple making			1						1
	Total			32	9	3		10	12	66
Kalyanpur	Farming	14	2	4			9	2		31
	Business	5		3		1	6			15
	Asset building	14	3	2	2		12	1		34
	Household use	20	4	1			9	1		35
	Future use	87	13	28	7		51	13		199
	Development	7	1	2			9			19
	Loan	64	5	6	6	4	31	5		121
	Others	1	2	2			7			12
	Total	212	30	48	15	5	134	22		466

Source: Field survey, 2000 & 2001. Note: Same as Table 3.27.

3.8.2 Saving Methods

Savings are also done in formal, informal and semiformal ways in both the villages. Deposits in the banks are the main method of formal savings whereas informal ways of savings would be to give loan to the needed ones within the village. Semiformal savings are done in the saving groups by contributing certain amount of money, rather small, periodically by the respective members of the group. Such savings under the development programs get certain amount of interest whereas self-help groups and mutual funds will often invest it in group or individually, in turn rotating among the members, often through bidding. In such a case the member who bids to pay the highest interest rate gets the loan to be used as desired. In the former case they get the dividend and in the later case they will get a chance to use the lump some money during the rotation. The profit maximization from this chance will depend upon the available opportunities and efforts.

In Dahakhani, 70 cases of savings made by 66 people are reported of which only one is formal saving in a bank, with saving amount of NRs. 20,000 and 8% of annual interest rate (**Table 3.26**). The rest of the savings are semiformal saved with saving groups, saving NRs. 20 to NRs. 100 per month. These savings bring them 10 to 36% of annual interests. With the accumulation of these savings they also become qualified for getting loans from the respective groups. There are no informal savings made by the villagers.

The main purpose of the formal savings is to save for future use in household expenses and improve life. This is also true for most of the semiformal savings made with the saving groups (**Table 3.27**). At times people have more than one such savings. The purpose of one saving made with mother group by a Gurung from small farm category is to build a temple in the village where all the people can pray. There are no savings made in the village with an aim of improving farming or investing in other productive activities. Perhaps, many people have no alternatives as they are mostly living hand to mouth. Here the people from small and medium farms are the active savers even though the saved amount is not so big. Non of the landless people can afford to make any savings. Almost half of the people who make savings are Gurungs (**Table 3.28**). They are

followed by Chepangs, Magars and Tamangs. But the Tamangs have the highest per capita savings among all the people making savings. No body from occupational caste can afford to make a saving.

In Kalyanpur there are 784 cases of savings made by 466 people are reported of which 641 cases (82%) are semiformal savings under different saving groups, savings NRs.20 per week for which they get 12 to 24% interest per annum (**Table 3.26**). Some 111 cases (14%) are informal savings, mostly given as loans to the fellow villagers, some being indirectly invested locally in the form of share in the business done by fellow beings. Such saving amounts vary from NRs.80 to 2,000 and receive annual interest from 12 to 24%. However, some of the money given as loans to the fellow villagers is free of interest. They do so to ensure future loans from them, ever if needed, basically on the mutual-help principles. There are 32 cases (4%) of the formal savings in the banks. Such savings per case vary from NRs.100 to NRs.5,000 and their annual interests vary from 8 to 24%. The purposes of these formal savings are for investing in farming and business (33%), future use in food and household expenses improve future economic condition (42%), and form collateral for taking loan in the future (25%). Nearly half of the informal savings are also meant for future uses in food and household expenses (**Table 3.27**). About 30% would use it as collateral to get loans in the future. Some (23%) also would like to use the savings in the future in farming, business and asset building. The purpose of semiformal savings are almost same as informal savings except that some 5% of the semiformal savers also like to participate in various development programs and group activities through these savings.

In this village a good number of people from all farm categories make some kind of savings. However, the savers of small farm category outnumber the savers of other farm categories by a large margin. Similarly, there are people who make savings from all caste/ethnic groups but the Bahuns outnumber the other caste/ethnic groups by a very large margin (**Table 3.28**). Their per capita saving amount is also the highest among all the people making savings except the Newars who are just five in number.

