

IMPACT OF COMMUNITY FOREST ON BIO-DIVERSITY CONSERVATION AND COMMUNITY DEVELOPMENT

*(A Case Study of Sigash Community Forest of Siddshowr V.D.C. Baitadi
District)*

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LETTER OF RECOMMENDATUON

This thesis entitled “**Impact of Community Forest on Bio-diversity conservation and Community Development: A Case Study of Sigash Community Forest of Siddshowr V.D.C. in Baitadi**” has been prepared by **Mr. Krishan Singh Bist** under my supervision and guidance.

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ABSTRACTS

This study aimed to analyze the impact of the community on biodiversity conservation and community development activities choosing Sagas community forest as case study sites this study tried to focus on the existing vegetation status of community forests attitude of forest user groups towards biodiversity conservation and community development activities, potential an successful community development activities that was initiated by forest user group in the community .The study covers both sociological aspects of community forests users group and biological aspects of community forests. Basically sociological aspect covered by household questionnaire survey informal & or formal for discussion with forest user groups and committee members and biological vegetation aspects covered from detailed forest inventory record in the community forests.

The perception and attitude of people is very positive towards biodiversity conservation and community development .The desire diversified well stocked and dense forest resources in their community forests similarly people are very interested on community development through forest user groups but decentralization of the authority and physical resource have to be provided from local government sector .There is very good institutional strength and decision making capacity within and between the forest user groups .The over all impact of community forests seems very positive and encouraging. The forest biodiversity status (flora fauna)is also increasing after the establishment of community forest management system. This whole study was completed within six months time due to limited time frame in the research purpose though it was not sufficient to analyze in depth biodiversity status. Present study mainly considered the records of tree species and other woody vegetation as basic element of forest biodiversity assessment. The diversity of these species indicates the higher diversified biological resources in the forest area .There are little trees 192 poles 10918 saplings regenerations per hector in the Sigash community forests .Some community development activities like construction of Siddshnath, tamale, path, tape, etc are done by FUGs. Now they are planning for implementation of green road through the village. Finally present study shows that people have positive attitude towards biodiversity conservation and community development activities and community forest has made significant on these regards.

CONTENTS

	Page No
Letter of Recommendation	
Letter of Acceptance/Approval	
Acknowledgment	
Table of Contents	
List of Annexes	
List of Tables	
List of Charts	
Thesis Abstracts	
Abbreviations/ Acronyms	
CHEPTER ONE: INTRODUCTION	1-7
1.1 Background	1
1.2 Statement of the problem	3
1.3 Objective of the study	6
1.4 Justification of the study	6
1.5 Organization of the study	7
CHEPTER TWO: LITERATURE REVIEW	8-18
2.1 Community forestry concept	8
2.2 Bio-diversity conservation	11
2.3 Community development perspective	13
2.4 Conceptual framework	15
2.5 Definition of key terms and variables	17
CHEPTER THREE: RESEARCH METHODOLOGY	19-24
3.1 Selection of the study area	19
3.2 Research design	19
3.3 The universe of the study	19
3.4 Nature and sources of data	20
3.5 Data collection tools and techniques	20
3.5.1 Interview schedule	20
3.5.2 Key informant's interview	20
3.5.3 Observations	21
3.5.4 Formal and informal group discussion	21
3.5.5 Resource inventory design	22
3.5.6 Secondary data collection techniques	22
3.6 Data analysis and presentation	23
3.7 Limitation of the study	23
3.8 Ethnical consideration	24
CHEPTER FOUR: STUDY AREA AND PEOPLE	25-30
4.1 General characteristics of Siddshowr V.D.C.	25
4.1.1 Geographical Feature, Location and Boundaries	25
4.1.2 Demographic Features	25
4.1.3 Luggage Cast and Religions	26

4.1.4	Natural Resources	27
4.1.4.1	Land	27
4.1.4.2	Forest	27
4.1.4.3	Water	29
4.1.5	Infrastructure Development	29
CHEPTER FIVE: DATA PRESENTATION AND ANALYSIS		31-63
5.1	Introduction	31
5.1.2	Social Characteristic of FUGs	35
5.1.3	Economic Activities	39
5.1.4	Culture and Religion	42
5.1.5	Use of the Forest Products	42
5.1.6	Problem in Managing Community Forest	42
5.1.7	Reward and Penalties	44
5.1.8	Transparency and Communication	46
5.1.9	Average Forest Condition	46
5.1.10	Off Farm Activities	47
5.1.11	Energy for Cooking	47
5.1.12	Intuitional Arrangements	47
5.1.13	Effectiveness of Community Forest User Group	51
5.1.14	Level of People Participation	51
5.1.15	Strength and Weakness of CFUGs	
5.2	Impact of Community Forest on Bio-Diversity	
	Conservation and Community Development	55
5.2.1	Impact of Plantation and FUG Formation	55
5.2.2	Financial and economic impact on Households	56
5.2.3	Impacts on Fuel-Wood Collection	56
5.2.4	Impacts on Bedding and Composting Materials	57
5.2.5	Impacts on Fodder (Forage, Leaves, Grasses)	57
5.2.6	Impacts on Other Biological Resources	58
5.2.7	Indirect Impacts on HH Income and HH Labour	58
5.2.8	Forest User Group and bio-Diversity Conservation	58
5.2.9	FUG and Community Development	59
5.2.10	Peoples Attitude toward Bio-Diversity Conservation and Community Development	60
6.2.11	Successful and Potential Community Development Activities Through FUG	62
5.2.12	Bio-Diversity Status, Public Concern and Future Visioning	62
6.2.11	Expectation of Farmers from the DFO/NARMSAP	63
CHEPTER SIX: SUMMARY CONCLUSION AND RECOMMENDATION		64-68
6.1	Summary	64
6.2	Conclusion	66
6.3	Recommendation	67

REFERENCES

APPENDIXES

LIST OF ANNEXES

Annex1: Questionnaire for household's survey.

Annex2: Questionnaire for PRA

Annex3: Map of Nepal indicating Baitadi district

Annex4: Map of Baitadi district indicating Siddshowr V.D.C.

Annex5: Map of Siddshowr V.D.C indicating study unit.

Annex6: Map of Sigash community forest.

Annex7: Photographs.

LIST OF TABLES

Table	Topic	Page No
1	Plant Diversity Status of Nepal	12
2	Animal Diversity Status of Nepal	13
3	Social and Demographic features	26
4.	Distribution of community and Religious forest in Siddshowr V.D.C	28
5.	Description of species occurrence in sample plot	34
6.	Age and sex composition of sampled household	36
7.	Number and percentage distribution of family size of sampled household	37
8.	Distribution of Population by Educational Status	38
9.	Distribution of sampled households by the size of land holding	39
10.	Distribution of sampled households based on their agriculture production	40
11.	Occupational distribution of sampled households	41
12.	Community forest protection system	43
13.	Penalties for minor offences	44
14.	Penalties for major offences	45
15.	Energy used by respondents	47
16.	Description of the effectiveness of CFUG	51
17.	Level of people participation	52
18.	People attitude towards Bio-diversity conservation and community development by FUG	61

LIST OF CHARTS

	Page No
1. Description of species occurrence in sample plot	35
2. Composition of FUG	36
3. Forest user committee members	53

ABBREVIATIONS/ ACRONYMS

BPP	:	Biodiversity Profile Project.
BS	:	Bikram Sambat
CF	:	Community Forest.
CFUG	:	Community Forest User Groups
DBH	:	Diameter at Breast Height.
DFO	:	District Forest Office.
DDC	:	District Development Committee.
FAO	:	Food and Agriculture Organization.
FUG	:	Forest User Group.
FUC	:	Forest User Committee.
GO	:	Governmental Organization
GN	:	Government of Nepal.
IUCN	:	International Union for Conservation of Nature.
INGO	:	International Non Governmental Organization.
NGO	:	Non Governmental Organization
MPFS	:	Master Plan for Forest Sector.
OP	:	Operational Plan.
PRA	:	Participatory Rural Appraisal
VDC	:	Village Development Committee.
BCDO	:	Bhumeshower Community Development Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

Nepal's forests are essential for the well being of rural community who depend on them for supplies of fuel wood, fodder, pole, timber and many other products. They also provided essential raw material for development and help to maintain for national development a sound development.

For the last two decades community forestry program has been adopted as one of the major strategies for managing country's forests. community forestry in Nepal has become the most importance program within the forestry sector with the approval of Master plan for the forestry sector in 1989, enactment of the 1993 community forestry legalization and agriculture perspective plan in 1997. The local community as forest user group have entrusted with the responsibilities of managements, development and utilization of the forest resources to their proximity. According to district forest office to date more than 13967 Fug are handed over with total area 1138911Ha.. The primary objectives of these user groups have fulfill the energy need in terms of fuel wood and a number of inputs to sustain farming systems along with the conservation of the forest. Before emergence of CF, there were many state inventions design to enhance the greater control over forest resources and conservation of biodiversity .Biodiversity is totally of genes, species, and ecosystems in the region.

A great national and international interest is paid for the conservation for the biodiversity. Nepal began Establishing a system of conservation in 1990s aimed at conserving a representative sample of existing biodiversity by protecting representative array of ecosystems from the human manipulation. The national conservation strategy (1988) emphasize for the conservation of the country biodiversity .The master plan for the forestry sector (1988-89) and the constitution of Nepal (1990) have also given due emphasis in this aspect.

The community forestry program has been recognized as major strategy for the development and management of forest resources of Nepal through the user group approach .this approach has been reported to be quite effective and sustainable for meeting needs of the people for the variety of products and also restoring the forest resources in the middle of Nepal(Sharma 1997).Forestry along with the agriculture play a central role in the economic and social life of the rural people who are 83% of Nepal's population .The majority of household in the village depends on the forest for their livelihood in subsistence agriculture and economy. Hence the relation between forest, land, livestock, and human are of prime importance in the context of natural resources management. Thus there are tremendous opportunities of integrating community forestry into community forestry development activities.

The well defined forest legalization and policies rules and regulations further facilities for integrating the CF into biodiversity conservation and community development. The forest regulation (1993)and regulation(1995) recognizes FUGs as self governing and autonomous entities ,which also have their own funds .It empowers FUGs to carry out all the programs in their community forest including the biodiversity conservation and community development .Apart from this ,the government has make necessary amendments in its legalization for effective biodiversity conservation and community development activities .preparation of the detail inventory of the forest species in operation plan and provision to spend at least 25% of the fund generated from the CF, in forest development activities which will ultimately effects on the biodiversity situation of the country.

