CHAPTER 1: INTRODUCTION

1.1 General Background

Nepal is basically an agrarian country with the area of 14.7 million hectare. More than 80% of the populations live in the rural areas **(CBS, 2004),** The HMG/N (2002) statistics shows that about 44% people are under poverty line. Poverty is more severe in rural than in urban areas, Majority of the poor in Nepal are small and marginal farmers and landless household, whose livelihood depends on agriculture dominated by crop and livestock farming. Rural households are, therefore, in the center of the forest, agriculture and livestock interfaces (HMG, 1998).

Community forestry is one of the major programs of the Department of Forest (DoF). It is said that community forestry policy of Nepal is the most progressive forest policies in the world. Participatory forestry program has been implemented throughout Nepal with support from several bi- and multilateral organizations**.** The foundation for the community forestry program was laid out in late seventies, and since then the program is being implemented in Nepal. With the successes of the community forestry approach, several complementary models of participatory community based resource management also came in operation, such as Leasehold Forestry (LF), Collaborative Forest Management (CFM), user group based watershed management and buffer zone forest management.

The achievements of the community forestry can be seen in terms of better forest condition, better social mobilization, and income generation for rural development and institutional building at grass root level. It has been recognized that community forestry has potential to contribute significantly to improve people's livelihoods as a means of poverty reduction (CFD, 2006 as cited by Kandel, 2006).

The potential area of CF in Nepal is 35, 61,600 hectares, which is 61percent of the total national forests (MPFS, 1989). 1, 29,272 ha of forest have been handed over to 14,337 CFUGs, benefitting 16, 47,717 HHs, which is about 25 percent of the total potential CF area of Nepal (CFD, 2007).

CF is contributing to livelihood promotion in many ways. These include fulfilling the basic needs of local communities, investing money in supporting income generation activities of the poor people, providing access to the forestland (Kanel and Niraula, 2004). Eight million cubic feet of timber, 335 million kg of firewood and 370 million kg of grasses produced from CF. These products are used to support subsistence livelihood needs of local people.

The CFUGs earned 383 million rupees from the sale of forest products outside the groups. Those earnings are used for different purposes like, 12.6 million rupees for pro-poor community forestry including loans to the poor families and training them in forest based IGAs, etc (Kandel and Niraula, 2004).

Poverty reduction is a major concern at global level and is explicitly spelled out in the Millennium Development Goals (MDGs) of the United Nations. The MDGs have also been reflected in the strategic imperatives of Nepal's Tenth plan. The objectives of the forestry sector policy in the Tenth Plan are conservation and sustainable use of forest resources, poverty reduction. Furthermore, Forestry policy emphasizes poverty reduction through participatory approach and providing income generation and employment opportunities (HMG/N, 2002).

The FSC of the MFSC has identified three themes that need to be improved: livelihoods, governance and sustainable forest management (Kanel, 2004). Sustainable forest management, livelihoods and good governance—all termed "second generation issues" – are the major issues that CF now addresses.

Governance has to be improved for two reasons: first, to make sure that the voice of the different groups of people particularly the poor and excluded are heard; second, to enhance the economic and social welfare of the people through the sustainable management of forest resources (Pokharel, 2001).

CF has potential to contribute significantly to improve people's livelihoods as a means of poverty reduction (HMG, 2002). Participation of women, poor and disadvantaged groups is ever improving, and the national data base maintained at the Community Forestry Division shows that women participation is 25 percent and there are about 800 CFUGs managed by women only committee members (CFD, 2010).

Timber, fuelwood, fodder, grasses, leaf-litter and many other NTFPs are the direct benefits for users. CFUGs are very heterogeneous in their make-up, and are reflected in FP use patterns (Malla, et al., 2003). Community forestry can play a significant role in reducing the rural poverty if the marginalized groups are treated equitably in terms of access to forest resources (Niraula, 2004).

Different economic classes have difference preference on forest products (FPs). Generally rich prefers more valuable forest products such as timber where as poor prefers subsistence and commercial forest products as they have limited source of income (Paudel, 2003). Regarding participation, mostly rich dominate the decision- making forum whereas poor are mostly involved in labor work in CF (Gauli, 2003; Uprety, 2005)

Although women's involvement in implementing community forestry is very high, their role in decision making is negligible (Maharjan, 2004). Tenth five year plan (2002-2007) also emphasizes CF for creating income generation opportunities for

the poor and focuses in the involvement of I/NGOs and CBOs in carrying out income generating activities for poverty reduction and rural development.

1.2 Statement of the Problem

Despite achievements and contribution that community forestry has made in Nepal, there are many unresolved issues and challenges in all areas of capital as well as governance. Although CFUGs have been successful in terms of their institutional capacity to get people organized and form capital at group level, the most critical in terms of livelihoods and the relatively weak generation of financial capital for the forest dependent poor and women. While trends towards resource degradation have been arrested and in many cases forest cover are reported to be improved, the livelihoods of the local forest dependent communities, particularly the poor and disadvantages, have hot improved as expected. In fact, the implementation of CF policy has inflicted added costs to the poor, such as reduced access to forest products and forced allocation of household resources for communal forest management with insecurity over the benefits (NUKCFP, 2000).

The unequal social structure in terms of class, caste, gender and regional disparity is reason for unequal access to decision making, opportunities, contribution, and sharing of benefits. Marginalized people in community forestry with their perception and actions have direct impacts on forest systems and their livelihoods. Marginalized groups in multi stakeholders setting have often been excluded and under- valued with the perception that they have less ability to make and act on decisions. As a result, such group access to resources has been reduced with consequent negative impacts on their livelihoods and on the condition of government forests in neighboring areas of community forests.

In recent years, the discourse in community forestry in Nepal has changed; sustainable livelihoods and social issues have been fitted into current policies, and

poverty reduction is an emerging issue in relation to forest policies. Ninth and Tenth Five Year Plan (1997-2002, 2002-2007) and Forestry Sector policy 2000 have been given importance to community forestry is a tool for poverty alleviation.

Although, the community forestry is successful programme in Nepal, there is still various emerging issues related to marginalized people in the community. In this context, it is necessary to have in depth economic analysis of total forest benefit. This study is envisaged to serve as an initiation of the actual economic analysis of the major forest products use.

1.3 Research Objectives

The generalobjective of this research is to explore the role of community forestry in the
user's household livelihood in terms of economic empowerment the **Specific objectives** of the study are;
- To know the preference of forest product by CF user's
- To analyze the economic contribution of CF for user's households

1.4 Rationale of the Study

Poverty is the shortage of minimum food and shelter necessary to maintain life. According to Lipton and Ravillion (1993), poverty is the lack of command over commodities needed for the fulfillment of basic needs. Thus poverty is the absolute deprivation in the space of commodities or resources. According to Rahman and Hossain (1995) cited in Paudel (2003) "poverty is not only the state of deprivation. It is equally importantly also a state of vulnerability, powerlessness, physical weakness, isolation and income poverty"

Community forestry can open up new livelihood opportunities for FUG members **(Adhikari, 2004).** The sustainable level of 'income' can be improved, with fewer concerns about gathered forest products and / or more secure livestock production. They may accrue as income to individual households or to the community as a whole, allowing them to invest in local public facilities such as water schemes, nurseries or schools.

The poverty in the third world's countries is endemic and Nepal is not also far from it. The HMG/N (2002) statistics shows that about 44% people are under poverty line. Forest is an integral part of the daily lives of the rural population of Nepal (Pokharel, 2001), Given is the fact, Master Plan for the Forestry Sectors (MPFS) 1989 has prioritized community forestry to meet the basic needs of rural people. Community forestry due to its role of supplying household's demands of various forest products is widely accepted as a means of livelihoods of the rural people in Nepal. Previously the Community forest OP was simply a protection plan (Baral 1993). Most of the CF is now in the stage of production of sufficient quantities of valuable forest products, ie. Timber, fuelwood and NTFPs.

Although CFUGs have been successful in terms of their institutional capacity to get people organized and form at the ground level, perhaps the most critical in terms livelihood and the relatively work generation of financial capital for the forest dependent poor and women (Pokharel, 2003). The outcome of this research is beneficial for making effective ways to overcome issues related livelihood.

Furthermore, this study is envisaged to serve as an initiation of the actual economic analysis of the major forest products use. The finding will be useful in developing new strategies/concept to involve the disadvantage users at the center of the community forestry programme.

1.5 Definitions of some key Terms/ Concepts

Community: Refers to a heterogeneous group of people who share residence in the same geographic area and access to set of local natural resources. The degree of social cohesion and differentiation, strength of common beliefs and institutions, cultural diversity and other factors vary widely within and among communities (MarianneSchmink, 1999).

Community Forest: Community Forests (CF) are national forests handed over to the local user groups for protection, management and utilization according to the Forest Act, 1993 and Forest Regulation 1995 (Kanel, 2006), According to the act, Community Forest Users Groups (CFUGs) have to be established and registered at the District Forest Office (DFO) before handing over of the forests and they are self- sustained institution.

Forest Products: For the purpose of this study, only tangible forest goods will be considered as forest products. This will include timber, fuel wood, fodder, bedding materials and NTFPs etc.

Low Economic Status Users: are those people who are landless or having small piece of land, less on farm activities, low income level, highly vulnerable, largely depend on community sources, agriculture output hardly meets food security for three months. Agriculture output meets food throughout year or more.

Mid- level Economic Status of User: Users having status in between high and low or some income, agriculture output meets food security for less than nine month a year.

High Economic Status Users: are those people who are landlord or having huge area of land, high income level, a

Non Timber Forest Products (NTFPs) :NTFPs include all goods of biological origin, as well as services derived from forest or any land under similar use, and exclude wood in all its forms. These include plants and plant materials used for food, fuel, storage and fodder, medicine, cottage and wrapping materials, biochemical, as well as animals, birds, reptiles and fishes, for food and feather (FAO, 1992 cited on Odebode, 2005). In this study, NTFPs include all the plant products of biological origin other than timber, fuelwood, leaflitter and fodder.

Economic Benefits: Economic benefits is the benefit both direst (cash and subsistence) as well as the indirect tangible benefit from the indirect sources like income generation activities.

Livelihood: According to Frank (2000) defined the livelihood comprises assets (natural, physical, human, financial and social capital), the activities and access to these (mediated by institution and social relation) that together determine the living gained by individual or household. In this research, only financial capital will be study according to the nature and context of research.

Enterprise Oriented CommunityForest:Enterprise oriented community forest is this study is CF which is not only using its forest products as subsistence use rather getting cash by commercializing its products. Further, it can be more explained as CF selling its products in raw or semi or fully processed form establishing enterprise. Expanding the property rights of local communities over resources and empowering them with knowledge, information, technologies, and required skills for forest management and institution building are basic building blocks for the enterprise oriented community forest (Subedi, et al., 2004).

Service Providers: According to Paudel (2007) service provider are the DFO, local NGO, and FECOFUN who provide service to the CFUG. For this study, service providers are those working in this area for direct financial support or any

technical and other institutional support. They might be government or non-government organization. They are for the welfare of the local people.

Attitude: Kretch (1962), indicate that the social action of the individual reflect his attitude, which are the enduring systems of positive or negative evaluations, emotional feelings and action tendencies with respect to social objects.

Poverty: The World Bank reports goes beyond the view of income levels in its definition of poverty, suggesting that poverty includes powerlessness, voicelessness, vulnerability and fear(Haarris, 2004).

1.6 Limitation of the Research

) The study was focused on directly consumable forest products of two Community Forest. Indirect or environmental contributions of CF were not taken into consideration.

) The study was limited to only two CFUGs that may not represent the situation of allCFUGs

) Data on income and expenditure of the household may deviate somewhat from the exact figure as the data/information for the year round activities is collected once in the year and the respondents might not have all the figures in details

) The study was limited for the partial fulfillment of the requirement for the MA degree. Therefore detail of research is not possible due to constraints in time and available resource

1.7 Organisation of Thesis

This thesis compromises the following six chapters- Introduction, Literature review, Research methodology, Profile of study area and socio-economic profile of respondents, Summary, conclusions and recommendations. The *first chapter* introduces a general background on CF, forest product use, followed by the problem statement and justification which highlights the understanding of present context of the participation of the users in the management and economic activities. *Chapter two* includes literatures review relating to development of CF, participation in community forestry activities, role of CF for poverty minimization, income generation and employment creation, benefit from CF. *Chapter three* consists of the approaches applied in this research and a flow chart is included to explain briefly the overall research design from proposal preparation to thesis development. It contains description of study area, criteria for selecting study site, techniques for data collection in field and their presenting and analysis. *Chapter four* presents the profile of study area and profile of socio-economic status of respondents tried to present different types of social units. *Chapter five* discusses the user's preference of forest products and economic contribution of CF for user's household income. *Chapter six* summarizes the main empirical and theoretical findings, which help to draw the conclusions and suggested some recommendations to the CFUGs and other relevant stakeholders. Finally, the literature cited during the research period, the schedules used for this research were attached in the annexes at the end of this thesis.

CHAPTER 2: LITERATURE REVIEW

2.1 Conceptual Overview of Community Forest

Community Forest (CF) is not new in Nepalese forestry. It is a process of developing awareness, knowledge and responsibility for forestry among social units, who have an existing potential benefit from the presence of forest and trees in their neighborhood. Gillmour and Fisher (1991) define community forestry in terms of control and management of forest resources by the rural people who use them especially for domestic purposes and as an integral part of their farming system.

The way community forestry approach used to be defined and interpreted in Nepal up until late 70s, suggests that community forestry implies 'community-resource' relations, commonly known as 'indigenous system of forest management" which was widespread in Nepal's hills. During 80s and beginning of 90s, nevertheless community forestry was further conceptualized and internalized, new policy framework was crafted, legal instruments have been in place, various processes, methods and tools have been developed, modified, re-modified and experience gained. During this period, community forestry was understood and recognized as government's priority program, for which the role of forest bureaucracy in the hills changed from policing to facilitating leading to the evolution of community-resource relations towards a triangular interface among community, resource and government bureaucracy (Fisher, 1989).

