

CHAPTER I

INTRODUCTION

1.1 Background

Nepal is a hilly and least developed country in the world. To uproot the poverty, natural resources play an important role. Natural resources are of two types: renewable and non renewable. Water resources and forest resources etc are termed as renewable natural resources. The old proverb of Nepal, “Green Forest Nepal’s Wealth” no longer remains at present. Due to the pressure of rapid population growth majority of Nepalese lie below the poverty line which is the main cause for the deforestation.

Rural people want to preserve the forest for their daily life and their livestock. People of rural area depend on forest for supply of fodder, fuel wood, timber, herbs, medicines and other forest products and to conserve environment suitable of forestation program.

Generally, in Nepal, there are five kinds of vegetation which are tropical evergreen forest, temperate deciduous forest, temperate evergreen coniferous forest, alpine grass land and cold desert tundra vegetation. Tropically ecologically, forest resources of Nepal are categorized into three groups in the forest mapping of forest. They are (i) Tropical Evergreen forest, (ii) sub tropical wet hill and (iii) Coniferous forest.

Tropical Evergreen Forest: - Forest spreading in the southern plain lands covers of Nepal from eastern part Machi to western part Mahakali including terai, Chure and dune areas located from the sea level to approximately 610 m. height is categorized into this group. In this belt, adequate sun sufficient raining make dense, evergreen and heighten forest including Sal, Sisau, Simal, Khayar, Asana etc (Katuwal, J.K. and Bhattarai K.P.,2011).

Sub tropical Wet Hill Forest: - The forest spreading in the Mahabharat range called hilly areas located from 610 m. to 4877 m. It is categorized into this group. In this eco-

logical belt, there are found soft and hard forest trees devdaru, katus, chilaune etc (Katuwal, J.K. and Bhattarai K.P., 2011).

Coniferous Forest: - The ecological belt spread from top of Mahabharat range to top mountainous form 4877 m. to 8848m. It is categorized into mountains belt. In this ecological belt, there are found soft and coniferous trees: such as Sallo, Chiuri, and medicine plants etc (Katuwal, J.K. and Bhattarai K.P., 2011).

However, at present, forest is found to be classified into five categorizes on the basis of ownership. The main objective behind this classification is better enhancement, protection and utilization of forest resources. These are:

1. Government Forest: - National forest managed by Nepal government with the main objective of production of forest products. The department of forest manages the forest.
2. Community Forest:- National forest handed over to a user group for development, conservation and benefit of the community.
3. Leasehold Forest:- Forests that have been leased by central or local agencies of the government, private owners, co-operations, institutions etc.
4. Religious Forests:- A part of national forest which is being used under the control of religious institutions under the Guthi act is termed as religious forests.
5. Private Forest:- Raised on people's private land and managed by an individual is called private forest.

Among these classification of forest CF is one of the most popular and important program in our society. The system of protection, utilization, and management of forest by legally recognized local forest user is called community forestry.

Community forest is a small scale village level forestry practice where decisions and actions are often made on collective communal basis for establishment, management, harvesting of forest products receiving a major proportion of the social, economic, eco-

logical benefit from pure forest cropping and food crops agro forestry on the other. It is not just a special technology but rather a process of socio economic change that requires a continuous participation of community in planning implementation and problem solving.

The main objectives of CF are pointed as follows.

- a. Measurement and mapping of forest areas for the purpose of its scientific management.
- b. Control and management of forest resources so as to maintain ecological balance.
- c. Fulfillment of the basic needs of forest products user groups.
- d. To enhance people's participation on the proper handling of these resources.
- e. To promote the user's socio-economic status by conducting income generation and pro-poor activities.

Nepal has successfully implemented community forestry programme with the participation of the local people. People participate in all stages of decision making, planning and benefit sharing. Even the poor are enthusiastic in the program because they can freely collect fuel wood and fodder from the CF and save time for earning wages. Hence, CF is the most appropriate in the entire forestry program.

1.2 Statement of the Problem

The study is mainly concerned with the socio-economic condition, income and expenditure pattern of Chandanpur community forestry user group. It also highlights the status of people's living standard, fund allocation and income generating activities in the study area.

Community forestry is the best exercise of forest conservation practices. This concept helps to develop institutional capacity of user groups and local infrastructural development community forestry plays a vital role in the development of human society.

Thus, the forest is closely interrelated to human beings. Nepalese people are massively depending on forest product as different sources of energy. There are no other sources developed adequately to substitute forest resources. Due to the lack of development of other sources and lack of education to the people, forest resources are being depleted faster because of careless and haphazard use of them. So, effective measures for the conservation and management for the resource is felt.

Insufficient knowledge about income generating activities such as management process and marketing of NTFPs in local community are problems of CF. In this study area, due to the lack of adequate technical supports, users are facing different technical problems. However, the specific problems of the study are:

- i) What are the changes of socio-economic conditions in the study area?
- ii) How to generate the fund from community forestry and where is it utilized?
- iii) Is there equally distribution of forest products?

1.3 Significance of the Study

There have been much research and studies regarding the community programs, but the importance of program is so great that there is a further need of knowing how far it is equally serves to achieve economic equality in the grass root level of the society under consideration.

This study has tried to show the income and expenditure pattern of FUG. The conclusions are expected to be useful to the concerned authorities, policy makers and individuals to understand the real situation of income sources and fund allocation of community forestry. This study may also be helpful for the study of socio-economic condition of the study area. This study is expected to work as guidelines for further research works in the field of Chandanpur forest users' group and local agency. Therefore, this study has great significance from theoretical as well as practical perspectives. This study deserves key significance since it is a new attempt for the study area.

1.4 Objectives of the Study

The general objective is to analyze the socio-economic contribution of the Chandanpur Community Forestry User Group. The specific objectives are as of:

- a) To analyze the contribution of community forestry on consumption of forest products of forest user group members at different level.
- b) To assess the fund generated from community forest on infrastructure and education.
- c) To identify the problems of Chandanpur Community Forest and suggest appropriate measures to overcome them.

1.5 Limitations of the Study

This study has the following limitations:

1. This study focuses on income generation and utilization of forest product of community forest user groups.
2. The study covers the period from 1998 to 2010.

1.6 Organization of the Study

This study has been divided into six chapters.

The first chapter deals the introduction. It includes the background, statement of problem, objective, significance, limitation and organization of the study.

The second chapter presents the literature reviews. It covers the theoretical and empirical review of the community forestry.

The third chapter deals the methodology. It includes the selection of the study area, research design, nature and sources of data, sampling of the respondent households, techniques of data collection, questionnaire design, interview, observation, participation, and selection of key informants and method of data analysis.

The fourth chapter deals with profile of the study area and Respondents household. It includes the Bardiya district, status of community forestry in Bardiya district, chandan-

pur community forestry, location, history, information about community forest user group, other information, population composition, ethnic composition, household size, educational structure, occupational structure, income level, livestock composition, land holding pattern, crop production pattern, and condition of food sufficiency.

The five chapter deals with the socio and economic contribution. It includes that introduction, source of energy, use of grass /fodder for livestock, use of timber, role of CF, contribution of CCF, Different development activities undertaken by CF. Benefit of CF user groups fund and its utilization and the problem of CF.

Summary, conclusions, and recommendations are presented in the chapter six.

CHAPTER II

REVIEW OF LITERATURE

In this chapter, literatures related to the various aspects of community forestry are reviewed in order to examine the coverage of analytical and discussion on socio economic contribution of community forestry. It is current issues in the community forestry sector such issues are distribution equal participation of different income groups, local economic development, self employment sector and management of it.

This chapter first part deals with the review of literature on the theoretical and historical background of community forestry and the second part deals with the review of empirical as well.

2.1 Theoretical Literature

Tiwari in his book has pointed the community forest management for rural development as a new people oriented concept. Its objectives are to make all land space surrounding the local community productive in raising the rural living standard. In traditional administrative pattern, community forest management for rural development seeks to direct towards achieving maximum sustainable growth in land productivity.

He has concluded that community forest management as a workable definition which is a combination of the production and management system forestry covers all non field crops produced farm land surface and can be either directly consumed or easily harvested and marketed by the local community (Tiwari,1983).

Gerald and Geoffrey in their book have studied community forest as a community program based upon growing trees on public or community land as opposed to private's farms. The degree of private participation in planting and looking after the trees varies. In principle, they provides a means which landless people can take part in tree growing and thereby obtain benefits which are otherwise preserved for land owners. Some programs may even be designed for poor.

Most of the community forest program takes the responsibility for planting. Inputs such as fertilizers and seeding are provided without any cost by community. The engagement of the local community in implementation of scheme of this type is largely passive and normally restricted to the provision of hired labor for planting and an agreement to cooperation in protecting planting (Gerald and Geoffrey, 1984).

Negi in his book has analyzed community forestry as the control and sustainable management of local forest uses by the users. He explains community forest as social forest, including many concepts like natural resources tenure, common tenure and user group and local institutions, indigenous knowledge, organizations and resources management system into it (Negi, 1986).

Oakley in his book has focused that tropical forest and other wood lands are fundamental to the economic and social livelihoods of millions of rural people. Forest supply energy need and it provides fodder for livestock which in turn produce for agriculture. Rural people use forest products for house construction and to make products for like handicraft and medicine herbs. For poor rural people trees can be direct and immediate use, a source of cash when required a form of saving or a longer term assets. So, the forest and its products are critical to the livelihoods of millions (Oakely, 1991).

Kayastha in his book has defined the main idea of community forestry to support the sustainable use of forest resource which provides welfare to the people. People have been utilizing the forest and forest products to fulfill their basic needs such as food, fodder, fuel wood, fertilizer and timber. In the context of Nepal, where more than 90% people live in rural areas who have depended on agriculture economy so rural people have not fulfill their all needs though people have chosen another income generate source which has been conservation of forest and utilize it properly. Forest has been most important to rural people in different ways; it has provided wood for making various tools for using in agriculture, building house and several other purposes. It has created job opportunities for employment and income generation such as self employed by making bullock carts, agriculture implements tools and furniture from timbers. Some people even specialize in manufacturing wooden handicrafts and earn good income by selling them (Kayastha, 1991).

Bhagwati in her book has focused on the community forestry management in protected area. She has pointed out that community forest management in protected area is a set organizational structure and processes for defining and managing protected areas in which the local people who have the traditional rights to inhabit and use the area become the leaders in managing the resources, while government department and other stake-

holders have monitoring and support role. The overall goal is protect to eco system, its life and traditional rights and life system of the local peoples integrate to it.