In spite of the vital significance of biodiversity conservation for own existence ,the community forestry program doesn't encompass potential biodiversity conservation and community development within objectives of forest management directly (Kshetri, 1997). There is a major gap in the protected area system on the altitude range of 500 to 3500m,with only 10% of existing reserves located there .It has omitted middle hill zone that contains 61% of Nepal 's forest including many major ecosystems not represented elsewhere. Thus there is greater

need to assess the impact of the community forestry on bio-diversity conservation and community development activities in hilly region of the country.

Therefore the study is hereby proposes to assess the forest condition after implementing the community forestry activities and people's attitude on biodiversity conservation and community development through community forestry.

1.2 Statement of the Problems

Community forestry development in Nepal is an approach, which enables community or more exactly user group to direct the establishment and sustainable management of their local forest for their own benefit.

Forest is a renewable natural resources ,which provides a wide range of socio-economic ,environmental and cultural benefits & services .The rural people are dependent on forest for various products to fulfill their basic needs such as fuel wood, pole ,fodder, fruits ,herbs, and to provide other services that are essential for the farming system as (Bista, 1997) has suggested that 2.8 hectares of accessible forests are required for sustaining each hector of farm land. User groups protect and manage forest in order to satisfy their own needs particularly these relating the supply of forest products .Living at subsistence level and practicing agriculture to survive rural communities in Nepal can't afford the luxury of biodiversity conservation for its own sake .To them, the forest be it community forest be it community forest or national forest, is a resource to be utilize, or to be preserved for future use. They have noticed that ,the board range of products(both timber and non-timber)available and in regular use from community forestry areas will encourages user group to manage their forest to continue natural diversity .But some management practices adopted by FUGs may have a negative impact on biodiversity and positive impact on community development i.e. rural livelihood.

Community forestry provides practical means to conserve bio-diversity outside the protected area network in the mid-hill region of Nepal is significantly rich in both flora &faunal diversity, it is not an expection to the problem of bio-diversity

lose. The situation may be even worse here, because of the combination of human factors and fragile mountain environment .it is beloved three spices of mammals, eleven species of birds, and nine species of the plants have already become extinct from Nepal .A number of flora and faunal species are also categorized to be endangered spp. to Nepal (Heyood, 1995).

The loss of biodiversity is a natural phenomenon to the country like Nepal is occurring at all levels viz. genetic, ecosystem and species levels. Numerous human activities have accelerated the rate of excitation by many folds. In developing country ,the human factors that contributed for loss of biodiversity are considered to be population growth ,poverty ,misconception ,cultural transitions, economic and polity implementation (Saulo,1991).

Realizing this fact legal framework has been promulgated to embrace local people involvement to manage forest .There are many observations indicating improvements in biodiversity and wild life habitat during the past protection phase of the community forestry where scrubland has been converted into forest .For the long term management of the community forests it is necessary that scientific management that benefits local people is encouraged. This is stated clearly in the Ninth-Five plan (1997-2002) and also clarified in the forest act of 1993.Biodiversity conservation should, there, ideally begin from community development activities. The management operations carried out by the Fogs is being helpful for better forest condition.

Measures for promoting natural as well as regeneration and application of different treatments in favor of use fuel crape hand resulted significant positive impact to increase the number of the plants species of herbs shrubs and thorny bushes favoring open forest naturally as well as artificially. Numbers of wild animal have been increased with the improvement of forest condition. As discussed earlier, the several activities implemented by the user may have both positive and negative effects to the biodiversity as well as community development.

Removal of the dead tree may help to users to initiate the community development activities and on the other way it may destroy the habitat of the wild life .Hence the community development and biodiversity can not be separated while we consider about community forestry.

There is continuous hand to mouth problems for subsistence formers ,so people have very limited time and environment to think about the biodiversity and intensive community development works for their term benefit .So the efficient management o community forestry is questionable and thus the impact should have to be analyzed to strengthen an promote the efficiency of forestry user groups.

Community forestry, in general, is a small, scale village level forestry practice where decision share often made on a communal basis and where rural people participate in various activities and received major portion of socio-economic and ecological benefit from the forest. In the present context, it is going in contrast to the aims and objectives of community to raise the economic status of the poor and disadvantaged people in this area .This study aims to address the following questions.

1. What are the problems of FUG in managing community forest?
2. Is community forestry really supporting (gender and participation) in the biodiversity conservation?
- 3 Is community forestry supportive for community in development activities?
- 4 What are the impacts of community forestry in the rural people?

1.3 Objectives of the STUDY

The general objective of the study is to assess the impact of the community forest on biodiversity conservation and community development activities in Siddheshwar.

The specific objectives are:

-) to identify the status of the forest species diversity after implementing the community forestry activities.
-) to find out community development activities initiated by forest user groups.
-) to find out people's attitude on biodiversity conservation and community development activities through community forest program.

1.4 Justification of the Study

A major success of the community forestry is the improved protection and conservation of the forest resources. Many community forests, which have been under community management for some time, are now re-established and mature. However, in several cases the commercial potential of this mature forest is not being utilized and the forest becoming "Jungle" rather than managed forest. This also means that a congested forest results in lower productivity and loss of potential income. Many factors contribute to this state of affair.

Community forest system in Nepal is not in a track because of diverse strategy of implementation in different districts. Now a days the community forestry through user groups is the most viable strategy for forest management of hill forests by operational plan in Nepal (Glamour and Fisher 1991). The current forest act (1993) is silent about bio-diversity conservation within the community forest program (Chhetri, 1997). It has only focused on fulfilling the daily need of the forest products for the local people in the view of getting their generous involvement in the management of local forest.

The community forestry is directly linked with rural people livelihood, its activities can not be separated from the community development activities. So the underlying issues in the integration of bio-diversity into resource management to

develop in a broad sense and associated with the aspects relating to local communities because local communities have been informally engaged for generation in the management of forest bio-diversity promptly for human survival. Hence based on the aforementioned issues, there is greater need to identify the impact of the community forestry on bio-diversity conservation and community development activities. Effort should be made to identify areas where the community forestry is affecting on bio-diversity conservation and community development. If we focus on bio-diversity only, then we would be tacking only half impact of community forestry. Exactly this is the area where Nepal's community forestry program needs to look into, if it is to help rural people in improving their access to and control over forest resources along with national goal of poverty alleviation.

This research will be helpful for future planning, research and monitoring to districts level. This research was done realizing the fact that forest is renewable natural resources in development and is always with people through out their life. Without forest there will be problems on bio-diversity (Species level, eco-system level, genetic level) as well as community existence in the world.

1.5 Organization of the Study

This study has been organized into six chapters. Chapter one deals with introduction, statement of the problems, objectives, justification of the study and organization of the study. Review of the available literature on community forestry, bio-diversity conservation and community development efforts in Nepal, conceptual framework of the study and definition of the variable & key terms are taken account in chapter two. Chapter three covers the research methodology Chapter four presents the general description of the study area. Chapter five deals with data presentation and analysis technique and impact of community forest on biodiversity conservation and community development where as chapter whereas chapter six presents summary, conclusion & recommendation as well.

CHEPTER TWO

LITERATURE REVIEW

2.1 Concept of the Community Forestry

In early days ,local people employed watchers to protect the near by forest for satisfying the domestic needs (Fisher, 1991) however the degradation of the forest resources continued .The promulgation of nationalization act 1957 and subsequent failure of management efforts turned forests into the open access resource with tendency of free side among the villagers (Sharma, 1997). After the nationalization ,the forests were massively destroyed all over the country .Three decades after nationalization of the forest HMG lacks human, financial and other resources needed to put all accessible forests under proper management ,or even just to protect them from exploitation.

After along time ,National forestry plan 1976 (Anonymous, 1991) with the objectives :restoration of nature balance ,economic mobilization scientific management ,and the promotion of public co-operation ,paved way for the promotion of Panchayat and Panchayat protected forest .However the ,act failed to produce desired result as the managerial responsibility of the forest lied with the local potential entities called before Panchayat which is now termed as Village development Committee(VDC).It also become failure to recognize the proper identification of traditional and real use rights. So it is neither contributed to an efficient management nor ensured effective people's participation in forest activities .However, change in forest management became gradually evident after the implementation of forestry sector master plan in 1988. The plan focused on achieving peoples' basic needs for various forestry products, increase income at village level, and conserve natural ecosystems and genetic resources by maintaining a safe and wholesome environment (S.K., 1997)

Later in 1990, the PFs &PPFs were changed to community forest managed by forest user groups.(FUGs).Community forestry was originally conceived to protect forest and to fulfill the basic needs for forest product of the local population. It

(CF) was closely linked to the forestation program, and both programs were to be implemented in the hills to meet the urgent need of people for forest products like timber, firewood and fodder for cattle and other domestic animals.

Forest act of 1993 and forest regulation 1995 provided a sound legal and institutional footing to the FUGs and empowered DFO to hand over accessible forests to the extent that communities are willing to, and capable of managing them. These factors to a large extent, accelerating handing over process of community forest, to the traditional forest user ,i.e. community forestry is the official recognition of people's customary rights of use and traditional forest management practices (Sharma,1997).The new act has recognized the FUGs as an autonomous and self governing entity. According to the act ,DFO may hand over any part of national forests to a user group in the form of community forests to develop ,conserve, use and manage the forest as prescribed in the operational plan ,and according to the forest resources condition and demand ,user can sell and distribute the forest products independently by fixing the price .In addition ,the FUG can generate funds from different sources and community use the fund for community development activities besides forestry development.

Community forestry was originally conceived to protect forest and to fulfill the basic needs for forestry products of the local population. It (CF)was closely linked to the forestation program and both program were to be implemented in the hills to meet the urgent need of the people for forest products like timber ,firewood and fodder for cattle and other domestic animals (Chaudhary, 1998).

HMG of Nepal is strongly committed to a policy of community forestry where MPFs,1988 has been prioritized to community and private forestry investing 46.6% of local budget .Since 1995 the community forestry program has been spreading widely .FUGs have been established rapidly ,and at present there are more than 1000 FUGs. The area managed by them is approaching 0.7 million hectares. Beside forestry, FUGs are involved in other community development works like income and employment generations.

CF Management Trend

Community forests have been managed for protection and basic needs and not for surplus production. Community forestry policy and operational plan have emphasized protection over active management (Branney 1998 and Dev 1994). Therefore many community forests are like “Cow producing more milk than what is being milked”, a stage which is neither beneficial nor healthy, neither for the forests nor for the users or for the government. In fact protection oriented management has many negative effects like additional labor burden, under utilization of forests, lowering the productivity of the forests.

Poverty alleviation is the main objectives of the ninth plan (1997-2002) and community forests have the potential to meet subsistence needs and to provide income (Forest act 1993 & regulation 1995). Thus the community forestry program can help in achieving the objective of poverty alleviation. After years of protection, most of the community forests have increased their growing stocks and have increased their potential yields than previous protection oriented operational plan period. FUGs are using the community forest to meet their minimum needs while removing shrubs and dead & dying trees, and cutting branches. In this way there are just meeting subsistence needs and not utilizing the full potentials of forest productivity.