In the late 90s, with the changing political and policy context, community forestry is being understood and conceptualized in terms of stakeholders relationship because there has not only been increasing trend of CFUGs, tremendous number and types of stakeholders and service providing agencies and organizations, with

diverse interests and influence have emerged and grown. The pattern of interactions among agencies with CFUGs and government organizations in fact influence each other action, their own governance system, gender equality issues and ultimately to the way how resource is managed and utilized, how the management plans, strategies and programs are designed and implemented, how negotiation takes place and conflicts are resolved for effective forest management in order to achieve the desired outcomes at people's livelihoods and resource condition level. This is the context within which community forestry in Nepal is growing and always progressing. It is not like as it was in the past and it will not be in the future as it is now, therefore community forestry should be defined, redefined and understood in a dynamic way (Pokharel, 2003).

Most of the rural people are poor and their incomes in several occasions are insufficient to fulfill their basic needs **(HMG/N 2003).** The infrastructure, education, and health facilities are far less than requirements. They do not have off farm working opportunities. Hence, the problems of under and unemployment are severe there. They are really striving for their survival and minimum livelihoods opportunities. In this aspect, the community forestry and its contribution towards rural livelihood is expected to be high since most of the forests lies in the rural areas of the country. The role of local people and the value of their management systems have been appreciated for their sustainable use and protection of the forests that they depend on as common property. Eventually, while the role of the state is reduced to only that of a regulatory authority, the communities take total management control (Hobley, 1996).

2.2 Theoretical Overview of Community Forest

The present form of Nepal's community forestry is guided by the Forest Act of 1993, Forest Regulation of 1995, and the Operational Guidelines of 1995. These legal instruments have legitimized the concept of CFUG as an independent,

autonomous and self- governing institution responsible to protect, manage and use any patch of national forest with a defined forest boundary and user group members. CFUGs are to be formed democratically and registered at the DFO,with CFUG Constitution, which defines the rights of the users to a particular forest. Community forestry is based on the operational co-operation of Forest Department officers and forest user groups. Moreover, the devolution of the power and authority to manage forest areas between the actors is linked to the idea of sharing the responsibility of forest protection. Therefore, in order to ensure the feasibility of resource management, it is necessary to emphasis co-operation between the forester and those who use forest, especially for domestic purpose as an integral part of farming system (Pokharel, 2003)

Community forestry has become more common forest management practice in Nepal. It has been in a practice as a result of the failure of managing forests without people's participation. The participation of local people has increased both the density and diversity of forests has increased. Gilmour and Fisher (1991) define community forestry in terms of control and management of forest resources by the rural people who use them especially or domestic purposes and as an integral part of their farming system. Since community forestry constitute both social and biophysical elements, they both are equally important. The 'resource' can be managed effectively with a clear understanding of forest management principles and knowledge of natural system and social part can be dealt with a clear understanding of a society and their relationship with the resource and institution related on it.The participatory forest management provides the ground for its economic and institutional development. There are very less financial supports and fiscal budget allocated by the government. With the limited supports and budget, the rural areas can hardly fulfill its desires of development and poverty reduction. For this reason, they should rely more on the resources what

they have. In these contexts, the natural resource, like forest can be potential resources to turn on their development fate.

As of March 2006, there was 14,258 CFUGs established across the country. They manage 1.187 million ha of forests involving1, 640,239 households. Similarly, in leasehold forests 2,524 groups are managing 11,109 ha of forests and 18,496 households are involved. Likewise, 57 buffer zone community forests are managing 15,925 ha of forests (CFD, 2006 cited by Kandel, 2006).

2.3 Review of Previous Study

The Poverty Reduction Strategy Paper (Tenth Plan) 2002-2007 has aimed to reduce the level of poverty in Nepal at 30% by the end of the plan. In the forestry sector, the Plan has focusing on CF and Leasehold Forestry to address poverty reduction. It envisages CF as a means for poverty reduction, fulfilling basic needs of people and conserving ecosystems and genetic resources

The 4th National Workshop on community forestry (2004) recommended to allocate at least 25% of CFUG fund for pro-poor activities, legal provision for allocating community forest land to the poor, capacity building program for the poor and disadvantaged, develop effective forest land use planning which addresses land allocation to the poor under CF and leasehold forestry, social mobilization to sensitize the elites and others about pro-poor issues, plan livelihood improvement programs based on wealth ranking of CFUG members and promote pro-poor research and training (DoF, 2004).

There are an estimated 5 million very poor in Nepal's Terai. At least 16% of these are CFUG members. Therefore the living conditions of just fewer than 1 million of Nepal's poorest could be significantly improved through the mobilisation of the forest resources in their benefit [Bampton&Cammaert, 2006]

Most rural people in Nepal depend on traditional agriculture and livestock for their livelihoods (HMG 1989) and the forest is a major component that plays a vital role in rural livelihoods by providing income, construction materials, and animal feed(Gilmour et al. 2005). Having an agro-based economy, Nepal has to develop and manage the existing forest resources to achieve the national goal of poverty reduction (HMG 2002).

Malla (2001:37-45) found that poor are able to get loan (without interest) for the income generation activities. Several women groups on agriculture, income generation, saving, non-formal education and kitchen gardening are formed and working properly in addition to women CFUG. Training and extension programs organized through CF has potential to increase the skill and knowledge of users and thus helps to select, design, and implement appropriate livelihoods strategy for them (LFP 2003:6-18).It is expected that mobilization of local people in whole process of planning, implementation and benefit sharing ensures lower unit costs, better quality work, greater transparency in fund utilization, and long-term sustainability (Kanel and Niraula 2004:19-26).

As per Adhikari (2004), the study carried out in eight forest user groups in Kavrepalanchowk and Sindhupalchowk districts, household use CF for a variety of purposes. Benefits from forest products include firewood, tree fodder, cut grass, leaf-litter, medicinal herbs and timber. To determine if there are differential benefits to diverse socio-economic groups, Adhikari calculated the value of forest products to different economic groups. He used numerous valuation techniques such as estimate the cash value of forest products. Richards et. al; (2003) carried out gross margin analysis of CF in the Koshi hills of Nepal.

Bhattarai and Ojha (2000) stated in their study that the practices of forest management, poor users are not actually benefitting when all opportunity costs are

accounted for the assessment of cost and benefit. Rather, community forestry may be imposing extra costs due to increased transaction costs of participating in meeting and assemblies and costs of collecting products. Malla (2001) conducted an empirical study in four CFUGs in Koshi hills to find out the causes behind inequity. Whereas, Khanal (2001) concluded from his study that the poor people are getting more benefits from CF programme compared to the rich.

Forest based income is a major contribution to the livelihoods of rural people. CFUGs are operating the forest based micro enterprises. Income generation (IG) from forest products like timber, bamboo, medicinal plant, forest nursery, Non Timber Forest Products (NTFPs) is started. Potentiality of broom grass, cardamom, turmericand ginger in forests as a means of IG are explored, incorporated in operational plans and started to implement by some CFUGs (Upreti 2000). The strong debate on potential contribution of CFs on poverty reduction among the actors is started. CF approach is not only creating employment opportunities for local people but also greatly contributing to sensitize uses on the economic dimensions of forests to reduce poverty.

According to Kanel and Kandel(2004) conflict arises in determining the criteria of benefits sharing from CFs. Some argue that the criteria should be made based on family size and some say on the basis of household (Shrestha, 1995). Benefit sharing criteria are not well defined in the OP of many CFUGs. The heterogeneity of households within CFUGs is rarely if ever reflected in the way of CFUGs manage their community forest resources and distribute forest products.

Forests provide many different economic benefits, both tangible and non-tangible. Richards et. al; (2003) grouped the benefits into direct and indirect uses, option and non- use values. Use values arise from using the resource in some way, while non-use values do not depend on using the forest. Benefits received directly by

forest users and other stakeholder groups are direct use values and it is divided into extractive uses and non-extractive uses. In more common terms, the CF value of Nepal comprises the direct use value of forest products, the watershed function of the forest including soil and water conservation, eco- tourism, bio- diversity and carbon- storage (Niraula, 2004).

Table: 2.3.1 Revenue Collected from Forest Products by CFUGs in 2003

(1 € = 85.17 NRs. as per 24 Sep, 2003)

Forest Products	Quantity	Revenue (NRs.)		Percentage
		User Price	Market price	
Timber	10,938,622 Cft	643,388,315	1,270,739,677	69.3
Fuelwood	337,971,038 Kg	39,972,955	337,971,038	18.4
Grass, Fodder, Bedding Materials	370,644,865 Kg	14,226,944	185,322,433	10.1
Acacia catechu	3,130,982 Kg	37,040,774	31,309,818	1.7
Medicinal & Herbal Products	94,477 Kg	1,529,197	1,529,197	0.1
Pine Resin	1,347,791 Kg	7,303,183	4,043,373	0.2
Other Forest Products	372,882Kg	3,881,586	3,881,586	0.2
Grand total		**747,342,954**	**1,834,797,122**	**100**

Department of Forest has estimated that CFs has earned about NRs. 747 million (at user price) and NRs.1.8 billion (at market price) from different sources **(Kanel KR, 2004).**

According to Pokharelet. al (2006) mentioned CFUG as vehicle for rural development due to it manage their finances and give loan to villagers, it support their members for income generation activities such as vegetative farming, livestock, horticulture, fishery and bee keeping. In addition, it contributes canals, drinking water schemes, community buildings, wooden bridges etc. Moreover

CFUGs invest in scholarships for poor children, teacher's salary, school buildings and furniture and established forest based enterprises.

Currently 20% of Terai forests outside of protected areas are handed over, but the remaining 80%, if and when handed over, would affect many more poor people. Therefore promoting pro-poor forest management models in the Terai as soon as possible would provide a model which could be spread to reach many more poor people in the Terai.

Several studies have illustrate that CFUGs have been established as a grass root level institution for managing forest resources in order to improve livelihoods of forest users of Nepal (Malla, 2001; Acharya, 2002; Adhikari et. al; 2004). However, many believe that community forest management is protection- oriented where the main forest management activities are limited to the removal of dead and dying trees, and leaflitters. As a consequence, the users are getting sub-optimal benefits (Gilmour and Fisher, 1991; Chhetri and Pandey, 1992; Karki et.al; 1994; Branney, 1996; Shrestha et. al. 2001).

As noted above, concept of community forestry has become change as protection to commercialization stage at present. This study can provide the new information of the study area that can used to understand the status of CF contribution to the users. This study is mainly focused on user's preference of FP and CF contribution for rural livelihoods in terms of economy

2.4 Conceptual Framework of the Study
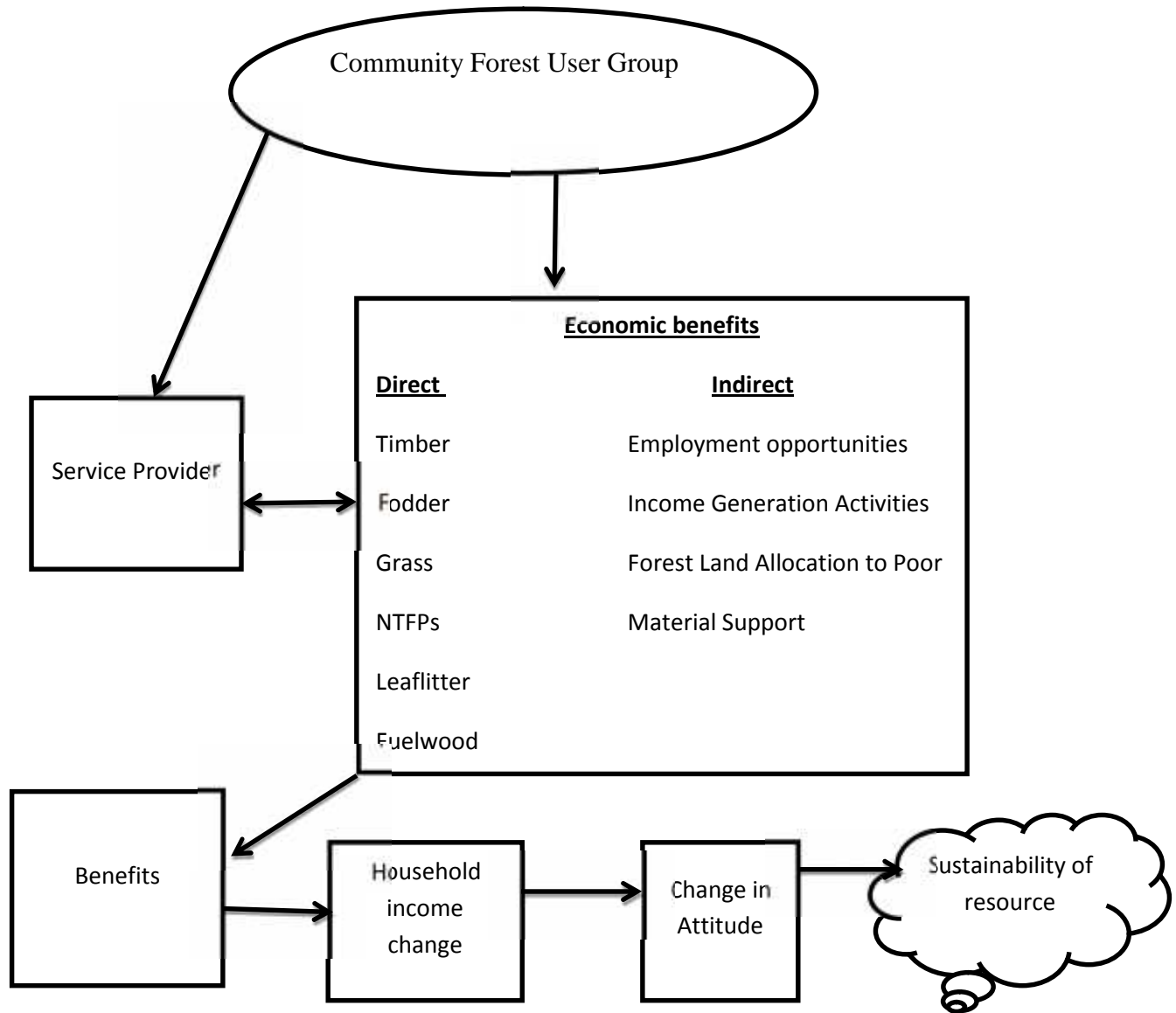

Fig- 2.4 Conceptual framework of the study

Forest products (FPs) can bring changes in economic condition of forest user group members. With intervention of service providers economic benefit will help to change the household income level of the users. Economic benefits of users help to increase positive attitude towards resources which is crucial for sustainability of resources.