She has described multiple reasons for favoring the community forest management in protected areas, these reasons range from the effective of forest protection, to respect for the rights and needs of indigenous people, to decrease the cost of management, to insulation from vast interests, to development of community and environment consciousness (Bhagwati, 1997).

Edmonds in his article has analyzed forest products such as small poles and timbers are used to make farm instruments and tools. Which leaves and twigs are used as a compost making materials? Majority of the people use forest products for cooking, heating and feeding livestock. More than 75% of the energy needs come from the forestry sector and particularly in the mid hill, 94 of the rural households' ray on fuel wood as their primary fuel for cooking and heating (Edmonds, 2002).

The Kathmandu Post has focused that eco-tourism is one of the driving forces in improving their natural environment. The importance of tourism development for biodiversity conservation and socio-economic development is high but the industry had struggled to sustain this in the recent past because of political instability. With prevailing peace in the country and proactive tourism management approaches in place, Nepal could have tremendous potential to benefit from eco-tourism (The Kathmandu Post, 7 April 2006).

Vyas in his book has defined community trees and forest is valuable for mankind. Community forestry is defined as forestry by the people of the people, for the people. It is rehabilitation of forests for rehabilitation of people through active involvement and participation of the community, the government acting as a catalyst and also a partner.

Community forestry activities also include planting in village wastelands, farmer's fields, homesteads, field boundaries and road sides, Railway lines etc. Forests use for local community. Therefore not a new concept but anew attempt to promote forestry development by involving community aiming towards meeting their own needs (Vyas, 2006).

Dahal in his article has focused the purpose of income gap analysis eight major types of forest products were incorporated to calculate the monetary estimation, consider-

ing as material values and intangible benefit or income of forests. Such environmental service and greenery were overlooked totally. Total cost or expenditure of forest use and management were calculated classifying into labor castes, transaction caste, and member fees to derive monetary estimation. With the help of summary statistical of calculated income and expenditure gross income, gross expenditure and net benefit were estimated. This study has found out the income expenditure (I/E) ratio for poor 0.85, medium 1 and rich households 1.08 respectively in the study area (Dahal, 2008).

Jha and Sarma in their book have focused community forest is most important forest which is integrated people to each other's and integrated also their views. It is most productive renewable natural resources. They have recommended planting trees on all vacant lands including wasteland through social forestry and agro forestry in rural areas, recreational forestry in urban areas, tree planting in watershed areas, on rivers and canal banks, on sides of national and state highways, sides of railway lines etc.

Biotic factors and forest fires have had a significant effect in shaping the character and composition of forest vegetation.

National Commission of Agriculture had recommended under "Production Forestry" large scale plantations of economically important indigenous species as well as fast growing exotics on all available vacant lands. Under social forestry which aims to provide leaf litter, fodder, firewood and small timber to the rural community (Jha and Sarma, 2009).

Sharma in his article has focused community forestry plays laudable roles in supplying the local demand of forest products. He has found in his study, community forest supplies almost 70% of the firewood required by the forest user group households. On an average a household consumed 334 kg of firewood 16 cu ft of timber, 887 kg of grass and 863 kg of leaf litter annually.

Income from animal husbandry and salary has dequalized effect while wage income, self employment and income from community forest products having equalizing effect on income distribution.

Firewood, grass and leaf litter are the important products obtained from the community forests. There is neither a significant difference between rich and poor households nor between lower and high value of forest products from the community forest. Multiple

regressions explain only a small portion of variations regarding use of forest products from the community forests by wealth rank. He has concluded that community forestry can contribute to poverty reduction because the poor and low caste households have easily access on forest products (Sharma, 2010).

2.2 Empirical Literature

Wyatt in his paper has studied the agriculture system in Nepal. He has analyzed that agriculture is still the primary source of earning for nearly four fifth of the population and operates within a semi feudal environment characterized by low agricultural productivity and focus on subsistence agrarian production. Forest plays a key in maintaining agricultural production, both in the hills and in the flat Terai. The area of forest land to agricultural land requires in the ratio of 1:2.8 with subsistence level farming (Wyatt, 1982).

Malla in his research paper has analyzed that in remote village with a closed subsistence agriculture economy, the rural people's pattern of important demand is fodder, fuel wood and timber. In the areas with the higher access to market, the pattern changes as fuel wood, timber and fodder. Community forestry is increasingly supplying fodder for the cattle, timber for construction and other purposes, medicine herbs, leaf litter and other various products to the users to help sustain their living (Malla, 1993).

Maharjan in his seminar paper has studied the main sources of the CFUGs is largely limited to the government subsidies, membership fees, fines, and the sale and distribution of forest products. The products include timber, fuel wood, fodder, grass and non timber forest products. Besides these, the grant from different institutions, such as district development committee (DDC), village development committee (VDC), government organizations, INGOs and NGOs go to the FUGs fund. Though the sale of timber and other forest products could be big source of income for the FUGs, It is extremely low where degraded forests are given as community forest, no forest products can be harvested from degraded forest in the first few years of re-growth (Maharjan, 1995).

Joshi in his research paper has showed forest user groups from their income invest money to the different activities. The main areas of expenditure are community development works, forest development activities, capacity building and community welfare.

Many FUGs are utilizing their funds for small loans to the member of the group. Such loans are cheaper; more easily manage the refunded by the members (Joshi, 1997).

Chandrasekharan in his discussion paper has analyzed the community forestry is not simply a question of trees, the demand of timber products have often overshadowed the contribution of NTFPs to the rural communities. The objectives of fuel wood supply to the community and income generation from NTFPs do not have to be mutually exclusive. NTFPs are an important source of income to the primary subsistence farmers to enable them to purchase essential commodities such as salt, kerosene and clothes (Chandrasekharan, 1998).

Shepherd in his paper has found rural development efforts focus largely on building natural capital. Indeed concern with natural capital itself has tended to detract attention from more important issue of how natural capital used combination with other assets, to sustain livelihoods. The livelihood approaches tries to take a boarder view to focus on people and to understand the importance of structure and processes in determining the way in which natural capital is used and the value that it creates. These structure and process govern access to incentives to improve resources management (Shepherd, 1999).

Shahi in his thesis has explored many rural people meet their subsistence needs from the collection of the fuel wood, fodder and other non wood forest products. He has found forest have been the source of livelihood of rural people. Without forest resources, they have not community disintegration. Hence, community forestry has been an effective tool for poverty reduction and income distribution (Shahi, 2000).

Aryal in her thesis has studied an access to forest and sustainability of livelihood, community and leasehold forest program in an integrated manner, helps to maintain social empowerment, gender equity, social justice equity and good governance. To increase base of social empowerment through the community forestry, policy must be made to increase in involvement of backward women and Dalit community forestry (Aryal, 2000).

Gautam in her thesis has described community forestry is for the benefit of local people. The primary user groups of the forest specially these who have depended on forest products to meet subsistence needs. The majority of rural people in Nepal depend on forest to support their agriculture and livestock system. She has analyzed forest provides

fuel wood, for cooking and heating, timber for building, furniture fodder and bedding for livestock and leaf litter for compost and a range of other non timber products. After the implementation of community forest these products are equally distributed to all the members and people have started getting different training opportunities as well as they come in contract with different NGOs and INGOs. This contract helps them in planning for poverty alleviations through income generation (Gautam, 2001).

Pokhrel in his research paper has analyzed the community forestry contributes to the rural livelihoods by increasing income level, meeting the basic needs for forest products which leads to improved living conditions of the rural people. Still there are some problems has observed in community forestry implementation process. There are mainly related to the economic position of the poor and social differentiation in society. In Nepal, the key issue today is how to support CFUGs to poor users for their livelihood and improvement of forest condition (Pokhrel, 2001).

Giri in his thesis has studied the community forestry is a viable strategy for the department of forest to manage the forest resources of the middle hills of Nepal. The users have been found happy about product distribution practices prevalent in their group. The users make an equitable contribution towards protection management and equitable distribution of forest products. Giri has mentioned that equity in decision making and distribution of community forest user group funds are more complex process. However, those fund to all cases in his study have maintained relatively will in his regarded (Giri, 2001).

Banjade in his dissertation has studied the local perception and use of information of forest user groups. He has analyzed that there are several economic opportunities from community forest in terms of material gain or through the cohesive group mobilization to harness optimum benefits from the forest as well as attaining higher level of community development goal. There are several cases where community forestry is providing additional space to the poor through diverting in wellbeing of poor and marginal groups as well as providing poor people develop entrepreneur skill and confidence through training and net working (Banjade, 2003).

Thapa in his thesis has studied positively an economic analysis of community forestry user group. Such impacts are related to income generation, conservation of natu-

ral resources. The main objective of community forest program has been envisioned to meet basic forestry need such as firewood fodder and lift litter and timber for communities. The established fund was accumulated by different activities such as selling products, penalty, membership fees, application fees, awards, subsidies etc. The study has found that the distribution of firewood is fair and equitable (Thapa, 2004).

SANDEE in its research and training workshop has analyzed that Nepal's community forestry program was originally initiated to achieve the national goal of poverty reduction. But despite two decades of successful implementation, the program's contribution to poverty alleviation is far from satisfactory. He has carried out to examine how community forest funds have been established through the collection of fees, fine and donations , and how these funds actually contribute to poverty reduction, build building, school support, road constructions, scholarship etc. He has carefully scrutinized the investments made from these funds in order to analyze their impact on poverty alleviation (SANDEE, 2005).

Parajuli and Pandey in their research articles has studied determinants of participation in community forest management in Nepal which based on the study of six community user groups in Synga, Kaski, and Tanahu districts. According to them, the present management of community forests needs to be improved to ensure the right of the poor, women and disadvantageous people in decision making process. The prevalent gender, caste and wealth ranks biases in the society are found as berried to equitable sharing of benefits and participation in community forest. In the study, they have concluded that the users, rich and poor, disadvantageous group and non disadvantageous groups are getting benefits of the forest products from the community forest. The access and control of poor, women and disadvantaged individuals in community forest decision making process is minimal. Upper caste, wealthier individuals has suppressed the interests and need of poor and disadvantaged individuals. Therefore, the condition of community forest is found less favorable to the poor disadvantaged groups to support their livelihood (Parajuli and Pandey, 2006).

Das in his workshop paper has described second international encounter of community forestry. He has analyzed empowerment; social change and income generation are parallel programs. A few enterprises are growing slowly, for examples siali leaves are

used to make leaf plate which has become a main sources of income. Several other forest resources are being utilized for income generation (Das, 2006).

