CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND

Animal husbandry is as old as civilization itself, our common farm animals were domesticated before the beginning of written history. Paleolithic man, hunted animals for food and his successor, the Neolithic man, tamed and confined them. It was the Neolithic or the new stone age man who first practiced agriculture, which included the raising of domestic animals (Mahanta, 1987).

Nepal is a country of small farmers. It's economy is based on traditional subsistence agricultural production. According to Population Census 2001, more than 85 percent of the people live in rural areas and 75 percent of the economically active people are engaged in agriculture. Agricultural sector contributes over 39 percent in the National gross domestic product (GDP), in which share of livestock is about 31 percent. (CBS, 2004)

In broad, the whole country can be divided in to three ecological regions and among them, it is already considered that Mountain region is suitable for livestock farming, Hill for horticulture and Terai for crop farming respectively.

Livestock acquires special importance in mountain farming systems on both ecological and socio-economic grounds (Sing, 1998).Traditional Nepalese farming is a location specific environment adoptive system. The farming system comprises crop, livestock and forest (inclusive of grassland wherever they exist) as interconnected production sub-systems (Maharjan, 2005).

As provides of manure, exploiters waste, source of power, forms of investment, risk cushions, transporters, and source of raw materials (milk, meat, wool, etc.), livestock benefit mountain farmers directly. Furthermore, livestock play an important role in the cultural identify of mountain people (Jodha and Shrestha, 1990). In the Nepalese society, the possessions of land or livestock determine and reflect both wealth and status.

The people of high mountain areas have followed traditionally subsistence livestock farming, where mixed crop-livestock farming systems predominate. There are different types of animals reared in different places, for different purposes. Livestock size and composition are determined by ecological and socio-economic realities of the region. However, considerable changes are taking place in livestock population, structure and management systems in the areas. This study aims to discuss the existing situation, socio-economic role and overall changes in livestock farming of upper Manang.

1.2 STATEMENT OF PROBLEM

Livestock farming is one of the important parts of Nepalese socio-economic life. The importance and the possibility of livestock farming in mountain regions are high. But all the mountain regions are not of same type, varying in the physical and socio-cultural condition. Manang is a typical region of Nepal, which is located in Trans-Himalayan zone. As a consequence of the Trans-Himalayan region's high altitude, harsh dry climate, largely unproductive rugged terrain, and remoteness from roads and markets, it is the least populated and least economically developed region of Nepal (Rogers 2004).

Generally, the mixed crop-livestock farming system predominate the livelihoods of mountain people in Nepal. Although mixed crop-livestock farming system is adopted in many places, even then the people have adopted agriculture as the main profession and the livestock farming is taken as a supplementary profession for agriculture, while in others livestock farming is taken as main profession.

This research deals the position and condition of livestock farming in Manang and their socio-cultural settings. It is also to find the changes taken place in the ways of livestock farming at present situation. There are still lack of studies and researches in these sectors. This study attempts to find out answers of the following questions concerning livestock farming situation in upper Manang.

1. What is the socio-economic condition of the residence of upper Manang?
2. What is the present situation of livestock and what about the kind of fodder provided to the livestock ?
3. What is the system to manage the fodder and grazing land ?
4. What kind of animals are kept for different purposes ?
5. What are the changes that have been occurred in livestock farming ?

1.3 OBJECTIVE OF THE STUDY

The main aim of this study is to describe about the livestock farming in upper Manang. The specific objectives of this study are:

- To identify the socio-economic and mobility status of the people of upper Manang.
- To assess the livestock farming situation and its management system.
- To examine the socio-economic importance of livestock farming among local residence and changes taken place over the last 30 years.

1.4 SIGNIFICANCE OF THE STUDY

In mountainous and agricultural country like Nepal, importance of livestock farming is incomparable. But unfortunately there are limited studies and researches conducted in this sector, and is almost nil in the Himalayan region. This study aims to explore the socio-economic aspect of livestock farming and temporal changes, especially in Nepali Himalayan Society. This study also tries to fulfill the gap that has been left by previous studies. It will aid in policy making for the local people and governments officials in future. Besides this it will also be helpful for those who are interested in this subject and wanted to under go with the studies and researches concerning livestock farming.

1.5 LIMITATION OF THE STUDY

No study can be free from the shortcoming and drawbacks because of various constraints like time, resources and so on. The following are the major limitations of this study.

- Only two VDCs of Manang district namely Bhraka and Khangsar are taken for the study. This means generalization may not be equally applicable to other parts of Nepal.
- This study area is backward and remote. As a result quantitative data cannot be collected, as the people of the place do not provide accurate numerical information about the economic aspect. So, in this study the use of such numerical data is very low.
- The technical aspects of livestock farming (like animal breeding, animal health) have not been included in the study.

CHAPTER TWO
LITERATURE REVIEW

The literature is made up of various published and un-published items including books, statistics and reports. The search and review of the literature is a critical evaluation, analysis and synthesis of existing knowledge (Hart, 2005). Basically, literature review should establish the relationship of the proposed research to previous and/or ongoing research. Likewise, the review should also be able to identify inadequacies in the existing body of knowledge and epistemology behind research design and whether the inference derived has any epistemological grounding. This largely helps identify gaps in the methodological as well as in the substantive aspect of the existing research (Subedi, 2004).

Livestock is an inevitable part of our economy. Therefore, it directly influences the social and economic life. To widen the understanding of different aspects of livestock farming, several researches and innovative studies are done. Among them, some are reviewed here that are related to livestock farming in general and studies writined within Manang district.

2.1 STUDY RELATED TO THE LIVESTOCK FARMING

Many authors have described the farming system of Nepal e.g. Wyalt Smith (1982), Shrestha and Sherchan (1988), Mathema and Veen (1980), Tulachan, (1979), Poudyal (1980), Tulachan and Neupane (1999), Pantha et al. (1987) and many more authors have described farming system of Nepal. Pantha et al; (1987) define the farming system as the way of farmer farms. Nepalese farming system is found to be crop-livestock based farming system. The major components of farming system in Nepal are namely crop, livestock and forestry. These are interrelated and interdependent. Some have considered them as elements of agriculture eco-system. The production of crops depends on livestock production and the state of forest. Similarly, livestock production depends on crop production and forest production. R.R. Harwood (1976)

quoted by Mathemama and Veen (1980) provided a conceptual model of Nepal hill farm production system. In the model he has shown the relationship among the major components of farming system i.e. crop, livestock, forest, grazing land, household.

Livestock plays a vital role in agriculture as well as in socio-economic life of Nepal. Shrestha (2003), Bhattarai (2001), Tulachan (1985), Luitel (1997), Rai (1996), Shrestha (1999), Sing (1998), Sharma (1988), Pandey (1982), Hopkins (1983), Shrestha and Sherchan (1988), Koirala (1985) Yazman (1986), Mathema and Veen (1980), Tulachan (1985), Karki (1994), Dahal (1993), Wyatt Smith (1982), have described the role of livestock in Nepalese agriculture and socio-economic life. The contribution of livestock in supplying compost manure, milk, meat and draught power are of considerable importance. In the hills almost all crops are dependent on compost manure because poor transportation facilities available in hills has created difficulties in supplying chemical fertilizer to replace the compost manure (Pantha et al, 1987). Meat, milk and milk products are major source of protein in Nepalese diet. T0 provide drought power is another important role of animals. It has roughly estimated that 75 percent of cultivated land is ploughed by animals in Nepal (Pandey, 1982). Most of the studies show that the contribution of livestock and livestock product to farmers' total income was quite significant. The role of livestock is not limited to economic aspect only, furthermore it has distinct social and religious values in Nepalese society.

Another important aspect in livestock farming is the availability of pasture or grazing land. Pande (1997), Barbara (1987), K.C. (1994), Tiwari (1994), Bhattarai (2001), Gurung (1980), Kayasta (1987), Gurung (1987), Paudel (2003), Ranjit (1991), Field and Panday (1969) are some of the authors who have described the existing situation of grazing land and transhumance practice. Animal in our country depends mainly on natural pastures for their nutrition (Gurung, 1980). Grazing contributed about 65 percent of the total feed requirements for the livestock (Tiwari, 1994). Kayasta (1987) also emphasized

that the production of livestock is dependent on the quantity and quality of the pasture available for grazing.

The supply of fodder is one of considerable aspect in the study of livestock. Bhattarai (2000), Shrestha (1999), Bhandari (1998), Pande (1997), Panday (1982), Amatya (1990), Field and Pandey (1969), Wgatt Smith (1982), Hopkins (1983), Yadav (1990),and Gurung (1987) are some of the authors analyzing the fodder situation in Nepal.

Tulachan (1985) in his paper, "Socio-economic characteristic of Livestock Raising in Nepal" has shown that livestock holding is influenced by religious, economic and environmental factors. He found that the type of livestock raising varies with the caste/ethnic groups. The environment is the key factor in raising sheep in Gandruk of Kaski and Yak/Naks in Kobang of Mustang district. In an agricultural society wealth is often held in the form of land and livestock, and thus, a strong positive correlation between farm size and livestock holdings is likely. According to him apart from social and religious considerations, there are economic reasons for raising livestock in the mountain and hill region of Nepal.

Cows are raised mainly to produce bullocks for draft power and secondary for milk, manure and leathers. Naks (female) mainly raised for butter and Yaks (male) for meat. Some female goats are raised for milk, but more are raised for their reproductive capacity and farmers can derive cash income from selling young stock. They also produce manure, and fine quality fiber. In northern Mustang goats are also used to transport goods.

HMG (1988) made a study about economics of raising Chauries and sheep in Rasuwa and Okhaldhunga districts of Nepal. This study shows that the role of livestock in Nepal is significant. Data were collected through interview method in this study. These animals, both chauries and sheep were raised following migratory system. Controlled grazing system was followed in the case of sheep. In case of Chauri, it was prevailed only for the winter grazing.

Free grazing was observed in the summer season. Shortage of pasture area due to privatization of land has caused heavy pressure on limited land which has further caused environmental degradation.

Yadav (1990) in his study "Farming Forestry Livestock Linkage in Mountain Region" has examined the relationship between livestock and crop, livestock and forest, pasture, crop and forest separately. He found that these components are closely linked with each other.

Ranjit (1991) has studied the relationship between agriculture, animal husbandry and pasture land of Tupche VDC of Nuwakot district. He concluded that in Tupche VDC, villagers have well established social measure, value, rules and regulations for their local natural resource management, which protected their resources for degradation.

Dahal (1993) has studied the "Livestock farming as a source of income. He adopted participant observation and interviews method in his study. He has shown that the number and type of livestock owned at Jarayotar, have been found to have no correlation with family size, but the number and types, and farm size were correlated. Ethnicity played an important role in determining the type and number of livestock raised. The contribution of livestock to the farmers total income was quite significant. Likewise, he found that the local feeding practice varied with availability of type of grass from seasons to season.

K.C. (1994) has studied the pasture and livestock management in the Himalayan region of Nepal. He concluded that Chauri raising is more profitable than other animals. The livestock and pasture management system in Syafru is still of the traditional type. However, it is influenced by external interventions.

Tiwari (1994) has studied the livestock production, the feeding system, productivity and the pasturelands in the Makalu VDC of the Makalu Barum conservation project area. He found that cattle, buffaloes, sheep, goats and

chawri are the major livestock species and they are raised under the seasonal migratory grazing system. Pasture grazing, homestead grazing, fodder trees and crop residues were the major sources of animal feed. Grazing contributed about 65 percent of the total feed requirements for the livestock. The productivity and production level of all species of livestock were typical of the indigenous mountain breeds. The recommendations are made in order to increase the productivity and production level of the livestock of the Makalu VDC.

Blamont (1996) has explained that the conjunction of geological, climatic, social, and political events has induced long lasting changes in the animal husbandry practices and overall economy of upper Mustang. Replacing the rearing of yaks or sheep with horses, mules, and goats will lead to an under utilization of the high pastures and rangelands, contributing to probable overgrazing in the vicinity of villages, even if horses which are not used for transporting goods or riding are grazed on high pastures during monsoons. At the same time, the growing number of horses in upper Mustang introduces competition for food grains between men and animals. With the decrease in the variety and numbers of animals kept, Loba(s) face greater risk and potential losses in livelihood.

Craig (1996) has pointed that the people of Mustang survive through a combination of animal husbandry, agriculture, and trade. The number and kinds of livestock kept by Mustang residents vary both from village to village and from household to household, depending on overall community wealth, individual family income, and available range and fodder resources. This is particularly true of sheep and goat herds, and is further exemplified by the rapidly decreasing number of yaks and their crossbreeds raised in Mustang since the closing of Tibetan border to migrant herds in winter.

Horses are generally not as productive as other livestock such as mules, yaks or yak-cow crossbreeds - particularly when comparing levels of productivity to overall fodder consumption. Horses must be stabled, shod, and given supplementary feed most of the year. As horses are pivotal indicators of

status, they are often kept (relatively) fat at the expense of the health and nutrition of other animals or even humans.

Bhattarai (2001) has studied the interrelation between animal husbandary and pasture; and role of livestock in the household's income of Jirikhimti Village area. He pointed that agriculture, livestock keeping and pasturing are interlinked together. Oxen are kept mainly for drought power, and cows are kept with religious status. Pigs are also popular to the other castes except the Bramhin and Chhetri in the village. Milk could not be directly sold because of the lack of market, butter was found to be sold very often. The households of the village also generate their income by selling off springs of livestock. He found that the most serious problem of livestock raising in the hills of Nepal is the shortage of livestock feed specially in the winter.

Shrestha (2002) has studied about transhumance practice in the upper Barum Valley. He has done interview, household survey, PRA and RRA. In his study he shows that Sherpas are the dominant herder with 95.55 percent followed by Gurung and Chhetri. Agriculture is the major occupation of these horders, which are followed by animal husbandry and tourism business. He also pointed that due to low availability of palatable grasses, increased number of livestock and low yielding range the herders have to search for new grazing area for their livestock. They are reducing their longer stay in each *kharka* due to the same. They are also taking a circular route so that there will be enough grasses for their livestock.

Shrestha (2003) has shown the relationship between livestock production and socio-economic factors. He concluded that culture and socio-economic factor determine livestock production. Even social status is also associated with the number of livestock holding in the family. Likewise he recommended that before launching the livestock programme, socio-economic study of the village must be carried out for successful implementation and profitable farming.