CHAPTER 3: RESEARCHMETHODS

3.1 Rationale of the Study Area

Two community forests of Banke district was selected for this research on the basis of secondary data of District Forest Office, Banke in which Income Generation Activities (IGA) is being implemented. The study areas, Gijara Community Forest of Udharapur VDC- 2, and Babukuwa Community Forest of Kamdi VDC- 6,9 and Ward no 1, 2 of Basudevpur VDC of Bankewere selected purposively for having a running IGA.
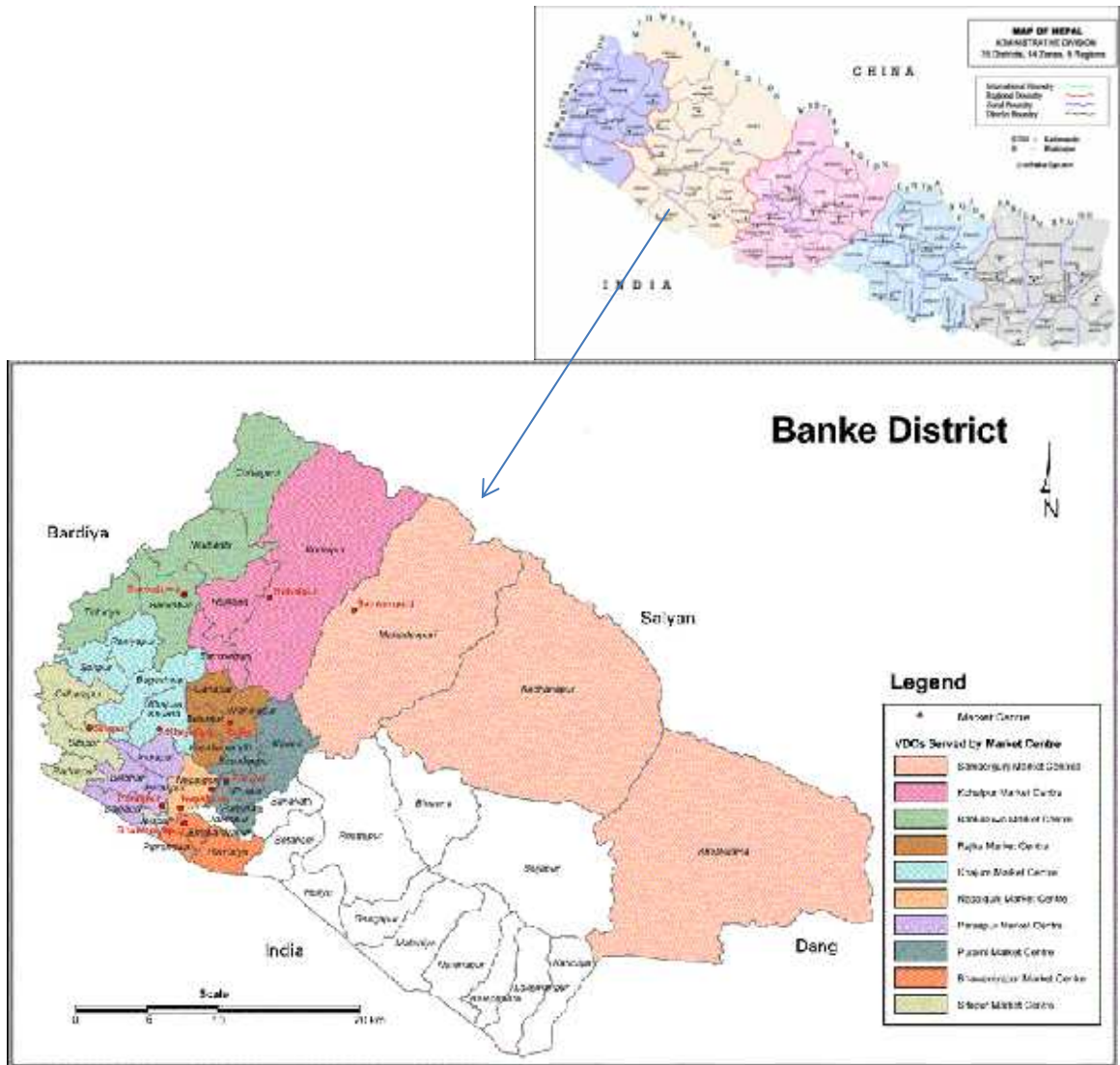
Fig- 3.1 Maps of study area(not in scale)

3.2 Research Design

The research began with problem identification to thesis production after series of several discussions with stakeholders. Data are collected using techniques of sampling after feedback from expert consultation. After the completion of field work, compilation of information, tabulation, processing and presentation of information were carried as a part of data analysis. Reporting the results and subsequent discussions led to conclusions and recommendations.

Fig- 3.2 Overall research design

3.3 Nature and Sources of Information

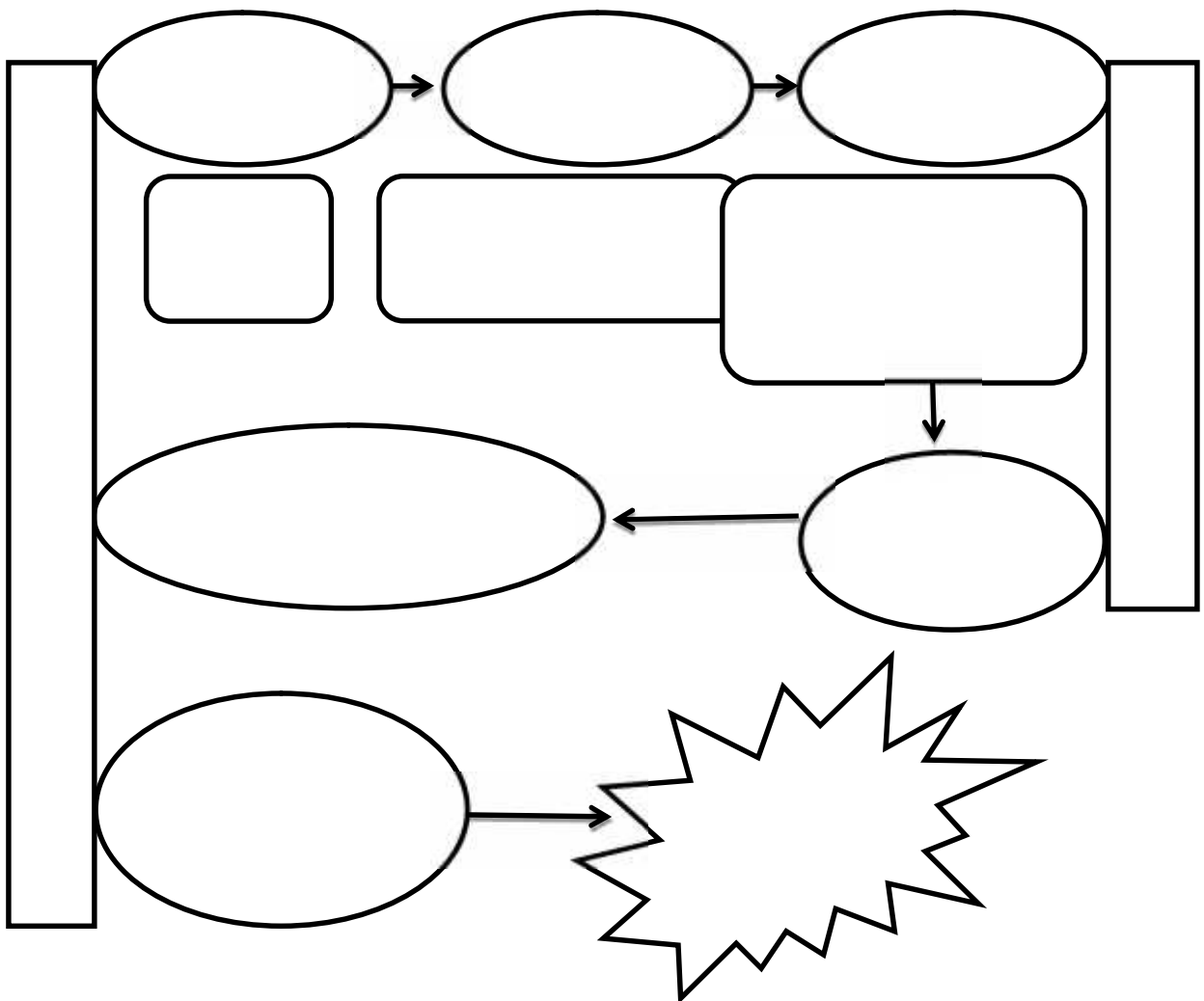The research includes both qualitative and quantitative types of information.

Primary Information

Household survey was carried out to collect primary information from the users' household using interview schedule. The interview schedule was with questions to gather information on household characteristics of respondents, income of household from various sources, costs/inputs of household in various activities, quantity of major forest products consumed and sold in the market, distance of forest from the house, wage rate, rate of forest products and agriculture products, participation in CF activities, etc.

Data for the preference analysis were collected from the household survey. The main focus of this study is to determine the most preferred forest product by different users. Each household was asked to rank the selected five forest products on the basis of their economic value and daily use.

Secondary Information

Relevant and necessary secondary information and records for this research study were collected from different published and unpublished literatures from different sources. The major sources include:

- Office records, reports and other documents of DFO Banke and other related programme
- Office records, Operational Plans, Minute register and Reports of the CFUGs.
- Other published and unpublished literatures.
- Websites

3.4 Sampling Universe and Sampling Unit

The sampling unit is an individual household of the CFUG and individual representative of related stakeholders. Purposive selection of community forest user groups was done taking support from District Forest Office (DFO) staff members and other related organizations such as CARE Nepal, Federation of Community Forestry Users Nepal (FECOFUN) , USAID/EIG working in that area.

Two community forests were selected based on the following criteria;

-) CFUGs handed over at least before 5 years.
-) CFUGs having more than 50 households.
-) CFUGs having socio- economic conditions
-) CFUGs representing the average management performance as per the evaluation of District Forest Office

Based on the records of the selected CFUGs, a sampling frame was made incorporating all households within the selected CFUGs. The study universe comprises users of two community forests and sampling unit is an individual household of the forest.The total sampling universe was 624 HHs (276 from Gijara CFUG and 348 from Babukuwa CFUG). About 12.3% (77) sample unit (including key informants were selected purposively due to heterogeneity nature of sample. One respondent from each sampled household was selected and interviewed in detail. Thus, the unit of analysis adopted for this research is the household.

3.5 Data Collection Techniques

Primary and secondary data were collected by using different tools and techniques of data collection.

3.5.1 Interview

Two set of interview schedule with relevant questions to collect the required information was developed for the study. One set of schedule was for CFUG members & key informants; and other set for household survey. Schedule for the CFUG and key informants was designed to get the general information of the CFUG, source and investment areas of CFUG fund, status of the inclusion and benefit sharing, price of forest products & agriculture products, etc . Likewise, schedule for the household survey was to explore information on quantities of forest products collected and used by the users, input of the users on CF activities and other income generating activities, income from different sources, etc. The interviews were carried out with 8 key informants from the Gijara CFUG and 7 from BabukuwaCFUG. The reason of the interview was also to determine the management plan and reason for the gap in the implementation. Similarly, users' respondents, 35 from Babukuwa and 27 from Gijara were interviewed.

Data for the preference analysis were collected from the household survey. The main focus of this study is to determine the most preferred forest product by different users. Each household was asked to rank the selected five forest products on the basis of their economic value and daily use.

3.5.2 Observation

Direct field observation method was used for the collection of exact status of Community Forest.

3.5.3Group Discussion with key Informants

Group discussion was applied with different key informants; teachers, elder person, local leaders and social workers to get the overall general information on CFUG and check the information collected with other respondents. Checklist for group discussion was used as a guideline for discussion.

3.6 Data Presentation and Analysis

The data was logically presented with simple tables, charts, percentage and diagram. Qualitative data was analyzed in descriptive way.

CHAPTER 4 STUDY AREA, SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

4.1 Profile of Study Area

Banke district lies in Bheri zone of Mid- Western Development Region of Nepal. Administratively, the district is bounded by Dang and Bharich India on the east, Bardiya on the west, Salyan Dang and Bardiya on the north and Baharich on the south. Out of the total ares of district is 2, 25,836 ha. 1, 13,295 (50.17%) is covered by forest. The national forests are handed over to community which comprises about 35301.92 ha. (DFO, Banke 2068).

Settlement and Agriculture land : 92,068 ha

Others : 20,473 ha

Average rainfall (max) : 1510 mm

Average rainfall (min) : 713 mm

Relative humidity : 27 to 94%

Average temperature (max) : 46^0c

Average temperature (min) : 5.4^0c

Altitude (high) : 1129 m

Altitude (low) : 127.5m

Literacy rate (female) : 49.8%

Literacy rate (male) : 66.06%

Population : 83.3% (based on Agriculture and Livestock)

Municipality : 01

VDC : 46

Ilaka Ban Office : 03

Registered CF : 155

Major river and lake   : Rapti, Mankhola, Dudwa, Rohini, Jhijhiri, Khairi, Jethinala, Ranitalau, Baghoudatal, Purainapurainital

Market center   : Nepalgunj, Kohalpur, Khajura

Religious place   : Bageshwori temple

Vegetation   : Sal, Asna, Karma, Siris, Panan, Botdhangero, Khayar, Sisau, Simal, Harro, Barro, Amala, Bel, Jamun, Sindure, Babiyo, Tendu, Sikakai, Kurilo Eucalyptus etc.