Considering the above mentioned issues, HMG issued a circular on Feb. 2000 stating that for specific management of CFs, green trees could be harvested after growing stock inventory and calculating the annual increment in operational plan. This circular has been positively operated for the sustainable management of community forestry. According to the forest act and circular Feb 2000, forest users are in the way of incorporating amended 1996 operational guidelines, in operational plan to manage their forest by multiple forest management system. Multiple forest management system includes managing forest for different products and purposes, which can be received from the forest like NTFP, wildlife recreation, education & bio-diversity conservation.

2.2 Bio-diversity conservation

The word bio-diversity was coined by Water G. Rosen in 1985(Quoted in Shurma 1997) to denote biological diversity, which encompasses the total variability of life on the earth .The biodiversity is being now considered at three levels namely ecosystem diversity, species diversity and genetic diversity.

Nepal is endowed with more than 1, 50,000 species of higher plants, out of which more than 1000.species are reported to be of medicine importance (source: NHG).About 9000 species for fodder 85 for fiber and 500spp for food have been utilized by the rural population . Nepal is rich in respect of both floral & faunal diversity despite its small area. Nepal's forests provided a spectrum of products and services and it has also unique geographical position in the world. Dobremez classified Nepal into four phytogeographic units also identified more than 118 (WWF) ecosystems and seven major bio-climates (SWIDP, 1996).

Nepal has become a common platform for meeting the floristic elements from all these surrounding regions (Soule, 1991). Palearctic and indomalayan realms & three Bio-geographical provinces meet Nepal, out of eight biological realm of the world. Bio-diversity of Nepal is not disturbed uniformly through out the country. The mid-hills region with an altitudinal range of 1000 to3000mhas great biological diversity in must respect. Regarding the endemic plants of Nepal 246 flooring plants are endemic to Nepal (Shah and Shrestha, 1997).Nepal has bears almost 640 species of butterflies, 185species of fishes and 181species of mammals, out of these are endangered, threatened or endemic in Nepal.

Nepal has only 0.1% of the total land mass of the world. About 2% of the flooring plants ,3% of the teriodophytes, and 6% of the Bryophytes of the world's flora have been recorded so far .about246 species of plants are endemic and mountain protected areas are comparatively rich in endemic flora of the total species recorded ,13 plants are included in the cites appendices &13 species are legally protected .Mammals of Nepal share about 3.8% of the world threaded species and 2.26% of birds .The government of Nepal has given legal p[rotection status to 26 spp mammals ,9 species of birds and 3 species of reptiles .these species are well

conserved in protected area .Biological species outside the protected area are under the greater pressure due to habitat loss and /or degradation, unregulated collection of forest products and illegal poaching and hunting of animals. HMG has recently prepared a National bio-diversity action plan to proceed for species management. Our forest protection system must self help, intensive, self motivating and widely desirable or acceptable tom conserve this much forest and thus bio-diversity.

The animal and plant biodiversity in Nepal is as shown in the table below:

Table No. 1 Plant Diversity Status of Nepal

Name	Plant Species	Percentage part of world	Endowment species
Briophyeta	853	5.13	37
Teriodophyeta	383	3.38	248
Flooral	5856	2.66	246
Leeu	687	2.64	13
Dhushi	1822	2.64	48
Ghaauue	471	2.36	48

Source: Ministry of Forest & Land Conservation, 1998.

Table No. 2: Animal Diversity Status of Nepal

Name	Animal Species	Percentage part of world	Endowment species
Aves	861	9.14	2
Mammals	181	4.5	1
Fishes	185	1.02	8
Amphibious	43	1.03	9
Reptiles	100	-	2
Butterflies	640	-	29
Makuras	144	0.19	108
Insects	5052	0.67	-
plat worms	168	1.38	-

(Source: Ministry of Forest & Land Conservation, 2000)

2.3 Community Development Perspective

Community development implies orderly moment of an organism or a social system form a lower level of functioning to a higher level of functioning and integration .It involves increased utilization of resources, better participation of the members of the community and inculcating a sprit of co0operation among members for better amenities and facilities (Collet, 1996).

The concept of community development was elaborated as early in 1940s by the British colonial government as a mobilized the labor of rural and urban communities in support of national government objectives to build social physical in fracture and increase self reliance. It was first applied in Ghana and during the fifties; it was extensively integrated into India's national development plans. According to the united nations ,the strategies of community development assumes that the activities and efforts of the population have to be combined with governmental projects and programs in order to improve the economic and social & cultural living conditions of the people .

Community development was stated in Nepal since 1950s, i.e. first five year plan. According to the planning commission, community development can be defined as an attempt to bring about a social economic transformation of village life through the effort of the people themselves.

Now, community centered participatory approach came into existence for community development. In fact, participation strengthens the capacities of individuals and communities to mobilize and help themselves (Midgley, 1995).

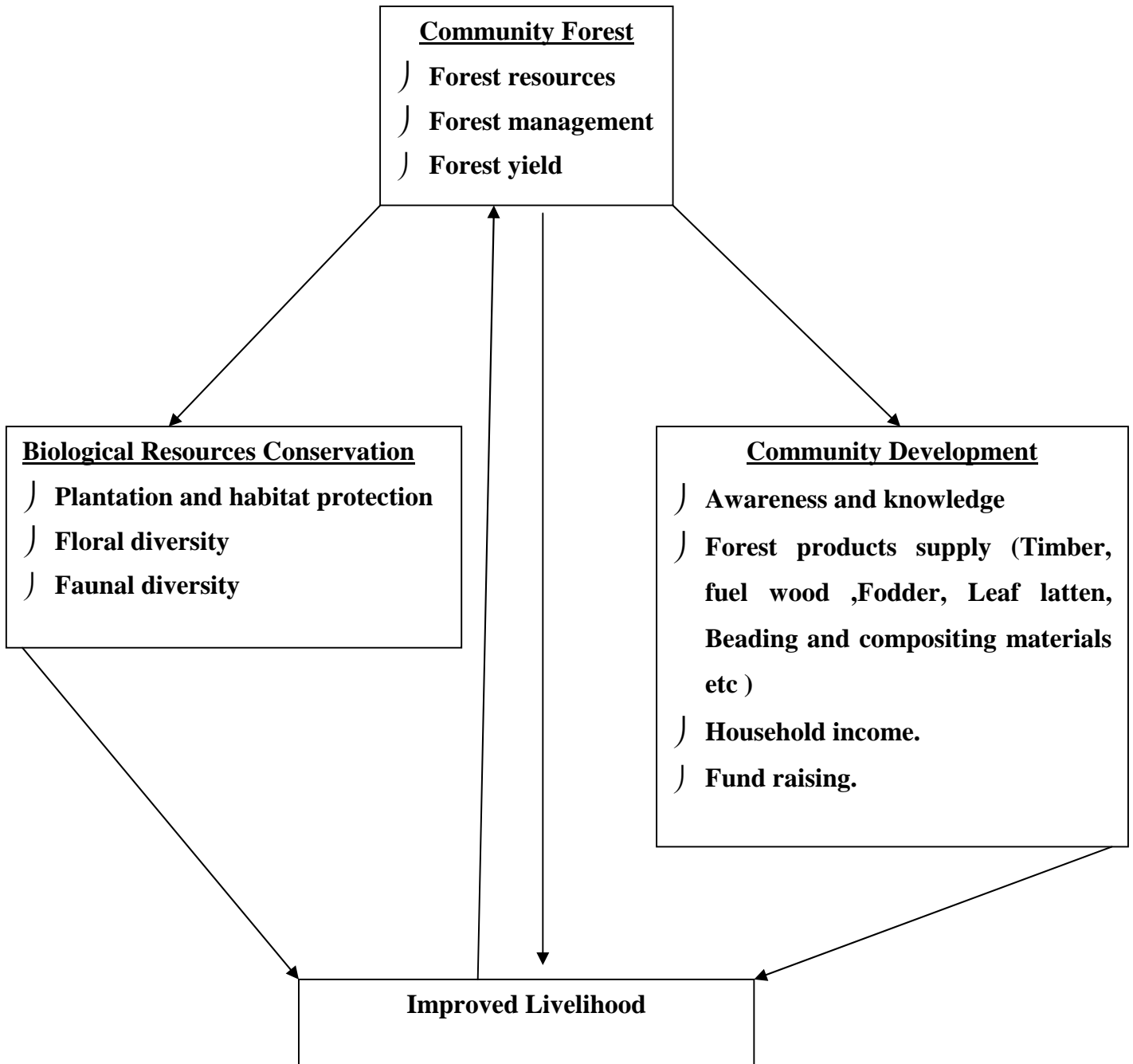
The development theorist believed that the poor could be mobilized to participate in development efforts through consciousness and awareness building. The general idea behind the approach was to develop the programs for mobilizing the village population so as to achieve fuller utilization of local human and local resources.

Community development programs are operated in our country where agriculture sector is given main priority to conduct the programs. Since approval of forest act 1993 and regulation 1995, there is a legal provision that at least 25% of the income generated by operating the forest program should be spent on the forest development and remaining 75% income should be utilized in community development activities works to develop the society. Considering the provisions, forest user groups in the country are using their 75% income if the forests in socio-economic, i.e. community development works like road construction, drinking water supply, help to poor students, temple and chautaro constructions etc.

The studied FUGs have also been following the above provision and conducted some community development works to develop their society and managing the forest to maintain the Bio-diversity in the area.

2.4 Conceptual Framework.

Conceptual Framework of the Study



Source: District Profile, 2008

The main terrestrial biological resources are forest where plant species play a major role in the totality of bio-diversity resources forest .Forest is indispensable part of agriculture ,livestock and other dimension of rural people in Nepal .people have suffered from the scarcity of different forest products e.g. leaf litter, for manure ,fuel wood for energy ,timber for housing ,fodder for their livestock and other forest products that need for various aspects of rural and urban life. To manage the forest resources in the country, community forest is the best possible strategy that involves local people in participatory management.

Community forests are protected ,planted and developed by the local people to maintain the forest diversity .Similarly livestock have food materials from community forest and agriculture land through people and instead livestock provide monetary income and strength to sustain rural life Wyatt-smith (1982)has suggested that 2.8 hater of accessible forests are required for sustaining each haters of the farmland. In this way ,Each and every components of the terrestrial system are interrelated to each other for their existence in the earth .after effective management of community forests their impact fall on bio-diversity conservation in one aspects and community development other aspects. Regarding the bio-diversity conservation, people plant the open area of CF and protect and manage it in sustainable way .For these activities, habitat of several wild lives have been conserved and increased in floral as well as faunal diversity in CF area. Community forest program have also provided various training, workshops, study tours about forest protection, management and community development. People also get various forest products and some income by selling surplus products as well as by operating IGA in the community forests. Similarly community have surpluses time as forest products are nearly found ,and use that time in other business.CF is also helpful to rise community fund and by this fund several community developments work can be done in society.