3.9 Community Organization and Evaluation

3.9.1 Community Organization

Community Organization (CO) is one of the important components of social mobilization in which people living close to each other and sharing common interests for community development get organized to work together. It is a broad-based multipurpose group of the community that plays a vital role in enhancing the income of rural households. It helps communities to move towards self-reliance and self-governance. It enhances the capacities of the community people, both men and women, to undertake local development programs that would uplift their living standards with effective planning and participatory management. Its formation is discussed in earlier chapter.

The Participatory District Development Program (PDDP), supported by the United Nation Development Program (UNDP) and His Majesty's Government of Nepal (HMG/N), is introducing COs in the villages of the districts where it has its activities. The main objectives of this program are to empower people to take increasingly greater control over their own development and to enhance their capacities to mobilize and channel the resources required for poverty alleviation. To achieve its objectives, PDDP works simultaneously at the macro, meso and micro levels. At the macro level, PDDP encourages the National Planning Commission (NPC) and the Ministry of Local Development (MLD) to formulate policies that reflect and support village level development initiatives in the country. At the meso level, it provides support for the strengthening

Table 3.29: Group Membership According to Sex and Caste/Ethnicity in Dahakhani

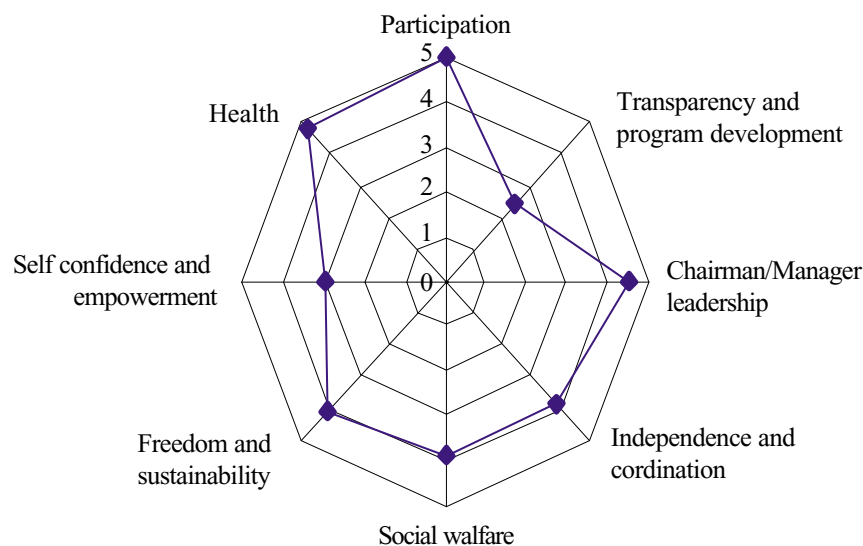
Group	Sex	Chepang	Gurung	Magar	Newar	Tamang	Total
Ama Samuha	Male	1	3	9		5	18
	Female		1	4	1	4	11
	Sub-total	1	4	13	1	9	29
Babu Samuha	Male	1	24	8			33
	Female						
	Sub-total	1	24	8			33
Jala Devi Samuha	Male		3				3
	Female		2				2
	Sub-total		5				5
Jalakali Samudayek Samuha	Male	6					6
	Female						
	Sub-total	6					6
Parabati Samuha	Male			4			4
	Female		2				2
	Sub-total		2	4			6
Sikher Samudayek Samuha	Male		2	4			6
	Female						
	Sub-total		2	4			6
Surya Devi Samudayek Samuha	Male	2		7		1	10
	Female						
	Sub-total	2		7		1	10
Total		10	38	36	1	10	95

Source: Field survey, 2001.

of development programming, planning and management capabilities of the District Development Committee (DDC). At the micro level, it provides support for improving the self-governance at the village level for social and economic development through the development of self-governing community institutions for poverty alleviation efforts. A CO group is the main community institution to initiate self-reliant development and for communities to participate in the decision-making processes. The COs work for the benefit of the entire community giving first priority to the poor people. PDDP also helps to develop and implement training packages for sustainable and participatory development and social mobilization approaches through COs at the village level.