Wildlife   : Bagh, Chituwa, Harin, Syal, Bandar, Mayur, Koili, Dhukur, Kalij, Python, Cobra, Karait etc.

4.1.1 Gijara Community Forest User Group

The Gijara Community Forest is first handed over forest located in western part of Banke district. It is surrounded by cultivated land and Jethinala in east, Mankhola in west, cultivated land and mankhola in northern site and Mankhola in the south. With an area of 133.85ha during handover but now it is only119.94 hac. Its users include all the households from Udharapur VDC. There are 276 HHs with a total population of 1658 with female 845 (50.97%). This community forest was handed over on 2052/04/29. The main occupation of the users is subsistence agriculture; the CFUG has an executive committee of 9 men and 6 women which consists of 1 Dalit, 9 Janajati and 5 others.

Based on boundary, the forest is divided into 5 blocks. Riverine dense mix broadleaved forest types consisted of Jamun (*Syziziumcumini*), Khayar(*Acacia catechu*), Karma (*Adina cardifilia*), Simal (*Bombaxceiba*), Kutmiro (*Litseamonopetala*). Plantation forest of Sisau (*Salbergiasissoo*) is major species of this forest. Besides the tree species the major NTFPs are Barro, Sikakai, Pipla, Kurilo, Setomusli, Bans, Bet, Khar etc. Similarly, wildlife consists of Nilgai, Bhedebagh, Bandar, Kharayo, Koili, Maina, Titra, Dumsi, Malsapro, Chakhewa, Ghadiyal, Jackle, Mayur and different types of snakes.
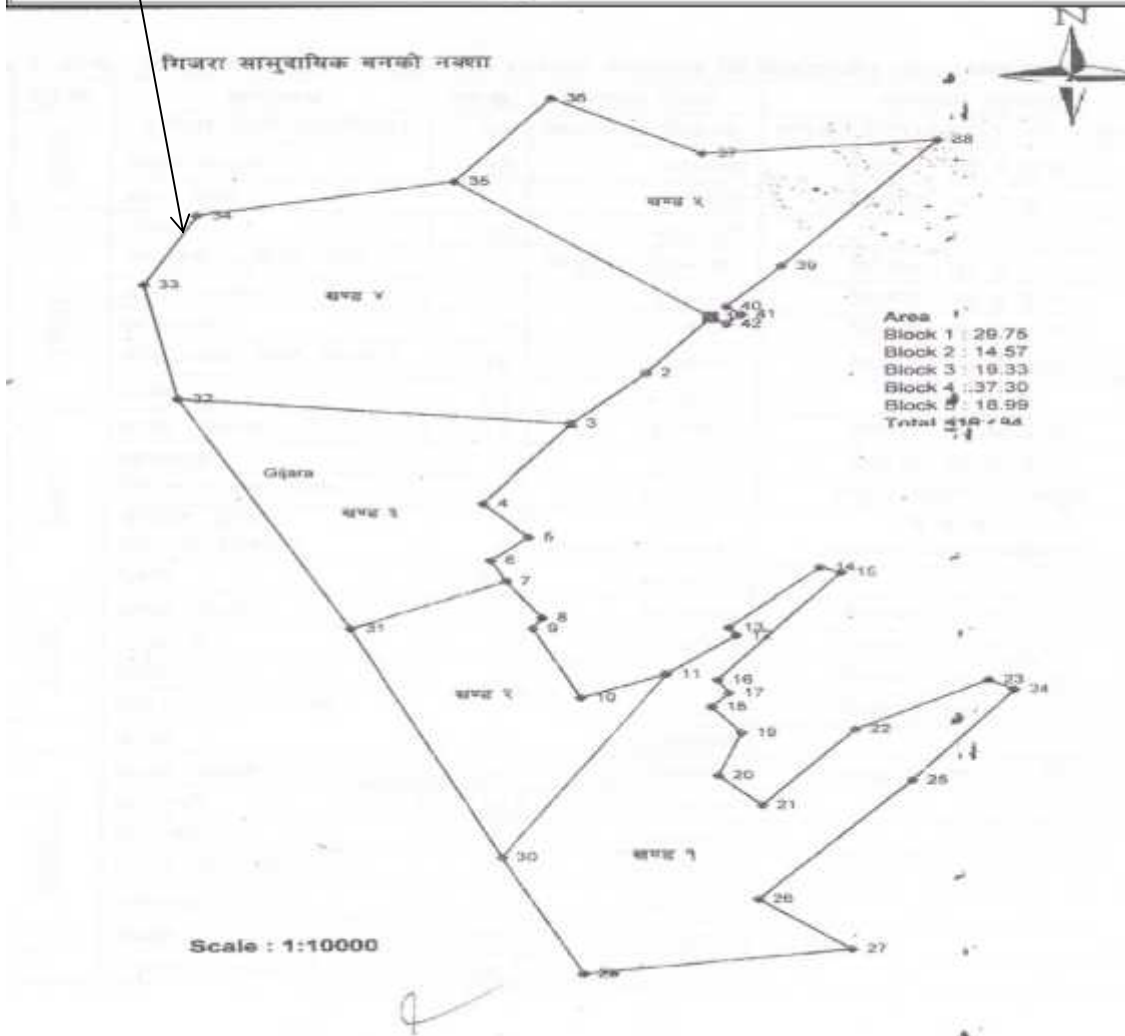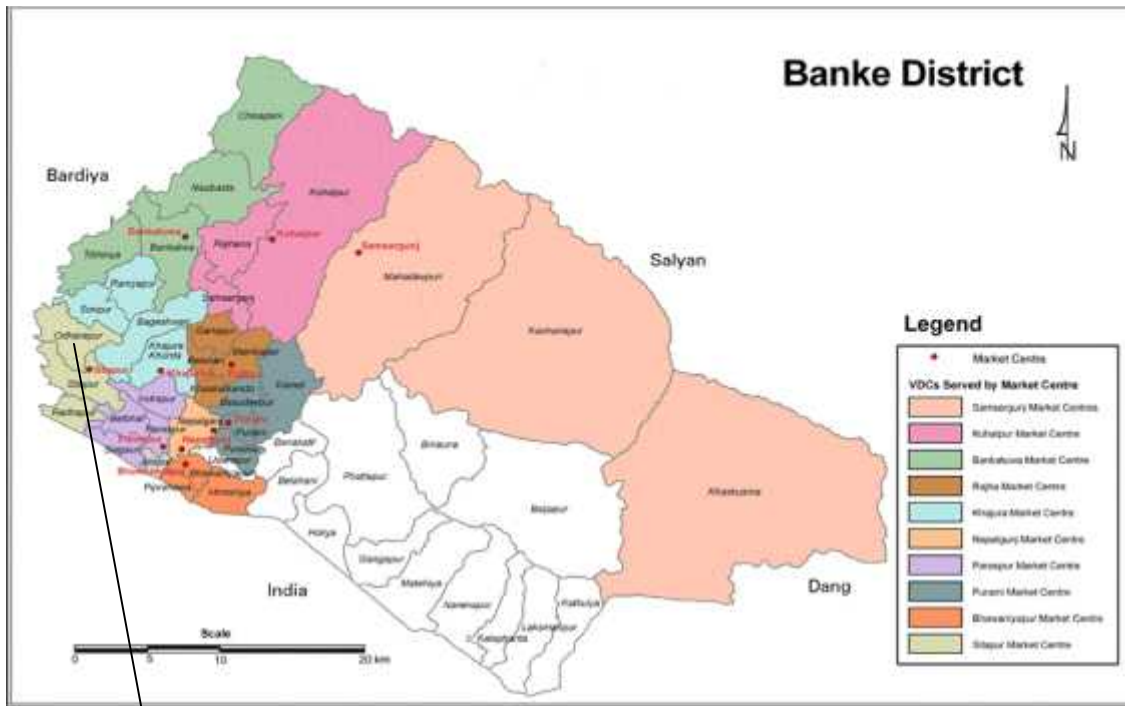
Fig- 4.1.1 Maps of Gijara CFUG

4.1.2 Babukuwa Community Forest User Group

The Babukuwa forest is located at about 12 km east of Nepalgunj(District head quarter of Banke). It users include HHs of Kamdi VDC- 6 and 9 and few from Basudevpur VDC- 1 and 2. There are 348 HHs with a total population of 1973 with 968(49.06%) female and 1005 male (50.94%)Major dominance of caste is Bhraman and Chhetri 1071 (54.28%) followed by Janajati629 (31.88%). The main occupations are agriculture and wages works. The forest was handed over to users on 2055/07/27 B.S. The total area of this CFUG is 199.6 hac. According to its constitution, the CFUG has an executive committee of 6 men and 5 women with 2 dalit representation.

From the management point of view, the total forest boundary is divided into 6 blocks. Sal dominated natural regeneration type of forest is consist of Asna(***Terminaliatomentosa***), Karma (***Adina carifolia***), Khayar (***Acacia catechu***), Bel (***Aeglemarmalos***), Mahuwa (***Madhucaindica***), Barro (***Terminaliachebula***), Jamun (***Syziziumcumini***). The major NTFPs are Barro, Setomusli, bel, Mahuwa, Kurilo, Sikakai, Pipla, Tendu and Kalomusli. Simalarlywildlifes are Tiger, Nilgai, Bhedebagh, Bandar, Kharayo, Koili, Maina, Titra, Dumsi, Malsapro, Chakhewa, Ghadiyal, Jackle, Mayur and different types of snakes

Banke District

Bardiya

Salyan

India

Dang

Legend

* Market Centre

VDOs Served by Market Centre

Scale
0   5   10   20 km

Babukuwa CF Kamdi 9

Block 1=36.2ha
Block2=36.5ha
Block3=40 ha
Block4=28 ha
Block5=36.3ha
Block6=22.6ha

Scale 1:200m
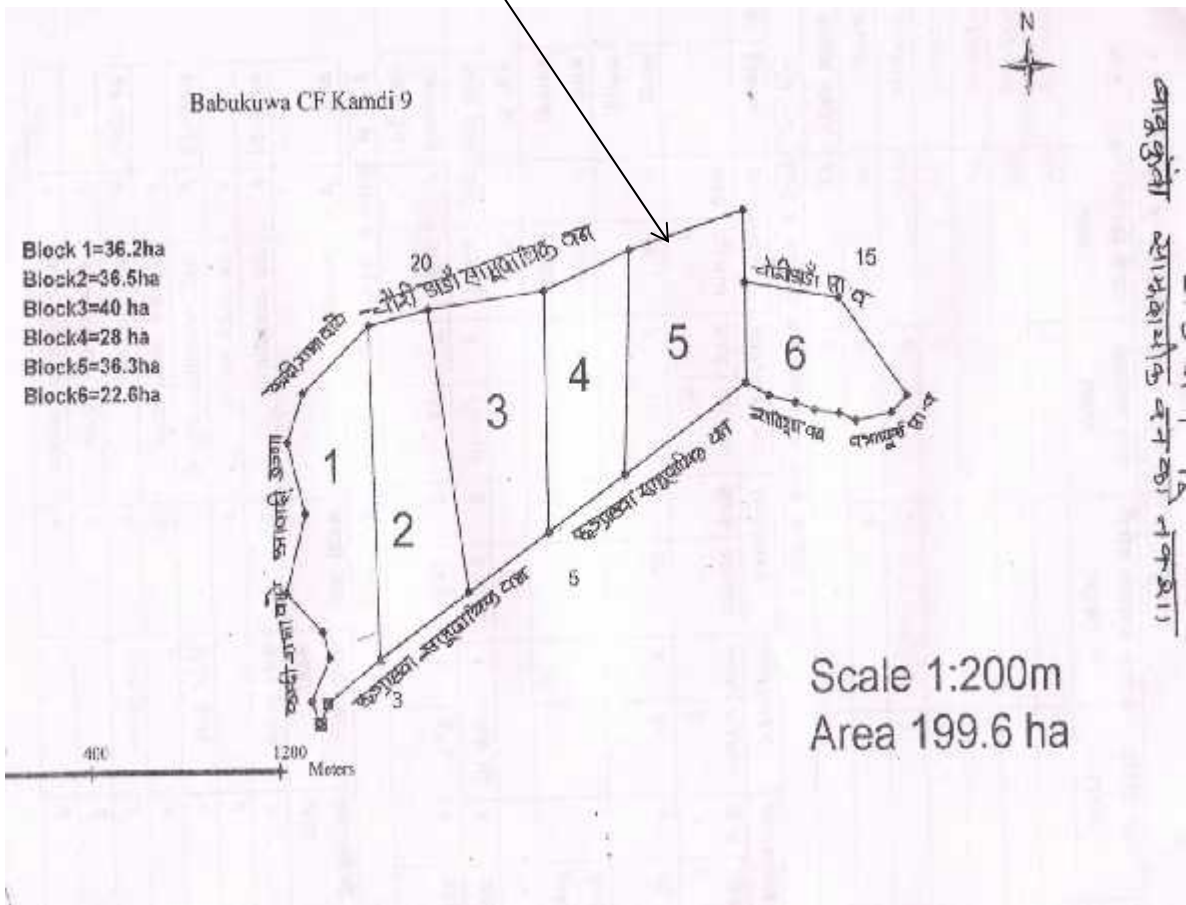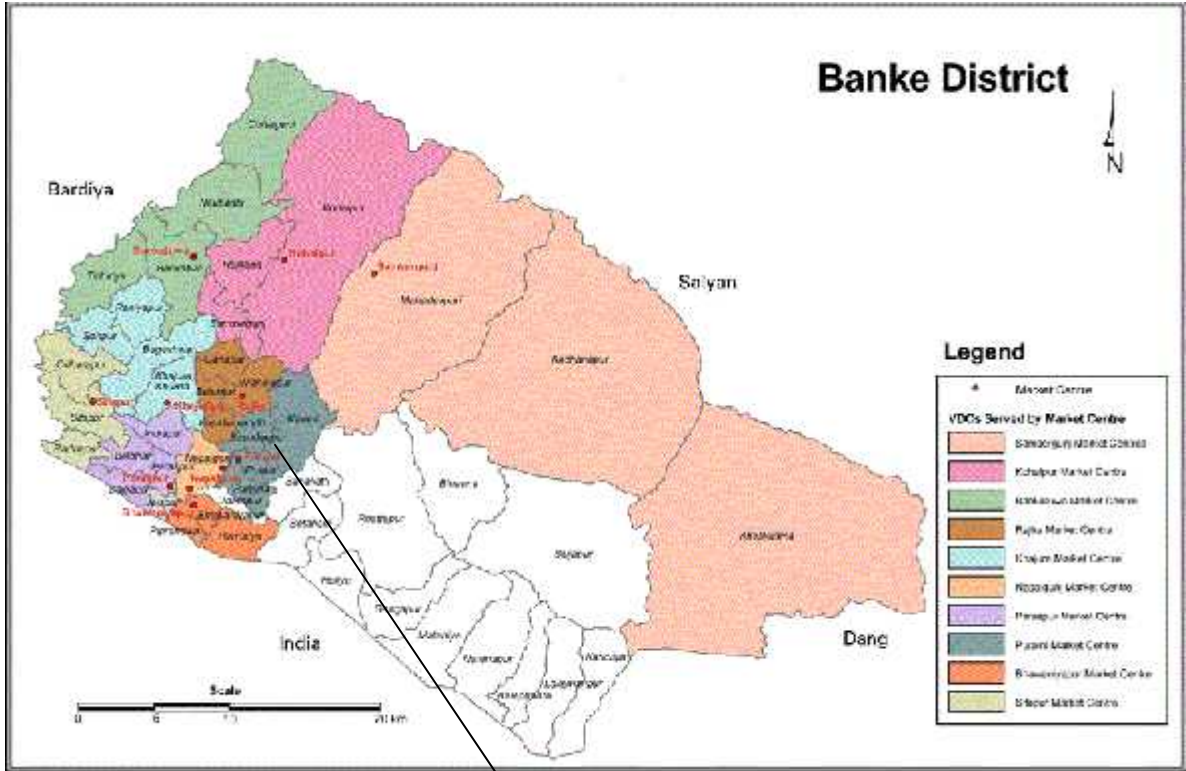Area 199.6 ha