Karki in his thesis has analyzed the community forestry fulfilled the different type of forest product needs. He has noticed that the community forest is saving the time of people, if there is no community forest the households had to spend more time for collecting fuel wood and fodder. They use this saving time for other income generating work. He has recommended in his study that the more awareness programs are necessary to increase the use of improved stove, kerosene stove, bio gas etc. To decrease the pressure on community forestry for fuel wood (Karki, 2007).

Ghimire in his thesis has focused that the contribution of community forestry in Kavrepalanchok district is receiving about NRs 8.39 million annually from the sale of forest products, membership fees, loan interest and other income sources. The primary focus of CFUG investment is development of physical infrastructure with greater emphasis of school building, drinking water projects and electrification. Emphasis on building, human capital and social capital is very low as compared to their investment on other aspects of development. The most effective contribution of community forestry is income of middle class users (Ghimire, 2007).

Pokhrel in his research paper has found that the office and community building gets priority to develop the community. He has analyzed the community forestry is a well established management form of Nepal. The success of community forestry is improving the forest condition encouraged the government to initiate some developmental works beyond the fulfillment of only basic forestry needs. He has explored the investment made by community forestry user groups in community infrastructures and their priorities as well. Primary data from three mid hill districts of Nepal were collected from questionnaire survey of 100 CFUGs. The results have suggested that community infrastructure was the largest category of expenditures of CFUG funds where in the majority to the CFUG accorded investment priority to schools. He has found in this study, higher CFUG income has led to a proportionately higher investment in community infrastructure and suggests that it was necessary to increase CFUG income to promote investment in community infrastructures. This study has found that among of the priorities is office and

community buildings than other infrastructures and in second priority is school support and road construction (Pokhrel, 2010).

Sharma in his dissertation has focused the contribution of community forestry on farm household income was held to understand the contribution of community forest on village development. He has concluded that firewood, grass and leaf litters are important forest products for subsistence use. Though timber is an important product for the rich even the poor uses it in subsistential quantity.

In comparison poor people have wanted larger than rich of forest products significantly. The use of firewood from the community forests is positively and significantly correlated with the uses of timber and grasses. Income from animal husbandry and salary and benefits has a de-equalized effect while wage income, self employment and income from community forest products have equalizing effect on income distribution. He has recommended that government should be providing self employment training the forest user groups. In human development should also be adequately addressed. Economic proceeds of community forestry should be channeled in education, health, skill promotion etc. (Sharma, 2010).

Concludes are:

From the above literatures reviewed it has become very much clear that the theoretical and the empirical findings of the different social and economic sector of community forest and its user group. It has been very much effective program for rural and developing countries like Nepal. After changing national forest into community forest, it has made aware to conserve and look after their community forestry. Different types of income generating activities have been started by the user groups to improve their daily livelihoods.

Most of the researches have been done in the field of community forestry. There are a few researchers who have done research in contribution of community forestry. But some of the above literatures have not given same view. There arises a question: Is there equal distribution of forest products and income equality among the community forest user groups? However from the above literatures, this study justifies besides some of its negative impacts. Community forest has positive impacts on its user group. It helps to improve social and economic condition of its user group. To prove its positive impacts on FUG needs research in one specific place, like Chandanpur CFUG, located in Bagnaha-1, Bardiya.

CHAPTER III

RESEARCH METHODOLOGY

This study focuses on the overall methodology and limitations of the study. It explains the procedure of the beginning i.e. selection of the study area to the end and analysis of the data and presentation. It includes research design, nature and sources of the data, sampling procedure, data collection technique used for the study and data analysis.

3.1 Selection of the Study Area

The study was conducted in Chandanpur community forest user group in Bardiya district in mid-western Terai. The site was purposively selected because the community forest fund utilization is going to be correct use or not. This area has completely ethnic heterogeneity and rural people are working together for forest management. Furthermore, there has not been conducted similar research in the area.

3.2 Research Design

The research design followed in the study is descriptive and exploratory. The emphasis is given on the qualitative rather than quantitative aspect of the information relating to the income level and consumption pattern of forestry product of forest user group as well as role and activates of people participation in forest management system. Factor deterring economic contribution of community are briefly described by the attitude of respondents. An attempt is made to the analyze the sharing benefit to the user through underlying motives of human behavior.

3.3 Nature and Sources of Data

In this study, both primary and secondary sources of information have used. Primary data has collected from the field survey with the help of interview questionnaire, observation, group discussion and participation. Secondary data has collected through

published and unpublished books, reports, thesis, journal papers, records etc. for required quantitative and qualitative information.

3.4 Sampling of the Respondent Households

There are 401 households registered in the Chandanpur forest user group which consists of the total population of the study. Out of total population 15 percent household has taken as a sample size, which consists 60 households. These sampled households were taken by random sampling method.

3.5 Techniques of Data Collection

Various techniques of data collection have been employed to obtain different types of quantitative and qualitative data and empirical information. The techniques of data collection is used in this study is described as below.

3.5.1 Questionnaire Design

A survey questionnaire sheet was prepared and administrated to the local people in order to collect quantitative and qualitative data. Structural questionnaire has been used to get quantitative data in the field of personal identification, population composition, education status, land holding patterns, forest utilization pattern etc.

A structural questionnaire has been used to collect qualitative information of people's attitude towards forest conservation and development, attitude of the villagers towards the future forest management, development etc.

3.5.2 Interview

Interview method has used to collect empirical information relevant to this study. Interview has conducted in those households that were previously selected as the samples. It was an oral response method for data collection. Information related to belief attitudes and opinions were obtained through the interview. The interview has taken by questionnaires which have structured, Semi structured as well as open.

3.5.3 Observation

All the desired information may not be obtained through the survey questionnaire and interview methods. Therefore, this study also utilizes the benefits of the data collection through observation method. So several observations were made during data collection. Local settlement pattern, native system of agriculture techniques of forest clearance, method of firewood collection, fodder collection etc and the main areas of interest to collect the data through the observation method.

3.5.4 Participation

The method of data collection is participatory method which is most important method. When researcher has participated in the timber collection, bush clearance, road construction, bridge construction etc, so the researcher has taken the part in that study aim. He has got empirical information through the participation method.

3.5.5 Selection of Key Informants

This is the key to collect major part of information in this study. A few informants have been selected to obtain depth information in the settlement history of deforestation, stability and change in the forest management system and change in the attitude of peoples towards conservation etc. The key informants are village elderly people, local political leaders, school teachers, and secretary and chair man of Chandanpur community forestry committee.

3.6 Method of Data Analysis.

The data collected from field and respondent have been classified, tabulated and analyzed in terms of simple statistical tools like frequency, percentage and mean. Descriptive method has been taken into consideration to obtain the basic purpose of the study. The data acquired by both primary and secondary source have been analyzed qualitatively as well as quantitatively. For the analysis of the quantitative data, percentage and mean were used. Similarly, for qualitative data were analyzed using descriptive mean.

CHAPTER IV

ANALYSIS AND INTERPRETATION

4.1 Profile of the Study Area and Respondents Household

4.1.1 Bardiya District

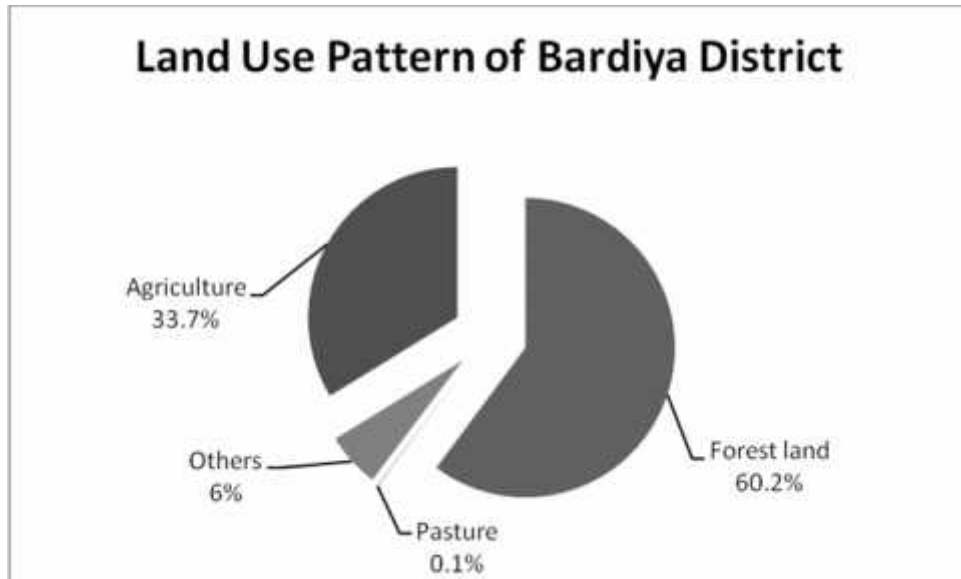
Bardiya is a terai district situated between $28^{\circ} 6'$ to $28^{\circ} 39'$ east longitude and $81^{\circ} 3'$ to $81^{\circ} 41'$ north latitude in mid western relatively development region of Nepal. It has four neighbor districts Banke, Kailali, Surkhet and Salyan .It bordered with Banke in east, Kailali in west and Surkhet and Salyan in north and Baharaich of India in south. Its lowest point is in height of 138 feet and highest point is in the height of 1279 feet from the sea level. It covers 2,025,000 hectare in area with 60.2% forest land (DFO Report, 2067).

This district of 31 village development committee and one municipality. Gulariya is the head quarter of the district. Total population of Bardiya district is 382649. Among this 192655 male and 189994 female. This district is small district of Nepal in order to its population. The total household in the district is 59569 with the average household size of 6.42. Agriculture is the main source of economy here. 93.06% people are engaged in agriculture occupation. Average life expectancy of the people in this district is 60.5 years and per capita GDP is 969\$. Human Development Index of Bardiya district is 0.304 (DDC Report, 2065).

Bardiya district is heterogeneous of ethnic composition. There are 20 different ethnic groups. Majority of the population of this district is Tharu followed by brahamin , magar, newar ,chetri etc and other occupational caste like damai, kami, lohar etc.

Topography of this district is characterized by south Mahabharata and steep Chure range in the northern part and plain fertile land in the southern part. Thakurdwara, the place of lord Thakurbaba lies in the mid western part of the district. Land utilization of this district includes agriculture land, grazing land, forest covered land and other types of land use pattern in as follows.

Figure No. 4.1



Source: DFO Report, Bardiya 2010.