Dahakhani is one of the ten villages in Chitwan district where PDDP has been implemented since 1999. Thus, the CO groups in the village are formed recently under the guidance of PDDP and most of the active CO groups in the village are actually initiated by it. Villagers are made aware about the benefits of being group members by the social facilitators of the PDDP. There are seven such groups in the village and together have 96 members. These groups mainly focus on saving and credit activities to provide the economic support for the villagers using their own resources in production activities in an organized way.

The seven groups operating under PDDP in Dahakhani are shown in **Table 3.29**. Gurungs (40%) and Magars (38%) dominate the membership of these groups. Some of the groups, such as Jalakali Samudayek Samuha are focused in working with Chepangs. Females are encouraged to become members of these groups and participate actively in various programs. However, the females most of whom are poorly literate have not been able to understand this new phenomenon of group activity properly and their membership in the CO groups is still much lower, just about 14%, than their male counterparts. In fact male membership is more



Source: Field survey, 2001.

Figure 3.6 : Current Evaluation of Saving and Credit Groups in Dahakhani

than females even in female specific groups, such as Ama Samuha (mothers group), Jala Devi Samuha and Parbati Samuha. Chepang females are the most shy and are members to none of these groups. The main activity of these groups is to make savings and disburse loans to the members.

Greater proportions of group members come from small and medium farm households who have a food self-sufficiency level of seven months to almost twelve months. Borrowing money is also one of the strategies used to meet their food deficit. In order to meet their food deficit people are attracted towards group activities because it provides various supports, such as loans (for agriculture, household and social purposes), training for the various income generating activities, new farming technology, adult literacy and child education for capacity building, irrigation system, drinking water and introduction of new energy technology; biogas.

3.9.2 Evaluation of Community Organization Group

In order to understand the current situation of these CO groups in the study villages, a questionnaire survey was conducted to evaluate members' participation, nature of programs, quality of leadership, methods of program implementation through coordination with other institutions, sustainability of the group, effects of programs in enhancing social welfare, self confidence and empowerment, and health. Some 95 members of all these 7 CO groups in Dahakhani were interviewed. The interview was taken from both the core managerial members and the general members of the group in order to have balanced information. They were asked to evaluate the group of which they are the members regarding above mentioned aspects of the group in five stages; worst, bad, fair, good and excellent. Each of the evaluating aspects of the group has further detail variables for evaluation, also done in five stages. The details of these variables have been discussed in the earlier chapter, hence avoided here not to make repetition. This interview could not be conducted in Kalyanpur mainly due to Maoist insurgency and time constrains among other problems. Hence, this section will contain only the analysis of Dahakahani.

All of these variables are marked by the numbers 1 to 5, in which, 1 regarded as worst, 2 as bad, 3 as fair, 4 as good and 5 as excellent and their mean value in each aspect is considered for the analysis of respective groups. The marks obtained by all the eight aspects considered for evaluation in each of the seven

groups showed very similar trends. Hence, for simplicity, the average values of these marks for seven groups are used for the discussion. The average values of each aspect are presented in octagonal graphs in **Figure 3.6**.

All the respondents of the survey evaluated all the aspects of the groups and their variables, except the transparency and program development, in the interview questionnaire to be above fair, mostly good and fair, and at times excellent. Except for some occasional cases none said certain aspect of the group and or its variables to be bad or worst. Hence, the aggregated mean values of the groups and their bundles are mostly above 3. Accordingly the discussion hereafter will be to differentiate the attributed values near to 3, i.e., as being fair, near to 4 or above, i.e., as being good or better and near to 5 as being excellent.

The overall participation in program management is excellent in all seven groups. The entire sample members of all groups participate in creation of rules and regulations, program selection, implementation, operation and maintenance. However, not all members are actively participating. Sometimes members are just socializing in the name of meeting. Hence, in spite of evaluation score for participation being excellent, program transparency is poor in all the groups. Most of the members also do not know the goal of the programs and the savings and disbursement of fund to COs and other financial flows. In this context, strong leadership is needed. According to the members responses currently the leadership of the chairperson is good so far. They are honest, highly devoted, responsible and effective. Since the groups are still young the system is not yet regular. Thus, it is too early to evaluate the sustainability of these groups without the support of the PDDP at this stage. Accordingly, the evaluation of freedom and sustainability of the group activity is just good. But with dedicated leadership they have chances to develop and be internalized in the community.