Clemens (2005) has made a study about "Human and economic issues associated with livestock production" in Northern Pakistan. An important focus of this study was on farmers' perceptions of opportunities and constraints in the livestock sub-sector. The results showed that farmers keep livestock for a number of reasons with milk and dung production being high among their priorities.

2.2 STUDY RELATED TO MANANG DISTRICT

Few study and research have been done related to Manang district. Some of them are reviewed below.

Joner (1987) pointed that the animal husbandry is the major economic activity of the Bagarchap village. Cattle, goats, and horses are the livestock that have been raised in the area. Still the richest family of the village is determined by how many cows they have in their herd. Many of the families own two or three horses, which are primarily for the use of the village dwellers. Horses are traditionally used for transporting loads or for riding.

Ale (2000) has made a study about Rangeland, Animal husbandry and wildlife in Manang valley. In this paper he pointed that the land use and the impact of different land use practices is of fundamental importance to Manang's livestock, wildlife, rangeland, and agriculture. The abundant pastures of upper Manang have long supported the traditional herding of livestock.

The most important constraint to keeping livestock in these, semi desert lands is the availability of winter forage. This essentially means that animal numbers must be in balance with winter feed limits. In Manang the response of farmers and pastoralists to this has been to create a detailed set of social rules and regulations for grazing.

Likewise the trade and tourism are the two factors that have affected the traditional lifestyle of in habitants of upper Manang. Their involvement in international trade affected their traditional life style and subsistence

occupations, particularly livestock husbandry, which is turn affected their ability to invest in the tourism industry.

Chapagain (2004) has found that the livelihood of Manangba depends on multiple occupations like agriculture, livestock, trade and tourism. The agricultural based options, are mainly done on the off route area and the non-agriculture activities are done on the on route area of upper Manang.

The role of animal husbandry is significant in source of earning money. People sustain for 2-3 months from the income of animal in both on route and off route area. He pointed that the cause of decreasing Chauri number are deforestation, snow lion's danger and tourism impact.

Rogers (2004) has expressed that the early settlers of Nyishang were likely hunters and animal herders who gradually expanded their involvement in agriculture by clearing land for crop fields and building irrigation canals. Livestock, which today include yak, goats, sheep, cattle, and horses, continue to be important for meat and dairy products or, in the case of horses, for transportation, but their most important role is as a source of manure for fertilizer and in the case of cattle, as draft animals for plowing fields.

Pasture growth and regeneration are limited by the slow rate of growth and short growing seasons in Manang's and high altitude environment. To prevent pasture degradation due to overgrazing, livestock are taken to different pastures in a rotating fashion throughout the year. As such, the local carrying capacity for yak is limited by the extent of available pasturage and its rate of re-growth and the number of other livestock that can be kept is limited by the amount of fodder suitable for cutting and drying that can be grown within the vicinity of the village. Along with these limitations, Manang villagers are generally discouraged from investing in large numbers of livestock by the risk of heavy livestock mortality during especially severe winters.

All non-private land in Nyishang, including forests and pastures, is treated as the communal property of the village. Residents of a village are generally not allowed to use the communal resources of another village. Lastly he concluded that the balancing individual competition and communal cooperation has been the 'secret' behind the Manang community's phenomenal economic success.

Subedi (2004) in "*Prasanga upallo manang yatrako: Kura Manangko bhaugolic Bisisthatako*" presents a close link between agriculture and culture in upper Manang. Writing in the form of travelogue he indicates several socio-cultural and physical specificities of upper Manang. In this article pointed that Manangis festivals have direct impact not only on culture, but also upon the farming system and the livelihoods. For instance Manangi send their livestock' (cows and goats) to *Kharka or lekh*, after they accomplish their *Nugni pooja* and *Teer khelne* (archery). If someone rejects this system, Manangi community punishes him/her by fining them.

Joshi (2006) in his study "Mountain people and their farming practices" has found that the life is difficult in Manang and the life pattern and social, cultural norms and value in this zone does not match with other region of Nepal. They adhere to the traditional farming approach and they are deprived of modern technologies. These are unwilling to implement modern approach. Also he pointed that livestock raising is an integral part in the mountain society. Livestock sector provides a great and indispensable supplementary as necessary component like food (meat, milk, and other products), draught animal power, wool and so on. The livestock raising does not highly correlated with the economic status of the people of Pisang village. He recommends involving them in professional livestock raising. Systematic and support should be provided to them. This will be further helpful for farming.

Furthermore, Gurung (1976) has described about the socio-economic structure of Manang and Shrestha (2001) discuss about the poverty of Manang. Vetaas (2002) present a research agenda about the local effect of global change

in Manang. ACAP (2003) and Messerschmidt et.al (2004) have described about the people, place and culture of Manang.

The above literatures suggest that the Nepalese farming system is crop-livestock based farming system. In our agricultural society wealth is often held in the form of land and livestock, and thus a strong positive correlation between farm size and livestock number. Mainly, livestock holding are influenced by religious, economic and environment factors. Most serious problem of livestock raising in Nepal is the shortage of feed and grazing land, specially in the winter.

These reviews are undoubtedly related to livestock farming in the mountain and the hilly area, but their findings may not be equally applicable for all mountain areas like Manang. It is typical Trans-Himalayan region and characterized by its own socio-economic and physical conditions. So this study is focused on describing and analyzing the socio-economic status, existing livestock situation and its management practices, socio-economic value of livestock and changes in livestock farming in Khangsar and Bhraka VDC of upper Manang valley.

CHAPTER THREE
METHODOLOGY AND METHODS

Methods refer to a systematic approach to data collection and technique refers to the art of asking, listening and interpreting (Subedi, 2005). This part will clarify the methodological approaches applied, and contain a description on how data were collected and analyzed. The methodological approach of a study is related to the theoretical approach and also influenced by the personal views of the research worker as well as the nature of the research problem and of the context in which data are to be collected (Sapkota, 2003). This chapter comprises the selection of study area, nature and source of data, working plan, situation and procedure in field survey, data collection tools, and method of data analysis and presentation.

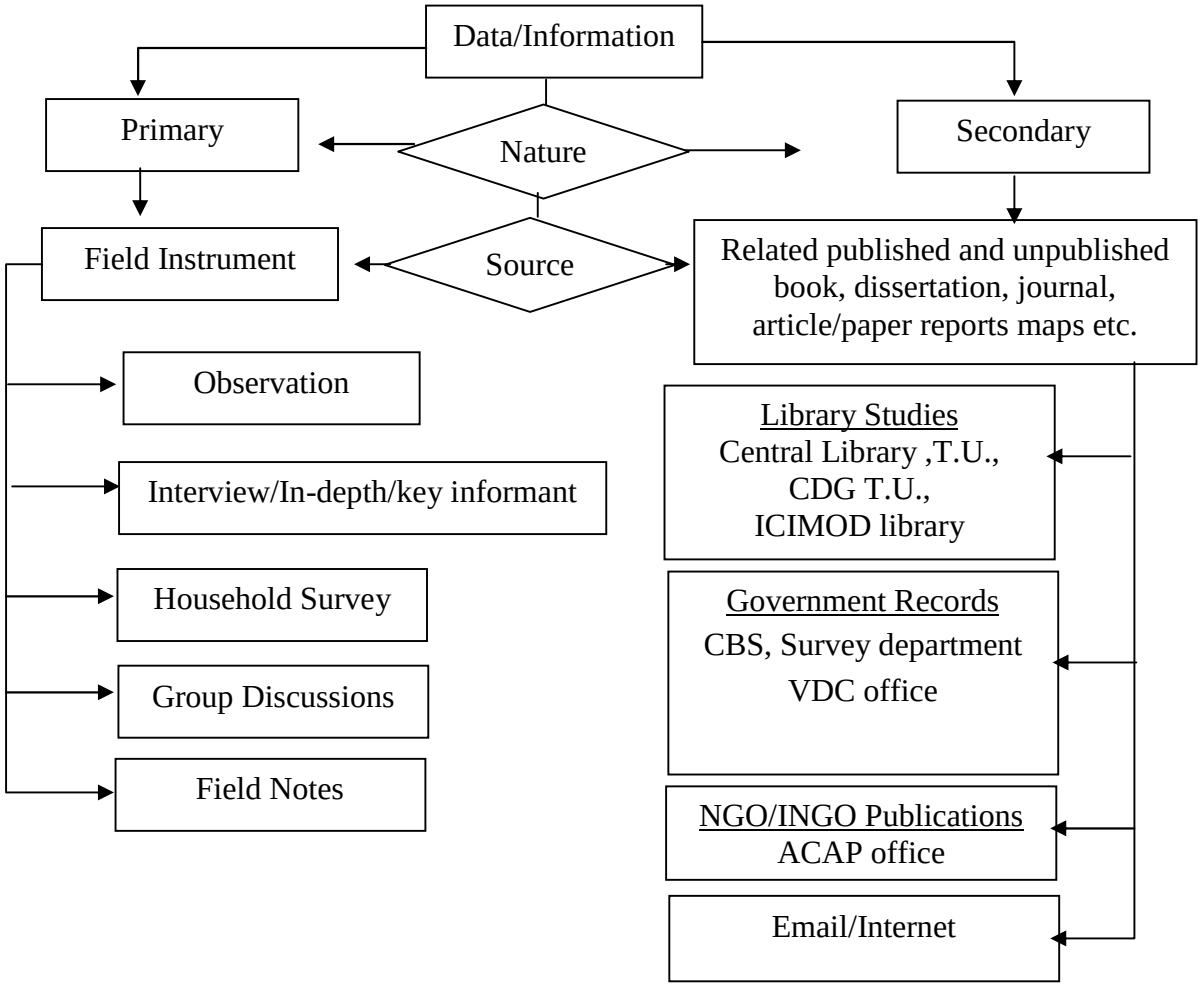
3.1 SELECTION OF THE STUDY AREA

Manang district is one of the remote, backward and Trans-Himalayan region of Nepal. Where, livestock farming is one of the dominant sectors of their socio-economic life. Only few studies and researches have been done regarding this region. There are total 13 VDCs in Manang, among them 7 VDCs are in upper Manang. Among these 7 VDCs of upper Manang two VDCs Bhraka and Khangsar have been selected as the study area. Khangsar VDC is the uppermost portion of the upper Manang and Bhraka lies in the middle portion. Bhraka falls within the Annapurna circuit tracking route and Khangsar falls outside this route.

3.2 DATA BASE AND RESEARCH FRAMEWORK OF THE STUDY

This study mainly based on qualitative information but some quantitative information was also used appropriately. Similarly the focus is on primary data, some secondary data are also used in this study.

Figure 1: Nature and Source of Data



Basically, primary data were collected from field survey. Which was obtained between sep.-oct. 2005? Furthermore secondary sources which were quoted in reference was collected from the different books, dissertation, journals, reports, articles/papers, maps which were collected from different library (Central library, T.U., Central Department of Geography, T.U., ICIMOD library) Government offices (CBS, Survey Department, VDCs office), NGO/INGOs (ACAP) and the internet.

3.2.1 Working Plan for Field Survey

As it is already stated that this study mainly depends on primary source of information. Therefore, the information required for the study would depend on the field survey. Different kinds of difficulties would have to be faced by the researcher in the field like going to the field again and again and staying there for a long time etc. Considering the different matters, the researcher had planned to stay only for 3 weeks in the field. During this short time period, and without proper plan overall and important information could not be obtained. So, keeping time under consideration and the information to be derived, from whom/who would be the respondent and how the information would be collected, for that purpose 'specification chart' was developed.

Table 3.1 Specification Chart

Main objectives	Essential information to fulfill objectives	Methods for collection information
A. To identify the socio-economic and mobility status of the people of upper Manang.	1. Socio-demographic (Age, sex, caste, religion, Education etc). Characteristics. 2. Main occupation and other adapted sub occupation. 3. Land holding size, livestock size etc. 4. Situation and pattern of out migration and inmigration	1. Structured questionnaire 2. Key information interview 3. Group discussion
B. To assess the livestock farming situation and its management system.	1. Volume and composition of livestock 2. Local Vs Improved livestock 3. Subsistent Vs commercial livestock farming. 4. Family size, land holding size and its relation to livestock size and type 5. What are the feed and fodder to given for their livestock 6. How many used of private and common property resources. 7. Within the private resources how much resources is being derived from their own farm land and how much they have to buy ? 8. How far and in what amount does the common property resources like grazing land, forest, water etc are being found ? 9. Which animal is feed in the stall itself, which is taken for grazing, in which season and for how much time during there animal are taken out for grazing ? 10. Does the family member or the out-sider (herder) are engaged in management of livestock farmer. 11. Which age group and sex is involved more in the livestock management in household level ? 12. Institutional aspect for management in feed, fodder and grazing land. 13. As the feed, fodder and grazing land sufficient for the livestock of the study area. As the renewable natural resource of the study are being used to its maximums? 14. As these is relationship between availability of resource like pastureland, forest etc) and the number and type of livestock.	1. Structured questionnaire 2. Observation 3. Interview, key informant interview. 4. Group discussion: Locating the animal shed and grazing route in a topo-sheet through. 5. Collecting an information of a daily life schedule of a livestock farmer.

C. To examine the socio-economic importance of livestock farming among local residence and changes taken place over the last 30 years.	1. Which animal is used for economic or socio-cultural practices. 2. Change in number and type of livestock. 3. To observed the change in the objectives and use of livestock for e.g. manure, ploughing, meat, milk, wool, medium of transportation etc. 4. What kind of changes could be seen regarding the main and the secondary occupation in regard to the past and the present day? 5. What changes could be seen regarding the subsistence type and the commercial type of livestock farming? 6. What kind of changes was found in the animal freed? 7. Which animals' social and economic value decreased and which increased? 8. change in land use 9. What changes have occurred in feed, fodder and pastureland in relation to its amount and types? 10. Changes found in the use of private and common resources 11. What change could be seen in the availability and time of grazing? 12. Changes seen in gender work load, decision making, social equity etc. 13. Changes seen in the placement of market in regard to the export (milk, meat, skin, wool, transporting service etc.) and import (feed, vet-nary/service, medicine etc.) 14. Change in the role of institution in the management of livestock, pastureland and forest? 15. Are the young generation in favor of continuing this occupation or is in a state going up or improving it ? 16. Other changes.	. 1. Key informant interview (especially elderly people) 2. Observation 3. Available secondary source

3.2.2 Field Instrument: Nature and Procedure

Data collection is an integral part of a research. For a successful research correct method of data collection, procedure and proper analyzing method should be used so that reality can be shown. Data collection depends on time, place, objectives and the nature of a respondent, which makes this task difficult and is not an easy job. Therefore, only one method will not be appropriate for collecting data for all places, time and people. For a reliable and authentic research as well as information, appropriate methods according to the desired situation are needed.