400   1200 Meters

Fig- 4.1.2Map of Babukuwa CFUG(not in scale)
4.2 Profile of Socio- economic Status

This is an applied and evaluative type of research. It addresses the evaluation of economic contribution of major forest products on the livelihood of community members and also attempts to explore the direct and indirect (tangible) use value of the forest products. Furthermore both the descriptive and explanatory approaches are used. The descriptive approach describes social phenomena focusing on 'how' and 'who' questions whereas the explanatory approach explains why questions. This mix-up of two different approaches provides a detailed picture of the existing socio-economic condition of the community members.

Table- 4.2 Socio- economic data of respondents

Respondents	Gender		Head HH		Family type		Occupation		Caste		
	M	F	M	F	Joint	Nuclear	Off farm	On farm	Higher	Ethnic	Lower
Gijara CFUG	26	9	30	5	22	13	4	31	5	16	14
Babukuwa CFUG	28	14	33	9	17	25	3	39	16	17	9
Total	54	23	63	14	39	38	7	70	21	33	23

Respondents	Religion				Education status			Land holding			
	Hi	Mu	Bu	Oth	Illit	Scho	Higher	Owned	Landless	Rent in	Rent to
Gijara CFUG	20	8	5	2	14	16	5	21	3	8	3
Babukuwa CFUG	23	12	4	3	17	19	6	17	5	16	4
Total	43	20	9	5	31	35	11	38	8	24	7

Source: Field survey (2014)

Note: M= Male,   F= Female

Hi= Hindu,   Mu= Muslim , Bu= Buddhist ,   Oth= Others

Illt= Illiterate, Scho= Upto school

Household head   = Main or overall responsible person of a household

Joint family	= including grandfather/mother, uncle/aunty their children, more than two generation of blood relationship different generation with nuclear family
Nuclear family	= Family including husband, wife and their children
Off farm occupation	= indicates salary based job and wage
On farm occupation	= Agriculture, livestock and farm related works
Higher caste	= Indicates Brahamin and Kshetri
Ethnic caste	=Jananati refers to ethnic caste
Lower caste	=Socially untouchable caste
Other religion	= Religions other than Hindu, Muslim and Buddhist
Illiterate	= Unable to read and write
Schooling	=Upto below school leaving certificates
Higher education	= Above SLC
Owned land	= Having land and cultivated oneself
Landless	= No any piece of his/her own land
Rent on land	= No own land but rent from others
Rent to land	= Having land but rent to other

4.2.1 Sex Composition of Respondents

Sex composition is a ratio of male and female respondents is one of the major components in sociological study.
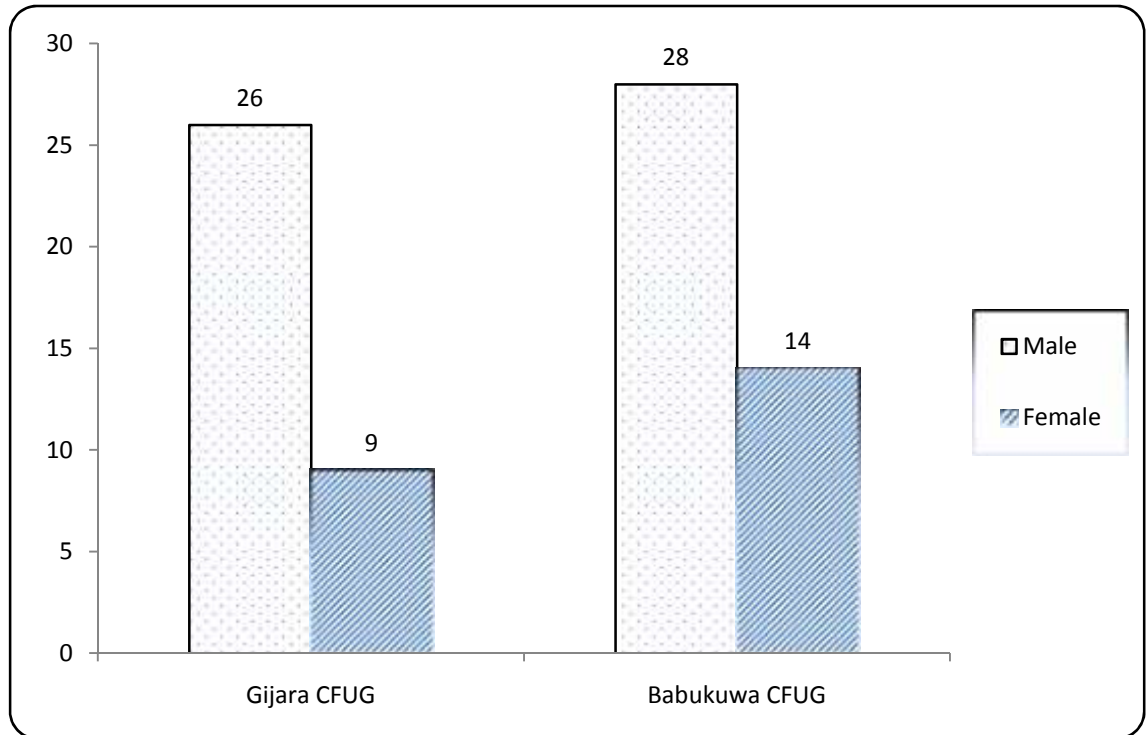
Fig- 4.2.1 Sex composition of respondents (n=35 Gijara and n=42 Babukuwa)
 Source: Field data, 2014

The total sample (n= 77   ), approximately 29.87 % (23) are female and 70.13 % (54) are male. In Gijara CFUG, male and female respondent are 26 (74.29%) and 9 (25.71%) respectively, whereas in Babukuwa CFUG, the proportion of female respondents is slightly higher that of male respondents ie. 14 (33.33%) and 28 (66.67%) respectively.

4.2.2 Household Head of Respondents

Household head is another visible scenario of the CF. It indicates the gender based **r**ole and responsibility in household activities.
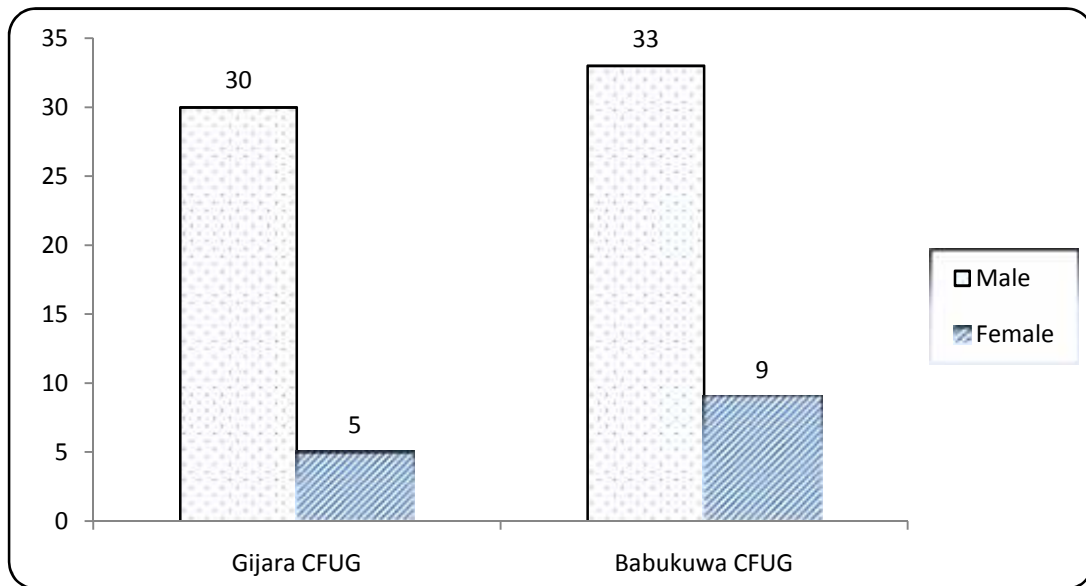
Fig- 4.2.2 Household head of respondents

In Gijara CFUG out of 35 respondents, only 5 households were headed by female whereas in Babukuwa CFUG 9 were female in 42. It indicates 14.28% female in Gijara and 21.43% inBabukuwa CFUG. Collectively it was 18.18% of female respondents were sampled as a sample unit.

4.2.3Types of Family

According to G.P. Murdock "Family is a group characterized by common residence, economic cooperation and reproduction". It includes adults of both

sexes at least two of whom maintain a socially approved sexual relationship". It is an important component of sociological study
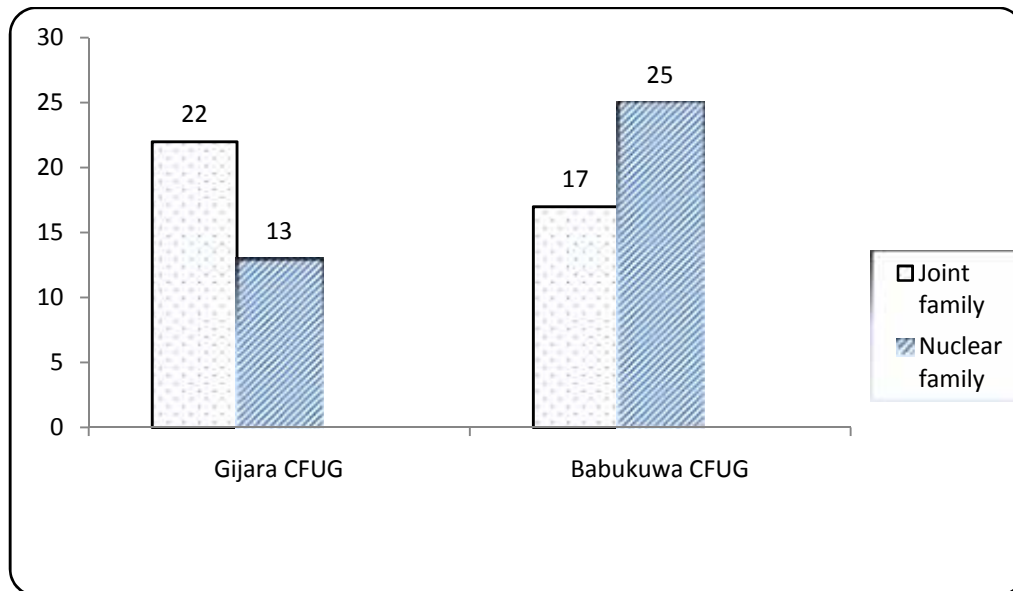
Fig- 4.2.3Types of family

The above figure mentioned that, respondents from Gijara CFUG were under joint family with comparison to Babukuwa CFUG. In Gijara out of 35, 22(62.85%) were in joint and remaining 13 (37.15%) were nuclear family whereas In Babukuwaout of 42 only 17 (40.48%) were in joint and 25 (59.52%) were in nuclear family system.

4.2.4Occupation of Respondents

Occupation is an indicator to indicate the economic status of respondents.
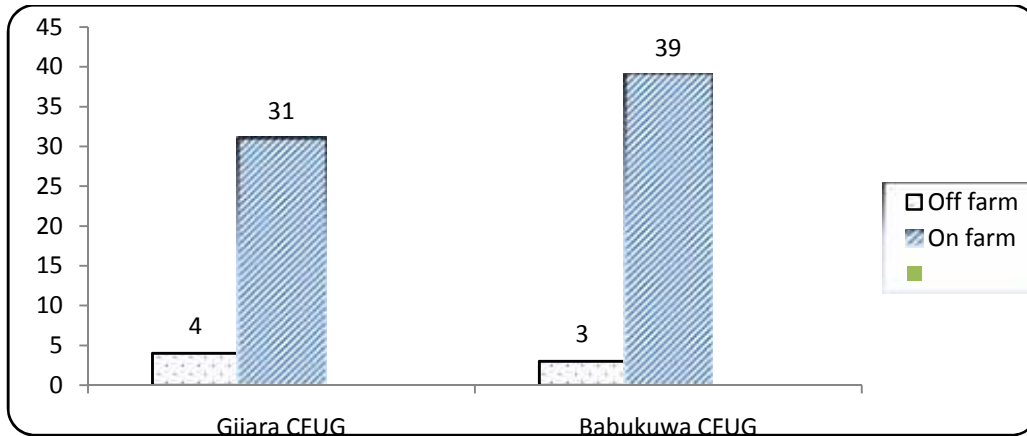
Fig- 4.2.4 Occupation of respondents

In respondents of Gijara CFUG only 4 were in salary based job (off farm activities) which comprises only 11.43% of total respondents ie. 35. Whereas in Babukuwa, out of 42, it was found only 3 (7.14%) in off farm activities. Rests of the respondents were involved in on farm activities.