Above figure shows that more than 60 percent land is covered by forest. In terms of agriculture land is used 33.7 percent, 0.1 percent land is pasture land and rest of total or 6 percent land is covered by other things.

4.1.2 Status of Community Forestry in Bardiya District

In Bardiya district, out of total land i.e. 2,025,000 hectare, 121,390-hectare land is covered by forest. There are 4 types of forest i.e. community forest, conservative forest, Government forest land and probable community forest.

However, community forest has covered 33454 hectare land which is 27.56 of the total forest land. There are 272 community forests in the district and 51782 household are involved in the community forestry program which is 86.93 percent household of district. The total number of people involved in community forest program is 221409. Chandanpur community forest area is 225 hectare but hand over area is only 198 hectare.

4.1.3 Chandanpur Community Forest

4.1.3.1 Location

The Chandanpur community forest is the medium range scale community forest, located in mid part of the Bardiya district covering 225 hectare of the forest area with 401 households. All area is under the Bagnaha village development committee ward no. one. It is bordered on the north and east by Babai River, in south Dhodhari village development committee and in west Shahipur village.

4.1.3.2 History

The Chandanpur community forest user group managed forest has a special topographic feature as most of the forest area lays plain, canvas etc. The forest is worth seeing due to besides of Babai River throughout the forest area. The history of the conservation of this forest is nearly thirteen years.

In the past, the forest is affected and used by smuggling network. The smuggled forest product finds in various destinations namely Rajapur of Bardiya, Nepalgunj and Baharaich of India.

Prior to 1998, nobody thought about the overwhelming situation of forest that could arise due to deforestation. People started continuous destruction and encroachment of the forest after the democracy. During this time some people in the community through towards forming a user group to protected the existing forest. As a result in 2001 the forest was legally handed over to local users hoping sustainable management.

4.1.3.3 Information about Community Forest User Group

The Chandanpur community forestry is the middle level of the district. So its user group size is also middle. The population of one ward is involved in this community forestry program. The total household number of these is 401. Among these, 376 households are already becoming the member of community forest user group, which consists of 93.77 of total population (Source: Field Study, 2010).

4.1.3.4 Other Information

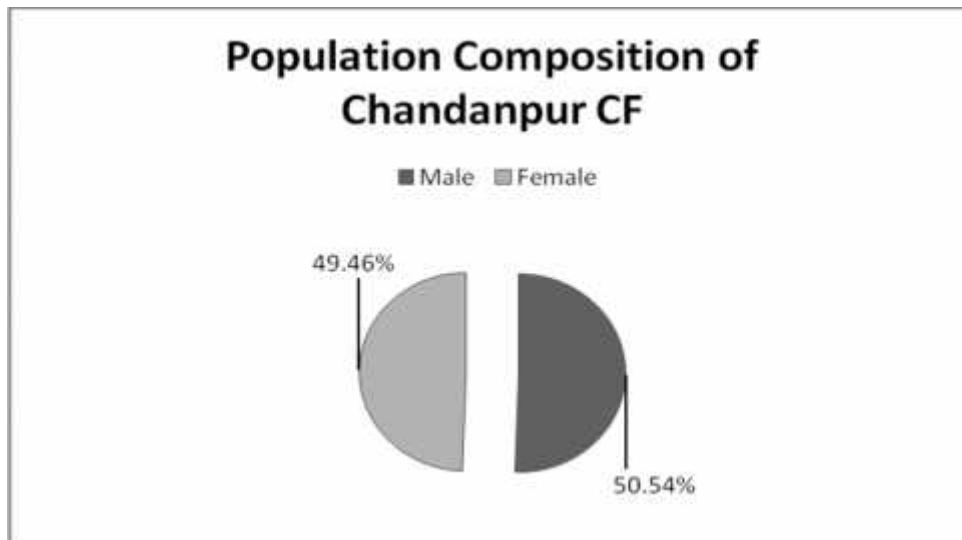
The climate in this area is tropical to warm temperate. The annual rain fall varies from 301 to 1118 mm. the absolute maximum temperature recorded in Bardiya 42.2⁰c and absolute minimum temperature is 7.9⁰c the soil is generally rich, high organic matter absolute with high Fertility index. In order to forest resources the plain area is covered with tropical sal forest (Source: DDC Report, 2009).

4.2 Social and Economic Structure of Forest User Group

4.2.1 Population Composition

In the study area, there are 401 households with total population 2486 are involved in Chandanpur community forest user group. The total sample population of Chandanpur CFUG is 372 out of which 188(50.54) are male and 184(49.46) are female. Population composition is shown in the following figure.

Figure No. 4.2



Source: Field Study: 2010

The Figure No.4.2 shows that out of total population 188 male (50.54%) and 184 female (49.46%).

Similarly, with reference to field age wise population composition, out of total sample household, about 31.99 percent population is below 15 years and that the above 60 years is only 4.84 percent. The economically active population is age between 15 to 60 years is about 63.17 percent of the total population. The population composition of sampled household according to age is presented as below.

Table No. 4.2

Composition of Family Member of Sample Household by Age and Sex

Age group (in yrs)	Male	Female	Total	Percentage
0-5	16	26	42	11.29
6-15	37	40	77	20.7
16-45	108	93	201	54.03
46-60	19	15	34	09.14
above 60	8	10	18	4.84
Total	188	184	372	100

Source: Field Study, 2010.

The Table No.4.2 shows that there are 119 people are under age, out of total 235 people are economically active and physical active also and 18 people are old.

4.2.2 Ethnic / Caste Composition

Tharu, Brahamin, Chetri, Magar, Kami, Lohar etc are the major caste living in the study area. The ethnic structure has been divided into higher caste, middle caste and lower caste as shown in the following table and figure.

Table No. 4.3

Representation of Caste of Sample Households

Character	No. of Households	Percentage
Higher caste(Brahamin, Chetri etc)	11	18.33
Middle caste(Tharu, Magar,Gurung etc)	48	80
Lower caste(Kami, Damai, Sarki, Lohar etc)	1	1.67
Total	60	100

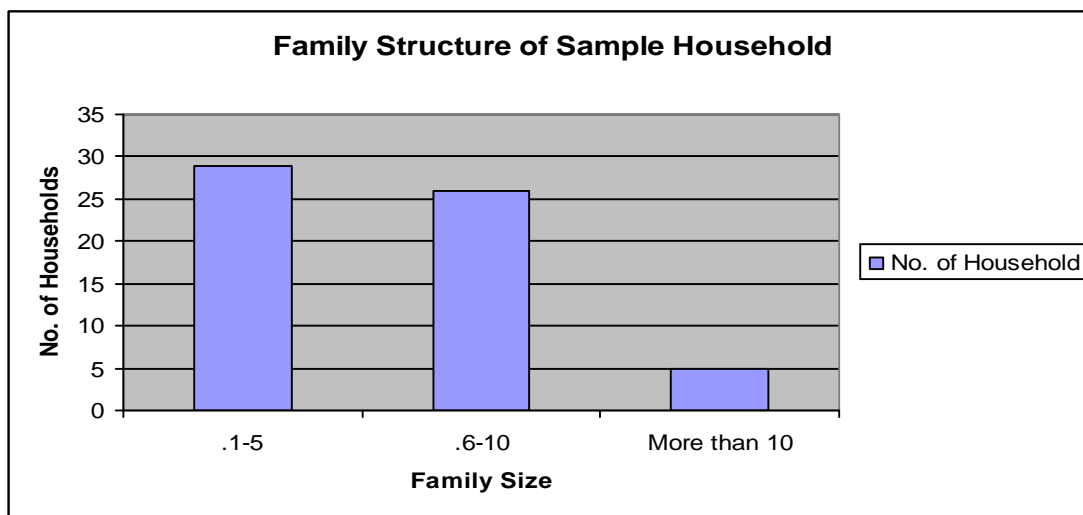
Source: Field Study, 2010.

The Table No. 4.3 shows that the total household number of higher middle and lower caste are 11, 48 and 1 respectively. In which 18.33 percent are higher caste, 80 percent middle caste and 1.67 percent are lower caste.

4.2.3 Household Size

The average family size of selected household is 6.42 and ranged from 1 to 5 respondents have less than six members and their composition is 48.33 percent. Family having 6 to 10 members is 26 in number which is 43.33 percent of the total figure. It shows most household prefer having under size family. Family having more than 10 members is 5 in number which is 8.34 percent. The size of selected household is presented as below.

Figure No. 4.3



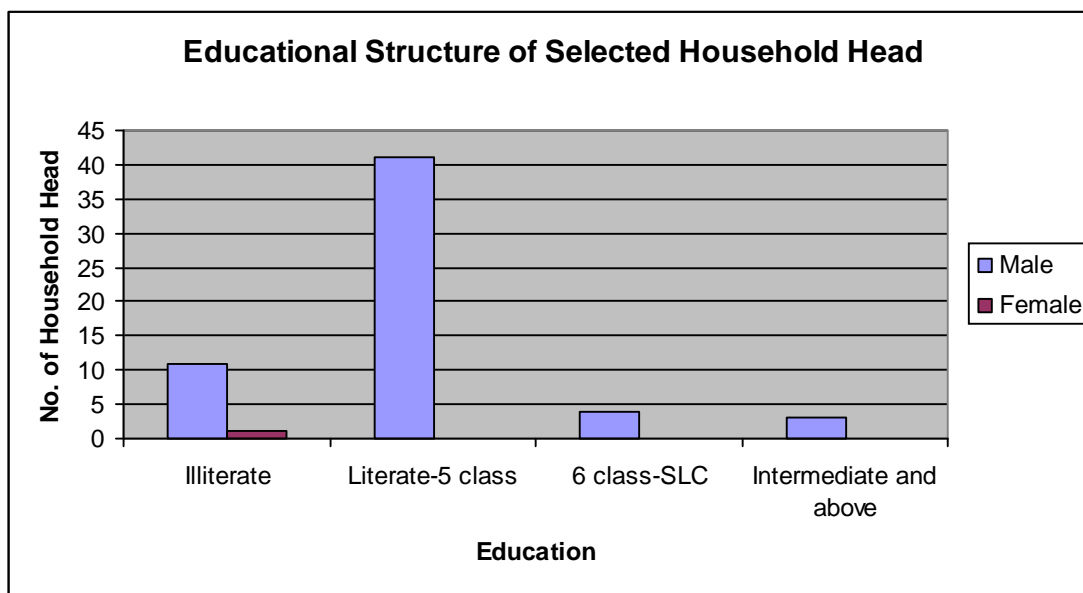
Source: Field Study: 2010

The Figure No. 4.3 shows that there are out of total sample households 29 households have below 5 members, 26 households have below 10 members and 5 households have more than 10 members. This shows that more people prefer less no. of family members. In this research, more households have less no. of family members.