The nature of the study area was also different where many unexpected things were found at the fieldwork. The information found was insufficient in comparison to the present field survey. After reaching the field it was known that VDC referred a clustered village. It was practically impossible to collect data from the local individual because of their suspecting nature toward new people. So the best way was to meet the renowned persons of the village like chairman of VDC, priest of monastery, headmaster of school and managers of hotel. These people gave the name of key person of the society and suggested me to meet those important persons or leaders of the village for the detailed information about the study area. They also informed me that important persons or leaders are knowledgeable persons of the village in comparison to the other local people and without their permission no other person in the village could provide the information. The behavior of the local people was very indifferent when I visited their homes. The persons of those homes didn't even welcomed and were scared at the very first sight. When I convinced them that I was being sent by anyone of those important persons then their behavior was changed, and treated in a very good way again the information were being collected from them.

The livestock farming of the study area was common as such it was not necessary to ask all the people regarding this farming, information from one

person was sufficient. Even the system of livestock farming in all the seven VDCs of upper Manang was similar.

During the entire field stay, informal method or open-ended talk method was adopted to collect the information. For this purpose the researcher had contact to the people wherever they were available and information was collected from them. The collected information was noted down in field note especially in the evening.

Those important persons or leaders were chosen For the key informant interview and the related information regarding my study area. After meeting I told them regarding my study, my objectives and the information required for my study and requested them at least 1-2 hours to help me by providing the needed information. Among them some were indifferent, some didn't want to answer and even some of them scolded by saying that *"Hamle uttar diyera pacchi hamilai kya phaida huncha ? Pahila-pahila pani dhairey Jana lai interview diyaun khai ta uniharule kehi gare ?* (What is the benefit for providing information to you, what will we get ? Many like you had visited us earlier and nothing had been done till now). One of the old person of Bhraka village, aged 84 year has being regarded as a key informant and I visited his home, and called him from the gate and he appeared at the very first and questioned me, "who are you and for what purpose have you come here ?" I introduced myself and being the oldest person and having some knowledge regarding the village I requested him to provide some information of the village. Soon after this, he suspected and said that *"malai kehi pani thaha chaina. Pahila Pahila ta kehi thaha hunthyo tara aajkal budho bhaiyo tyas karan subai kura bhule sakiyo, aahile khai pani taha chaina* (I don't know any thing. I used to know but now a day I have forgotten all things due to my old age). It seems that he didn't want to answer any questions or give any information. I again insisted him to give some information but in reply he wanted me to come with any local resident, because of the language problem.

At that time I requested a hotel manager to come with me who helped me in interpreting the conversation with the old man.

At the very beginning, my plan was to collect detailed information from at least 7-8 key informants from each village, but as similar opinions have been found relatively. So, the numbers of the key informant were reduced only to 3 from each village making a total of 6 key informants' altogether. Apart from these key informants, views from other people such as young generation, elderly people, females, miscellaneous workers, government workers and teachers were also taken into account, but even their views did not differ very much.

During the entire survey another unusual thing was found. None of the animals were found either at home or in the surrounding area. According to their rule in summer season none of the animals were kept in the house or in the surrounding area. Because of that I had to travel to a dissonance uphill where it was found that yak was found in the higher elevation than other animals. For this, I had to spend almost a day walking in the high altitude. When I met the herders and from the group discussion the location or route map of the shed and the grazing land was to be made, but due to very limited time and the information that after 2-3 days, they were supposed to harvest grasses and crop to which they moved down to the village then I prepared that location map or route map by the help of some villagers through the group discussion method.

I had make up my mind to conduct the household survey at the very last because the nature of society and their hesitation, I had a fear that if the question was asked according to the structure questions the people's response will affect the entire study. So that, I could be familiar with thus people and they would know the purpose of my visit.

As cutting of grass was regarded very important work. All the villagers were to be engaged and had to finish, the cutting of grasses within the given

time framework as it was according to the rule. As such one or two day before of my field survey, they decided the day for cutting grass through the meeting in the village, so this made me hurry up to accomplish my household survey.

As I was alone, I took a local man of the village along with me, who helped me in a very good way as he introduced me with the respondents and helped me to collect the information. As the key informant interview contained almost all the information, which were asked in the questionnaire, so only remaining information was collected through household survey.

3.2.3 Data Collection Tools and Techniques

The major tools, through which the primary data/information was collected in this study, are described below:

i. Observation

Observation is the technique for collecting visual data or non-verbal behaviour. It is one of the best methods for qualitative information. During the field survey observation was done very carefully. If any important and unusual things were occurred then it was noted in a field note diary. Through this observation method, socio-economic conditions, condition of livestock, grazing and forest were collected.

ii. Informal Interview

Interview is also a tool of primary data collection in qualitative research. Qualitative methodology emphasizes the unstructured interviewing. This is mainly because the idea behind qualitative methodology is to get people to open up and let them express themselves in their own terms and at their own pace (Subedi, 2005). Through this informal interview or open ended talk method different important information were collected. For this method exact time, space, person or title was not determined. All the related information from this talking method was noted in the field note. From the informal

interview, the information about the conditions of fodder and pasture, economic and socio-cultural values as well as change in livestock farming were collected.

iii. Key Informant Interviews

People of the village like teachers, hotel managers, and government service holders have recommended these special or important persons of the village, who could provide information of the village, were regarded as the key informants in this study. Common information like mobility situation, socio-economic value of livestock, changes in livestock farming and the information related to fodder and pasture management were taken by this method. This interview was guide by checklist for key informants' interview (appendix II) and altogether 6 people (3 people from each VDC) were taken for this interview. Nearly 1-2 hour spend asking question to the key informants in their own house.

iv. Household Survey

Mainly for the baseline information the household survey was done. For this survey structural questionnaire were prepared. For this purpose 20 house from Bhraka and 15 houses from Khangsar village were selected. It takes altogether 4 days and the time spent in each house was 30 - 45 minutes. From this household survey information of the socio-economic and demographic condition of farm household and number and composition of livestock as well as management of feed, fodder and grazing land were collected.

v. Group Discussion

Some information collected from a group of people at a particular place is more beneficial or useful while deriving a conclusion rather than by asking each and every individual. Actually, for making the mobility pattern of this area, location and grazing practices, the group discussion method were applied in both villages. After discussion, the researcher locate the spatial location of

Goth (Kharka) or grazing lands on the topo-sheet (scale 1:50000) for this purpose $1\frac{1}{2}$ hour spent in each village for the group discussion, I have asked them for their leisure time. Bhraka People managed the morning time and Khangsar in evening.

vi. Field Notes

Field note was taken during the time of fieldwork. In the fieldwork, most of the time was spent to take informal talks with the local. So, it was important to write down the information in the notebook. The information of key informant interview was immediately noted down in field note. Besides this, all the information achieved through observation, which were also noted down in the field note. Some information were noted down on the field spot while others in the room after completing the field work everyday. At the time of analysis information noted on the field note helped me to recall the events of field study.

3.3 DATA ANALYSIS AND PRESENTATION

Mainly, this study is based on qualitative analysis. At the same time quantitative analysis is also consideration for the baseline information. Similarly map, tables, and diagrams are also prepared for the presentation of findings. Conclusion has been drawn mainly by descriptive methods on the basis of gathered information. Quantitative information were presented on tabular form and qualitative information such as respondent's personal feelings and experiences and related thing were presented in the box and descriptive form. And pseudo name are used appropriately into the box.

CHAPTER FOUR
GENERAL DESCRIPTION OF THE STUDY AREA

Manang district lies in the north-central part of Nepal. Many districts like Gorkha in the east, Lamjung in the South East, Kaski in the south, Myagdi in the south west, Mustang in the west, are connected with this district and China border in the North. Manang district is part of the Annapurna conservation area (ACAP) and an Annapurna circuit trek. It is not only surrounded by high mountain chains, more than two-thirds of the total surface area of 2246 sq.km is occupied by high mountains. This trans Himalayan region of Nepal is cold, dry, wind swept area of high mountains and isolated valleys tucked between the crest of the Great Himalaya mountain range and the Tibetan marginal mountain range. As a consequence of the trans. Himalayan region's high altitude (1600m to 8156m) harsh climate, largely unproductive rugged terrain, and remoteness from roads and markets, it is the least populated and least economically developed region of Nepal.

Manang district has three regions: Gyasumdo, Nyeshang, and Nar. Geological, ecological, geographical, cultural and religious features determine these three regions (Messerchmidt et al., 2004). Nyeshang is the Tibetan name for the largest of the three regions, the 'Upper' Manang valley. It stretches from the villages of Pisang at the lower east and to Khangsar at the upper west end and the people are called 'Nyshangba', or 'Manangba' and in Nepali language called 'Manange'.

There are 13 VDCs in Manang district. Among them 7 VDCs comprises in Nyeshang or 'Upper' Manang valley. The Brakha and Khangsar VDCs of upper Manang are taken as a study area.

4.1 LOCATION

Bhraka is an important and central village of Nyeshang sitting where the upper and lower trails routes through the Manang valley converge. The name of Bhraka refers this village is located. It is located within 28^0 34' 15" to 28^0 43' 45" N latitude and 84^0 00' 30" to 84^0 06' 15" E. longitude. It is bounded east to Hongde (Ward no. 9 of Manang VDC) and Ngawal VDC, west to Manang and Tanki Manang VDCs, north Nar VDC and south to Annapurna Himalaya range.

Khangsar is the western most village of Manang district. It lies in 'Tilicho' sub trekking route and one hour distance from Annapurna circuit trek. The name of Khangsar refers to the five villages in Tibetain language. It is lcoated within 28^0 36' 00" to 28^0 44' 45" N latitude and 83^0 47' 30" to 84^0 00 '30" E. Longitude. The VDC is bounded to the east by Manang VDC, west by Mustang district, north by Yachang Danda and Puse Himal and South by Annapurna Himalaya.

4.2 BIO - PHYSICAL CONDITION

Wide altitudinal variation and diverse climatic conditions within a small area make the topography of the Upper Manang a unique feature. Much irregular topography like U-shaped Marsyandi valley, terraces, cliffs, mountain ridges and steep slopes are seen in the area and that extend in different direction and distance. The major river of the study area is Marsyandi, with many small tributaries, flows from north-west to south east. This drainage is like dendritic pattern.

In general the climate of the study area is cool temperate and alpine type. December, January and February are the coldest months of the year, where this area receives heavy snowfall. June and July are the warmed months. The maximum temperature is 17.40^0c and minimum temperature is -5.80 ^{0}c and mean temperature is 11.80^0c in the year 2002 recorded in Chame

metrological station. Similarly the total annual rainfall of this station is 909 mm. The heaviest rainfall occurs in June and September, recorded in 2003.

The alpine belt is a good pastoral belt, during the warm season. The lower part of the study area has been covered by evergreen coniferous trees. However, the main trees are pine, pines wallichian, Juniperus spp, Betula utilis, Abies specatilis, other species are *Yarsagumba, Paanchaunle, Nirmasi, Jatamasi* are important medicinal herbs.

4.3 SOCIO CULTURAL SETTINGS

The socio-cultural conditions of the villages of upper Manang are nearly similar to each other. The settlement pattern of the study area is compact and agglomerated but few houses are linear shape with stretching the main trail.

Bhraka Village

Khangsar Village

Both physical and cultural environment of the study area determine the pattern and structure of the settlement. Houses of this area are made by stone, mud and wood. Generally the houses are of two and half storeys, where ground floors for animals, first for human and last floor for to store fodder.

According to the census 2001, the total population of Bhraka VDC is 996, among them 496 are males and 500 are females. There are 190 households and average household size is 5.24. Similarly in Khangsar VDC, the total

number of population is 557, among them 290 are males and 267 are females. There are 103 households and average household size is 5.41 members.

In both VDCs almost all are 'Buddhist' in religion. Similarly most of them are Gurung caste and mother tongue is also Gurung. They have strong belief in religion and no village exists without 'Gompa' (Monastry).The major festival and ceremonies of the study area are 'Yartung', 'Metha', 'Phenkola', 'Tarkya' and 'Paten'.

4.4 ECONOMIC ACTIVITIES

The main economic activities of the study area are agriculture, livestock farming, tourism and business. Most of the people engaged in agriculture, and they grow wheat, potato, karu, buckwheat, and some vegetables. But due to the limited agricultural land and only few selected crops are grown. Generally one crop is grown in a year, they also adopt livestock farming. The main livestock of the study area are horse, yak, Goat, cattle and sheep.

Business and tourism are the other economic activities of the area. People have been doing business from the past time. They used to go abroad and native cities of Nepal like Kathmandu, Pokhara and Narayangadh. Likewise some of them adopt a seasonal business, which starts from November and ends in May. Tourism is another major economic activity of the study area. Due to the growing number of tourist, lots of people of the area have engaged in this sector, which is more profitable. Now a day there are many hotels, lodges and other tourist related activities.

CHAPTER FIVE
SOCIO - ECONOMIC AND MOBILITY STATUS

5.1 SOCIO-ECONOMIC STATUS

It is necessary to understand the socio-economic condition of a place for its detailed study. It means there is intimate relationship between the socio-economic condition and the other aspect of the society. Without detailed socio-economic study, the study about livestock farming can't be complete. It is because the direct effect of socio-economic condition of a society can be seen in livestock farming. Similarly the effect of livestock farming can be seen in the socio-economic condition of a society. Some of the major aspects of socio-economic condition of a society, which are directly or indirectly related with livestock farming, are described below.

5.1.1 Family Size

Family size refers to the number in a family. Family size is one of the major factors of socio-economic status which brings more changes in the status of a family.