Various basic needs of the community can only be saturated by versatile use of diversified forests products. So the forest diversity should be maximum to fulfill the diversified need of the people ,the larger the Forest diversity indicate the larger the capacity to fulfill the wider need of the rural and urban people as well.

Hence, wider forest diversity is anticipated for better livelihood of people in any area. An enumeration of the species occurring within a particular sample area is one often used to measure species diversity. To assess the community development socio-economic status is used as parameters. In a nutshell, community forest is directly linked with rural people livelihood by maintaining bio-diversity conservation and helping in community development to uplift the social status.

2.5 Definition of variables & key terms

Community Forest (CF)

A community forest is a part of national forest handed over to forest user groups for its development, protection and utilization for collective benefit.

Forest User Group (FUG)

Forest user group refers to the functional group of the CF which are registered with their constitution in the district forest office is allowed to manage the forest and to use and distributed the forest product independently according to the approved operational plan.

Forest User Committee (FUC)

FUC is an executive committee, whose members are selected by FUG on the basis of consensus or voting that are listed in the constitution of forest user group.

Operational plan (OP)

Operational plan is a written document related to the protection management and utilization of forest on sustainable basis prepared by FUG with the assistance of District forest office (DFO) staff, which must be approved by district Forest Office under the act 1993.

Constitution

Constitution refers in this study is constitution of Fug, which is prepared with the help of DFO staff.

Interest Group

Interest group is the group of the people with similar sales of interest or common problems .These include different in sex, caste, wealth and religious belief.

People's Participation

People's participation refers to the active participation of all forest users in all phase's of community forestry planning that means from user identification to the benefit sharing as well as monitoring and evaluation.

Untouchable Castes

Untouchable castes are those castes, which are not allowed to touch other castes upper then them, in caste hierarchy according to Hindu Ideology.

Forest Management

Forest management means to take care of forests applying different specific operation like thinning, pruning, weeding and cleaning.

Thinning

Thinning may be defined as “a feeling made in an immature stand for the purpose of improving the growth and form of the trees that remain without permanently breaking the canopy”.

Pruning

Removal of live or dead branches or multiple leaders from standing tree for the improvement of the tree or its timber is known as pruning.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Selection of the Study Area

The research was conducted in Sigash FUG of the Siddshowr VDC in Baitadi district. The area selected due to the following reasons.

-) Researcher familiarity in the area
-) Community forestry program has been implemented in the area.
-) Easy accessibility to the area.
-) No researcher of this kind has been done so far in that area.

One FUG of Siddshowr VDC was selected for in depth study while selecting FUGs. Social, economic, technical and institutional dimension of the community forest was given the due considerations in order to make the study more practical, technically sound & reliable with the present situation of community forest.

3.2. Research Design

Descriptive research design was used in the study. It makes an attempt to describe and collect the necessary data to document the impact of community forestry on bio-diversity the conservation and community development of respected field. It is hoped that this research design may fulfill the specific of the study.

3.3. The Universe of the Study

There are 9 community forest user groups in Siddshowr VDC. Among them, Sigash Community forest user group was selected as study unit purposively. This community forest user groups consists of 110 HHs and it benefits 1550 users. Out of 110 households, 24 HHs were selected as sample unit the list of user group, by lottery system.

3.4 Nature and Sources of Data

The research is field based study, the primary data like socio-economic information's. People's participation in forest management, attitude to words Bio-diversity conservation, existing conservation procedure etc. were collected through field work. The available relevant written documents e.g. village profile, FUG Constitution and operational plan of forest, forest user committee meeting. Minutes and documents, publication of district forest office. Forest user group, DDC profile were the source of secondary data.

3.5 Data Collection Tools and Techniques

The following techniques and tools were used for collection of primary data.

3.5.1 Interview Schedule

Reconnaissance survey of the field (survey) was done at first and the survey techniques followed the participatory methods, information were collected following the GAS-PRA (Gender Assessment study - participatory Rural Appraisal) as well as household survey techniques for assessing socio-economic status of user, their participation towards forest management attitude toward bio-diversity, existing conservation procedure and possible alternation various data were collected by asking some questions with sampled households in the study area.

3.5.2 Key Informants Interview

Staffs of district forest office, forest user group committee members. Village development committee members and other educated were the key informants for the study. Formal and informal discussions were performed with them. The discussion was held on their contribution history of community forestry and status of participation was held on their contribution, history of community forestry and study of participation of women, Lower caste and other general user. They were also asked about them, based on the discussion the relevant information was recorded in plain sheet. Besides that two user one male and one female were also

taken as key informants. They are the devoted users in protecting the forest since community forestry was launched. In depth informal discussion was carried out with their experiences. Feelings and contribution, Maximum focus was given to collect qualitative than quantitative data from the key informants.

3.5.3 Observation

Direct observation was applied to get relevant information for the study. In the course of fieldwork, present condition of forest, applied forest management operation. Thinning, pruning, fire line construction) was observed. The researcher attended one of the user committee meeting as an observer. participant of women and their activeness in the meeting , FUG recording and accounting systems was also observed .firewood storage, fire wood consumption, feeding materials of domestic animals , agriculture practices , community development activities done by FUG were also observed , Observation was made during rapport building and informal discussion with users. The observation helped very much in understanding the field reality, which was fruitful for the study that would not had been captured through verbal discussion.

3.5.4 Formal and Informal Group Discussion

During field study, the researcher met local users, women users, and lower caste users, formal and informal discussions were done with them. Discussion With women users and lower caste users were taken separately. Qualitative data were collected through discussions. The discussion focused on the matter of the user's participation in different community forestry activities. Their view about community forestry management community development activities initiated by FUG and current and past status of Bio-diversity in Sigash CFs was also discussed

3.5.5 Resource Inventory Design

Vegetation Assessment

Preliminary survey of whole forest was carried out. Then stratified random sampling was done in permanent rectangular/square plots by taking references and bearing in fixed intervals. Sampling intensity was 1% of total forest. Sample size was 100 square m. for main plots and 5x5 m² for regeneration plots. Poles from 10 - 29.9 cm. DBH was measured from main plots (10x10cm.), and seedling less than 4cm. DBH and above 30cm. (1foot) in ht were counted as regeneration. The condition was assessed by direct observation.

3.5.6 Secondary Data Collection

The secondary data information was collected from related DDC, VDC, DFO, TU library Rang post, other papers and publication mainly for general type of informal like climate, total population, topography gender role & other Socio-economic status of the peoples.

Recourses inventory was carried out following the "guidelines for inventory of community forest" 2000, published by MFSC, Nepal.

Following parameters were used to list out the community development activities initiated by FUG in study site:

- Infrastructure development activities; trails, drinking water supply school education etc.
- Economic development activities, fund raising monetary assistance to society members like students for reading manage etc.
- Skill development activities able to various tools in CF management, carpentry, brick works etc.

3.6 Data Analysis and Presentation

Data were analyzed both qualitatively and quantitatively. data obtained by using PRA tools were analyzed qualitatively in descriptive methods whereas data obtained from resources inventory were analyzed quantitatively .The quantitative data were analyzed by mean percent to assess the people's participation and attitudes towards the bio-diversity conservation for vegetation assessment. Frequency, density, Growing stock, MAI, AAH was identified. Other necessary analytical exercise was carried to com up with appropriate recommendation like either positive impact after gender consideration in FUGs or negative impact. Relevant maps, tables & chart are also presented wherever they are useful.

3.7 Limitation of the Study

Every study has its own limitation & this study is not an exception. The following are the main limitation of the study.

- a. This study covers only Siddshowr VDC; therefore generalization may not be valid for all mid-hills region of Nepal.
- b. Due to the lack of baseline information on bio-diversity for the past or the time before the forest were handed over to users , the changes in bio-diversity in the forest was assessed through interviews with local people only.
- c. All facts of bio-diversity were not covered by this study. it is widely understood by people and is considered to be the measurable parameter of bio-diversity .
- d. Species identification and nomenclature work was not completed due to technological expert.
- e. Not based on any theoretical frame.
- f. Applied research designs are merely exploratory and descriptive.

3.8 Ethical Consideration

In this study, some ethical norms and values were used, which guided for less biasness during study period such as,

-) Respondent's personal/private relation and confidential matters, which affected in his/her life, were not mentioned in this study
-) Respondents or key information were explained the propose & objectives of the study clearly and in understandable way. This study did not consider adding any of researcher own expectation and false formation.
-) No unnecessary pressure was made to the user refusing to involve in the discussion but more efforts were made to motivate such user to involve in the discussion.
-) Data information were not exploited or manipulated during study period data and information was interpreted on the basis of gathered information & findings.
-) The due respect was given to the respondents culture, social values and there ideology.
-) It was very easy to collect Information (Socio-economic& resources Information) from villagers by being better familiarity& good rapport build up with them.

CHEPTEr FOUR

GENERAL INTRODUCTION OF THE STUDY

AREA AND PEOPLE

4.1 Geographical Features

Siddshoer V.D.C. is one of the largest V.D.C. of the Baitadi district out of 62 VDCs. This VDC lies in about 24 KM north of Bagbazar, district head quarter of Dadeldhura district and 58 Km west of Gothalapani district head quarter of the Baitadi district and 390m-2950m altitude from the sea level. There is a motorable road which join Baitadi , Baghang Dadeldhurs & Darchula. There is a market named Khodape lies on the VDC.

Among the many tales about the name of the village one was about the Goddess Siddhnath and goddess SIgash on which Siddshoer was derived,

There are many kind of goddess status and temples which are more then hundred years old. But the famous temple of the goddess of this area is Siddhnath temple .The Nepalese and foreigners also visit there everyday.

4.1.1 Location and Boundaries

Siddshowr is situated on the hilly region .It lies in the for western part of Nepal, which is bounded by Siddeshpour VDC in east, by Patan VDC in west ,by Gajary VDC in north and by Sillanga VDC in south of the Baitadi district.

4.1.2 Demographic Feature

According VDC profile 2008, total household was listed as 714 total populations 4882 of which males were 2472 and females were 2410 .Based on the VDC profile, the total populations of the VDC are listed as below:

Table-3: Social and Demographic Feature

Ward No.	No of Households	Males	Females	Total
1	61	206	199	405
2	63	216	254	470
3	55	191	175	366
4	62	186	223	409
5	48	144	149	293
6	76	239	262	501
7	62	217	195	412
8	156	608	529	1137
9	131	465	424	889
Total	714	2472	2410	4882

Source: VDC profile 2008.