4.2.4 Educational Structure

Educational structure of the community people has played important role for the participation in different community the community forest activities. Here, the level of education has been divided into four categories like illiterate, literate to 5 classes, class 6 to SLC, intermediate and above. Table no. 4.6 shows the educational status of sample households.

Figure No. 4.4

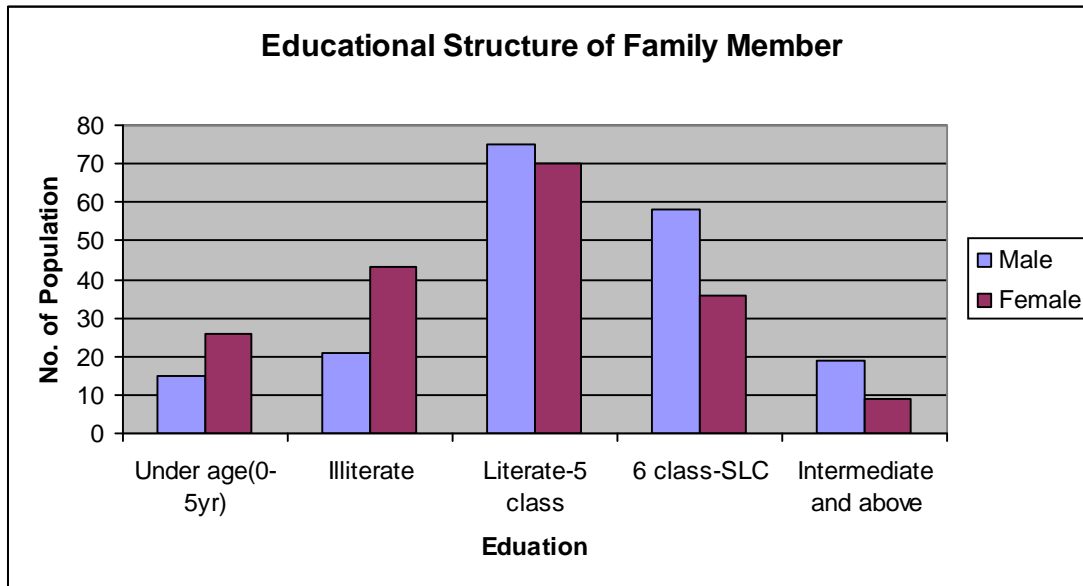


Source: Field Study: 2010

The Figure No.4.4 shows that educational structure of the household heads is not bad. About 75 percent of the respondents are literate to SLC. Whereas 20 percent respondents are illiterate 5 percent are intermediate and above class.

The demographic summaries of the total household sample shows about 71.77 percent of the total population are literate. Out of the total literate population 40.86 percent are male and 30.92 percent are female. The following table shows the population composition of sampled household according to education level.

Figure No. 4.5



Source: Field Study: 2010

The Figure No.4.5 shows that there out of total 28.23 percent people are illiterate, 64.25 percent are literate and 7.53 percent people are educated.

4.2.5 Occupational Structure of Sample Household

Agriculture is the main occupation of Nepal, so, the case is in this study area. About all agriculture land in this area is under middle caste i.e. Tharu, magar etc. The nominal land belongs to others. So, in this area, most of the people are engaged in agriculture. It is already mentioned that there are 42.14 percent economically active people in the study area. The demographic summary of the total household sample shows that 42.14 percent is in agriculture, about 13.84 percent in wage labor, about 0.94 percent in service, about 2.83 percent in business and 40.28 percent population is engaged in student. The table shows the occupation structure of the household member.

Table No. 4.4

Occupational Structure of Household Member

Occupation	Total no. of population	Percentage
Agriculture	134	42.44
Wage labor	44	13.84
Service	3	0.94
Business	9	2.83
Student	128	40.25
Total	318	100

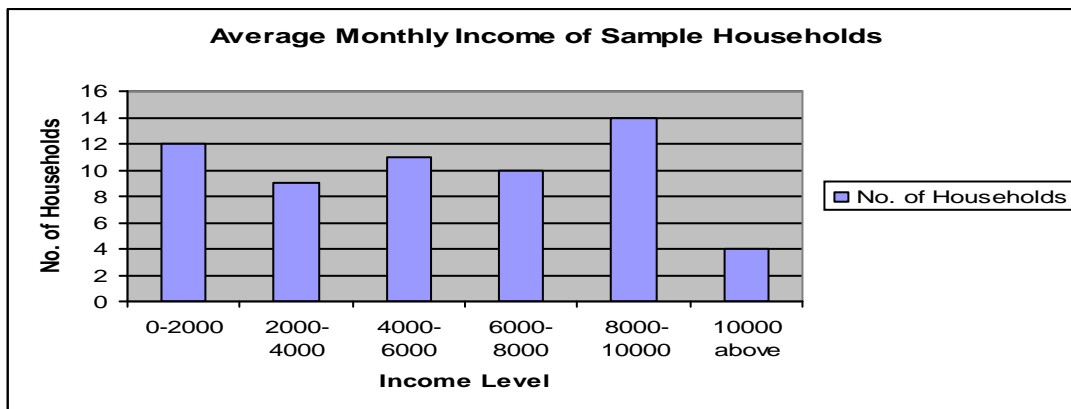
Source: Field Study, 2010.

The Table No. 4.4 shows that 42.44 percent people are engaged in agriculture sector, 13.84 percent are in wage labor, 0.94 percent is in service, 2.83 percent are in business and remaining 40.25 percent people are engaged in student life.

4.2.6 Income Level of the Sampled Household

The major source of income in this study area is agriculture and livestock of sampled household. It is very difficult to know about accurate income level of respondents because they feel uneasy to tell their cash income and expenditure. However, following table shows the approximate monthly cash income of the household from various sources.

Figure No. 4.6



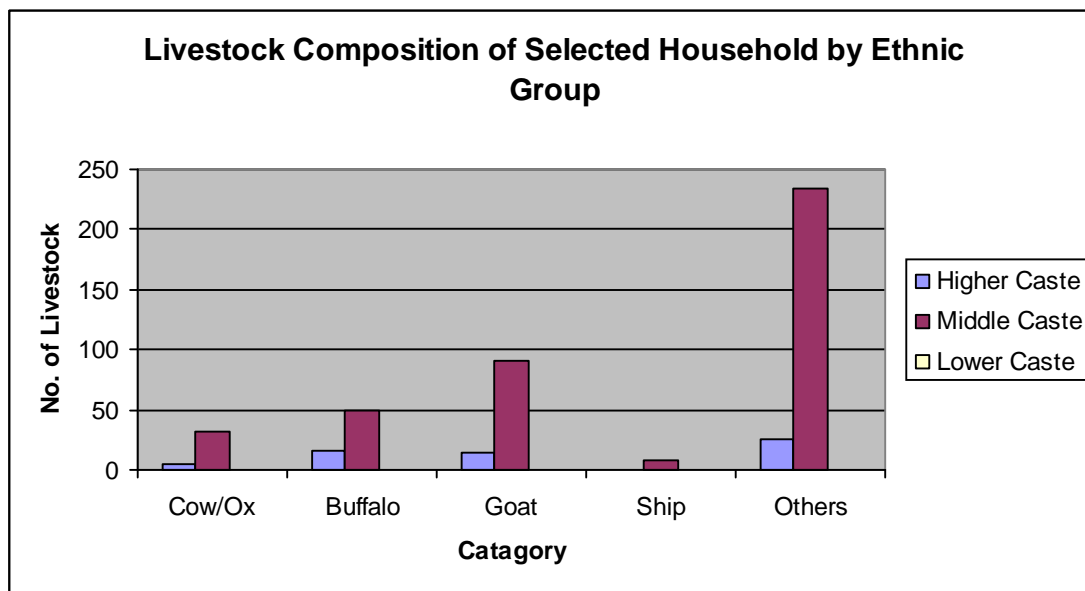
Source: Field Study: 2010

The Figure No.4.6 shows that there are 12 households who have monthly income between 0-2000. Majority of the household falls in group of Rs 8000-10000. And the higher income level i.e. about than 10000, household is only 4 which is 6.67 percent in total.

4.2.7 Livestock Composition of the Sample Households

Livestock is also a part of agriculture. It plays an important role for the upliftment of their socio-economic condition of related households. The prosperity of a family can be also judged by the number of animals. The following table and figure shows the total number of livestock according to ethnic group.

Figure No. 4.7



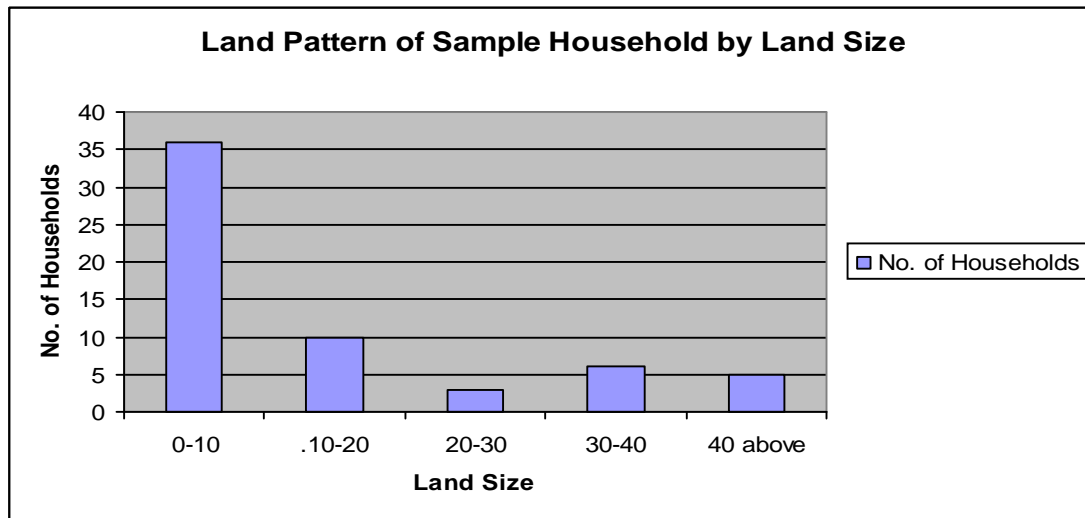
Source: Field Study: 2010

The Figure No. 4.7 out of total livestock 60 livestock is having higher caste and 413 livestock are having middle caste and none of them have lower caste.