Members of all groups responded that there is no particular relation between the CO groups and the VDC, DDC, government and non-government organizations besides PDDP. So their evaluation of program implementation is basically according to the dependency and coordination with PDDP. However, PDDP has links with VDC, DDC, government, and non-government organizations at different levels, which the villagers are not aware of. This shows a lack of proper transfer of information at the local level.

Mutual understanding and aim to help one another has improved among the members in all groups. This might be the result of compulsory attendance of weekly meeting for all the members where they get chance to know each other better. This gives them an opportunity to share their feelings in addition to their formal task. Enhancement of mutual understanding and developing a habit of helping each other helps to reduce conflict and quarrels among the villagers. However, untouchable feelings for the occupational caste still exist in the village. Although they try to show their positive attitudes to get rid of these types of feelings, the higher caste/ethnic groups in practice do not want to completely do away with the habit of untouchable feelings and take it as a part of their culture, which they would like to preserve for sharing the resources and burden in the rural context.

The evaluation score for enhancing self-confidence and empowerment is just fair. Being development oriented CO groups this evaluation can be understood as rather low and there is no doubt that the members still need to be empowered. However, in observation it seems some members, especially the core members of the groups have self-confidence in their activities and are dedicated. The overall effects of programs in enhancing the health are evaluated as excellent. The problems created by population growth are well understood by the group members. They are aware of the need for family planning to control the population growth. They have also become aware of using hygienic latrines. But many of them are concerned with drinking water facilities. In 2001, only about one-third of the total population of the village is getting safe

drinking water with the assistance from District Water and Sewage Organization.

Thus, it can be said that CO groups formed recently under the guidance of PPDP in Dahakhani have savings and credit as main program and give much importance in weekly meetings attendance. Accordingly they have achieved high participation rate and dedicated leadership. Consequently they also have been able to achieve to deliver the social message of equity and harmony with increased interaction between the members. The group programs have enhanced the health conditions of the villagers, as well. Hence, generally speaking, they have been appreciated and well evaluated. However, the dissemination of information to the individual members is still a problem resulting in opaqueness of the program development and implementation. They have not been able to rightly empower the members either. They have not been able to change the untouchable feelings towards lower caste by higher caste in practice. Further, some groups are segregated according to ethnicity and females are far more lacking behind in becoming the members and partaking in the group activities. These issues should be well taken along with the absolute increase of the members to strengthen the group activities for community development and enhance living standard.

3.10 Food Self-sufficiency

In general, the self-sufficiency of food grains in Kalyanpur is much higher than in Dahakhani. Out of the 45 sample households surveyed, most of the households (42%) in Kalyanpur have self-sufficiency of cereal food for more than 12 months (**Table 3.30**). Among them 31% have food sufficiency for more than two years. They are all medium and large farmers having two or more hectares of land. They can sell the surplus grains; mainly paddy and purchase their other daily necessities. Most of the times they bring their surplus grains in buffalo carts and buses to Bharatpur for selling where they also buy the other daily necessities. Some 9% have food grains enough for 10 to 12 months. They some how manage to feed themselves without purchasing the food grains. There are about 13% of the households, mainly from small and medium farms, who can produce food grains just enough for 7 to 9 months. Such households have to supplement their food grain needs through the nonfarm income. Again some 13% of the households, basically from small farms possessing less than 0.5 ha of land, can produce food grains sufficient only for 4 to 6 months. They have to depend on the nonfarm income to meet their food grain needs. Finally, some 22% of the households have food self-sufficiency for less than three months and live virtually hand to mouth. They have to depend upon nonfarm income just to survive. Among them the landless households have to completely purchase their food grain needs.