The main language of the VDC is Nepali, National language, although other mother tongues Doteli, Baitadili, Hindi, are also dialect language in their own society .Most of the religious people are Hindus some of them are Buddhists and other .The main castes are Chettri (46.9%),Thakuri (9.1%),Bharaman(21.5%) ,and Dalit(22.5%).The dress ,food, habitat and culture of this VDC is similar to the other Hindu and Buddhist religious people of Nepalese society.

4.1.3 Language, Caste, Religion

The caste/ethnic composition of this VDC comprises Bist,Mahara,Bhatt ,Bhat ,Bohara, Dhami ,Kunwar,Bhandari ,Aire ,Joishi ,Chand , as major castes of the VDC,due to multicast /ethnic composition ,different language are used depending on their groups.

The respect and celebrate both festivals of Hindu and Buddha religion.(VDC Profile 2008).

4.1.4 Natural Resources

In general land, forest, and water are the important land resources of the village. Brief account of these resources is as follows:

4.1.4.1 Land

land is one of the most exploited and utilized natural resources in the study area .Most of the people are involved in agriculture .On the basis of availability of irrigation facilities, land is classified as Bari (Dry cultivated land). According to VDC profile, 2008 the distribution of land area is 68.5% ropanies occupied by farming, 21.5% occupied by forest, 6.5% occupied by house, road river school other offices covers the 3.5% ropanies.

4.1.4.2 Forest

Another major natural resources of the area is forest .10 years before , there was very low growing stock of forest .Lack of effective protection of forest by government during that time was one of the major causes for inappropriate use of the forest resources .Since 1989 ,District forest office has extended its community forest program in the study area .Since then forest condition has been improving .It is estimated that two third of the fuel requirements of the user and fodder ,leaf litter ,grass to the domestic animals are fulfilled from own village forest.

According to VDC profile 2008, out of total forest (59236 H) of the district 16445 hectare area is potential community forest area. Among this, about 286.72 Hectares of forest area is managing by SIGash community forest user Groups.(Source LRMP & DFO report 2008).In this studied VDC, there are 9 community forest which covers more then 2000 hectares area.

Details of the community forest of the VDC are illustrated in table below:

Table No. 4: Distribution of community and Religious Forest in Siddshowr VDC.

S.N.	Name of the Forest	War No.	Area(Hech)	Hand over Date	Households
1	Sigash CFUG	9	286.72H	055/11/10	110 HH
2	Rameshowr CFUG	8	140.9H	053/12/24	60 HH
3	Siddhnath CFUG	7	206.97 H	052/07/26	65 HH
4	Sallebasha CFUG	6	226.34 H	059/03/24	68HH
5	Bhumiraj CFUG	5	94.5H	059/07/26	45HH
6	Trushully CFUG	4	351.5H	053/12/24	89HH
7	Laxmi CFUG	3	248.4	058/12/27	50HH
8	SiddShigash CFUG	2	198.72	058/03/24	74HH
9	NIglashainiy CFUG	1	227.04	058/05/27	55HH

Source: District forest office, 2008.

Above table shows that community forest program benefits households of Siddshoer VDC.

Different types of the trees species and animals are found in the forest within the VDC. Salla(Pinus roxburghii), chilaune (Schima wallichii), Utis (Alnus nepalensis), Katus (Castanopsis sps), Falant(Quercus sps), etc are main tree species found in the VDC. Similarly, Leopard, Deer, Rabbits and different types of birds are found in the forest. The focal point of the study in Sigash CFUG located in

ward no 9 of the VDC .There are 110 households protecting and managing the Sigash CFUG where 550 peoples are benefited from the forest .Out of total population of the forest user groups 267 are mails and 233 are females population /beneficiaries.

4.1.4.3 Water

The main source of the water are rivers and ponds in the study area . It has many small sized of ponds and rivers like Bhaddikhola, Kholakhodape, Panalighad etc.

There is a big tank of drinking water supply to fulfill the villagers water supply for there livelihood. There are 35 public water taps 12 wells and deep water well for supply of water needs.

4.1.5 Infrastructure Development

Siddshoer VDC is linked with 12 km black topped road to Anarkhouli to Manikhan .Frequently bus service available making easy access to the people for marketing and to join colleges for higher education. One higher secondary school, five secondary school and 12 primary schools are providing the education to a people of Siddshowr VDC .There is forest range post, area police station and post office .One sub-health post and Ayurvedic Aushdhalaya is providing the health services to the villagers, agriculture and livestock service center are also providing services to the peoples .

Simimilarly a library of Bhumeshowr Community Development Organization (BCDO) ,Milan youth club ,KBDS ,Athma Bikash Sangh, CEBRED, FECOFUN, ACTION AID Nepal are providing various social and educational services to the local people. There is a family planning center providing health services to women.

The main large scale industries of the VDC are Carpet industries, Crusher industries, others are small cottage industries i.e. like oil mill, rice mill, furniture udyog, woolen industries, bread industries, milk dairy, Jaributi collection center etc.

Khodape Bazar of the Siddshowr VDC is the main business center which is also known as the gateway of four district (Baitadi, Darchula Bajhang, and Dadeldhura). All the productive materials are sold here, rest of the non-consuming goods are carried in Dhangadhi, Mahendranager, Depyal, Dadeldhura, Patan.

CHEPTER FIVE

DATA PRESENTATION AND ANALYSIS

5.1 Location

Sigash forest user group is one of the largest forest user groups among 9 forest user group of Siddshowr VDC. People of ward no. 9 are the user of Sigash community forest. The community forest is located in the northern part of VDC which has the total area of 286.72hectors .Slope of the forest is about 24⁰ to 45⁰ facing towards north east. According to Forest User Group, 2008 forest is dominated by almost natural regeneration .Major tree species are Salla(Pinus Roxburghii), Chilaune (Schimawallichii), Katus (Cestemopsiec Indica), Khasru (Quercus spp), Gurans(Rhododendron Spp), Painyu (Prunus Cerasoides), Utis (Alnus Nepalensis), Leopard, Deer, Rabbits, Fox, Tiger, Monkey are major wild animals in addition to different species of birds like Kalij, The worlds most endangered birds, Spiny Babbler (Kandedar Vyakur) is also found in the forest.

A. History of Sigash Community Forest

The forest is situated in ward no. 9 of Siddshowr VDC, Baitadi. Before 2050 B.S. the condition of the forest was good and naturally rich in flora & fauna. After 2050 B.S. forest degradation started due to illegal feeling, uncontrolled urbanization ,soil erosion ,illegal export of timber to outside the VDC area and forest area converted in bar land up to 2054 B.S.

ON 2055 B.S. that bar land namely Sigash was covered by pines plantation on finding and supervision of government of Nepal .After plantation, one water is appointed by HMG to see and protect the plantation area. Forests were protected and had been improving up to the time .When watchers were discontinued after2050 B.S. protection aspect of the forests becomes failure and again started degradation as before 2054 B.S.

On 2062 B.S. physical years those degraded area was again planted by finding assistance of community forest development project. At that time Pinus and Utis species were planted and protection started with the help of local rural people. Because of involvement of some local people in plantation of that forest patch and extension of awareness program, peoples started to participate in forest protection and development .AS a result of local people participation, self realization by local people, Sigash forest user groups was registered in DFO & started to protect the forest as Sigash community forest .The condition of the forest has been improving and now forest patch have become mixed forest of schema castanopsies.

FUD have prepared a new operational plan for period of 2055/11/10-2058/11/10 to protect, manage &utilize the forest on sustainable way. Out of FUG one person has been appointed as a forest watcher, by the provision of payment to him in kind as well as in cost. Siddshowr VDC, forest patches handed over as community forest and Sigash is one of them. Now a days scheme Wallachia, pinus, gurans, utis, are present in forest. In addition, casanopsiosindica, C. tribuloides, and many natural regeneration exists in the area making greenery and sound environmental condition .Now the condition of the forest is better then previous days.

B. Forest Composition

Vegetation in the forest has been obtained by participatory and technological vegetation .Assessment of the community forest mainly scheme castanopsis forest is where schema Wallachia is dominant .By the method of vegetation assessment i.e. forest inventory based on g government guide lines for CF inventory, following results and records have been obtained.

During forest inventory, the criteria used to define trees, poles regeneration (seeding sampling) are as follows

For tree strata; plot size=25m x 20 m

For pole strata plot size=10 m x 10 m

For regeneration plot size= 5 m x 5 m

For trees: DBH be > 30cm

For plots: DBH be 10-30cm

For regeneration DBH be 4-10cm

For regeneration DBH be 4-10cm as sampling

DBH below 4cm as regeneration

Those species which has DBH greater than 30cm are considered as trees whereas those which has DBH between 10cm to 30cm are considered as poles & below 10cm that is regarded as regeneration (seedling & sapling).