4.2.8 Land Holding Patterns of the Respondents.

Land holding determines the income and food sufficiency of the people. The more land more income, less land the income because more people depend upon agriculture in the study area. In the study area, largest land holders are Brahamin and Chetri. The following household in Chandanpur community forest user group.

Figure No. 4.8



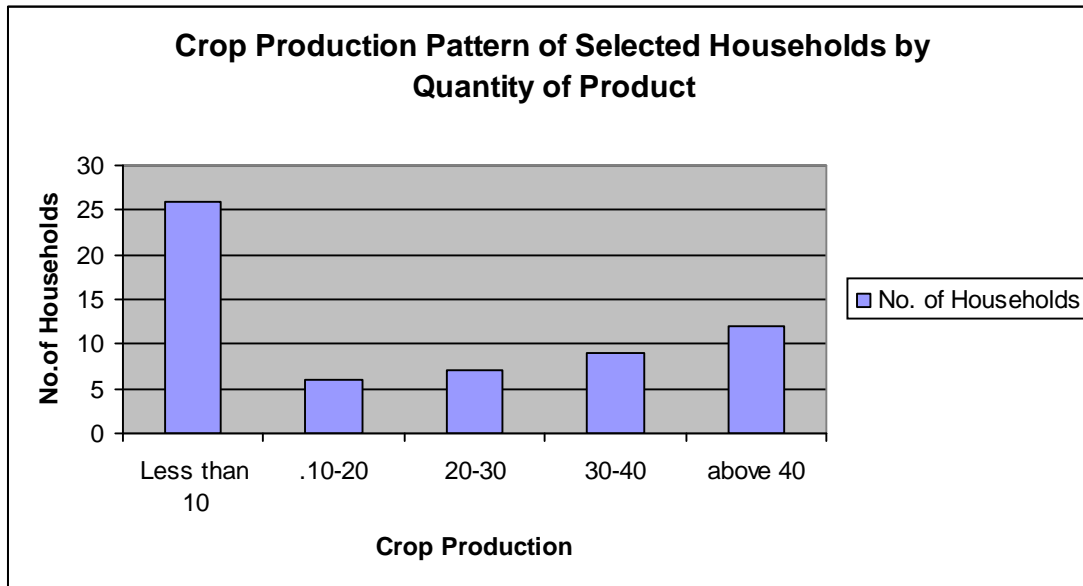
Source: Field Study: 2010

According to the Figure No.4.8 shows that 60 percent of the households have less than 10 kattha which is the majority of the households. Average land holding pattern is 18.58 kattha per household.

4.2.9 Crop Production Pattern of Sampled Household

In this study area, most of the people depend upon agriculture and most of them are engaged on agriculture production. Various types of crops are the main sources of food for the people in this area. Paddy, wheat, maize, lentil, mustard are the main crops production of the study area. There are variation in crop production between food crops and cash crops. Most people allow their land for the production of food crops. The average crop productions are shown in the following and figure.

Figure No. 4.9



Source: Field Study: 2010

According to the Figure No.4.9 shows that 56.67 percent households have only up to 10 quintal crops produced from their land. And other 43.33 percent households have produced lower than 10 quintal crop in their land.

4.2.10 Condition of Food Sufficiency of Sample Household

In the study area, out of total selected household 8 households are saver which is 13.33 percent of the total household. 12 household, 20 percent have sufficient of food for their family consumption for the whole years and 20 household do not have sufficient food. It means they have to depend upon others for food through they are deeply the agriculture as an occupation. 9 households hardly fulfill their requirements for 6 months from they produced in their land for the others 6 months they have to buy from others or market. 11 household produced food in their land, which fulfills the food only 3 or 4 months. These households are the under the absolute poverty line.

The following Table shows the condition of food sufficiency of sample household.

Table No. 4.5

Condition of Food Sufficiency of Selected Household

Particulars	No. of HHs	Percentage
Saver	8	13.33
Sufficient for home consumption	12	20.00
Not Sufficient for home consumption	20	33.33
Food above 6 months	9	15.00
Food below 6 months	11	18.34

Source: Field Study, 2010.

CHAPTER V

SOCIO ECONOMIC CONTRIBUTION

5.1 Contribution of Community Forestry in Social and Economic Sector

5.1.1 Introduction

Majority of rural people in Nepal, they highly depend on forest to support their agriculture and livestock system. Forest provides firewood for cooking and heating, timber for building furniture, fodder and leaf liter for livestock and non timber products. Forest also plays an important role in the maintenance and the conservation of watersheds as well as environment. Here to find out the contribution of community forest to its user group, households income level is classified into three categories i.e. 0-4000, 4000-8000 and above than Rs 8000 is based on the classification of CCFUG to its user group. CCFUG has classified its user group into three categories i.e. poor, middle and rich. In field survey it was found that who have saver of their food product they have monthly income more than Rs 8000 and they are categorized first class by CCFUG. Who have sufficient food for only home consumption, generally found that they have monthly income between 4000- 8000 and they are classified class second by CCFUG. So, here to analysis, total households income level has been divided into three categories to find out the contribution of community forestry.

5.1.2 Source of Energy

The households of the study area are dependent upon firewood as the main source of energy. There is few practice of using alternative source of energy like Biogas, Kerosene, Gas and Electricity. Specially, low income level households are totally dependent upon firewood. In case of community forestry, the following table shows the contribution of community forestry on the source of firewood.

Table No. 5.1

Source of Energy of Sample Household

Income level	No. of HHs	Use of Energy Monthly		
		From CF	Biogas	LP gas
0-4000	23	3030 kg	1 house	-
4000-8000	19	2820 kg	1 house	-
above 8000	17	2100 kg	4 house	1 house

Source: Field Study, 2010

5.1.3 Use of Grass/Fodder for Livestock.

Forest is the main source of fodder and green grass for livestock. Chandanpur community forest provides facility for collection and cutting green grass to its member. All members are not give time to cut green grass and fodder due to long distance of CF. so; some members go for green grass in their private land. Chandanpur community forest user group have used green grass and fodder as following table.

Table No. 5.2

Use of Green Grass and Fodder for Livestock by Income Level

Income level	Community Forest		Private land	
	Green Grass	Fodder	Green Grass	Fodder
0-4000	3160 kg	2800 kg	440 kg	40 kg
4000-8000	3000 kg	2280 kg	920 kg	120 kg
above 8000	2400 kg	1520 kg	880 kg	80 kg

Source: Field Study, 2010.

The Table No. 5.2 shows that the total use of green grass is 3600 kg in which CF provides 79.26 percent. The total fodder is 2840 kg. Among this CF provides 96.49 percent. In terms that when income level increase gradually they demand more green grass and less fodder. We found that from field survey people highly depend on community forestry for green grass and fodder than their own land.

5.1.4 Use of Timber

Generally, sal and other trees are used for timber. In this study area, timber cannot use without paying charge. The committee has decided to sale timber as Rs 100-150 per Q fit. User group have to pay to use timber facility. The community forestry committee gives first priority to its member to purchase timber than sales to others. In the field study among 60 households only 41 households were found to use timber. In which 12 households were higher income level people and rest were middle income level. User group have got to subsidy to use of timbers not buy from other places. They were using from their CF. the user group were taking benefit from CF through timber because they use the timber for house construction for house of livestock. CF has helped to make bridge and dam etc.

5.2 Role of CF on Upliftment of Socio- Economic Condition of Forest Users

Nepalese economy is based on agriculture. More than 60 percent GDP comes from agriculture sector of Nepal. The major products are crops, livestock and forestry products and CF is playing major role in growing live hood of farmers and contributing in farm production.

Poverty in rural society is common phenomenon. More farmers live in poor condition. They have less land, less livestock so that they have very poor condition. Government has been launched many poverty reduction plans and agriculture perspective plan but it has not properly implemented. So, the government realized that any plan should be gave them to their own responsibility. CF has one of responsible or authorized plan given to the user group.

Fertilizer is a single determinant component of farm input, which can affect positively in land productivity. CF is considered that it will supply more bio manure and fodder of farm which ultimately uplifts production. In this study area, more people use fire-wood for cooking who were less income level people. Green grass and fodder also has used maximum by less income level user group. So that from field study, people have ultimately contributed by CF. the more clear that the following figure.

The assessment of crop production and livestock situation and the contribution of CF on production are required to contribute to know overall economic condition of forest user groups.

5.3 Contribution on Community Development Activities by Chandanpur Community Forestry

Community development activities are essential to improve the quality of life and empower the local people. For the local peoples' well being various organizations are involved in carrying out community development activities in rural community development. Village development committee or the local level unit of government has been focusing on basic needs of the local people in supporting the construction and repairs of community development projects such as health care, drinking water, schools, trails and bridges, irrigation, subsidies on sanitation and bio gas plant. However, local people are not becoming all depended on local government rather local people have research to new source of income and development in local level. So, they had found that community forestry is a main source of income generating place user group adopt that source and properly utilized it to develop their local rural village.

There is a close relationship between rural development and natural resources and user group are encouraged for the conservation of forest as well as for community development. Some of the development activities by Chandanpur community forestry user group have been contributed as follows.

5.3.1 School Support

CFUG has been contributed to the educational sector in many ways. Chandanpur community forest user group has been providing timber required for construction of school building free of cost. There are no other sources of timber for school construction of the school. CF is the main source of timber for school construction and maintenance. It has also provided two teachers to Sharada lower secondary school and Bal jyoti primary school.

5.3.2 Trail Improvement

CFUG has been found to their organization mechanism to mobilize the human and other resources to improve the roads and bridge in order to facilitate easy mobility and transportation. Chandanpur CFUG has used its members' labor and fund to improve the quality of various roads. There has been made many bridge and dam by contributing the timber and fund through the Chandanpur community forest and also through its members' labor contribution.

5.3.3 Community Building and Rest House Construction

The Chandanpur CFUG has provided timber free of cost for construction of a main community building and rest two sub communities building in different places of its user group area. It has given for purpose of business. Similarly, it has also constructed rest houses in its user group area by mobilizing human as well as financial capital.

5.3.4 Other

Chandanpur CFUG has contributed many others activities. It has given subsidy to 15 households to make bio gas plant every year to its user group. It has also provided the timber for pole, electricity wire and cement pole. It has provided finance to the club for maintenance the skill of youth.

5.4 Social and Economic Contribution to User Group from Community Forestry

In these days, increasing human encroachment deforestation is the main problem in mid western side. Forest land and farm land are eroded day by day in this study area. So, community forestry is like an investment area for degraded deforestation. It provides management system to user group which offers suitable and efficient protection and utilization pattern.