4.2.5 Caste Composition of Respondents

For this study, castes were grouped into three major categories; higher caste, ethnic group and lower caste. The higher caste encompasses Brahman and Chhetri;Shrestha, Khan, Magar, Gurung, Tharu, Shes, Budhathoki and Pun ethnic and B.K., Sunar, Pariyar, Sarki, Damai, Nepali, Kori, Teli and Lohar are under Dalit.
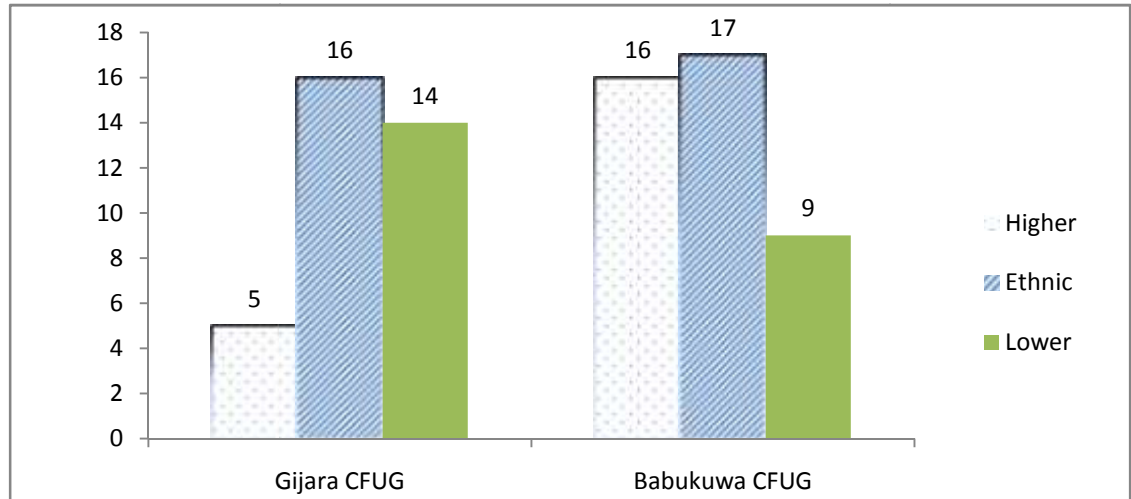
Fig- 4.2.5 Caste composition of respondents (n=35 Gijara, n=42 Babukuwa)

In Gijara CFUG, out of 35 respondents, the Ethnic and lower caste percentage is more or less similar whereas higher class occupies only 14.29 % of total sampled HHs. Similarly in Babukuwa CFUG, out of 42 respondents, the higher class and Ethnic groups are more or less similar.

4.2.6 Religion of Respondents

Religion is a mode of action as well as system of belief, and a sociological phenomenon as well as a personal experience. It is a belief of spiritual beings. Religion plays a vital role to control and direct the social units.
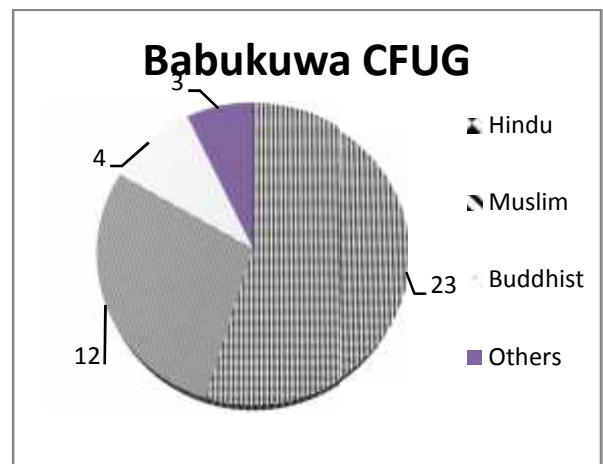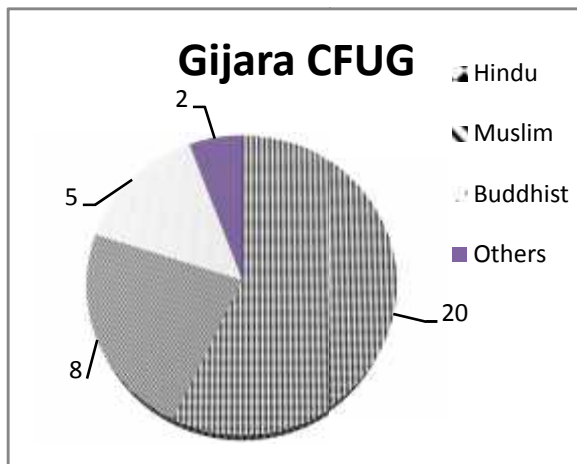
Fig- 4.2.6 Religion of respondents

Religiously, majority of respondents were Hindu followed by Muslim, Buddhistand others respectively. In Gijara CFUG, out of 35, Hindu, Muslim, Buddhist and others were 20, 8, 5 and 2 respectively. Whereas in Babukuwa CFUG 23, 12, 4 and 3 in total of 42 respondents.

4.2.7 Educational Status of Respondents

Education is an important indicator in determining the status of community and its development. For this study, education of the respondents is classified into three categories viz. (1) Illiterate (2) School Leaving (3) Higher secondary education.
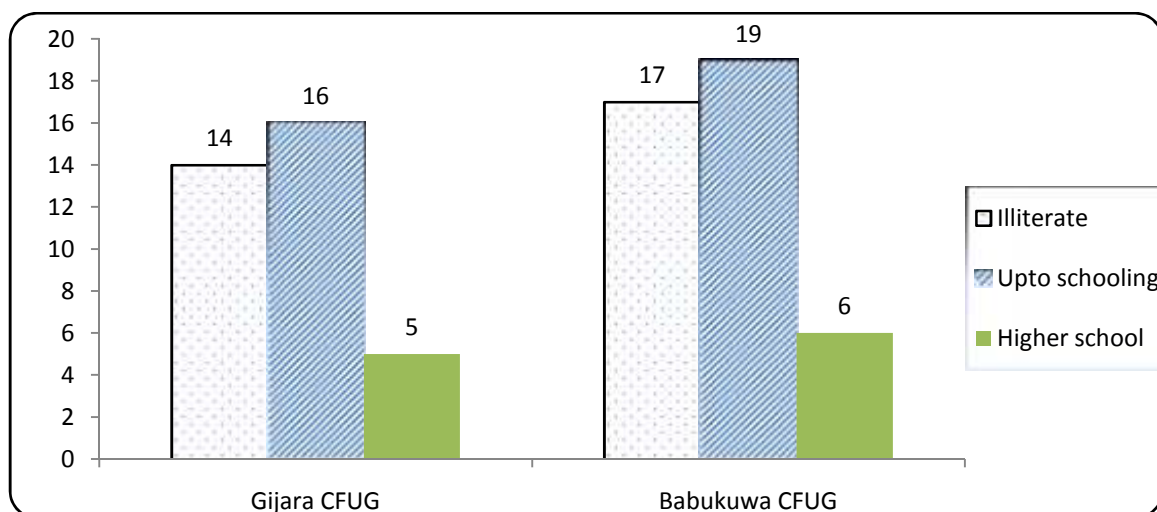
Fig- 4.2.7 Educational status of respondents (n=35 Gijara, n=42 Babukuwa)

In both CFUGs, around 40% of respondents are illiterate whereas more than half in both have education up to schooling and high school. The percentage of respondents having high school education in both CFUGs is low (around 15%).

4.2.8Land Holding of Household

Respondents having land by any means of purchase or borrow termed as land holding
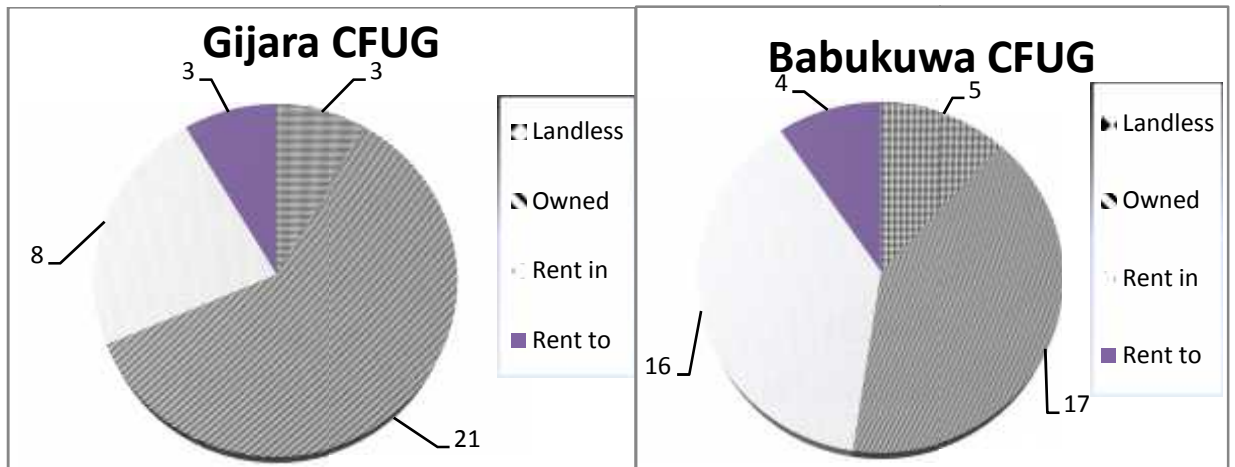
Fig- 4.2.8 Land holding of household

In Gijara CF more than 50% users having their own land using for cereal production, whereas in Babukuwa is less than 50%. In indicates the economic contribution of agricultural outputs are more in Gijara in compare with Babukuwa

CHAPTER: 5   USER's PREFERENCE AND CONTRIBUTION OF CF IN USER's HOUSEHOLD INCOME

5.1 Preference on Major Forest Products

Community forestry is considered to be one of the most important programmes in Nepal in terms of reducing poverty and providing equitable distribution of forest resources. Since the beginning of 1990, Nepal's plan has focused on poverty reduction aspect of development through integration of various programmes

within the forestry sector. The ninth (1997-2001) and tenth (2002-2006) five year plans have emphasized more on this an aspect. In this chapter, preferences for various forest products and contribution of CF to household income are discussed.

Many studies have shown that the variation in household economy is associated with difference of interest in the use of the FPs among users (Adhikari, et. al; 2004 and Poudel, 2003). Similar cases were observed in this study. Majority of the high economic class has preferred timber followed by medium class. Although, in both CFUGs, there is a provision of providing timber for very poor class without taking any fee. Timber is a low priority for them. The low economic class is unable to construct big houses which required more timber and their houses are generally small hut type. It was observed that as economic status improves the preference on the timber also increased, showing a positive relationship between the preference and the economic class.

Fuelwood is preferred by all economic classes except a few from the high class have low preference. Despite various degrees of forest products dependency, all economic classes rely on fuelwood for their daily livelihood (Adhikari et. al; 2004). Fuelwood is not only important to household for cooking but also for protecting them from cold. Generally, low economic classes users do not have sufficient money to invest in warm clothes for winter and hence use more fuelwood to make themselves and their children warm. Furthermore, fuelwood is also one of the major sources of cash income in both CFUGs. As Babukuwa CFUG is very close to Nepalgunj, there is high demand for fuelwood in hotels and private houses. There is no any restriction for collection of firewood (dry only) for in and around users. Economically, poor classes and those who don't have alternative cash income for their basic need fulfillment are found to be highly dependent on it's and engaged in collection, processing and trading of fuelwood has considerably positive impact for their livelihoods.

Regarding preference for fodder, almost all have more or less equal preferences. Medium class households are most needy of fodder, as they have relatively less land for fodder and high number of cattle.

Leaflitter is generally used as bedding materials for livestock and also for preparing compost manure for agricultural land. In both CFUGs all classes have the greatest preference for leaflitter. The major occupation of medium class households is agriculture and livestock farming hence the requirement for more leaflitter. Although the low economic status class has less land holding and livestocks but they used to rent the land and cattle from richer households. Therefore they also required a high quantity of leaflitter.

Data for the preferences analysis were collected from the free listing methods. The main focus of this study is to determine the most preferred products by different classes. Each selected household was asked to rank the selected five forest products on the basis of their economic value and daily use. The preference of the forest products was recorded using three categories; these are high, medium and low preference. Result from the free listing of CF products is tabulated below.

Table- 5.1 Preference of forest product

Gijara Community Forest				Babukuwa Community Forest				Remarks
Forest products	*Preference*			*Forest products*	*Preference*			
	H	M	L		H	M	L	
Timber	16	15	4	Timber	18	19	5	
Fuelwood	23	10	2	Fuelwood	29	13	0	
Fodder/Grass	18	14	3	Fodder/Grass	22	17	3	
Leaflitter	15	13	7	Leaflitter	26	15	1	
NTFPs	17	17	1	NTFPs	23	17	2	

n= 35	n= 42	

Source: Field survey(2014)

Note: H= High, M= Medium and L= Low

As a result, fuelwood have frequency (average 67.37%)more than other four products. Similarly leaflitter,fodder/grass, NTFPs, and timber are preferred respectively.