C. Sampling Adequacy and Bio-Diversity Indicator Analysis

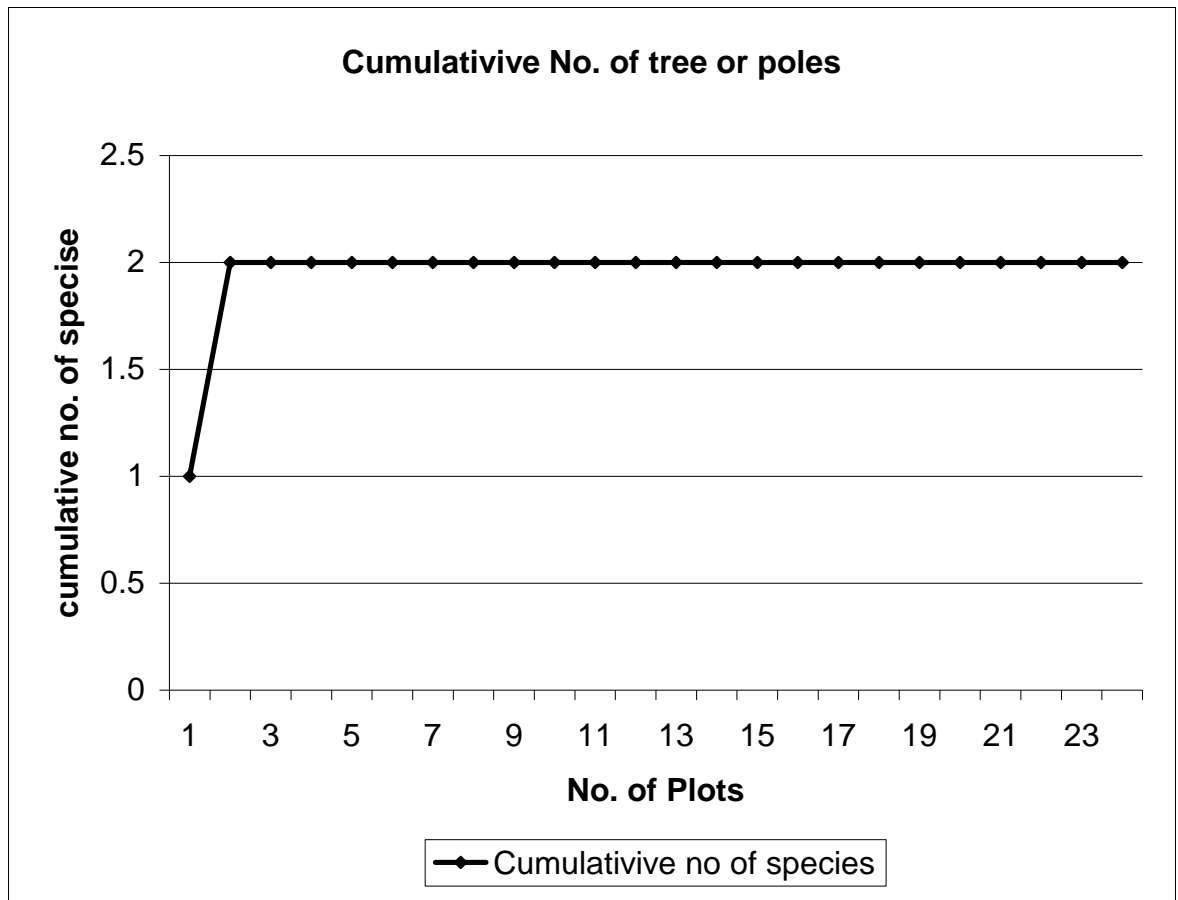
While estimating species diversity it is necessary to sample the area such that it gives a good representation of the species richness and diversity of the region. This can be achieved by sampling a larger area either by increasing the number or area of the plot by increasing both simultaneously. However, in practice one can use species area curve to analyze the species richness and finalize. The sample plot number or the area the smooth curve indicates the adequate number of sampling for species diversity in that particular area. But in my present area study the plot number is fixed and checked by species area curve. It gives the sufficiency of sample number to analyze the bio-diversity status.

Table No. 5: Description of Species Occurrence in Sample Plot

Plot No.	Total count	No of species in plot	No of new species	Cumulative no of species	Total count	No of species in plot	No of new species	Cumulative no of species
1	4	1	1	1	37	9	0	9
2	4	2	0	2	48	9	1	10
3	4	1	0	2	15	3	1	11
4	1	1	0	2	30	11	1	12
5	2	1	0	2	26	7	2	14
6	6	4	0	2	39	9	1	15
7	7	1	0	2	8	38	1	16
8	10	2	0	2	51	9	1	17
9	1	1	0	2	36	8	0	17
10	4	1	0	2	25	7	0	17
11	12	1	0	2	24	7	0	17
12	3	1	0	2	32	10	1	18
13	5	1	0	2	37	9	0	19
14	2	1	0	2	45	9	1	19
15	3	1	0	2	55	6	0	19
16	4	1	0	2	34	7	0	20
18	14	1	0	2	35	6	0	20
19	5	1	0	2	33	7	1	21
20		1	0	2	9	4	1	22
21	2	1	0	2	29	8	0	22
22	4	1	0	2	30	10	2	24
23	3	1	0	2	24	8	1	25
24	1	1	0	2	19	5	0	25
25	1	1	0	2	78	9	1	26

Source: Forest Inventory, Ministry of Forest and soil conservation, Nepal

Chart No. 1 Description of Species Occurrence in Sample Plot



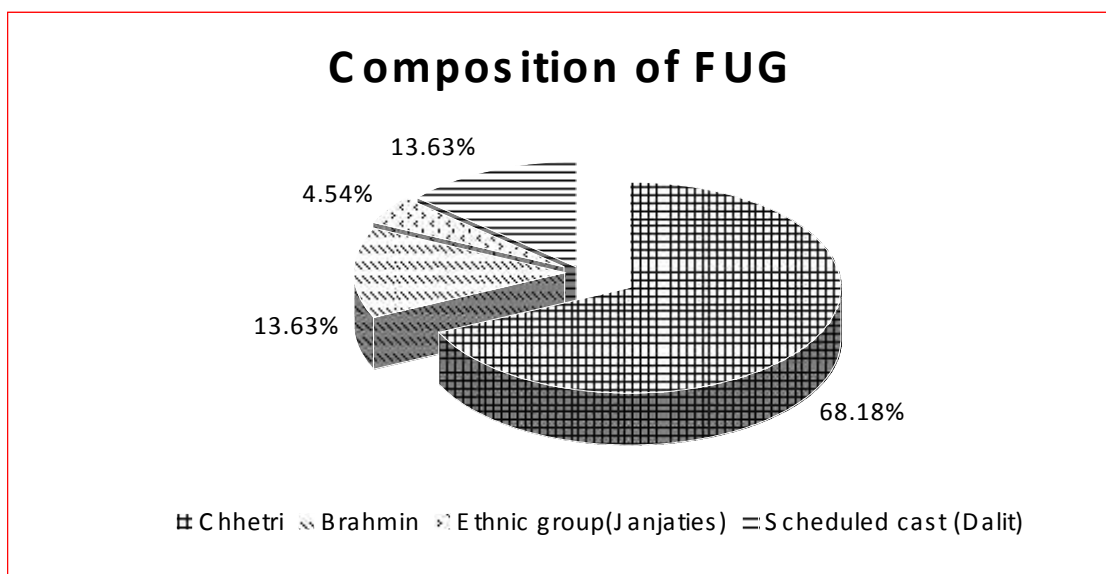
5.1.2 Social Economic Characteristic of Forest User Group

Social and cultural features and economic activities of forest users were examined to discuss the social characters of forest user group using 24 sampled households. Among 24 household 15 households were taken from Brahmin5 HH from Chhetri 1HH from ethnic groups (Janjaties) & 3HHs.from each Scheduled caste(Dalits) Out of 24 respondents 8 are females.

A. Ethnic Composition of Forest User Groups

Sigash Community Forest has 110HHs there are 550 users among these HHs .Which are legally defined as primary users .All members of the FUG have feeling of ownership about their shows detail information of caste/ethnic composition of Sigash forestry user group.

Chart No.2 Composition of FUG



B. Age and Sex composition

There are altogether 110 HH in the Sigash community forest user group. Out of these 24 HHs were selected as sample for the study .24HHs covered benefited users .These sampled household users are categorized in five age groups in the following table.

Table No. -6, Age and Sex Compositions of Sampled Household

S.N.	Age-Group	Male		Female		Grand Total	
		No.	Percentage	No.	Percentage	No.	Percentage
1	0-5	9	6.38	5	3.60	14	9.93
2	6-14	4	2.80	7	4.99	11	7.80
3	15-39	35	24.81	33	23.40	68	48.23
4	40-59	11	7.80	14	9.95	25	17.73
5	Above 59	13	9.21	10	7.06	23	16.31
Total		72	51.00	69	49.00	141	100

Source: Field survey, 2008

From the above table it can be seen that that the population of the female is lower than male .Age group between15-39 has domination in the user group, which has covered 48.23% of total users. Out of total respondents 10 were above 59 years old and 8 were in the range of 40-59 years.5 respondents were in between 15-39 years age class and one was in the range of 6-14 years.

C. Household Size and Structure

Household size of the Sigash community forest user group found from 1-9 members with the average members of 5.63 persons. Most of the families were found nuclear family .Distribution of families of respondents HH is presented in the table no.6 below.

Table No. 7: Number and Percentage Distribution of Family Size of the Sampled Household.

S.N.	Number of Family Size	No. Of Household	Percentage
1	0-4	3	13.63
2	5-6	18	68.18
3	7-8	1	4.54
4	9-and above	3	13.63
Total		24	100

Source: Field survey 2008.

Above table indicates that most of the household were found having 5-6 members' family size which is 68.18% coverage of the user group 3 HH was found having 3-4 members with 13.63% in the coverage of total HHs. Only one HH were found with 7-8 members in a family. During the household survey 3HHs were of Dalit community has found more then 9 family members. Ethnically it was found that Bhriman has average of three persons per household whereas Chettri,Thakuri,were found 5 and 6 persons per household respectively.

D. Education Status of Sampled Household

The data reveals that Bhrimins are highly educated than others. Educational level of male is higher than female. Both young and old generation of the male are educated. Most of the females are uneducated over the ages of 45 years, however the young generation of Dhami, Kami, Sarki are also educated. Old generation of these groups are illiterate. Educational status of the sampled users is categorized in six levels, which is given in the table below.

Table No.-8 Distribution of Population by Educational Status in sampled households

S.No.	Educational Status	Male		Female		Grand Total	
		No.	%	No.	%	No.	%
1	Illiterate	18	25	36	52.17	54	38.29
2	Primary class(1-5)	9	12.5	9	13.05	18	12.76
3	Secondary class(6-10)	27	37.5	14	20.29	41	29.07
4	S.L.C.	10	13.88	6	8.69	16	11.37
5	Intermediate and above.	7	9.73	2	2.9	9	6.38
6	Literate but not school trained	1	1.39	2	2.9	3	2.13
Total		72	100	69	100	141	100

Source: Field survey 2008.

The table above shows that 38.29% of users are illiterate and 86.71% of users are literate. Illiterate percentage of females is higher in comparison to male user. The 52.17% of females are illiterate whereas males are 25% literate. The 9.73% of males are having intermediate and above intermediate levels of education whereas total 2.9% of females are having intermediate and above intermediate level of education.

During HH survey, only one male Chettri among 28 Chettri users was observed with higher education. In Kami ,Dami, Dammiee, users no single user was observed with education above then S.L.C. during interview,10 respondent were S.L.C. passed where as ,5 respondents were secondary level and 5 were intermediate and above level. Only one respondent was illiterate and 2 were primary class.

5.1.3 Economic Activities

Land tenure, livestock holding capacity, agriculture production and food sufficiency and occupation of the forest user group were surveyed and examined .The details of these activities are briefly discussed in the following sections.

A. Land tenure ship

Among the ethnic groups,Bhrimin holds more land then others .No Bhrimin family was found having less then one ropani of land .Distribution of sampled household by size of land holding is given in the table below.

Table No.9: Distribution of Sampled Household by the Size of Land Holding

S.No.	Land holding (Ropani)	No. of Respondents	Percentage
1	Land less	1	4.2
2	0-1	6	25
3	2-5	15	62.5
4	6-10	2	8.3
Total		24	100

Source: Field survey 2008.

Above table indicates that there are 6 households with 0-1 ropani land holding .They are from Cheetries.Dalit and Janjati has no land they are defined as Sukumbashi.Bhrimins are land holding more then 2 ropanies.