Forestry is the main social service; its program is purely on the basis of commercial benefit cost analysis. Its environment, resources and security. Men's' welfare depends upon air, soil and water management in which forest plays important role. Com-

munity forestry provides various benefits in various sectors which benefits show in below.

5.4.1 Social Contribution

Community forestry is launched in the society. It provides the benefits to the user group. Some of the social benefits of Chandanpur community forestry are as below.

5.4.1.1 Strengthening Organization

Mechanism for encouraging and farming user group committee, this builds up the social capacity for rural development. After the establishment of Chandanpur community forestry, people are united to tackle every types of social problem through strong organization.

5.4.1.2 Employment Generation

Chandanpur community forestry has launched various income generation activities. It has given employment two people in its office. Very poor people of the community, the community forestry has providing various skills training for their upliftment life. Similarly, in the process of cutting and thinning of timber and firewood more than 200 man a day employment created here.

5.4.1.3 Increase the Peoples Participation

Effective implementation of community forestry has increased the people's participation including women's group.

5.4.1.4 Co-operation among the People

The sustainable supply of forest products like firewood, fodder etc. helps people not to quarrel. Conflicts arise due to shortage and sustainability helps people to live in harmony. People in this area have been united to increase the economic status, preservation, proper utilization of resources and efficient co-ordination among the user's group members.

5.4.2 Economic Contributions

Most expected economic contributions of community forestry to the user group was expected to be non monetary and strongly related to sustainable use. The creation of proper use of resources and management is the economic contribution to the users. Some economic contributions of Chandanpur community forestry to user group as below.

5.4.2.1 Availability of Forest Products

Chandanpur community forestry has highly contributed to increase the forestry products such as green grass, firewood, fodder, herbs timber and poles. The user group has accumulated the significant amount fund from forest management and this fund is properly for community welfare.

5.4.2.2 Sustainable Collection

The people of Chandanpur community forestry user group, they have got sustainable firewood and fodder for their daily needs. It was possible only after 1998 AD. Prior 1998, the degraded forest could not provide sustainable supply. Reforestation by community forestry program became helpful to increase the livestock rearing which is very important to increase the income of user group.

5.4.2.3 Multiplier Effect

It is expected that the surplus of firewood, timber and other products from CF can help the users to entry into the market economic. This brings a significant effect to the user which fund increase further job opportunities for user groups along with the income, consumption, sharing and living standard of the users.

5.4.3 Environmental Contribution

Some of the major environmental contributions of community forestry as follow.

- (1) Increase in forest cover area.
- (2) Increase in soil fertility.
- (3) Increase in bio diversity.
- (4) Soil and water conservation
- (5) Decrease in air pollution in environment

5.5 The Fund Generation of the CCFUG

The forest products are the major source of fund generation of the Chandanpur community forest. Bank interest, membership fees, subsidies and penalties do also contribute in the fund generation. The fund collect of Chandanpur community forest from its products such as timber, firewood, sale of stone, sand, *Sentha*, *Khariya* and other products. It can show in details of the as bellow.

Table No. 5.3
Fund Generation Structure of CCFUG (2008-2010)

Particulars	Income (in Rs)
Bank balance (previous Year)	18115
Previous year cash	114146
Tender	15000
Selling of forest products	3056154
Penalties	34686
Bank interest	2253
Deposit	655866
Lend	1075000
Other income	240
Total	50,11,460

Source: CCFUG Report, 2066/067

Table No. 5.3 shows that the total income collected in fund of CCFUG was Rs 5011460 in FY 2066/067. Out of which, 18115 was from previous year bank balance and previous year cash was 114146. Rs 15000, Rs 34686, Rs 2253, and Rs 655866 was collected from tender, penalties, bank interest and deposit respectively. Rs 3056154 were collected from the sales of forest product which is more than 60 percent of total fund generation. It shows that major source of income for the CCFUG is the sale of forest product. CCFUG has also collected Rs1, 075,000 from lend Gupteshower female community forestry.

5.6 Fund Utilization of the CCFUG

The fund of the community forestry member of Chandanpur has spent in different forest management activities like cleaning, seeding, nursery and plantation. The fund has also spent on local infrastructural development like school construction, road construction, and construction of rest houses, subsidies for making bio-gas plant, pole, and electricity wires. It has also used on make bridge, dam etc. The detail of fund utilization is given in below table.

Table No. 5.4
Fund Utilization Structure of CCFUG (2008-2010)

Particulars	Expenditure (in Rs)
Salary (staff and teachers)	152050
School construction	1275000
Subsidies (bio gas)	60000
cutting thinning	148211
subsidy to club	102000
Building construction	858404
Transportation and communication	52130
Deposit return	695866
Break fast	25135
To get from Ratan Lal	274307
Monitoring and survey	31650
Stationary	1620
Previous liabilities	250000
Treatment aid	10000
Technical aid	22000
Bank balance	380782
Cash balance	586114
Wage labor	12900
Lend investment	22970
Inventory expenditure	17817
Total	4,975,956

Source: CCFUG Report, 2066/067

Table No. 5.4 shows that the CCFUG has spent highest amount on school and building construction Rs1275000 and Rs855404 respectively. Expenditure on staff and teachers and bio gas subsidies is Rs152050 and 60000 respectively. Expenditure on club subsidies on its youth club is Rs102000. the total expenditure of fund CCFUG in 2066/067 is 4975956. Comparison of fund generation and fund utilization, it shows that more than 99 percent income has spent in FY 2066/067 with saving only 1 percent.

5.7 Problems of Community Forestry

Community forestry program is an important forestry program in the study area. The people of forestry area are heavily depending on forest resource in order to meet their needs. Many people are getting firewood and fodder from community forestry only. If this CF program has not been applied in this area, people who did not have land, had to face great problem of firewood. Many people are getting benefits from CF program. Social benefit is obtained by active participation of people for social development. Cooperative feelings of people are also brought development of society. However, some problems come in the study area, which are as follows.

The first and big problem is fire and grazing because many people are unconsciously burnt fire in the forest and graze their cattle. So, the small herbs and shrubs are untimely killed. User group could not improve the community forestry program. Small trees were burnt and finished. Thus, this is the main problem of this study area.

The second problem is unequal distribution of forest products because nearly of CF people were collected more firewood and other products but who have CF far from CF. They get late in the CF. So, they get small scale of opportunities from CF of distribution of forest products. So, the forest product is unequal distribution.

The third problem is illegal cutting of trees. Some people are cut trees without permission and they sell it in the market. Thus, the CF will not improve its program. The fund has not get benefit along with the deforestation. This is a kind of problem in the society.

Conflict among the users group is the fourth problem of community problem. Conflict arises mainly due to the different personal interest of people in this study area. The main reason of conflict is political rather than socio-economic. Different political ideology has brought the conflict between user groups. This is a great problem that the community is unable to solve.

5.8 Measures for Overcoming the Problems

To solve the different social and economic problems occurred in Chandanpur community forestry, this problem should be undertaken. By solving the problem is of firing and grazing on the forest area. The CF members' should be conscious about the firing and grazing in the forest. If any member of CF have seen or found the fire and graze in the forest area, they should be responsible about their CF.

To solve the problem of distribution of forest product, there should be make a committee for monitoring that all members should feel these products is for us. They should be equally distributed. So, the every member of FUG can get equal benefit from the forest.

To solve the problem of illegal cutting trees there should be making a committee of user group for checking the forest area. If any people cut trees illegally, he/she should be punish and fine etc. There must be giving some suggestion to user that illegally must not cut the trees.

Forest should be free from political ideology to minimize the conflict among the user groups. Farther people should be given priority to collect forest products. This minimizes the negative concepts of farther member of its user group.

To make Chandanpur a success in this area Different kind of moral education should be given to its member to change their negative view toward CF.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

6.1 Summary

The present study summarized with the objective of identifying to analyze the contribution of community forestry on consumption of forest products of forest user group member at different income level. This also aims to study the contribution of fund generated from community forest on infrastructure and education. It is expected that the socio-economic condition and physical condition of users is improved after handed over as community forestry.

The research design followed to the study is descriptive and exploratory. The emphasis is given on the qualitative rather than quantitative aspects of information relating to the contribution of forest in economic as well as social sector in the study area.

The study area is almost homogeneous because all the inhabitants are the entire members of Chandanpur community forest user group. A systematic random sampling has been used for selection of the respondents. There total 401 household are involved in the CF out of them 15 percent i.e. 60 household was selected as sample frame.

Both primary and secondary data collection methods were used in this study. Primary data is a major factor to fulfill the objective of the study. Some of the standard tools and technique were used in order to collect primary data from the study area. Interview schedule, observation has been specially taken as tools for the study.

The research is conducted in Chandanpur community forest user group, a forest user group of Bagnaha village development committee of Bardiya district. The community forest was handed over to the local community in 1998. The site of forest and forest user group is medium in Bardiya district. Population of one ward is depending upon this forest for firewood, grass and timber. There are 401 member household with total population is 2486 out of them 50.54 are male and 49.46 are female. The average family size of the study area is about 6.42 persons. The economically active population i.e. age between

15 and 60 years is 63.17 percent of total sampled population, which indicates that the productivity of the area is very high.

In the study area, there are Brahamin, Chetri, Magar, Tharu, Kami, Lohar and Sarki ethnic group. According to sample household the caste and ethnic distribution of the study is higher caste 18.33 percent, middle caste 80 percent and lower caste 1.67 percent.

The demographic summary of the household sample shows that about 71.78 percent of total sample populations are literate. Out of total literate population 40.86 percent are male and 30.92 percent are female.

Most of the population is engaged in agriculture. The demographic summary of the household shows that about 42.44 percent population is engaged in agriculture, about 13.84 percent population is engaged in wage labor, about 0.93 percent population is engaged in service, about 2.83 percent is engaged in business and about 40.25 percent population is engaged in student life.

Khet, Bari, Pasture are the major land use in its user group member. Average land holding size in Chandanpur community forest user group is 18.58 kattha per household. People in this study area produced food crops i.e. paddy, wheat, maize, potato in their land rather than cash crops. The average crop production on the study area is 25.833 quintal per household the productivity is 1.35965 per kattha. The total productions produced in their land 13.33 percent household are saver they sold rest their agriculture production. For 20 percent household's agriculture production is sufficient for home consumption. And rest 33.33 percent people are depending on other sources to meet their demand of food. I.e. not sufficient for home consumption.