5.2 Contribution of CF in Users Household Income

The contribution of CF household income to the total household income is varied for different users. In many studies, it was mentioned that medium class people are getting more benefit from CF (Bhattarai and Ojha, 2000; Adhikari, 2004; Mahanty et. al; 2006) whereas they are second in both CFUGs in this study. It could be because both studied CFUGs are in mode of enterprise promotion. They have forest based enterprises where low economic status HHs was engaged for harvesting and processing raw materials. In addition, they are also involved in trading fuelwood to both local market and enterprise. Hence, the majority of low economic class HHs in Babukuwa CFUGs is involved in cash earning through trading of FPs and engaging in forest based enterprise. However, medium class HHs of both CFUGs are getting more subsistence benefits than cash as these people are mostly depend on CF for fuelwood, fodder and leaflitter for household consumption. Furthermore, the contribution from agriculture, off farm and livestock is found to be the highest for the high economic class in the case of both CFUGs. This could be because those have more landholding and greater opportunities for off farm activities whereas most of the low economic status user's basically rely on low earning labour work with unsecured job nature.

In Babukuwa CFUG two users are engaged as a regular staff whereas in Gijara five are involved as staff. Observation shown in Gijara CFUG has more livelihoods and social development activities by the help of donor as well as their own earnings in compare with Babukuwa CFUG. (see the table) The major sources of income are; rent to picnic spot, selling of firewood, bamboo and grasses, donor support, profit from CFUG owned saw mill (GijaraKasthaUdhyog).

The low economic status HHs has the highest dependency on the forest for their livelihoods. CF income has particular significance for those HHs with little or no private land, as they are less likely to meet their needs from private resources (Paudyal et. al; 2006; Cooke, 2000). Contribution of CF income to the HH income of the high economic class is the lowest indicating that they have less dependency on the CF. The study shows that dependency on the CF decreases as economic status improves.

Table- 5.2aContribution of CFUGs in livelihoods and social development
Source: Field survey(2014)

Babukuwa Community Forest				
S.N.	Date	Activities	Amount	Remarks
1	2060/061	Gravelling	1,10,000.00	
2	2061/062	Gravelling	70,000.00	
3	2062/063	Community building construction	2,10,000.00	
4	2063/64	Culvert construction	20,000.00	
5	2060/061 to 2063/064	Forest management, Construction of recreation pond, plantation of lemon	25% of total earning from	

		grass and kurilo, distribution of goat with coordination of CARE.	CF	
6		Scholarship for low economy users	24,000.00	Annually
7		Training and study tour	NA	
Gijara Community Forest				
1	2058/059	Scholarship for 41 students	28,300.00	
2	" "	Prize for CF quiz competition	11,850.00	
3	2061-70	Goat keeping for 105 users	2,92,135.00	
4	2064-70	Tin and Tile for 50 users	4,16,000.00	
5	2064-70	Livelihoods (Agro vet, Fishery, Vegetable farming and Computer training for 31 users	2,78,000.00	
6	2066-70	Maternal health for 70 users	70,000.00	
7	2062-70	Family planning support for 5 user	3,500.00	
8	2067-70	Toilet construction for 15 users	1,50,000.00	
9	2068	Herbal medicine training to 1 user	6,000.00	
10	2068-69	Computer training for 22 users	22,000.00	
11	2068-70	Overseas employment for 4 users	1,00000.00	
12	Till 2070	Gravelling	7,06,038.00	
13	Till 2070	Bridge	4,67,000.00	
14	Till 2070	Support to Yuva club	68,000.00	
15	2067-70	Support to Janasewa school	3,78,280.00	
16	2067-70	Support to MangalpurMadarasa	85,000.00	

In Babukuwa, the major source of income is selling of timber due to productive type of forest condition. But at present income source is being decrease day by day seems as per income data. They are introducing alternative sources of income like establishment of recreation park, commercial fish pond and artificial lake. Similarly, in Gijara, a source of income is little diversified and sustainable with compare to Babukuwa. Charges of picnic spot; donation from donors, extraction of forest products is major sources of income.

Table- 5.2b Economic contribution of Gijara CFUG HHs

S.N.	Items	Demand	Supply	Unit	Price/unit	Total	Remarks
1	Sal timber	500	0	Cft	2500	0	276 HHs

2	Other timber	1000	900	Cft	1200.00	10,80000	
3	Sapling	2700	900	nos	40	36,000	
4	Pole	2000	1100	no	70	77,000	
5	Fuelwood	26500	26500	Bhari	50	13,25000	
6	Grass	25000	13666	Bhari	50	6,83,300	
7	Fodder	7000	3605	Bhari	50	1,80,250	
8	Bamboo	1500	1500	nos	75	1,12,500	
9	Khar	1263	1263	Bhari	50	63,150	
10	Leaflitter	25500	19600	Bhari	25	4,90000	
Total						40,47,200	14,664/-

Source: Field survey (2014)

The table no. 5 shows that Gijara CF almost fulfills the user's demand of forest products equivalent to amount NRs 40, 47,200/- per year. There were 276 HHs in CFUG. NRs 14,664/- will receive per year per households.

Table- 5.2cEconomic contribution of Babukuwa CFUG HHs

S.N.	Items	Demand	Supply	Unit	Price/unit	Total	Remarks
1	Sal timber	500	500	Cft	2500	12,50000	348 HHs
2	Other timber	400	400	Cft	1200.00	48,0000	
3	Sapling	800	600	nos	40	24,000	
4	Pole	200	150	no	70	10,500	
5	Fuelwood	15600	15600	Bhari	100	15,60,000	
6	Grass	7440	3666	Bhari	50	1,83,300	
7	Fodder	4500	3200	Bhari	50	1,60000	
8	Bamboo	100	100	nos	75	80,000	

9	Khar	1125	450	Bhari	50	22,500	
10	Leaflitter	34800	29300	Bhari	25	7,32500	
Total						44,58,800	12,813/-

Source: Field survey (2014)

The table no. 6 shows that Babukuwa CF contributed equivalent to amount NRs 44, 58,800/- per year to user's. There were 348 HHs in CFUG. NRs 12,813/- will receive per year per households. This is simply an average value. The low economic status users benefitted more in compare with high status. So, it could be more benefit to economically low status usersin both CFUGs.

5.3 Economic Value of Major Forest Products

Economic value of fuelwood, timber and NTFPs were estimated by market price method as values of these products were available in local market. For valuing fodders which did not have market price, surrogate prices method was used in which value of fodder was calculated with reference to value of most potential alternative feed. In this study, one bhariof straw was equivalent to four bhari of fodder/grass whose value was NRs. 200/ bhari. Hence the value of fodder was determined NRs 50/ bhari. Leaflitter which has neither market price nor substitute product, opportunity cost of time to travel and collect from the second nearest forest was calculated to estimate its value. This time spent was compared with wage rate of village which was NRs 200 per day (8 hrs/day). Approximately 1 hour needed to collect one bhari of leaf litter equivalent to NRs 25/bhari.

Gregersen et al; (1995) described different indirect pricing techniques for the valuation of forest products.
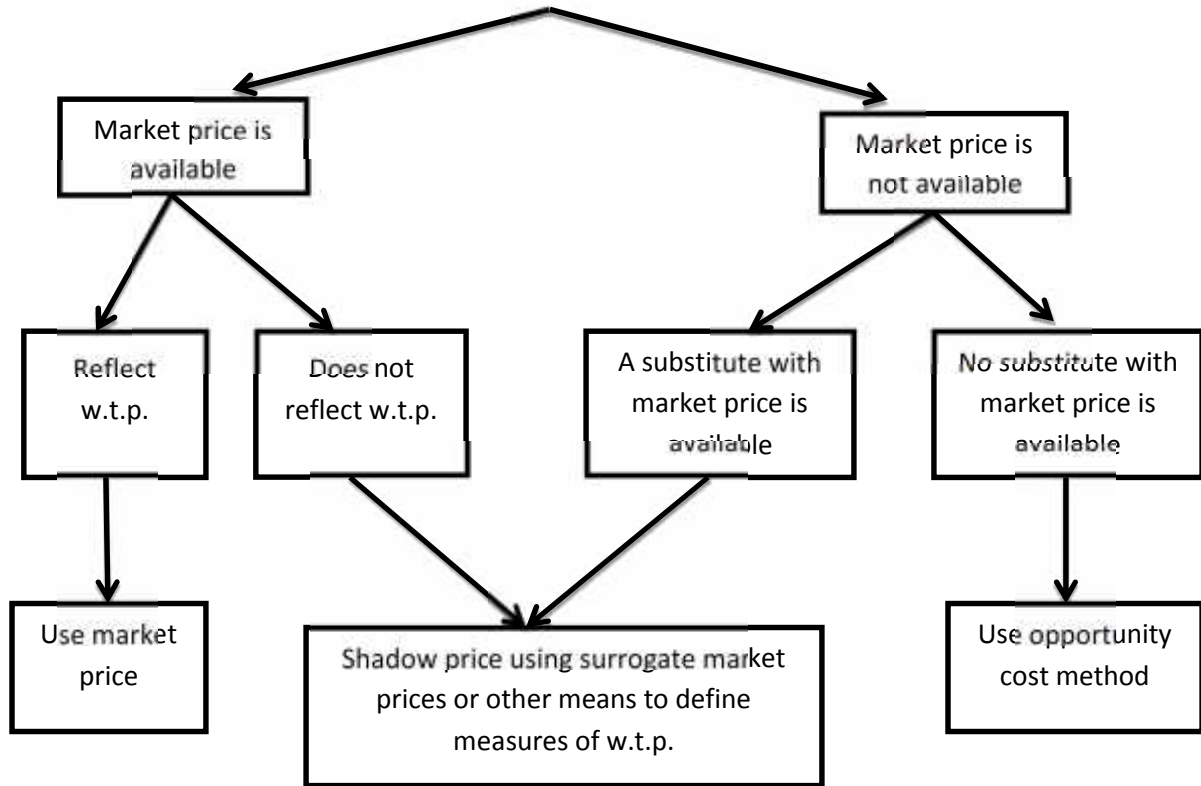
Figure- 5.3 Valuation of forest products adopted (Gregerson et al., 1995)

Note: (w.t.p) willingness to pay

CHAPTER 6   SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

Community Forests (CF) are national forests handed over to the local user groups for protection, management and utilization according to the Forest Act, 1993 and Forest Regulation 1995 (Kanel, 2006), According to the act, Community Forest Users Groups (CFUGs) have to be established and registered at the District Forest Office (DFO) before handing over of the forests and they are self- sustained

institution. Although CFUGs have been successful in terms of their institutional capacity to get people organized and form capital at group level, the most critical in terms of livelihoods and the relatively weak generation of financial capital for the forest dependent poor and women. So, this study was initiated in two community forest of Banke district toknow the preference of forest product by CF user's and analyze the economic contribution of CF for user's households.

The 'resource' can be managed effectively with a clear understanding of forest management principles and knowledge of natural system and social part can be dealt with a clear understanding of a society and their relationship with the resource and institution related on it. There are very less financial supports and fiscal budget allocated by the government. In these contexts, the natural resource, like forest can be potential resources to turn on their development fate. Community Forests handed over to community are natural capital. Thousands of CFUGs have planted, protected and carried out forest management and silvicultural operations, utilized and marketed various forest products for their livelihoods. Improvement of natural capital may bring the reduction of time spent for the collection of forest products.

Two community forests of Banke district were selected purposively for having a running IGA. Research began with problem identification to thesis production after series of several discussions with stakeholders. Out of 624 HHs 77 were selected purposively in which 35 (276) from Gijara and 42 (348) from Babukuwa was selected and survey was carried out to collect primary information from the users' household using interview schedule, group discussion and field observation. Secondary information was collected from different published and unpublished literatures from different sources. Collected data was logically presented with simple tables, charts, percentage and diagram. Qualitative data was analyzed in descriptive way.

Based on the view of respondents and overall research process, major findings are as follows;

⟩ The total sample was (n= 77)in which 23 female and 54 male. Only 14 head of household was female comprises only 18.18%.

⟩ Preference was more or less equal for joint and nuclear types of family. Out of 77, 39 preferred Joint and 38 were nuclear types of family. Occupation wise only 7(9.09%) were engaged in off farm activities.

⟩ Out of 77 majorities of respondents were ethnic occupied 33. Similarly, 21 were higher and 23 were lower caste. Religiously Hindu, Muslim, Buddhist and Others were 43, 20, 9 and 5 respectively.

⟩ 31 respondents were illiterate in both CFUGs and 35 were under up to schooling. Minority of them were higher secondary level. Most of the respondents have their own land for cultivation.

⟩ Majority of the high economic class has preferred timber followed by medium class. The low economic class was unable to construct big houses which required more timber and their houses are generally small hut type. It was observed that as economic status improves the preference on the timber also increased, showing a positive relationship between the preference and the economic class.

⟩ Fuelwood was preferred by all economic classes except a few from the high class have low preference. Fuelwood is also one of the major sources of cash income in both CFUGs. Economically, poor classes and those who

don't have alternative cash income for their basic need fulfillment are found to be highly dependent on its and engaged in collection, processing and trading of fuelwood has considerably positive impact for their livelihoods.

) Regarding preference for fodder, almost all have more or less equal preferences. Medium class households are most needy of fodder, as they have relatively less land for fodder and high number of cattle.

) Leaflitter is generally used as bedding materials for livestock and also for preparing compost manure for agricultural land. In both CFUGs all classes have the greatest preference for leaflitter.

) Both CFUGs are in mode of enterprise promotion. They have forest based enterprises where low economic status HHs was engaged for harvesting and processing raw materials. Hence, the majority of low economic class HHs in Babukuwa CFUGs is involved in cash earning through trading of FPs and engaging in forest based enterprise.

) The contribution from agriculture, off farm and livestock is found to be the highest for the high economic class in the case of both CFUGs. This could be because those have more landholding and greater opportunities for off farm activities.

) Contribution of CF income to the HH income of the high economic class is the lowest indicating that they have less dependency on the CF. This study shows that dependency on the CF decreases as economic status improves.

) Gijara CF almost fulfills the user's demand of forest products equivalent to amount NRs 14,664/- (direct income) will receive per year per households.

) Babukuwa CF contributed equivalent to amount NRs 12,813/- will receive per year per households. This is simply an average value. The low economic status users benefitted more in compare with high status. So, it could be more benefit to economically low status users in both CFUGs.