Table 5.1 Family Size

Number of Members	Khangasar		Bhraka	
	HHs	Percent	HHs	Percent
less than 4	3	20	2	10
4-6	6	40	10	50
6-9	5	33.3	7	35
above 9	1	6.7	1	5
Total	15	100	20	100

Source: Field Survey, 2005.

Table 5.1 shows that the most of the family in both VDCs have 4 to 6 member. In these ranges (4-6), consist of 40 and 50 percent in Khangsar and Bhraka VDCs respectively. But family with less than 4 persons and above than 9 persons are low in both VDCs. Among the sampled household, the smallest family has 3 members and the biggest family has 10. The average family size is 6.1, which is little bit higher than Manang district (5.40) and Nepal (5.44).

5.1.2 Age and Sex Structure

Age and sex are the basic characteristics of population in the area. And also the population composition is the mirror of several socio-economic aspects of a society. Age and sex structure does not only show the population condition alone, but it also impacts on whole social, economic and political situation of the area. Age and sex structure shows the basic changes of population and it indicates the sex condition by age groups of a society.

Table 5.2 Age and Sex Structure

Age Group	Khangsar						Bhraka					
	Male		Female		Total		Male		Female		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0-4	2	2.2	1	1.1	3	3.3	4	3.3	3	2.5	7	5.8
5-9	5	5.4	5	5.4	10	10.8	6	5.0	7	5.8	13	10.8
10-14	3	3.2	5	5.4	8	8.6	8	6.6	7	5.8	15	12.4
15-19	12	12.9	6	6.5	18	19.4	7	5.8	11	9.1	18	14.9
19-24	10	10.8	3	3.2	13	14.0	9	7.4	5	4.1	14	11.5
25-29	4	4.3	5	5.4	9	9.7	9	7.4	5	4.1	14	11.5
30-34	4	4.3	1	1.1	5	5.4	4	3.3	5	4.1	9	7.4
35-39	2	2.2	0	0	2	2.2	5	4.1	6	5.0	11	9.1
40-44	2	2.2	2	2.2	4	4.4	1	0.8	3	2.5	4	3.3
45-49	2	2.2	4	4.3	6	6.5	3	2.5	1	0.8	4	3.3
50-54	2	2.2	4	4.3	6	6.5	3	2.5	5	4.1	8	6.6
55-59	4	4.3	1	1.1	5	5.4	2	1.7	0	0	2	1.7
Above 60	2	2.2	2	2.2	4	4.4	0	0	2	1.7	2	1.7
Total	54	58.1	39	41.9	93	100	61	50.4	60	49.6	121	100

Source: Field Survey, 2005.

Table 5.2 shows that the age structure of population of Khangsar is better than Bhraka. The population of below 5 years is 3.3 percent in Khangsar and 5.8 percent in Bhraka. It indicates that the birth rate is lower in Khangsar in comparison to Bhraka VDC. Similarly, the proportion of 15-24 age groups in Khangsar is 33.4 percent and the proportion same age group of Bhraka VDC is 26.4 percent. The age group between 15-24 is economically active age group and its higher proportion indicates the favorable condition for economic development. The age group of above 60 years is 4.4 percent in Khangsar and

1.7 percent in Bhraka; and it shows that the life expectancy is also comparatively higher in Khangsar.

5.1.3 Sex Ratio

The population of a place means the addition of the total population of female and male. The difference between the population of male and female helps us to analyze the population condition and socio-economic condition of a society. The sex ratio means the number of male for every 100 female. Generally when the sex ratio decrease the economic status of the society will also decrease. In our context male takes parts in several economic activities than the female. And on the other hand when the sex ratio decreases there will be the probability of population increase.

Table 5.3 Sex Ratio (Based on Sample Household)

	Khangsar VDC	Bhraka VDC
Male Population	54	61
Female Population	39	60
Sex Ratio	138	102

Source: Field Survey, 2005.

Table 5.3 shows that the sex ratio of Khangsar and Bhraka VDC. The sex ratio of Khangsar (138) is higher than Bhraka (102). So, it indicates that the Khangsar has favorable condition for economic upliftment.

5.1.4 Dependency Ratio

One of the major results of population change is the change in dependency ratio. Generally the people who can't involve in economic activities and depend on other persons for their living are called depended people and their ratio is called the dependency ratio. Such economically inactive people depend on other economically active people for their livelihood. Generally the people between 15-59 years age group is

economically active, on the other hand the people between 0-14 years group and above 60 years age group are economically inactive people.

Table 5.4 Active and Dependent Population

Age Group	Khangsar			Bhraka		
	Male	Female	Total	Male	Female	Total
0-14 (Dependent)	10	11	21	18	17	35
15-59 (Active)	42	26	68	43	41	84
60 Above (Dependent)	2	2	4	0	2	2
Total	54	39	93	61	60	121

Source: Field Survey, 2005.

If there is greater number of people of 15-59 years age group in comparison to economically inactive people, it will be suitable condition for economic development because the people of this 15-59 years group can be involved in several economic activities. On the other hand if there is greater number of economical inactive (below 15 and above 60 years) people than it will not be suitable condition for the economic growth because the people of these groups can't be involved in economic activities. Similarly between the two economically inactive groups of people between 0-14 group is better for the bright future of the society.

Table 5.5 Dependency Ratios (In Percent)

Description	Khangsar	Bhraka
Child Dependency	30.9	41.7
Old Dependency	5.9	2.4
Total Dependency	36.8	44.1

Source: Field Survey, 2005.

Table 5.5 shows the child dependency ratio of Khangsar (30.9) is lower than the Bhraka (41.7), but the old dependency ratio of Khangsar (5.9) is higher than Bhraka (2.4). The total dependency ratio of Khangsar (36.8) is also lower than the Bhraka (44.1).

5.1.5 Marital Status

Marriage affects both on population growth and social condition of that area. It means we can broadcast the population increase rate of the near future by analyzing the marital status of a society. The data of census year 2001 of Manang districts shows different characteristics of population than other several districts. The average age at marriage in Manang district according to the census year 2001 is the highest in the country. The average year at marriage in Manang district is 28.27 years for male and 25.36 year for female.

Table 5.6 Marital Status (15 years of age and over)

VDCs		Married			Unmarried			Widower	Widow
		Male	Female	Total	Male	Female	Total		
Khangsar	Population	15	15	30	23	16	39	0	2
	Percent	21.1	21.1	42.3	32.4	22.5	54.9	0	2.8
Bhraka	Population	20	20	40	23	19	42	1	2
	Percent	23.9	23.9	47.0	27.1	22.4	49.1	1.2	2.4
Total	Population	35	35	70	46	35	81	1	4
	Percent	22.4	22.4	44.9	29.5	22.4	51.9	0.6	2.6

Source: Field Survey 2005.

The table 5.6 shows that among the population of above 15 years the percent of married people is 44.9, and the percent of unmarried people is 51.9 and the percent of widow and widower are 2.6 and 0.6 percent respectively. From this data it is clear that the age at marriage is higher in Manang since above 51.9 percent people of above 15 years are unmarried. On the other hand the percent of married people and the percent of widower and widow indicate that the life expectancy is lower in Manang. Like these the percent of unmarried male according to field survey is 29.5 and the percent of female 22.4. It shows that the average aged at marriage of female is lower than the average age at marriage of male in Manang.

5.1.6 Literacy and Educational Status

Generally, literacy means the ability of a person to read and write. Literacy or quality of education is not only the basic elements for socio-economic development; it also helps people to forward their daily life. The education quality doesn't only encourage people to get material comfort, it affects people positively in their personality and their vision to understand the society.

Table 5.7 Educational Status (5 years age and over)

Educational Status	Khangsar						Bhraka					
	Male		Female		Total		Male		Female		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Illiterate	10	19.2	15	39.5	25	27.8	11	19.3	19	33.3	30	26.3
General read/write only	14	26.9	9	23.7	23	25.6	24	42.1	20	35.1	44	38.6
Primary Level	11	21.2	8	21.1	19	21.1	2	3.5	6	10.5	8	7
L. Secondary Level	6	11.5	4	10.5	10	11.1	4	7.0	4	7.0	8	7
Secondary Level	1	19	1	2.6	2	2.2	5	8.8	3	5.3	8	7
Higher Secondary and Above	0	0	0	0	0	0	1	1.8	1	1.8	2	1.8
Lama *	10	19.2	1	2.6	11	12.2	10	17.5	4	7.0	14	12.3
Total	52	100	38	100	90	100	57	100	57	100	114	100

Source: Field Survey, 2005.

* Here, Lama means Buddhist religion education in different monastery.

Table 5.7 shows the proportion of illiterate population are 27.8 percent in Khangrsr and 26.3 percent in Bhraka where, total literate proportion are 72.2 percent in Khangsar and 73.7 percent in Bhraka. The proportion of Lama Education is similar 12.2 and 12.3 percent in Khangsar and Bhraka VDC. Among literate population, the proportion gradually decreases, when their level of education is upgraded.

Similarly, if we look literacy rate by sex we can see that the portion of female is greater than male in illiterate people and the number of male is greater than female in literate people. The higher secondary and above level people in Khangsar is 0 but in Bhraka it is 1.8 percent.

In the household survey it is found that among the illiterate people most of them are above 35 years and among the literate people most of them are of lower education level. It is because the people of this area take part in school education in their local schools in their early age but when they grown to teenager or adult they give up their education and engaged in other several economical activities such as trade, job in foreign country. Generally it seems that people give higher priority to property and income than to education.

Rishi Ram Bhandari (48) a teacher of Tilicho L. Secondary school, Khangsar: The parents of this area are not interested to send their children to the school. When we requested them send their children to school, then they put several comments on education. They said you are so educated teacher but you can earn 7-8 thousand rupee per months, aren't you ? Look our children, if they do business, they can easily earn 20-25 thousand rupees per month. Then how do you say that it is necessary to read and write ?

5.1.7 Caste/Ethnic and Religious Composition

All families are of Gurung community and their mother tongue is Gurung in Khangsar VDC, Similarly, the religion is only Buddism. In the case of Bhraka VDC most of the People are Gurung and some are others like Sherpa, Lama (Tibetiean) and Kami (B.K.). Similarly the mother tongue is also Gurung of Gurung, Sherpa., and Kami in Bhraka, but Tibetiean have their own mother tongue. In the case of religion almost all are Buddist in Bhraka VDC.

Table 5.8 Caste/Ethnic Composition

Caste/ethnic Group	Bhraka		Khangsar	
	Population	%	Population	%
Gurung	91	75.2	93	100
Kami (B.K.)	19	15.7	-	-
Lama (Tibeteian)	5	4.1	-	-
Sherpa	6	5.0	-	-
Total	121	100	93	-

Source: Field Survey, 2005.

According to the table 5.8, it is clear that in Bhraka VDC people of several other cast/ethnic groups came and settle there and therefore we can say mixed caste society in this VDC, but in Khangsar nobody came and settled there, so in this VDC all of the people are Gurung community.

5.1.8 Economic Activities

In both these VDCs, most families are engaged in two or more than two economic activities. Since most of the families have multiple occupations, the major occupation is not same among the families. Therefore it is difficult to find out the real percent of role of each occupation in the total income. On the other hand, it is because the families don't keep exact record of their income in different occupation, and they don't want also. In household survey it is seen that both of these VDCs most of the family have livestock farming and agriculture. It means these two occupations are the general occupation of this area. A very few people take part in the occupation except these two. The major occupations of this area are as fallows: i. agriculture ii.livestock farming iii. trade iv. tourism v. foreign income vi. service/job and daily wages vii. Lamaism

During my field survey when I asked them about their occupation, most of them easily said 'agriculture', which can be accepted in the case of some

families but it is difficult to accept for all of the families, because agricultural activities are done by most of the families but their product is very small. It means they do agricultural activities just for their primary needs. It is very difficult to find such a family which gain cash by selling their agricultural product. It is also clarified by the land holding size of that area. For example in Khangsar the average size of the agricultural land per family is 12.9 "*Tukra"*[*] and in Bhraka it is 7.6.

People agree on the fact that the cash income from agriculture has no significant role in their economic upliftment, so many households depend in livestock farming and few depend on other professions. Apart from agriculture and livestock farming, many households are engaged in seasonal trades. But the exact data of the number engaged and the total income they earn is difficult to obtain. In upper Manang the tourism has been an attractive profession, where there is increasing involvement of people.

5.2 MOBILITY STATUS

Migration is one of the main agents of population change. In other words there is increase in population if people from other places come and settle there and decrease in population if people go to other places from that place. People with different aims and with different characteristics are moving to different places either temporary or permanently. In this way, the process of moving people from one place to another may have positive, negative or no impact on both the places of origin and destination. The mobility of people in upper Manang is in the increasing trend. This has different impact on the livestock farming of the place that has been one of the most important parts of socio-economic life. The study conducted on migration by Subedi (1996) is considered important in Nepalese context. He has analyzed historical, cultural, social aspects and deducted the types of migration. He has used permanent migration as '*Basai Sarai'* and divided into five groups. Likewise, for

[*] Parcel of land, it is not standared unit and 1 Tukra equal roughly 1 ropani or 0.05 hectare.

temporary migration he has used the term '*Ghumphir'*. These divisions are applicable only in Nepalese context. But, in this study, the mobility status of upper Manang has been generalized and presented as 1) Out migration 2) In Migration And again these two types of migration has been divided into temporary and permanent.

5.2.1 Out Migration

The situation of migration in Upper Manang is that the out migration is greater in comparison to in migration; this includes both the temporary and permanent migration. The temporary migration in Upper Manang has positive effect, since the people migration with different aims finally return to the same place, but on the other hand, the people migrating permanently to other places have negative effect than positive.

Temporary Migration

Of the total out migration in Upper Manang the rate of temporary migration is higher. The process of temporary out migration has been continuing since the past to the present time. During the (3-4) months of winter there is excessive cold and whole area is covered by snow, so the life of the people at this time is quite hard and there is no socio-economic activities and on the other hand the production of this area is not enough for the whole year, these are the main reasons for many people to migrate temporary from this region.

The people regularly migrating seasonally, mostly come to the capital city, where they get engaged in business and other works. These seasonal migrants not only go to the capital but also to other major cities like Pokhara, Chitwan, and also to India. People usually migrate during the month of October to December and they return in March, or they migrate after harvesting the crop and return during farming time. The exact figure of the number of these seasonal migrates is hard to quote because it depends upon the situation of each year. When asked to the households at the time of field survey many to them

said 1-2 persons of family live there and the rest of family members migrate to lower places. During the period 1-2 members of family live there, but all the members of some households are found to leave the place. In this way a conclusion can be made that about two - third of the people are migrating to other places.