Table 3.30: Food Self-sufficiency in Study Villages

Food self-sufficiency	Kalyanpur (S=45)	Dahakhani (S=52)
Up to 3 months	22.2	25.5
4 to 6 months	13.3	51.0
7 to 9 months	13.3	13.7
10 to 12 months	8.9	3.9
Above 12 months	42.2	5.9

Source: Field survey, 2001.

Dahakhani has a very poor rate of self-sufficiency in cereal food even though the average landholding per capita is more than Kalyanpur. Due to the very nature of the montane village the production and yield of grains, especially paddy, are very poor as compared to Kalyanpur. Out of 52 sample households only about 10% has food self-sufficiency for more than ten months; about 6% has self-sufficiency of food grains, mostly maize, for more than 12 months and some 4%, for 10 to 12 months who can somehow manage to feed themselves without purchasing the food grain. Again some 14% can feed themselves basically with maize for 7 to 9 months. They need to supplement their food grain needs through nonfarm income. Bulk of the households (51%) can just feed themselves for only 4 to 6 months and need to purchase more food through nonfarm cash income. They face hard times during the cash strapped times and lean seasons. Some of them live hand to mouth like the people who can produce food grains just enough to meet their needs for three months only. Some 26% of the surveyed households belong to this group. Sometimes they go to towns for loan to procure food but more often they would go to forest for anything edible; roots, shoots, yams, fruits, birds and animals. Although Kalyanpur and Dahakhani both are very remote villages, the former one is much more self-sufficient in cereal food due its location in plains where farming is much easy, land fertile and can have more than two harvests a year. Dahakhani being a montane village the lands are sloped and soil not fertile, most of the land is not suitable for paddy farming. Hence, they farm only less productive grains and harvest two crops a year, at best.

3.11 Summary

This chapter has attempted to provide a basic understanding of livelihood strategy for better living in two villages of Chitwan district. The main strategy found in both villages is farming, mixed with crop and livestock, which is the general nature of the farming system in the country as a whole. Since the district is one of the most fertile, also called the “Grain Basket”, 73% of people depend on farming as their main occupation. However, it is hard for the farmers, especially small and medium farmers, to meet their food self-sufficiency due to the increasing population pressures and low level of farming technology, low level of transportation and marketing systems in the peripheral regions of the district where in lie the study villages. Thus, people are adopting different kinds of strategies to meet their food deficit depending upon the access to land resources, infrastructure and marketing accessibility, and their socio-economic conditions.

Two villages with different locations and different geographical conditions were chosen from the peripheral regions of the district. From the survey, it is clear that Kalyanpur, the village in *madi* region in the southern frontier of the district, dominated by Bahun and Chettri communities, has a better economic condition than Dahakhani, the village in montane region of the northern ridges of the district, in terms of food self-sufficiency and status of supplemented income from other nonfarm activities. In Dahakhani, which is dominated by Gurung and Magar communities, people are solely dependent on farming due to the scarcity of nonfarm opportunities. The landless farmers have no food self-sufficiency in both the villages. They are mostly rearing livestock, which provides a good supplementary income for them. Thus, livestock farming has a direct impact on livelihood and food security to landless farmers in these villages. The landless farmers who do not have livestock undertake manual labouring work, which also provides a good income for their daily livelihood and enhance their food security. Some also live, hand to mouth, in harmony with the forest.

There are no formal financial institutions inside both the villages. So people prefer to get loans from

local merchants rather than other institutions because of easy and quick responses. The loans are used for purchasing seeds for farming, livestock rearing, children's education, marriage ceremony, festivals and household expenses. In Dahakhani, the saving and credit community organizations have been newly introduced by the PDDP and people are showing high interest in it. By observing the current situation of such groups it can be concluded that these groups helped to improve social welfare of the villagers in terms of enhancing the mutual understanding among each other and developing new habit of helping each other. These groups also help to improve their income by providing loans with cheaper interest and training for income generating activities. It also helps villagers towards self-reliance and self-governance to uplift their livelihood. Until now not many groups have been formed, but by observing people's attitude towards the group activities it can be expected that such activities will increase and help to enhance villager's living standard in the near future.

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