6.2   Conclusions

This study has concluded that the preference over different forest products varied across different classes. The preference is determined by various factors like economy, livelihood strategy and landholding. The higher economic class users have access to alternative energy sources like cooking gas and a substantial quantity of their fuelwood requirement is fulfilled from their private land. For the lower economic class, the fuelwood selling is one of the important livelihood strategies. Economic factors are responsible for preference for timber and NTFPs. Timber is most preferred by the high economic class as they have the capacity for constructing new houses whereas, the low economic class preferred NTFPs most as they have limited sources of income and hence adopt it an alternative livelihood strategy. Similarly major livelihood strategy of lower economic classes is husbandry; hence they have more preference for fodder and leaflitter.

The study shows that user's dependency on the forest increases with the decrease in economic status. It can be also concluded that economic class is responsible for the dependency of users in CF, whereas other variables such as caste and household head (gender)are not responsible as economy.

This study concludes that community forest running in enterprises mode by commercializing it forest products and resources as well as supporting pro-poor

programme provide more benefit to poor users. As CF income per capita is the highest for poor, CF is moving forward to meet the first goal of the MDG.

6.3   Recommendations

⟩ In Gijara CFUG, allocation of CF resources to users have resulted positive impact on their livelihoods, through involvement of FP collection, hence such practice has also to be initiated by Babukuwa CFUG.

⟩ Establishment of Recreation Park, fish pond and plantation of potential NTFPs would be benefitted for both CFUGs.

⟩ Encourage the CFUGs having less forest resources to implanting the bio-gas establishing the improved cook- stove and planting fast growing species to meet their demands.

⟩ Further research on indirect benefits of CF impacts on rural livelihoods and poverty reduction is suggested.

6.4 Research Implication

Enterprise oriented community forest has a significant contribution on household level and creates a number of employment opportunities to local level where unemployment is one major problem. It is wise to expand this type of modality throughout the nation and provide an opportunity for investment to create employment for very poor users. As poor users are getting more cash income from CF than other class, commercialization of forest products is necessary in those CFUG which are using their products

only for subsistence use. At last, further research on indirect benefits of CF impacts on rural livelihoods and poverty reduction is suggested.

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Annex- 1Interview schedulefor household survey

नमस्कार म टेक वहादुर बरुवालहाल पृथ्वीनारायण बहुमुखीक्याम्पस पोखरामा स्नातकोत्तर तहमा समाजशात्रतथामानवशात्रविषयअध्ययनगरिरहेको छु । मेरो अध्ययन पुरा गर्नको लागि मैले बाँके जिल्लाको दुई वटा सामुदायिकवनले उपभोक्तालाई पारेको आर्थिक प्रभाव सम्बन्धिअध्ययनगरि एउटा सोधपत्रतयार गर्न लागिरहेको छु । यस कार्यको लागि तपाँइहरुबाट आबश्यकजानकारीको अपेक्षा गरेको छु जुन मेरो लागि महत्वपूर्ण छ । तपाँइहरुवाट प्राप्तजानकारी मेरो अनुसन्धानको लागिमात्रहुनेछ भन्ने कुरामाविश्वाशदिलाउन चाहन्छु

A. <u>SOCIO-ECONOMIC CONDITION</u>

Date of interview: Interview no:
Name of CFUG:
Hamlet/Ward:

1. General Information of the respondent
a. Name
b. Age
c. Gender   Male (   )   Female   (   )
d. Cate/Ethnicity: Higher (   )   Ethnic   (   )   Lower (   )
e. Family type   Joint   (   )   Nuclear (   )
f. Religion   Hindu (   ) Muslim(   )   Buddhist (   ) Others(   )
2. Household Information of the respondent
a. Number of household member   Male (   )   Female (   )
b. Education of the respondents and his/her family members:

Illiterate		Upto schooling		Higher school		Remarks
M	F	M	F	M	F	

c. Head of household: Male   (   )   Female   (   )
3. Land holding of family
What are the types and area of land that your family holds?

Land type	Land ownership	Total area (Kattha)
Cultivated land (Khet)	Landless	
	Owned	
	Rent in	
	Rent to	

B. **USER's PREFERENCE**

4. What are the major forest products in your forest and how many quantities you brought every year?

S.N.	Items	Units/Quantity
i	Timber	
ii	Fuelwood	
iii	Fodder	
iv	NTFPs	
v	Leaflitter	
vi	Others	

5. Is CF able to fulfill your needs?

a. Yes
b. No

6. Which forest product has highest value for you and what is your importance of other forest products? Give score as per the importance of the products for your consumption or other use purpose.

High value   (1)   Low value (3)

S.N.	Forest Products	Relative importance (rating)		
		1	2	3
1	Fuelwood			
2	Tree fodder/Grass			
3	Timber			
4	NTFPs			
5	Leaflitter			
6	Other (if specify)			

7. How long do you have to travel to and from the community forest for animal grazing?
a. 1 to <3hrs   b.   3 to <6 hrs   c.   6 to <9 hrs   d.   >9hrs

C. ECONOMIC CONTRIBUTION

8. Is there on farm and off farm livelihood activities exist in your household?
On farm (   )   Off farm (   )

9. Livelihood strategies

What are the major livelihood activities being adopted in your household?
i)   Income and expenditure of Households (on farm activities)

	Involvement of Gender		Expenditure/year	Income/year
	Male	Female		
Agriculture (cereal crop, high value crop, vegetable cultivation, fruit production, livestock products				
Forest products collection and sale				

including NTFPs				

ii)   Income from off farm activities

Income activities	No of employee	Involvement of Gender		Total income/year
		Male	Female	
Service				
Business				
Wage labor				
Others				

10. What do you feel about the contribution of forest to your income from crop production?

( )   High contribution   to what percentage or part of total income………..

( )   Medium contribution   to what percentage or part of total income……

( )   Not at all

11. Would you please mention the cause, you feel how forest contributes to your income for crop production
    a. Green manure from leaf litter
    b. Supplying the agriculture implements
    c. Increase rainfall and soil moisture

12. In your opinion how the forest can contribute income from livestock products?
    a. Grazing and bedding materials
    b. Grazing place
    c. Improved good environment
    d. Improve cattle shed

13. Is there any direct cash incur to your household annually for communicating information gathering and travelling for community forestry related activities? a. Yes   b. No
    If yes, what are the tentative direct cash earn (Rs.   )

14. What amount (User Group membership fee) you have to pay annually as a member of Forest User Group?
    a. NRs (   ) pay   b. Do not pay
    b.

15. Do you hire any paid labor beside your family member in collecting or processing of those forest products from community forest? If yes   (   ) Number   NRs (   )

16. Is there any special provision in fund allocation and/ or benefit sharing for woman, poor, dalit or natural disaster victim?

    a. Yes   b.   No   c. I do not know

If yes, please specify your answer

S.N.		Women	Dalit	Poor	Victim of natural disasters
1					
2					
3					
4					

) *Free charcoal for blacksmith, free timber to the users affected by natural calamities, subsidized for poor, job opportunities for landless people etc.*

17. How much do you earn per year?

18. For what purpose, do you expend those earning?

19. Is there any community based forest enterprise in your community forest?

               Yes   (   )   No   (   )

If yes, what are they? List out

20. Is there any involvement in the enterprise from your family?

    a. As a shareholder

    b. As a member

    c. As an employee (If employee, which position and how much you earn)

    d. As a owner

    e. As a collector and contractor

21. If there is no enterprise in your CF, what are the potentialities to established in you CF, List out.

    a.

    b.

    c.

    d.

22. How community forests have more contribution to user's household income, especially to the poor?

23. Please indicate your agreement or disagreement with the following statements.

S.N	Statements	Agreement				
		1	2	3	4	5
1	Products sell and distribution system is good					
2	Fund collection system is satisfactory					
3	User group fund is properly utilized					
4	Expenditure of fund covers the interest of most of users					
5	Nomination of candidates for training, welfare service, study tour is fair					
6	Each member has an equal chance to elected in the committee					
7	Decision of the committee are in favor of users					
8	CFUGC activities are in favor of users					

1. Strongly agree   2. Agree   3. Neutral   4. Disagree   5. Strongly disagree

धन्यवाद

Annex: 2Interview Schedule for Key Informant Survey (CFUG Chairperson, Secretary, Treasurer and also from semi-confidential records)

1. Name and address of CFUG…………………………………………….

S.N.	Name	Position	Age	Qualification

2. CFUG handover date……………………………………….. Area of CF
3. Total population of users………………………… Male (   ) Female (   )

4. Number of households…………………… Bram/Kshetri ( )   Ethnic
   ( )   Dalit (   )
5. What are the local rates of the following products?

S.N.	Products	Unit	Rate/unit	Remarks
1	Timber			
2	Fuelwood			
3	Tree fodder			
4	Grass			
5	Other (If specify)			

6. How much amount of money is in your CFUG fund (in NRs) ?
   Total fund………………..
   Amount of loan investment………………..
   Amount in bank account…………………
7. What are the major activities where CFUG fund is utilized?

S.N.	Activities	Amount invested (NRs)
1	Forest protection, development and management	
2	Community development	
3	Institutional development	
4	Infrastructure development	
5	Income generation activities	

8. What are the major plant species in your CF?
a. Tree   b. Shrub   c, Herbs

9. Forest product distribution records of the last year

S.N.	Forest products	Quantity	Remarks
1	Timber		
2	Fuelwood		
3	Small wood		
4	Fodder		
5	Grasses		
6	Leaflitter		
7	Coal		
8	NTFPs		

9	Others		

10. How many households have been benefitted from the different types of infrastructure which was constructed by CFUG in the past

S.N.	Infrastructures	Number of benefitted HHs	Remarks
1	Road		
2	School		
3	Community building		
4	Water tap		
5	Rest place		
6	Temple		
7	Others		

11. What is your opinion towards users?

12. Any suggestion? Please mention.

Annex: 3Check list for Group discussion

⌡ Forest products collection time
- o Ground grass
- o Bedding materials
- o Herbal medicine
- o Thatching grass
- o Fruits

⌡ Pricing of forest products
⌡ Income generation activities
⌡ Employment opportunities

╯ FUG fund collection and mobilization
╯ Nomination in workshop/training
╯ Poor focused program
╯ Others

Annex:4 Respondentsdetails ofGijara Community Forest

S.N.	Name of the respondents	Designation	Remarks
1	FarukShekh	Chairperson	Key informants of Gijara Community Forest
2	SaraswotiAcharya	Secretary	
3	Om Prasad Paudel	Member	
4	JagatiyaKori	Member	
5	Krna B.K.	Member	
6	HarkaBahadurThapa	Social activist	
7	DilBahadur Nepali	Social activist	
8	KamaluddinShekh	Accountant	
9	DilBahadurThapa	User	
10	SeteSarki		

11	Ratnakhar Sharma		
12	Hari Prasad Kafle		
13	Jala Prasad Shrestha		
14	Nar BahadurKhatri		
15	Pal BahadurSunar		
16	DhanBahadurSunar		
17	PyarelalSunar		
18	AsadhyaLohar		
19	SitaramTharu		
20	RamcharanKori		
21	MayadeviKori		
22	SimaKori		
23	BisramTharu		
24	SalimPathan		
25	GaniSahi		
26	Badalu Khan		
27	UmmidTeli		
28	Jumai Khan		
29	Mante Khan		
30	GhureShes		
31	JagmiKori		
32	NathiramTharu		
33	JodhiramTharu		
34	LalitBahadur B.K.		
35	Munir Khan		

Annex: 5 Respondents details ofBabukuwa Community Forest

S.N.	Name of the respondents	Designation	Remarks
1	PadamBudhathoki	Chairperson	Key informants of BabukuwaCommunity Forest
2	Gita Khadka	V-Chairperson	
3	PadamBudhathoki	Secretary	
4	Putali Nepali	Vice- Secretary	
5	BhupendraRegmi	Local Politician	
6	Kamala Khatri	Teacher	
7	Pal Bahadur Pun	Old age	
8	Mangal Nepali	Users	
9	BalKumariGurung		
10	KhadgaChalaune		
11	TularamThapa		

12	Tanka BahadurBudhathoki		
13	ChaitaramBudhathoki		
14	Ok BahadurBohara		
15	ChhabilalPariyar		
16	ChhiuliPariyar		
17	Tasbir B. K.		
18	SunamaliGharti		
19	PurnaBahadurGharti		
20	BansiOli		
21	RamlalRana		
22	BirBahadurPariyar		
23	Parbati K.C.		
24	Maya Giri		
25	Shambhunath Yogi		
26	Chandra BahadurPariyar		
27	BhuplalRokamagar		
28	Aitaram B.K.		
29	Maya Pun		
30	Kali Damini		
31	ChandaniThapa		
32	Ram Singh Sarki		
33	KhadkaBahadur Roka		
34	PrabirChhetri		
35	JagatBahadur Desai		
36	HarkaBahadurKhadka		
37	DilBajhadur Pun		
38	LokBahadurThapa		
39	Chandra BahadurReule		
40	ParbatiChhetri		
41	KhimBahadurKhatri		
42	Thopali Pun		

Annex 6: Photo gallery

Photo- 1 Researcher interviewing with users of Babukuwa CF

Photo- 2 CF office building with water storage tank for users

Photo- 3 Regeneration of Sal forest

Photo- 4 Kurilo plantation in Babukuwa CF

Photo- 5 Construction of recreation site (lake under construction)

Photo- 6 Plantation of eucalyptus species

Photo- 7 Donor supported project for preparation of ponds for wildlife

Photo- 8Researcher obtained data from Accountant of Gijara CFUG

Photo- 9Riverbank protection by Gijara CFUG in Mankholariver by CF

Photo- 10Picnic spot managed by CF as a source of income

Photo- 11Riverine forest in Mankholariver

Photo- 12Gijara CF support for disadvantage CF users

Photo- 13Researcher observing tree improvement plot of SimalSpps inside Gijara CF

Photo- 14Office premises of Gijara CF

Photo- 15CF owned Gijara Wooden Furniture Udhyog

Fig- 16 Information collection from respondents of Gijara CF