B. Livestock Holding

Dhami, Kami, Sarki ethnic group have no livestock whereas Brahmins/Cheetri and other have some domestic animals like, cows, buffaloes and goats e.t.c. Some Cheetries are involved in poultry farming and bee keeping.

C. Agricultural Production and food sufficiency

Main agricultural products are maize, potato; pea, rice and some green vegetable in the settlement area .Green vegetable are produced as cash crop. However no HH were found dependent agricultural products only. Bhrimans and other Cheetri ethnic groups are also involved in different governmental and non-governmental services.

Generally, females of HH occupied with agricultural work and males were occupied with governmental and non-governmental sector services only 3% HH of Brahmins are completely dependent in agriculture who have sufficient production for their livelihood. Agriculture production make the Chettri ethnic groups help ful to survive only for 6 months but remaining 6 months needed to work for their survival. The table given below shows the production pattern of agriculture in Sigash community forest user group.

Table No.10: Distribution of Sampled Household Based on Their Agricultural Production

Crops	Unit	Agricultural Production				
		1-3 Muri	4-6 Muri	7-9 Muri	10-12 Muri	Above Muri
Rice	HHs	2	2	3	5	-
Wheat	HHs	10	3	2	3	4
Maize	HHs	11	4	3	3	1

Source: Field survey 2008.

Above table shows that 22 HH produces rice and maize whereas 2 HHs without any production of maize 2HH rice similarly 12HHs do not produce. Out of 24HH only 5 HHs sale their agricultural production as a surplus production.

D. Occupation

Livelihood of the users is mainly based on subsistence of the agricultural economy. The only agricultural production is not sufficient for their livelihood. Bhrimin & Chettri community extended their occupation in service of government and non-governmental organizations. Dhami ,Kami,sarki,are mainly busy in their profession and their survival dependent upon that occupational distribution of respondents is given in the table below.

Table No.11 Occupation Distribution of Sampled Household

S.No.	Occupation	No. of Respondents	Percentage
1	Only agriculture	2	8.33
2	Agriculture and Service	14	58.33
3	Agriculture and Shops	2	8.33
4	Wage labor	4	16.66
5	Occupational Job	2	8.3
Total		24	100

Source: Field survey 2008.

The table above shows that most of the household (about 58.33%) are involved in governmental and non-governmental service beside agriculture .Income from extra activities then agriculture is used in the expenditure of agriculture, education, health ,festival cloths and food .Household of Dhami & kami are found solely dependent on daily wage labor and occupational jobs. Carpentry masonry in construction and other labor work related to agriculture and stone query are the main source of daily wage labor work for the dependent user of Sigash community forest .Out of 24 respondents, 10% are occupational job holder where as 75% are involved in agricultural and 10 % are engaged in service as well as small shops .Wage labor includes 5% respondents.

5.1.4 Culture and Religion

In Sigash forest user group, ethnically the users are heterogeneous but culturally and religiously they are homogeneous. They all belong to Hindu religion, all ethnic groups, celebrated Dashian and Tihar and other Hindu festivals. Dhami, Kami, Sharki, Dami, Koli, Dholi, Bhul, Nepali, B.k., Charmacar, Sunar, Bhad etc in the community belongs to untouchable caste. Even though constitutionally prohibited. They are not allowed to touch Brahmin, Chhetri, and other higher castes. Brahmin community celebrated KUL-PUJAA once a year. Dami sharki & kami ethnic group has no extra special religious practice and celebration.

5.1.5 Uses of Forest Products

The main forest products used by the local people on a regular basis are leaf litter, fire wood and fodder. Timber for construction is in less demand. The forest users fulfill their most of the demand of forest products from community forest and to some extent from their own farmland. So far the forest users are not using forest products for the purpose of income generation. As the trees of the community forests are in young age not viable to produce timber as demand of users if users need large amount of timber they buy nearly from market. Users use medicinal plants extracting from their community forest if they need for their own use.

5.1.6 Problems in Managing Community Forest

According to the sampled HH users are facing some problems in managing the forest on sustainable basis. These problems are as follows

A. Protection Problems

Out of 24 respondents 14 told that, there are little bit problems in protecting the forest as forests are not able to supply the demand of increasing the number of users. Although there is a watcher to look after the 286.72 hectares forests regularly but become failure to see all illegal fire wood collection in last year. According to opinions of respondents, extension awareness regarding the CFAs should be conducted to watch the forest by all users instead of only watcher.

B. Productions distribution Problems

The area of the forest is not able to fulfill the demand of 110HHs which are defined user of the Sigash CF. They are facing fire wood crisis in some seasons and raises some conflict during distribution of the products collect from the community forests, Those HHs with more members demanded more forest product than HHs with less members. Users are demanding 50 .bhari firewood per HHs, but now forest is supplying only 10 bhari fire wood per HHs per year. To solve these problems, sampled HHs suggests that, agro forestry system should be emphasized and plantation must be done in the open area o the forests. Similarly forests products should be distributed on equity basis not on equality basis.

C. Silvicultural Treatments Application

Users have lack of scientific harvesting tools to do various silvicultural treatments like thinning, pruning, singling, fire line construction, felling etc in their forest. So they must have proper tools to manage the forest in scientific manner .In view of respondents, Fug are not sufficient money to buy such tools and supervise the forest from illegal doing. The community keeps the record, which are assessable to all the users, the general protection are mentioned in following table.

Table No. 12 Community Forest Protection System

Description	Protection system
Fire	No permission to enter the forest talking matches ciggerattes in fire proem period. Extension by Fug and range posts, lubes. Penalties for international fire.
Grazing	Prohibition to graze . Penalties for herder.
Trees species (Seeding, shrub, Saplings ,poles etc)cutting.	No permission to go to the forestry talking knives expect on prescribed time. Penalties for rule breaker.
Forest patrolling	Patrolling is done by CFUG themselves talking equal responsibility and also by appointed Heralus.

Source: Field survey 2008.

The protection system was prepared by the user group assembly and the CF operational plan documented is very clearly these systems can be reviewed and

reviewed and revised by FUG to make betterment from for their forest protection, management and efficient use.

5.1.7 Reward and Penalties

Forest user group made some penalties rules for those users who break the norms and rules of the constitution and operational plan. Constitution has not given permission to enter the forest with out notice .Users who involved in destruction of forest are supposed to get penalties. She/he will get penalties in accordance with his /her nature of crime. Sigash community forest user group has made two types of penalties for minor offence and penalties for major offence. Details of offence item and penalties are mentioned in to two table given bellow.

Table No.13 Penalties for Minor Offence

S.N.	Offence Items	Penalties
1	Fodder collection	Rs.50 per Bhari.
2	Leaf litter and grass cutting	Rs 25.
3	Fire wood collection.	Rs25 - Rs 50 for dry and Rs 50 - Rs 100 for green.
4	Timber cutting	Rs 5000- Rs 1000/- per tree. & seize the timber.
5	Damaging of Seedling	Rs 100- Rs 500/- per seedling.
6	Charcoal making	Rs 1000- Rs 2000/- & seizing the coles.

Source: Field survey 2008.

Above table describes that three are penalties in monetary term. There is different rate of fines for separate penalties .Fines rate for illegal for charcoal making is higher the other penalties.

Above mentioned penalties are minor offences. Next table has described major offences and penalties for those, who found in forest having intension of forest

destruction. The table No. 13 below shows the major offence items and penalties for them.

Table No.14: Penalties for Major Offence

S.N.	Item	Intension of destruction	Dead of destruction
1	Hutting	Rs.500 – Rs 1000 .	File the case to DFO.
2	Digging Soil & Extraction	Rs 15 - Rs25 per Bhari.	To inform DFO for punishment.
3	Land Encroachment	-----	File the case to DFO.
4	Stone Extrection.	Rs 1000- Rs 2000/- per trip.	File the case to DFO.
5	Fire hazards	Rs 100- Rs 500/-	File the case to DFO.
6	Grazing	Rs 10- Rs 30/-	-----

Source: Field survey 2008.

Above table revels that there is a role of DFO to give penalties if case is forwarded to district forest office by forest user group. DFO punish under the forest act1993.

All forest users are responsible to control the fire hazards if happen. Absence user in the exhaustion of are fire are suspended for one year from general membership of users. Wild animals including any wild birds of forest are not allowed fur hutting for the protection of wild life. Persons who are able to catch role barkers get reward as 50% of monitory penalty.

5.1.8 Transparency and Communication

Forest user group has adopted good system for the transparent and communication in user can check and look if he /she any suspect to user committee .Every user can keep any question to the committee to come out from his and her confusion. Details of account and others activities has been presented in the group assembly in every year.

User committee and users and informed through letter by committee chair person or secretary for the participation in meeting and assembly .Any absent user can see meeting minutes after words without restriction to know what decision were made in meeting. Similarly for the implementation of the every activity, all HHs are informed to participate through letter.

5.1.9 Average forest Condition

The community forest is gradually improving 9 years of protection has already shown some positive trained on density of trees ,shrubs, bushes & the ground cover. The users see changes in vegetation cover very positively and they cite the regions for such changes as

- a) Zero grazing in the forest area &
- b) Monitoring and convincing users not to cut trees for fuel wood.

The lower trees and strut densities and species richness indicate still a degraded stage of the community forest .However, the positive effects of protection such as close to zero grazing and regulated harvesting of ground forage during the last two seasons are quite visible, specially entry and shrub seedling counts. Considering these parameters for forest growth, it could be said that vegetation and species diversity are about normal for this ecological zones, nonetheless, it would require stricter conservation practices for another 4-5 years to go better results from the seedling and saplings.

5.1.10 Off Firm Activities

Farming is the major economic activities, Which is supported by seasonal wage earning .Out of 24 HHs, 16 HHs with limited land holding,work as agricultural labor with the settlement and in Patan after the paddy /maize harvest, They people to go Dadeldhura send money at homes and by agricultural inputs like fertilizers ,and some seeds and some times for HHs use .

5.1.11 Energy for Cooking

Fire wood is the major source of energy for cooking. Besides fire wood, maize stoves are also used for cooking .Maize Stover supplements fuel woods between October and mid January while fuel wood is used through out the year. A few of the farmers who have a good earning have started using kerosene to cook a part of their meal i.e. vegetable and tea from mod April to September. Some users use gas stoves to cook their food .Following table show the source of energy use by sampled HHs.

Table No.15: Energy Used by Respondents

Fuel wood	Gas stove	Others
12 HHs	10 HHs	2 HHs

Source: Field Survey, 2008.

Above table revels that 50 % of the HHs were depend upon fuel wood for cooking food and other things .Out of them 10% have their own private forest for fire wood and 40% depending upon CFs to meet their demands .In sampled HHs 10 Were used gas stoves and 2 were used other thing rather then fire wood and gas stoves.