The main objective of the community forestry program has been imagined to meet basic needs such as firewood, fodder, leaf litter and timber and timber for the communities. Chandanpur CF also provides such facilities to its user group. Firewood is the main source of energy in the study area. Especially, low income group people are totally depending on community forest in the context of using firewood that has no private forest.

38.11 percent firewood is provided by CF in this area in case of lower income level. Same as 35.47 percent and 26.42 percent of their total demand of firewood middle income group people and higher income group people supplied by CF.

In the same way, green grass and fodder has also provided by CF more than 36.92 percent, 36.05 percent and 28.03 percent of their total demand of green grass and fodder to the lower, middle and higher income level people respectively.

In research, it was found that there are various development activities like school support, trial improvement, construction of community building and rest houses, subsidy for biogas, pole, electricity wire and skill for youth are under taken by CF from which different income level people are directly as well as indirectly.

Its user group has got social benefit, economic benefit and environmental benefit. Community forest as a fund, which was accumulated by different activities such as, selling forest product, penalties, membership fees, and tender. The surplus fund was 5011416. It was spent for different purpose. The forest user group mobilizes on forest development and economic development activities. CF management practices have increased quality of fodder, green grass, agriculture implements and water. It has contributed to increasing soil fertility and crop and livestock products, thereby enhancing per capita income of the users.

Finally, this research had focused some problems regarding the development process of this community forestry. There is a problem of equal distribution of forest products on its user group the near member were found more benefited than farther member. Conflicts among the user group arise due to the different personal interests of the people in Chandanpur community forest. But the cause of conflict is political rather than socio-economic. There were also problem of firing and grazing in the community forest due to lack of awareness and poverty.

5.2 Conclusions

Community forest has played an active role in supplying the forest products and balance eco-system. Moreover, this has direct impact in day to day life of FUG members.

So people were actively engaged in planting, weeding, bush cleaning, thinning and pruning of forest crop and forest production activities. Although they could not have more direct benefits from community forest they have yet very eager to develop it. But the level of income has been affected positively. CF program has been a vital necessity in providing the forest products to the user. The forest resources has been conserved and utilized efficiently. People are very conscious and aware of nature conservation.

Community forest fulfills the wants of forest products like firewood, fodder, green grass, leaf litter, timber etc partially which is required for day to day lives of villagers. In Chandanpur community forest product are distributed proportionally on the basis of household size as well as number of laborer for labor in the forest.

On the basis of the study, it is concluded that community forest has helped the user to save their time from day to day activities by making available of fuel wood, fodder, leaf litter in nearby area. The women had spent a lot of time in working just to get 30 kg of firewood and fodder. These days, they do not have to walk a long distance since they get it from CF. They have been easily taking less time than earlier. The saved time has been used for purposes, farming; cattle rearing improve their skill and study etc.

It was realized that there is a need of various training and technical support regarding utilization of forest products, record keeping, benefit sharing, monitoring new methods to plant species etc the better management. However, there must be transparency in produced sharing among entire users which reduces the conflicts in FUG.

As we know, each and every thing has its positive and negative impacts on the community. Similarly, Community forestry program has now become the part of life of the rural community in the study area. Despite some negative issues of community forestry is providing different facilities to the people of the community. The direct and indirect benefits from the community forestry have played the important role in the social life of the people in the study area.

Lastly, it is concluded that following results have been brought by CF program.

1. Extension of forest area.

2. Increase the awareness and sense of belonging to the forest as their own.
3. Improvement in eco-system by maintaining forest pasture, rivers and controlling soil erosion.
4. Improvement the economic condition of FUG.
5. Social as well as economic development regarding community development.
6. Saving of time to collect fuel wood and fodder.
7. Increase the committees fund by selling forest products to its member and to other places.

5.3 Recommendations

Based on the fact observed and mentioned in the present study, some points were identified which should be improved for the betterment of the Chandanpur community forest user group and similar forest.

- a) User's committee should do survey and systematic need prior to timber and firewood distribution so as minimize the conflict and biasness.
- b) User's committee should be production oriented rather than protective so as to take maximum benefit from their available resources for sustainable development.
- c) To give equal service in terms of distribution of forest product to its user group, every points should be monitoring and there should to entry to all a same time, so the farther people also can get same facilities as nearer people.
- d) To reduce fuel wood consumption pattern in the study area, fuel wood saving devices like smokeless and fuel saving ovens, improved stoves, bio gas, solar power, should be encouraged for the substitution of fuel wood.

- e) Development of infrastructure for supporting tourism development need to be development at local level. This will help in promotion of the tourism as well as in generating of employment to the local community.
- f) Community forestry program should be expended to every district of Nepal, especially terai district of Nepal to protect and raise the existing forest resources.
- g) Proportional basis should be adopted in forest product distribution and contribution forwards community forestry program if the CF program is from socio-economic conflicts.
- h) There must be given awareness and training to all user groups.

**APPENDIX-I
QUESTIONNAIRE**

COMMUNITY FORESTRY PROGRAM

HOUSEHOLD SURVEY 2010

Serial No.:

Date:

1. Name of the household head:

Age: Sex: Ethnic Group: Type of home:

Language: Education: Main Occupation:

Distance between home and community forest:

2. Family description;

S.N.	Name	age	sex	educational status					occupation
				IL.	L	LS	HL	H ed ⁿ	

3. Description of land;

A) Do you have own land

i) Yes () ii) No ()

B) if yes, how do you have of following (in bigha)?

(i) bigha (.....) (ii) kaththa (.....) (iii) Dhur (.....)

C) if not, how much other's lands do you cultivate?

(i) bigha (.....) (ii) kaththa (.....) (iii) Dhur (.....)

D) Land Presentation;

S.N.	Type of land	Area of land	Cultivation ownership			Remarks
			self	rented out	rented in	
1	Khet					
2	Bari					
3	private for- est/Garden					
4	pasture					
Total						

4. Annual income from food grain production: Did you have a crop in surplus after domestic consumption last years?

(i) yes () (ii) No ()

if yes, what and how much (in Kg)?

(i) rice (.....) (ii) corn (.....) (iii) wheat (.....)

(iv) others (.....)

5. Income Sources of Household / People;

Occupation	Income (in Rs)
(a) Agriculture	
(b) Business	
(c) Services	
(d) Wage labor	
(e) Others	

6. Sources of Energy

A) what are the sources of your energy?

(i) Firewood () (ii) Others ()

B) If firewood, from where do you get?

(i) Government forest () (ii) Community forest ()

(iii) Private forest () (iv) Market ()

C) How much bhari of firewood you need a week?

D) Who collects firewood in your family?

(i) Women () (ii) children () (iii) men ()

(iv) Both men and women ()

E) How much community forestry program played a vital role in supply of firewood?

- (i) Yes () (ii) No () (iii) No idea ()

F) Are you aware to conserve firewood?

- (i) Yes () (ii) No ()

G) If yes, how do you conserve?

- (i) Use alternative sources ()
 (ii) Use improved stoves ()
 (iii) Others ()

7. Feeding of animals;

(A)

Livestock's	Number
Cow/Ox	
Buffalo	
Goat	
Ship	
Others	

B) How many bharies of fodder/grass do you need to feed your livestock for a week?

- (i) 7 () (ii) 9 () (iii) 11() (iv)

C) From, where do you collect the fodder?

- (i) Private forest () (ii) community forest ()
 (iii) Government forest () (IV) others ()

D) Who collect fodder?

- (i) Women () (ii) men ()
 (iii) Children () (IV) both men and women ()

8. Timber

A) Have you used timber recently?

- (i) yes () (ii) No ()

B) If yes, for why?

- (i) House construction () (ii) Animal shed construction ()
 (iii) Furniture's () (iv) Tools ()

C) From where do you get timber?

- (i) Government forest () (ii) community forest ()
 (iii) Private forest () (iv) market ()

9. A) Have you done any voluntary labor contribution to your community forest?

- (i) Yes () (ii) No ()

B) How many voluntary labor contribution was provided by you towards community plantation works?

.....

C) What types of social development works have you done by your forest user group? How many days have you provided for the activities?

.....

10. What are the changes you have witness after the introduction of community forestry program?

- (i) Increase in forest area ()
(ii) Proper use of resources ()
(iii) Effective preservation of forest ()
(iv) Promotion of rural people ()

11. Have community forest helped reduce the poverty?

- (i) Yes () (ii) No () (iii) No idea ()

If yes, how?

- (i) Provide loan to the poor people ()
(ii) Provide skill ()
(iii) Provide educational opportunities ()
(iv) Oriented training ()

12. Have community forest helped people in income generating activities besides forest products?

- (i) Yes () (ii) No () (iii) No idea ()

If yes, how?

- (i) Introduce modern seeds and fertilizer to farmer ()
(ii) Give training about unseasonable vegetable production ()
(iii) Encourage people for small-cottage industry ()
(iv) Encourage people to collect raw materials herbs and purchases from them ()

13. Had there any development program supported by your community forest in your village?

- (i) Yes () (ii) No ()

If yes, what are they?

- (i) Construction of road ()
(ii) Trail improvement ()
(iii) Construction of bridge ()
(iv) Construction of school ()
(v) Others ()

14. How are the development activities supported by community forest?

- (i) Free supply of forest product ()
- (ii) Free labor supply from user group ()
- (iii) Financial assistance ()
- (iv) Others ()

15. Have you penalties to community forest?

- (i) Yes () (ii) No ()

If yes, in which case and how many times?.....

16. In your opinion community forestry is

- (i) Very beneficial () (ii) good ()
- (iii) Not very important () (IV) Not good ()

If not good how?

17. What do you think the CFUG should spend/use its income or fund?

- (i) Equally distributes to all the users ()
- (ii) Spend on forest development activities ()
- (iii) Give loan on high interest rate ()
- (iv) Spend on community needs ()
- (v) Give priority to disadvantaged and vulnerable people IGAs ()

18. Have you realized any problem in community forest programme?

- (i) Yes () (ii) No() (iii) No idea ()

If yes, how?

- (i) Conflict ()
- (ii) Illegal cutting of trees ()
- (iii) Problem in distributing forest products ()
- (iv) fire and grazing ()

19. How can we get relief from the above problems of community forest program?

.....

APPENDIX III



Picture -1 Before handed over Community Forest



Picture -2 After handed over Community Forest



Picture -3 Timber is thinning by users



Picture-4 Timber is thinning by users



Picture -5 Timbers is stocking after thinning



Picture -6 Biogas plant under construction with the support of Chandanpur CFUG



Picture -7 and 8 Researcher is taking interview by users



Picture No. 8

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