Apart from the regular seasonal migration, on the basis of household survey on the time of field survey, the following situation of temporary Out migration has been found.

Table 5.9 Absence and Attendance Population

Situation	Khangsar VDC		Bhraka VDC	
	Number	Percent	Number	Percent
Absence	32	34.4	34	28.1
Presents	61	56.6	87	71.9
Total	93	100	121	100

Source: Field Survey 2005.

Table 5.9 shows that among total population nearly one-third (34.4% in Khangsar and 28.1% in Bhraka) people are absent in both VDCs. But comparatively in which the absence population is little bit high in Khangsar VDC, which is remote and backward in compensation to Bhraka VDC.

Table 5.10 Absence Population by Age Group

Age Group	Khangsar VDC		Bhraka VDC	
	Number	Percent	Number	Percent
0-14	10	31.3	10	29.4
15-59	22	68.7	24	70.6
Above 60	0	0	0	0
Total	32	100	34	100

Source: Field Survey, 2005.

Table 5.10 shows that no any old people are migrate in both VDCs but the proportion of economically active population (15-59 years) are involved highly (68.7% in Khangsar and 70.6% in Bhraka) in both VDCs.

Table 5.11 Population Absent by Sex

Sex	Khangsar VDC		Bhraka VDC	
	Number	Percent	Number	Percent
Male	20	62.5	21	61.8
Female	12	37.5	13	38.2
Total	32	100	34	100

Source: Field Survey, 2005.

Table 5.11 shows that the proportion of male (62.9 in Khangsar and 61.8 in Bhraka) are higher than female in both VDCs. But there is no significant difference in Between those two VDCs.

Table 5.12 Population Absent by Place of Destination

Place	Khangsar VDC		Bhraka VDC	
	Number	Percent	Number	Percent
Within a country	27	84	26	76.5
India	3	9.4	5	14.7
Other Country	2	6.2	3	8.8
Total	32	100	34	100

Source: Field Survey, 2005.

Table 5.12 shows that most of the people of both VDCs migrated to within a country. To compare the VDCs, people migrated to within a country is higher in Khangsar but migrated to India and other country are higher in Bhraka.

Table 5.13 Absent Population by Purpose

Purpose	Khangsar		Bhraka	
	Number	Percent	Number	Percent
Study	15	46.9	18	52.9
Lama*	10	31.2	12	35.3
Trade/Job	7	21.9	4	11.8
Total	32	100	34	100

Source: Field Survey, 2005.

Table 5.13 shows that nearly fifty percent (46% in Khagsar and 52.9% in Bhraka) people migrated to study purpose only. For the trade and job purpose, 21.9 and 11.8 percent people migrated from Khangsar and Bhraka VDC respectively.

Permanent Migration

Significant number of people migrated permanently from Upper Manang. Today, some 5000 Managbas live in Kathmandu while only 4000 remained in the Manang valley (Aase and Chapagain, 2005). Not only in Kathmandu, some Managbas migrated to Pokhara, Chitwan, and abroad also. The period between the 1960s and the early 80s was period of mass migration. Almost two - thirds of the population migrated out of the valley to Kathmandu, the capital, and other urban areas (Ale, 2000). The population census 2001 shows that there are 103 household in Khangsar and 152 household in Bhraka. But in the period of field survey, the key informants count only 44 household in Khangsar and about, 60 household in Bhraka VDC.

Pemba Gurung (57) Khangsar:

Those who are capable have gone down to Kathmandu, we only some incapable are staying here, if this continues, in my opinion no persons will remain in this place in few years.

5.2.2 In Migration

Although the volume of in migration is not high in comparison to the out migration in upper Manang. Very few number of people are inmigrating to this place. The inmigration is also two types: Temporary and permanent.

Temporary Migration

The population of upper Manang is less and in addition there is shortage of working people, so the workforce of this place mainly depends on the people coming from outside. Annually many people come here from the neighbouring districts like Gorkha, Lamjung etc. Many people come here for harvesting crops, livestock farming, working in hotel, as porter, construction labour, and other domestic works. Those people usually start coming from March and go back during October. Although during the (3-4) months of winter normally people do not live on this place, few people are still found staying there for work, most of them are staying for taking care of home, throwing snow and few stay for working with livestock mainly for *chaurigoth* (yak heard). Because of attractive wages in this region in comparison to other surrounding mountain regions people from outside are regularly coming here. Among them most of the people do not stay at a single village of upper Manang, but rotationally change their place for the search of job.

Permanent Migration

The volume of permanent inmigration is very low in Upper Manang. But out migration, of VDCs of upper Manang valley have the similar proportion and pattern in contrast to the inmigration where it is different in different VDCs. The main reason for low volume of immigration is the rule over there where the ownership of land is not given to the people coming from outside. Beside this people by nature migrate to the places where there are many facilities and opportunities. Manang is a remote and under-developed region of the country so many people do not migrate permanently.

Khangsar VDC, is the most farther and undeveloped VDC of the Upper Manang valley which is also outside the Annupurna circuit trek, but Bhraka VDC lies with the Annapurna circuit trek and middle part of Upper Manang valley. Bhraka VDC is comparatively accessible village, so, considerable people migrating to this VDC are comparison to Khangsar, where the permanent in migration is almost nil.

Different people from different palces, in different time migrate to Bhraka VDC. A long time ago two B.K. families (lower caste) were brought here for doing iron works. Ten houses of Tibetean refugees have been living there since 30 years. Four families have been found to have migrated 8 years ago from Phu VDC. Similarly 2-3 families from Gorkha and Lamjung have been living here since years. Also one family from Solukhubu has been staying here. Some of the families who had migrated to Kathmandu have returned to the VDC.

Bhujung Netu Gurung (46) Bhraka: This family had come from Phu. He had come here by leaving his home and land, but he is living there in other house. He came to Bhraka because he had relatives there, where he first stayed in his home. According to him the cause of leaving Phu are:

- Lack of firewood.
- Excessive cold and frequent snowing
- Less cultivable land
- Lack of fodder for livestock
- Lack of education facilities for children
- Lack of market for their livestock and agriculture product.
- Need of carrying loads from far of places, and his inability to carry load from such far distance

At present he is earning his living by raising yaks and he says that there is no problem so he is staying here whole his life, but he is unaware of his offspring's where they will live.

CHAPTER SIX
LIVESTOCK AND ITS MANAGEMENT

6.1 EXISTING LIVESTOCK SITUATION

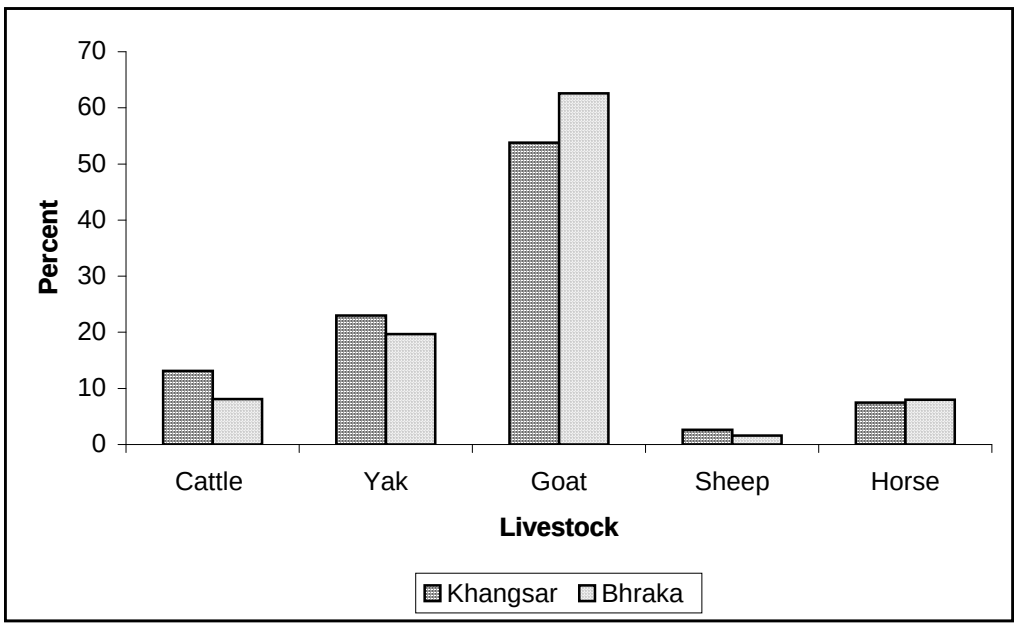
It is already stated that the early settlers of Nyishang were likely hunters and animal herders who gradually expanded their involvement in agriculture. So the history of livestock is older than agriculture in Manang. Today, people practice a typical high mountain agro-pastoral farming system in Upper Manang. Traditionally Manangba rear different animals in different number. The number and composition of livestock is not stable, it is changing. For example there is vast difference in livestock numbers, before and after the "Dashain" festival in Nepal. The number and types of livestock in study area, which is counted in the period of field survey, is presented in table 6.1.

Table 6.1 Number and Composition of Livestock

Livestock	Khangsar VDC			Bhraka VDC		
	Total Number	Percent	Average No.	Total Number	Percent	Average No.
Cattle	77	13.1	5.1	56	8.1	2.8
Yak	135	23	9	136	19.7	6.8
Goat	315	53.8	21	432	62.6	21.6
Sheep	15	2.6	1	11	1.6	0.6
Horse	44	7.5	2.9	55	8	2.8
Total	586	100	39	690	100	34.6

Source: Field Survey, 2005.

Figure 6.1 Compositions of Livestock



The major livestock found in study area are cattle, yaks, goats, sheep and horses. But, the buffaloes, which are most popular livestock in the national level, are not found in this area. Because they do not survive in this area due to the climatic conditions. Table 6.1 shows that the goat are in large number, which alone comprises 53.8 and 62.6 percent of total livestock in Khangsar and Bhraka VDCs respectively. But sheep are found in least number, which is comprises only 2.6 and 1.6 percent in Khangsar and Bhraka VDC respectively. The proportion of cattle and yak are high in Khangsar VDC but the goat is high in Bhraka VDC. The main purpose of raising cattle is to plough the field. Average land holding size of Khangsar is greater than Bhraka, so the number of cattle found is higher in Khangsar. Similarly, the average family and land holding size are higher in Khangsar, and also the average livestock size (39) is greater than Bhraka (34.6). In both the VDCs we don't find strong correlation between family size, landholding size and livestock size. This is because of the grazing system prevailed over there in which even a small family can raise large number of livestock. The grazing land is communal property. People with less land also raise large number of livestock.

Table 6.2 Number and Proportion of Households Involved in Livestock Farming

Livestock	Khangsar				Bhraka			
	To have		Have not		To have		Have not	
	No.of HHs	%	No.of HHs	%	No.of HHs	%	No.of HHs	%
Cattle	15	100	0	0	17	85	3	15
Yak	11	73.3	4	26.7	4	20	16	80
Goat	14	93.3	1	6.7	12	60	8	40
Sheep	3	20	12	60	1	5	19	95
Horse	14	93.3	1	67	20	100	0	0

Source: Field Survey, 2005.

Horse and cattle are the most common livestock which are found in almost all families in the study area. Table 6.2 shows that 15 and 14 household have cattle and horse, comprises of 15 household in Khangsar VDC and 17 and 20 household have cattle and horse of 20 household in Bhraka VDC. Sheep are kept by few families with least number. Cattle and horse are found in most of the families in both the villages, with least number. It indicates that these animals (cattle and horse) are necessary for household but it is not for commercial purpose. But the number and proportion of goat and yak are high in both VDC compared with other livestock (cattle, sheep, horse), it shows that they are keeping goat and yak mainly for income source.

The total number and average number of goat per household is higher in both Khangsar and Bhraka VDCs. Table 6.1 shows that the proportion of Yak is 23 percent in Khangsar and 19.7 percent in Bhraka VDC, but only four (20%) households have got yak in Bhraka, and eleven (73.3%) household have got in Khangsar. Similarly the proportion of goat is 53.8 and 62.6 percent in Khangsar and Bhraka VDC respectively but only 60 percent household have goat in Bhraka and 93.3 percent household have goat in Khangsar. It shows

that the Bhraka VDC have some specialization and commercialization in livestock farming to compare the Khangsar ones.

All livestock of study area are found local type. Still, they don't think about to change their traditional livestock farming. Like other parts of the country, Upper Manang's people practice a mixed crop-livestock farming system. But agriculture are mostly subsistence type and the livestock farming is semi-commercial type in nature, which is the main source of income and livelihood. Although livestock farming is the main source of income and livelihood, they couldn't improve it, with contemporary time; even they have sufficient resources and tools. It seems that they continued it only as their father and forefather's practices of livestock farming.

6.2 MANAGEMENT OF FODDER, AND GRAZING LAND

Fodder is the important aspect of livestock farming, because the amount and type of fodder has direct impact on the amount and types of livestock. Different types of fodder are found in different places and the feeding practice and management system vary in different places.

6.2.1 Types of Fodder

Fodder and the number and types of livestock are dependent on the physico - climatical condition of upper Manang. The major livestock of this area are cattle, yak, goat, sheep and horse. Grazing is the major source of fodder for their livestock. Animal like yak depend totally on grazing while other animals depend on grazing for 8-9 months. Only during 3-4 months of winter apart from grazing the animals are stall feeding and fodder that mainly includes crop residues, grass, hay, some food grains (wheat and peas) and salt. Crop residues mainly includes wheat, *karu*, buckwheat, different types of green grasses are dried hay, which is used in winter. The grasses that are given different names, for example the freshly cut green grass is called "*Rhmpachi*". The residual grass from the field called "*Mrachi*" and like these grasses given to horse is called "*Kremi*".

6.2.2 Source of Fodder

If we divide the source of fodder in two types as private resource and common resource, the main source here is the common resources, because greater part of total fodder requirement is covered by grazing. Grazing as well as bedding material and some grasses are included under common resources. The private resource only includes crop residues, food grains (wheat and peas), some grasses and salt. Apart from salt all other materials are obtained from the farm.

6.2.3 Feeding Practices and Management of Fodder

Grazing is the main source and feeding method that has been described in chapter 6.2.4. Apart from yak other animals are usually kept indoor during the months of winter, because during these periods there is extreme cold and frequent snowing that cover whole the land area. During that period animals cannot depend on grazing, they fully depend on the stored fodder and fodder. The amount of fodder stored is less in comparison to the number of livestock so it is just enough to make the animals remain alive. Generally, food grains are given only to horses regularly but it is given to other animals only in special cases like when the animals became too thin, and illness. Fodder like buckwheat straw is given specially for goat and sheep, and wheat and *Karu* straw are given to horse and cattle. Salt is given to all animals according to their need.

The household survey showed that each horse consume average 22 *pathi*[õ] wheat and 2.4 *pathi* peas. This shows that out of total food given horses 90 percent is wheat and 10 percent is peas. So the horses are given greater amount of feed shows that these animals are not only important in financial point of view but also in the point of socio-economic status.

It is found that fodder is given priority than food grain in Upper Manang, because the number of livestock depends on the amount of fodder available at the months of winter. In other words people rear the number of

[J] A measuring scale, it is roughly equals 4 kg.

livestock, if there are enough fodder available for winter. During the period of long lasting snow fall, many livestock have been found dead because of lack of fodder. So it is clear that the number of livestock dependent on the availability of fodder in winter. To overcome this shortage of fodder in winter they have been following their separate traditional system of management. In the periods when there is cultivation in land around the village, all the livestock are taken from the cultivated land, and not brought there until the crop are harvested. If any livestock enter the fenced croplands then the owner is to pay fine. During this period around low lands fields, plenty of grass start growing, which is not allowed to cut until certain days, and those who are found cutting are fined Since people are not allowed to cut and animals are not allowed to enter the low land around the village is covered with plenty of grasses. Moreover the people are not allowed to cut grasses of their own field till the fixed time.

When it is the time of harvesting, people get together and talk for making rules of cutting grasses, and harvesting crops. The time of meeting is different in different VDCs. The meeting fixes the time, duration and other necessary conditions for cutting grasses and harvesting crops.

A meeting was called in Khangsar in open ground for making rules of cutting grass on *Ashoj* - 8, (Sep 24) in the morning at 11 O' clock. A day prior to the meeting all the houses of the village were informed, and it was made a compulsion that at least one man from each house had to participate in the meeting. 21 people were presented in that meeting. After the meeting, decision was made that they will cut grass a day after Manang VDC start cutting grass.

A similar type of meeting was held in Bhraka VDC on 11th of *Ashoj* (Sep. 27). Here unlike that of Khangsar one members of each household was not called, but only few key persons talked together and made all the decisions. This meeting was held at 7-8 pm in the evening in one of their house. A decision was made after the meeting that cutting grass would be started from 13th of *Ashoj* (Sep. 29) at 6 O' clock in the morning and it was also declared that those who cut prior to the time would be fined Rs. 500.

A meeting in Khangsar for making rules of cutting grass on Ashoj-8, 2062

Manang village has direct control over other villages in the case of cutting grass and other matters. It is found that other villages start implementing certain things only after the Manang village has started. Likewise if decision has to be made in different things, a final decision is usually made by the Manang village. This is made clear from the decision made by Khangsar village to cut grass after a day Manang village has started. When people were asked about this matter, they said that it has been a tradition from ancestors and it is difficult to leave suddenly. Not only Khangsar but in all the six VDCs of upper Manang I found the same rule, which is made more clear from table 6.4.

Table 6.3 Schedule of Grass Cutting and Crop Harvesting

Village	Date of Grass Cutting	Date of Crop Harvesting
Manang-Tanki	*Ashoj - 9* (Sep. 25)	*Ashoj - 14* (Sep. 30)
Khangsar	*Ashoj -10* (Sep. 26)	*Ashoj - 16*(Oct. 2)
Bhraka	*Ashoj 13* (Sep. 29)	*Ashoj - 14*(Sep. 30)
Nagwal	*Ashoj - 14* (Sep. 30)	*Ashoj - 15* (Oct. 1)
Gharu	N.A.	N.A.
Pisang	*Ashoj - 13* (Sep. 29)	*Ashoj - 16* (Oct. 2)

Source : Field Survey, 2005.

The grass of the field can be cut by the owner of the land (field) only when the grass of the common land can be cut by everyone of the village. People from one VDC is not allowed to cut grass from other VDC, but a person from one VDC can hire people from other VDC to cut grass in his VDC. Because of the importance of grass, people are allowed to cut only during fixed day and time. The people focus more in cutting huge amount of grass in particular time, for which all the members of the house get together and the relatives also come to help them in cutting grass and even the people try to hire as many workers as they can for cutting grass.

K.T. Gurung (44), Bhraka

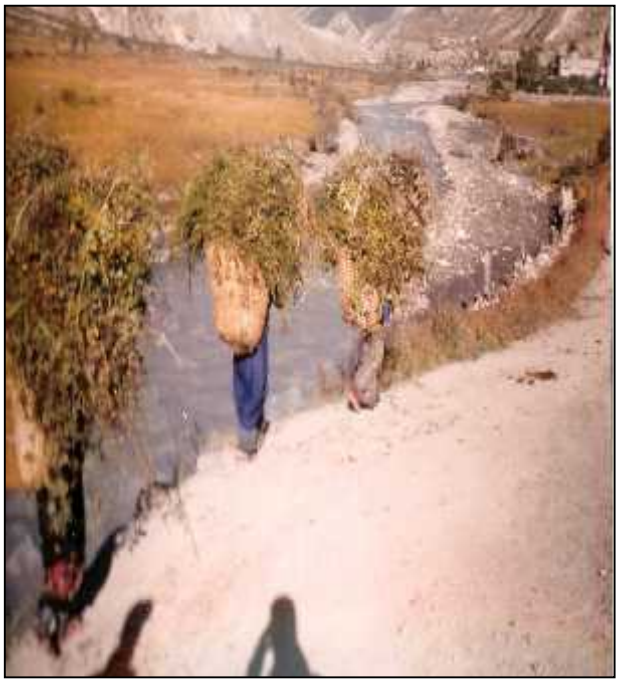
He doesn't own more livestock and only two members of his family stay in village. His main occupation is Hotel business; but during the day of cutting grass there were 17 people in his home. He says if he is able to store greater amount of grass this time, he will give some of the hay to those people whose livestock are in the state of dying due to lack of fodder in winter and in return he says they will give him *gober mal* (dung), from which he will be benefited and he also fills he is doing service of people.

S.T. (46) Bhraka:

He mainly reares yak and few other animals. Generally he stays in the upper part with his yaks, but during the time of cutting grass he comes to village a day before, leaving his yaks, to go to other VDC for searching people to cut

There are both positive and negative aspects of their giving more importance to the grass and making tight rules for its utilization. The positive aspect is that if grass is not allowed to cut during summer, then low land areas will leave plenty of grass that can be used for the winter when there is shortage of grazing land. In the other hand the negative aspect of the system is that since all the grass is cut within 1-2 days, only those who can and have greater number of family members will be more beneficial more.

Workers, hired for cutting grass are taking lunch



People are busy in carrying grass

In both study areas like grass, the crop residues are also given prior importance, so the care is taken in utilizing it as much as possible, without making any wastage. For example, the crop residues like wheat and karu are uprooted and the roots are utilized by removing the mud. This is made clear by the following photo.

People uprooted wheat in Bhraka VDC.

6.2.4 Grazing Land Management

The livestock in Upper Manang is mainly dependent on grazing, so the grazing land management is one of the important parts of livestock farming. These days because of the decrease in the number of livestock there is not so much pressure on the grazing land. However, they have managed grazing land in their own way since the past. That includes taking livestock far from the surrounding low lands during the summer and bring back them to the low lands during the winter. The livestock from other VDCs, are not allowed to enter into their VDC. The pasturing time and place for the animal within VDC are managed by themselves. The people of VDC say that they do not have any problem of grazing land during the summer, but they face many problems during the winter. Apart from yaks all other livestock are takes to higher pasture land during summer in different times, yaks are always kept in the high and not brought to lowland even during winter. The location map of *Goth/Kharka* (grazing land) in Bhraka and Khangsar VDC are illustred below.

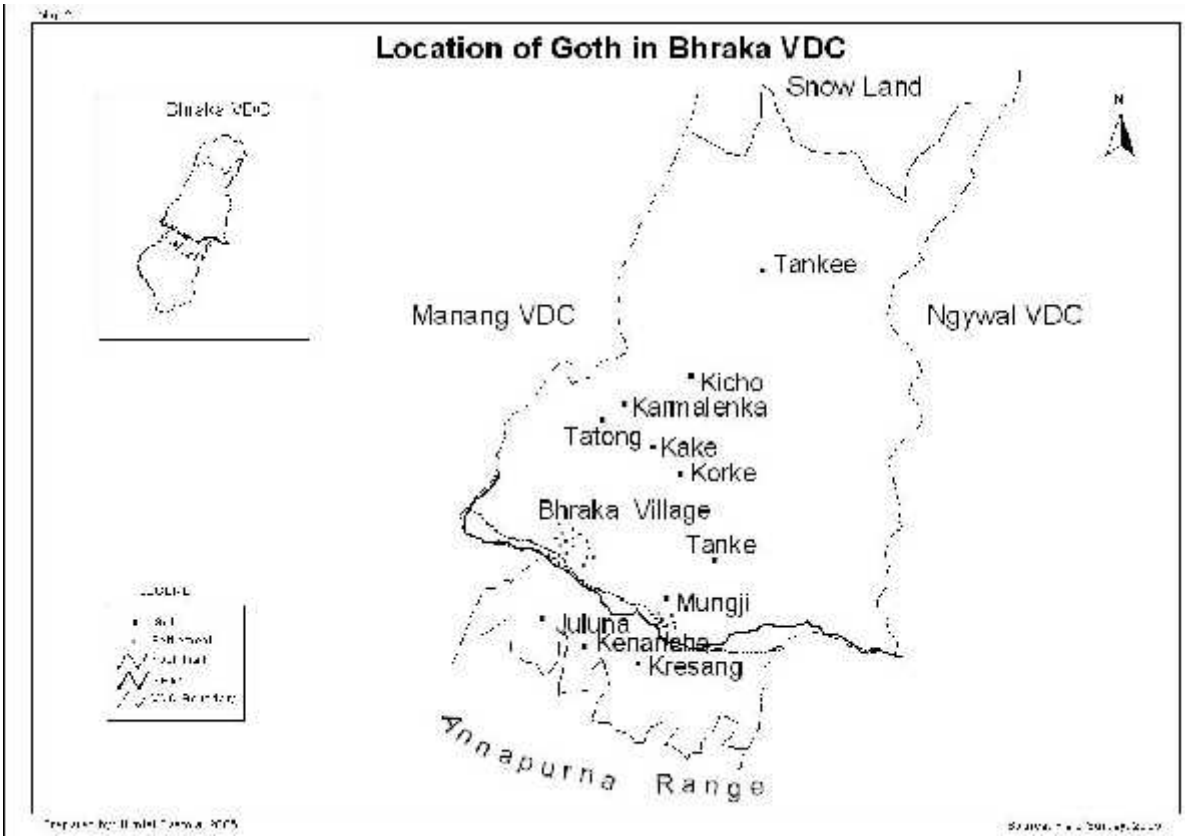


Table 6.4: Time and Location for Grazing land (Goth) in Bhraka VDC.

Location (Goth)	Livestock	Time duration
Mungji and Kreshang	Cattle, Goat, Sheep	*Baishak* to *Ashad* (mid April-Mid July)(horse also leave in this area in *Baishak* mid-*jestha*) (Mid April to May Last)
Kenanche	Cattle, Goat, Sheep	*Ashad* - *Srawan* (Mid June-Mid July)
Juluna	Cattle, Goat, Sheep	*Ashad* - Mid *Bhadra* (mid June to Aug. Last)
Tanke	Cattle, Goat, Sheep	Mid *Bhadra* to *Ashoj* (till to crop harvesting time) (September)
Korke and Kake	Yak and Horse	*Baishak* to *Jestha* (Mid April-Mid May)
Kicho	Yak and Horse	Mid *Jestha* to *Bhadra* (June to Mid Aug)
Tankee	Yak only	*Bhadra* (Mid Aug - Mid Sep)
Tarmalenka and Tatong	Yak and Horse	*Baishak* to *Jestha* (According to amount of grass) (Mid April - Mid May)

Source: Field Survey 2005.

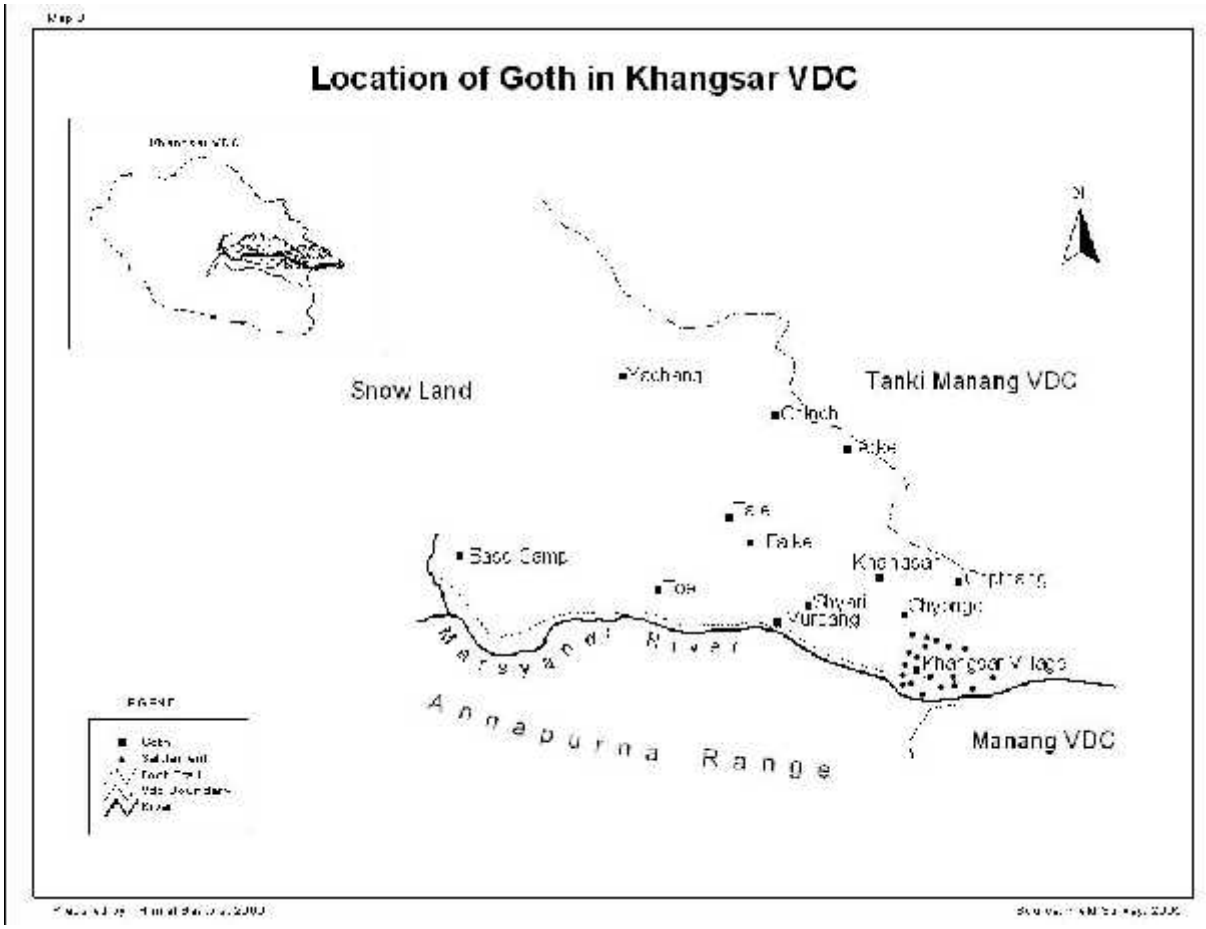


Table 6.5: Time and Location for Grazing Land (Goth) in Khangsar VDC.

Location (Goth)	Livestock	Time duration
Chyongo	Cattle, Goat, Sheep	Ashoj to Kartik (Mid Sep. to Mid Nov.)
Khangsar	Cattle, Goat, Sheep	*Baishak* to *Ashoj* (Mid April to Mid Sep) *(*except Yak) and yak only in *Mangsir*. (Mid Nov. to Mid Dec.)
Chpthang	Cattle, Goat, Sheep, Yak	*Jestha* to *Ashoj* (Mid may to mid Oct.)
Falke, Arke, Chinchi & Tale	Yak, Horse, Cattle	*Jestha* to *Ashoj* (Mid may to Mid Oct)
Yachang	Yak and Horse	*Chitra* to *Baishak* (Mid March to Mid April) and *Ashoj* to *Kartik* (Mid Sep-mid Nov).
Base Camp and Toe	Horse, He-cattle & Yak	He-cattle and horse in *Jestha* to *Ashoj* Mid May to Mid Oct) and Yak in *Mangsir* to *Push* (Mid Nov. to Mid Jan*)*
Shyari	Yak only	*Magh - Falgun* (Mid Jan to Mid March
Mursang	Cattle and Horse	*Jestha* to *Ashoj* (Mid May to Mid Oct)

Source: Field Survey 2005.

Table 6.5 and 6.6 shows that the different location of *Goth* or grazing land in different time for different livestock. Among them, Generally, cattle and goat are kept in shed in night time but yak and horse are kept in open ground. So the *goth* of cattle and goat are left in certain place but the *goth* of yak aren't left in such certain places. Similarly, during the time of excessive cold or snow fall when all the surrounding land are covered by snow, all the animals except yak, are kept in indoor house. But, due to the ability to survive and graze yaks are kept outside the house and settlement during the whole year.

6.2.5 People's Involvement in Livestock Farming

The number of manpower required for livestock farming in different places is not the same. It depends on the method and situation of livestock farming. For example less manpower is required where there is proper grazing system than in those area where there is stall feeding system. In Upper Manang, grazing system is mainly practiced, so that less manpower can rear many livestock. Due to this reason a strong correlation was not found between the livestock number and family size. In the household level it is found that only the family members are involved for livestock farming. Within the family, different people according to age and sex are assigned different responsibilities related to livestock farming. Mainly the majority of people of age between 30-60 is found. The heavy and more responsible works are mainly done by the men, and the light work and carrying dung to land is done by women. The children are mainly involved in taking and bringing back livestock from the grazing land. But in the case of Yak generally only male are taking responsibility. According to the household survey, it is found that higher percentage (60 percent) of man are actively involved in livestock farming than female that comprise of 40 percent in the study areas.

In addition to the involvement of the family member in livestock farming of household level, a few people from outside are also found to be involved. Especially some of the families of Bhraka hire other people during

summer for grazing their goats and in return they give one *pathi* wheat or buck wheat for each goat. During the period of field survey only two people were found in Bhraka VDC who were paid monthly wages for their work. They are involved in Yak rearing who earned Rs. 1800 and goat rearing is earned Rs. 1200 per month. In addition both were given the facility of lodging and fooding by the livestock owners.

Kancha Gurung (46) Bhraka

His main occupation is yak hearding, there is no outsider to work for him, and so he works alone to all the yak hearding. His everyday life is as follows:

- Woke up and drink tea - 5am.
- Making together all yaks - 5.30 am.
- Milking yaks from 6-10 am.
- Leaving yaks for the pasture land 11 am.
- Cooking and eating meal 11-11:30 am.
- Boiling milk 12.p.m.
- Curdling yesterdays milk 12.30 pm.
- Resting from 1.30 to 5.00 pm.
- Bringing yak at 5.00 pm.
- Eat dinner at 8-9 pm. and take with other friends till 10-11 pm and sleep.

Once in three days he comes to home taking ghee, churpee and returns back.

Krishna B.K. (37) Bhraka,

His main occupation is livestock farming and he mainly rear goat and cattle. His daily activities are as follows:

- Wake up at 6 O' clock and drink tea.
- Milking cow and goat at 6-8 am.
- After eating meal at 8 am takes all goats and cattle to the pastureland.
- He let then grazes till 5 pm.
- Cooks food at 6.00.
- Eating food and talking to friends 7-11 pm.
- Sleep any time for 7 to 11 according to condition of tiredness.

Similarly, the numbers of outside people working for livestock are less in Khangsar. There are two types of workers, where one type of hearders is paid monthly or annually, who are responsible for both the livestock farming and other house works. These people are given monthly Rs. 1000 to 1500, the other types is only responsible for rearing yaks during winter. There are only three people who are working for yak rearing in Khangsar. Among them two are the local people and the remaining one from Gorkha. One person can look after yaks of 4-5 householders for which they get Rs. 200 per yak as well as they are given flour, oil, tea, salt, wine, cloth, shoes and others necessary things.

In Khangsar except yak all other animals are taken care by the family members themselves during the winter. In summer 2-3 people take all livestock of village to the pastureland, and this is done turn by turn, the turn usually changes within 3-4 days. All other works and the milking is done by themselves.

6.2.6 Institutional Role in Livestock and Grazing land Management

The role of different institutions is important in the livestock and grazing land management of upper Manang. The local community has a main role in this aspect. There is no direct role of the government in the livestock and grazing land management.

R.P Poudel , VDC Secretary of Bhraka

There is no considerable role of government in the livestock and grazing land management of this place. They have their own rule and regulation in different communities. Here is abundant resource for livestock farming but optimum use has not been done. I haven't felt that there is relation between the availability of the resource and the number of livestock.

After ACAP was established, it effectively worked for the conservation of different natural and cultural resources of the place that included in its area. But at present ACAP has not been able to take all the responsibility of

management of natural resources of Manang district. Local communities haven't handled and do not want to hand the responsibilities of their resources those have been managed and used by them since ancient time to now. So there is some misunderstanding between ACAP and the local community. Although the ACAP has made many rules and regulations and brought many programmes but in reality they haven't been followed by the community. But ACAP has been trying to launch different programmes in coordination with the local community. The people working for ACAP also agree on the fact that ACAP is not able to take all the responsibility of management of natural resources. Their sayings are like this "What to do, whatever rules we make it does not matter, because the reality here is a little different which we need not to tell, we have to work according to the customs and culture of the place".

Kanchha (48) Khangsar

In any conditions we are not giving the natural resources to ACAP which we have been using since past. This time we can cut tree whenever we require wood, but if we give the natural resources to ACAP, we need to ask them before we do anything.

Nowadays in Manang, ACAP has made different rules and regulations and launched different programmes with co-ordination with the local community. For example there is restriction to cultivate other improved grasses in the pastureland in order to preserve its natural condition, and also it has managed drinking water to livestock in different *goth/kharka*. For the preservation of snow leopard and minimize the loss of livestock due to it, ACAP has recently launched a programme, in which a committee is made in each VDC, and people have to register their livestock in the committee by paying certain amount of charge. If snow-leopards do any harm to the registered livestock then certain remittance is given to the people. The workers of ACAP in Manang say that a different new programme is going to be launched in order to protect many of the siblings of livestock being killed by the snow leopard.

In comparison to other institutions the committees established by the local people are more active and influencing. In every village of upper Manang there is main committee of VDC level included six members and it is called "Mithewa" in their language. These committees create different rules and regulations. In Khangsar and Bhraka a 'Toshm committee' is formed by the meeting of village people, this committee becomes active during the cultivation time till to harvesting times. The committee itself dissolved after the crops are harvested. These committees are formed each year where every people of village can be the member in turn. This system is called 'Toshm system'. The number of member in this system is determined by the villagers themselves and is different in different VDCs, for example, the 'Toshm system' of Bhraka there is 4 members and there are only 3 members in Khangsar at the time of field survey. After this committee is formed, they create variety of rules for livestock and grazing land management and these rules are strictly implemented. No body can go against the rule; those who go against the rule are fined.

The committee fixes the date for taking livestock to the higher grazing land as soon as crop is cultivated. All the livestock should be completely taken till that date. Those who are unable to take their livestock with in the fixed time, they have to pay certain money as fine fined by the committee. The livestock are not allowed to come to low lands till crop are harvested. If livestock come to croplands during this time, the owner is fined according to different terms and conditions. For example more money is fined if livestock come to cropland at the time of harvesting than at the time of cultivation and similarly the livestock of other VDCs are fined more than their own VDC. Among the livestock yak is fined more. The fine is paid less if it is first time, if the same mistake is done for the second or the third time the charge fine goes on increasing. On the basis of the time and type of livestock the fine charged ranges from Rs. 5-40. But there is different rule in the case of horses, because it has to be brought near home and crop land since it is used for riding. In the condition when horses have to be brought near home, the committee should be

informed and horses are not allowed to stay near home more than 3 days and each day the horse owner has to pay Rs. 15 in Bhraka VDC and Rs. 10 in Khangsar VDC. Horses are allowed to bring to village only in the cases when they get ill or have to be used for riding.

The total money obtained from the tax/fine is distributed among the members of the committee. The role of 'Toshm committee' is very important in presuming the low land around the village that can be used in the winter season.

CHAPTER SEVEN
SOCIO -ECONOMIC VALUE OF LIVESTOCK AND CHANGES IN LIVESTOCK FARMING

7.1 SOCIO-ECONOMIC VALUE OF LIVESTOCKS

Every livestock is raised with certain aims and objectives. The objectives depend on the socio-economic condition and the type of livestock. Some livestock are raised for economical benefit, but some livestock which are not beneficial in terms of finance are also raised. It is because of different social, traditional, and cultural reasons.

In this study area it was found that the livestock have different socio-economic values, or the people are rearing different livestock since a long time as their tradition, which have been the inseparable part of their socio-economic life.

7.1.1 Economic Value of Livestock

Generally economic value is the main reason behind rearing of livestock. They may have direct or indirect economical values. In upper Manang because of shortage of other economic activities, and less cultivable agricultural land, where only a selected crop can be grown in a year. The type of agriculture is of subsistent type. Since the local product of the area is not enough for household for a year, people take livestock as the form of property and investment. Those people having greater number of livestock are considered financially strong and they too have a higher social status. So in both Khangsar and Bhraka VDC, livestock farming has become the main source of upliftment of the economic status of the family. In most of the families the main source of cash income is livestock farming. The different economic uses of the major livestock found in the study area are mentioned below.

i. Source of cash income

In both VDCs of the study areas, the main source of cash income for most of the household's is livestock farming. Sale of livestock products, its services or livestock are is mainly used as a economic sector. During these days the average prices of livestock are:

Yak	- Rs 26000
Chauri (female Yak)	- Rs 19,000
Cow	- Rs 1500 - 2500
Bulls	- Rs 4000-6000
Goat (male)	- Rs 3500 - 4500
Goat (female)	- Rs 1500-2500
Sheep	- Rs 2500-3500
and Horse	- Rs. 20000 - 1,00000

Likewise the current prices for livestock product are:
Ghee (chauri/cow) Rs 350/ kg.
Churpee: 260 /Pathi.

Again, in Bhraka VDC sale of dung as manure specially that of goat is sold for Rs 30-35 per *Doko*[*]. Along with goat and cattle dung mixed with different kinds of fodder is sold for Rs 20-25/*Doko*. (based on field survey, 2005)

Due to the development of tourism horses are extensively used for transportation purpose, especially tourist. This has been found to be a good source of cash income. According to the key informants a tourist is charged NRs. 3000-6000/- from upper Manang to Muktinath (Mustang) and NRs 6000-10,000 is charged upto Besisahar (Lamjung).

Likewise raw materials like skin and wool, are also some other sources of income in small quantity. Again yak's tail is also sold in the market. Simple

[*] A bucket of bamboo and its contains roughly 40 kg.

tail cost Rs 300-400 and white tail cost Rs 1000-1500. Because of its use in the religious ceremony its demand in the area is high.

ii. Source of milk and milk product

From the very beginning, men are raising different kinds of livestock for acquiring milk. Demand for milk and its production have been found to be increasing. In study area also, cow and chauri (female cattle and Yak) are raised specially for milk. Apart from cow and chauri, goat's milk is also used, though it is mainly reared for its meat. Most of the household consume milk from their own milk, giving livestock and those who are not having, purchase from their neighbours. Along with milk, demand for ghee and churpee are also high. Due to the cold climate and high altitude *Gheu Chiea* (Ghee and salt along with tea) is very famous over here.

iii. Source of meat

Livestock is an important source of meat. In the study area, especially meat of yak, goat and sheep is mostly consumed. Male yak and goat is raised mainly for meat but female yak and goat is not for that purpose, they are also used as a meat. But in upper Manang, as all the people in the village are Buddhist, they don't believe in sacrifice and use of livestock for its meat is very low.

K.P. Sharma, Teacher, Bhraka primary school, Bhraka.

As all are Buddhist over here, they believe we should not kill any animals and even they don't see any sacrifice in front of them. And in a case where a sacrifice takes place in front of them, they try to stop. But it has been found that they are also consuming meat. But till now they themselves haven't killed any animals. They call some outsiders to kill the animal and they consume the meat that has been already killed.

iv. Source of manure

In the study area, agriculture is completely based on compost manure. Agricultural practices are still traditional in nature. They never use chemical fertilizer. And for this reason, all the household who cultivate land keep livestock even though in small quantity.

Dung heaps in Khangsar

However, the quality of soil is not suitable, it is compulsory to use manure for every one. In summer they take all the animals to the high altitude pasture land. So they have to collect their manure from high land pasture also.

"The agro-pastural system works such that the more animals a family got the more dung it can accumulate and the more land can be cultivated during summer. Indeed, the dung heaps which are seen outside every farm house are signs of wealth and rank to Manangbas. The bigger the heap, the wealthier the owner." (Aase and chapagain 2005)

v. Source of Plough

For ploughing cattle is used in the study area. Male cattle is reared mainly for ploughing purposes. All the household who are engaged in agriculture keeps cattle.

Limited agricultural land, where only a selected crop can be grown in a year, is mainly responsible for less ploughing in upper Manang area.

Using cattle to plow fields

Samtu Tshering (57) Khangsar

In whole Nepal, Bulls of Manang are the most luckiest, as they have to plough the field only for 8-10 days in a year.

Pemba Tshering (44) Bhraka

Its not that cattle are not rented out, but as it is less costing to raise and as it can be raised without much trouble, all the households in the area prefer to have it.

vi. Means of Transportation

Manang district is devoid of road facilities. Men and animals are the main source for transportation in both the study areas. Horse is the main source of transportation which is used for riding purpose in every household.

People riding horse

vii. Source of employment

Livestock farming is also the main source of employment. Due to limited economic activities and lack of other employment opportunities, local people have involved in livestock farming, but some of them have taken this profession as a part time job. Due to the much easily accessible grazing land, people raise livestock to utilize their spare times.

7.1.2 Socio-cultural Value of Livestock

When asked the people of the study area, they said that there is no such socio-religious purpose for livestock farming. But it is clearly found that the number of livestock owned by a person has direct relation with his socio-economic status.

In both VDCs the socio-cultural aspect is strong in comparison to economic aspect for rearing horses. Two-Three horses are found almost in every house there, more for riding purpose than commercial purpose. Horses are more cared than any other livestock. They are given food grains even in those places where there is shortage of food grains. The horses are mostly kept strong and healthy and also not used for carrying loads.

'Yarturng' is the main festival /ceremony celebrated with horse race. In this ceremony it is compulsion for every male of 15-65 to participate in the race, even by borrowing horses from others, otherwise they will be fined. Horses are used during different social and cultural programmes, where good and strong horses are provided to the people with higher socio-economic status. The local people and mostly the young people ride horse even if they have to go outside for shorter distance, because they feel their standard is maintained by riding horse. This makes clear the social value of horse. Every house has more than one horse, because if there is only one horse there is risk of its death, and they have the concept that the house should not be without horse at any time.

Not only the number of horses, but how fine and expensive it is also matters of pride. The people feel prestigious if they have fine (good) and expensive horses than others. The local people say that good and fine horse can be sold in expensive rate at any time.

2062-06-03: there was inauguration programme of newly constructed cultural meseum. The chief (Chairman) of Manag district Kapli Gurung also participated in the programm. There was greater issue of his horse which he lies riding because it was recently brought and it cost more than Rs. 88,000.

So the people feel that their prestige depends on the expensive horse. The raring of horses by giving food grains even in those places where, there is shortage of food grains even to the people, makes clear the socio-cultural value of horses.

7.2 CHANGES IN LIVESTOCK FARMING

As mentioned above, the early settlers of Nyishang ware likely hunters and animal herders who gradually expanded their involvement in agriculture. Like these traditions they practice a typical high mountain agro-pastoral farming system. The livestock farming of other places have climbed a greater step in the period between the ancient and the present, but the condition of livestock farming of upper Manang is not still changed. In other words, the methods and types of livestock farming used by the forefathers in the ancient time, is still used in the similar way at present, rather there is decrease in the number of livestock. So there is need knowing the history to find the reason behind the livestock farming being pushed backwards than in the past.

"Unlike other settlements along the northern fringe of Nepal, Manang has never been a major trading link between Tibet and Nepal. Even so the inhabitants of Manang have been active in trading abroad for a long time. by 1940, most traders were able to invest in their homeland especially after retirement. Traditionally minded traders spent their entire capital establishing yak heards and flocks of sheep and goats bought from nearly Mustang and Dolpa district" (Ale, 2000)

Due to the limited agricultural land and lack of other economic activities, they (people of upper Manang) keep livestock farming for forms of investment and /or property. Similarly, the socio-economic status of the people was directly linked with livestock number. So, the livestock's number rose between 1940 and 1960 in this area. During the 1960s Manangi trade was initially based on local resources in small scale where" Medical plants, scented glands from musk deer and local woolen products were sold to India, and rice and other items were brought back to the valley. "(Van Spengen, 1987). But when Nepali Passports were granted to Managbas by a royal decree in 1962, the number of international traders from the valley increased dramatically. (Guung, 1976).

The period between the 1960s and the early 80s was a period of mass migration. Almost two-third of the population migrated out of the valley to Kathmandu, the capital, and other urban areas (Ale, 2000). The successful history of business has resulted in a population decrease in the Manang valley. Like these, the dramatic decrease of population in this area, also directly affected to agriculture and livestock farming. In addition to those who have permanently moved to Kathmandu and other towns, a good number of young men from the valley still go on seasonal migration in order to do some kind of business or to assist friends in their Kathmandu based enterprises. These two circumstances taken together, permanent resettlement of families outside the valley and seasonal migration of men and the main causes of decrease in livestock number in upper Manang.

In 1978 Manang was opened for tourists, and the Nyishang valley has been developing as one of the most popular trekking-routes in Nepal. More than 15,000 trakkers visit in this valley annually. The ACAP has also been actively involved in community based conservation and development work since 1993. Due to this reason, the trend of out migration is almost stopped and also some households have now started to return to the Manang valley. Some of the people of the study area are involved in Business and in tourism. So the population pressure on livestock farming has been decreased. This may be one of the causes, the whole livestock number are decreasing, but the horse and

cattle which are consider as needed animals for household, are not decreased in number. But the number and proportion of yak and sheep are decreasing significantly, because of the difficulties and risk of rearing these animals.

In 1994, the population estimated was only around 5400 head of livestock (62%) small ruminants) for the entire upper Manang valley. Prior to the 1960s, Manang village alone had approximately 500 cattle and more than 3000 sheep and goats. By 1996, sheep and goat numbers decreased by 25% yak also declined in number by 1996 in comparison to the 1960 figure, for instance, Khangsar (500 vs. 100), Bhraka (200 vs. none), Ghyaru/Ngawal (200 Vs 80) and Manang (700 Vs 300). (Ale, 2000). In this way coming to 1996 the number of yak was nil in Bhraka and 100 in Khangsar, but at present the number is increasing in which the number of yak has reached nearly 150 in each VDCs. In Khangsar only 16 households have yak while Bhraka have yak only with 4 households, of which one household had returned from Kathmandu and the remaining three had migrated from Phu, taking yaks with them. In both VDC, the number of sheep is too small or almost nil. In conclusion the total number of livestock in VDCs has decreased, but the number of livestock of each householder at present has not decreased.

Nowadays, there is abundant cropland for fodder or feeding materials near the village, because of the baren cropland. In comparison to the past there is not much pressure in the summer pastures. Because of the less pressure of livestock, the management rule of the communities has been liberal in comparison to the past. Similarly due to the less number of livestock holders in village, most of the livestock product, are being consumed within the village. In the past people with high economic and social position were also involved in livestock farming, but at present those people with high economic status either left for the capital or there in village engaged in tourism sectors, so the people who are not able to go to the capital and are not engaged in tourism are only engaged in livestock farming, and more over the young generation show little interest on livestock farming.

CHAPTER EIGHT

CONCLUSION

Upper Manang has its own unique physical and socio-economic structure which makes it differ than other parts of country. Since long time local community practice their own rules and regulation which is developed by themselves. Main inhabitants of upper Manang are Gurungs and their mother tongue is also Gurung. Similarly almost all people follow Buddhism as their main religion. The socio-cultural practice of Upper Manang is a highly affected by Tibetian culture.

The socio-economic condition of Upper Manang is different in summer and winter season. Likewise the situation of livestock farming also differs in both seasons. Here, livestock are reared according to seasonal migratory system. In other words, livestock are taken in highland pasture in summer and are brought back in low land pasture during winter. In the time of excessive snowfall livestock are kept in indoor and are feeded by stored fodders. Due to abundance of grazing land, summer season favors for livestock farming where as winter season is unfavorable for rearing livestock due to shortage of grazing land, forage and excessive cold and snow fall.

Cattle, Yak, Horse, goat and sheep are the main livestock in upper Manang. The traditional practice of livestock farming by their ancestor has not been changed and is yet followed by the local people. Grazing is main source of fodder and feeding methods for their livestock. We don't find strong correlation between family size, landholding size and livestock size in upper Manang.

The decision making of any aspect in VDC's of Upper Manang is solely based on community gathering and mass meeting of local. Similarly, in every year the mass meeting formed a 'Toshm committee'. This committee creates varieties of rules for livestock and grazing land management; and these rules are strictly implemented.

People have been rearing different livestock since a long time according to their tradition, which is inseparable part of their socio-economic life. Cattle, Yaks, goats and sheep are reared mainly for economic purposes where as horse are kept mainly for socio-cultural reason. Those people who have greater number of livestock are considered as a financially strong and they too have a higher social status. Crop farming is carried on a very small scale only for subsistence purpose. So, livestock farming is a main source of cash income for most of the households of upper Manang.

The total number of livestock in village decreased due to the decreasing in the number of households who kept livestock. But if we look upon only those households who kept livestock even now, their number of livestock are not decreased since long time. Young population are attracted on different occupation rather than livestock farming, which results the decreasing trend of livestock farming in the study area.

So, livestock farming of upper Manang must be viewed differently according to season (i.e. summer and winter) rather than the way which is followed in other parts of Nepal.

The main problem of livestock farming is shortage of forage in winter season. This problem can be solved either by collecting more forage on summer seasons or by doing more farming so that shortage of forage as well as food can be solved simultaneously. No doubt tourism industry is an emerging and viable aspect in upper Manang due to its unique physical and socio-cultural environment. On the verge of this, local should not abandon completely the livestock farming which is an inseparable part of socio-culture environment.

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Appendix - I

Livestock farming practices in high mountain society.

(A case study of Bharka and Khangsar VDC of Upper Manang, Nepal)

(Questionnaire)

1. Background information

Name of household head: Date:

Address: Birth Place:

Date of coming here: Age:

Mother tongue: Religion:

2. Socio-economic Status of Family:

S.N.	**Member's relationship with household head**	**Sex**	**Age**	**Marital Status**	**Education**	**Occupation**	**Working Place**
1							
2							
3							
4							
5							
6							
7							

3. Income Sources or Occupations of the Family

Occupation	Status
Agriculture	
Livestock Farming	
Trade	
Tourism	
Cottage Industry	
Service/Job	
Daily Wages	
Foreign income	
Others	

4. Number and types of livestock.

Animals	Number		
	Local	Improved	Total
Cattle			
Yak			
Goat			
Sheep			
Horse			
Others			

4.1 Who is the main person to livestock's work in your family ?

4.2. Do you have outsider worker for livestock work ?

4.3 How are the contract with outside worker (herder) ?

5. List of Land (in 'Tukra')

Types	Own Land Operated	Land rented in	Land rented Out	Total Land Operated
Khet (irrigative)				
Pakho (non-irrigative)				
Abundant				
Pasture				
Forest/Shurb Land				
Other				

6. Annual Production and Uses of Wheat

Consumption	Uses in 'Muri'
Animals	
Regular food	
Beverages	
Others	
Total Production	

7. Types and amount of food to give for only horses.

Food grain	Consume in Muri or Pathi
Wheat	
Karu	
Peas	
Others	

Appendix II

Major themes to questions for key informants interview

1. Situation and pattern of out migration and immigration.
2. Types and source of feed and fodder.
3. Condition of the common property resources like grazing land, forest, water.
4. Situation of out side worker or people involvement in livestock farming.
5. Economic and socio-cultural value (role) of livestock.
6. Changes in livestock farming.

Appendix III

Family Size, Livestock Size and Landholding Size

i. Khangsar VDC

S.N.	Family Size	Livestock Size	Landholding Size (in tukra)
1	4	37	16
2	6	10	19
3	6	49	13
4	6	46	6
5	4	17	7
6	4	28	5
7	6	38	12
8	8	62	22
9	8	33	12
10	4	42	16
11	7	64	14
12	8	60	12
13	4	22	9
14	8	40	18
15	10	38	12
Total	**93**	**586**	**193**

ii. Bhraka VDC

S.N.	Family Size	Livestock Size	Landholding Size (in tukra)
1	6	88	8
2	8	8	6
3	9	91	28
4	9	6	13
5	6	31	9
6	7	20	3
7	7	76	17
8	7	32	4
9	8	16	6
10	5	68	3
11	3	17	6
12	9	5	10
13	3	3	4
14	6	62	4
15	4	1	3
16	4	32	2
17	7	44	6
18	5	31	7
19	4	4	4
20	4	36	9
Total	**121**	**691**	**152**

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(A case study of Bharka and Khangsar VDC of Upper Manang, Nepal)

(Questionnaire)

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