5.1.12 Institutional Arrangement

Users Committee

Community forests were established with a mission to involve the individuals, the immediate users, in protection, development, management, and sustainable use of

the forest and to make them fully responsible for their action. It is to make them feel that the forest they have been using for decades belongs to them and it is up to them to:” How best they use and manage the forest for the people.” User groups and user committees have been formed to properly use and manage their forests .sustainable use and management of these forests would ,however ,depend upon the governance activities of the user group and the users committee .In sampled respondents , 5 are working in a forest user committee to do leading roles in community forestry activities and making decisions .

Duties and Responsibilities of Forest user Committee

Forest user group committee play a vital role in protecting and managing the forest with the help of the people .They have to flow constitution of user group and operation plan of forest .If user committee needs to change and to aid new rules, they have to call general assembly to formulate and approve the rules .The can formulate new rule with the agreement of the general users but it is necessary to take approval from DFO.

Forest user committee has set some duties and responsibilities foe the effective implementation of community forestry activities with full participation as much as .The duties and responsibilities of forest user committee are as follows.

- To call the committee meeting in every month for the discussion on forest management and other causal problems.
- To take the necessary step to implement the operational plan.
- To punish and fine the individual, whom is against the rules and regulation of the operational plan and constitution .As per need, they get help from DFO for further punishment.
- To consult with DFO to take necessary technical advice and other helps if needed.
- To keep the records of the income and the expenditure of committee and to present in general assembly in every year for the approval from the group.
- To dismiss the position holder user committee membership if they do wrong with forest & forest user group.

- To use and distribute the forest products equally as mentioned if in OP for the satisfaction of the users.
- To check weather users are performing their duty of a forest protection.
- To notify the users about the work and decision of a forest user committee.
- To perform other concern works of community forest with the help of general users.

A community forest management work plan for five years was developed with user's participation and the forests were handed over to the community as community forest. The user committee is an induced institution at the local level with defined duties authority and responsibilities as above to implement the policies and action plan.

Activities

During the past few years, the committee has coordinated planting of plants in open area of the forests and has sanctioned rule breakers. The user committees with the full of support of the users groups general meeting have passed rules to harvest forest products and distributed them to users on given dates .The decision in the general meeting determined timing of the harvest of the forest products and their quantities .

In principle every one of the user committee is supposed to know the rule that guide the committee and it's functioning, but in practice it is not happening. Many of them do not know most of the time they flow the chairman of the committee for a decision. On the other hand the decisions made of harvesting forest products and planting seedling last years, known to all of the users.

Governance

Sigash community forests user committee has 11 executive members where are 7 males and 4 are females members. These members have been elected for one year by users during the preparation of inventoried operational plan, general assembly. All the executive members belong to the user group.

According to the work plan, and rules governing the user committee, a meeting has to be once a month the last Saturday in a month. The user committee has to call a general meeting of the users at a last once a year to discuss and decide open forest maintenance, development, main use and management.

In principle, the user group's general meeting has the authority to remove the members or dissolve the executive committee of the association and form new executives from the users if it is proven that the committee is not functioning properly or not talking the assigned responsibilities. This association is more decentralized in the sense that the higher level authority (DFO) can not either remove the members of the executive committee or dissolved the committee till 2066 B.S. the work plan period.

The committee members are not played but work on voluntarily basis .The education level of most of the executive members is not so high and many of them have to go through the work plan which they need to implement by 2062 B.S. But extension efforts have been made to make them fully understand the mandates and the work plan. Most of the executives probably need motivation to change their attitudes and attained a formal meeting more regularly as mandated.

Financial Resource

The Major financial resources for the forest assertion are voluntary contribution of fund from the members of the user group and special levies. According to Forest User Group report, 2008 they collect Rs 20 per group member each year for membership renewable and Rs 5 per member during fire wood collection.

5.1.13 Effectiveness of community forest user group

The executive function of community forest user group was formally started from 1997 after formation of users group committee and operational plan of community forest watcher individually and play the equal and important role to conserve protect and manager to their community forestry. After analyzing the questioner, following results obtained for assessing the effectiveness of CFUG.

Tables No. 16: Description of the effectiveness of CFUG

Description	No. of respondents	Percentage
Very Good	1	4.16
Good	3	12.5
Fair	15	62.5
Satisfactory	5	20.83
Total	24	100

Source: Field survey, 2008

More than 60% respondents expressed that the function CFUG is fair, 20% expressed satisfactory, 12.55 expressed good where as 4% said very good. In general the function of CFUG is Fair and effective. Basically respondents made some baseline before saying good or bad. They are resources mobilizations, forest condition, community participation, development activities, awareness, movition and measured the effectiveness in terms of increasing /decreasing forest condition /diversity as well.

5.1.14 Level of People's Participation

Label of people's participation in community forest management differ significantly with respect to works that is mentioned in the following table

Table No. 17: Level of Peoples Participation

S.N.	Nature of works	Participation no of respondents		
		Very Good	Good	Fair
1	Plantation in CF	–	24	–
2	Protection of CF	–	19	5
3	Thinning/pruning	6	14	–
4	Other communal works	1	9	14
5	FUG/C meeting	–	21	3

Source: Field Survey, 2008

Level of participation shows that the motivations, Extension ,and awareness are being disseminated, and participation is increasing in any community forest development activities but it depends on the direct benefits of the people such that they will get fodder and fuel wood from thinning and pruning operations thus level of participation is very high in this regards .According to informal discussions with labor charge ,level of participation is might be increased similarly if the direct and indirect incentive is provided to other communal works the participation will be increased .

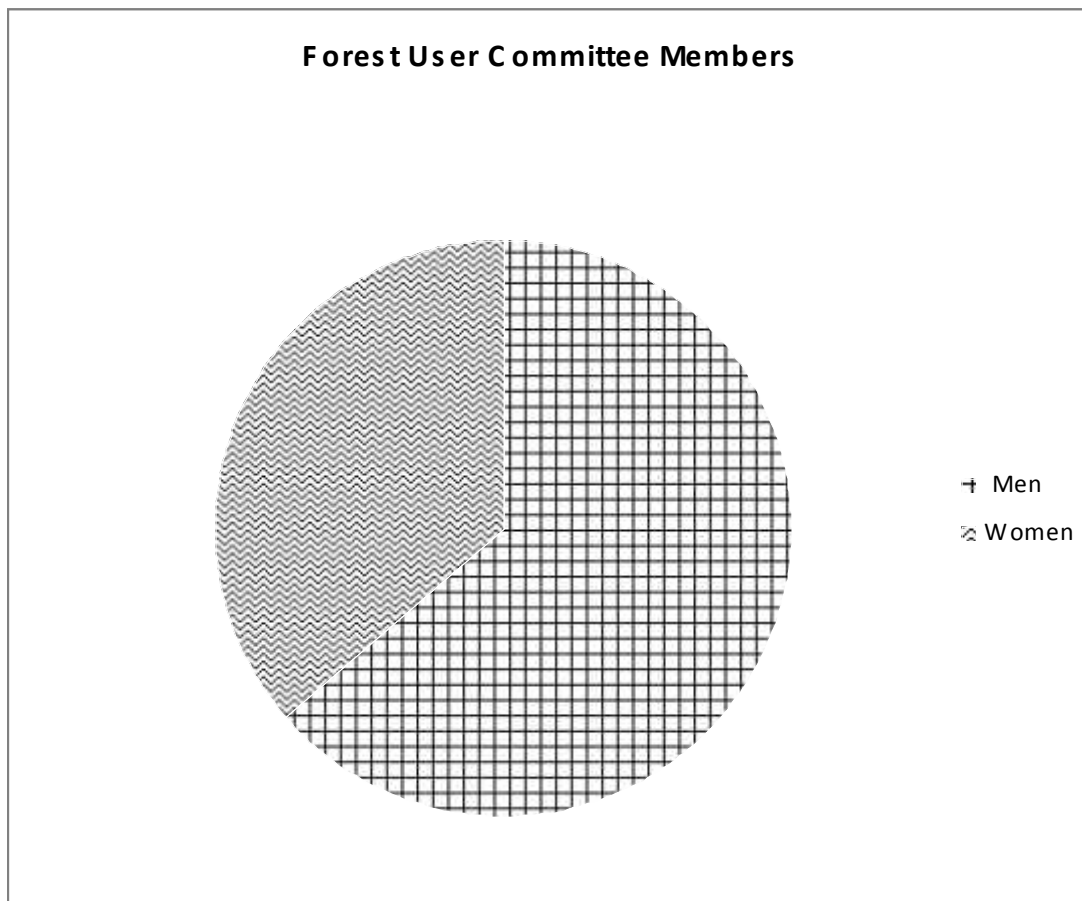
Women’s Participations

Almost all the respondents released and said that women’s participation is good in community forest management activities. They are eager to know rules, regulations and perspectives of the community forest. Most of the respondents felt that women’s self interest training ,workshops, study tours, villagers request and demonstration etc are the main monitoring factors for their involvement .Infacts the peoples participation is encouraging ,so we can expects the proper implementation of community forest management activities considering the importance of bio-diversity.605 of the respondents knows their rules and

regulation of community forest operational plan and involved in operational plan preparation.

In regard of women involvement in forest user committee of the SIgash FUG, the following chart shows the clear view of the women participation.

Chart No .3 : Forest User Committee Members



From above charts about 36% women were seemed to be participated in FUC to lead the community FUGs.

5.1.15 Strength and Weakness of CFUG/C

The strength and weakness of CFUG/C are presented bellow.

Strengths of CFUG/C	Weakness of CFUG/C
<ul style="list-style-type: none">) Good forest protection) Good initiation) Satisfactory peoples participation.) Improving forest condition.) Unity and commitment for protection.) Increasing awareness.) Consensus in meeting.) Regular meeting conduction.) Transparent fund management.) Improving forest diversity.) Conducted community development activities.) Own office building with well furnished. 	<ul style="list-style-type: none">) Weak leadership) Poor participation in some cases.) Forest products not sufficient for all users.) Non equal responsibilities bearing.) Poor documentation.) Poor implementation of CFUG.) Less interaction and idea sharing.

5.2 Impact of Community Forest on Bio-Diversity Conservation and Community Development

The impact of community forest was assessed through direct (formal /discussion / questionnaire) and indirect (personnel judgment/informal discussion /key informant survey /triangulation and GAS-PRA) means but only some major impacts are assessed and described.

5.2.1 Impact on Plantation and Forest User Group Formation

There are 62 VDC and one Metropolitan city in Baitadi. With the help of DANIDA supported FECOFUN, DFO aims to extend its plantation program through out the district and had implemented its plantation program in the district before 10 years ago.

In the implementation, .the huge plantation was carried out in the study area .Present major tree species are the outcome of that investment. Now , HMG begins to shift emphasis from not only establishing plantation but also developing equitable and participatory system of forest management through the establishment of forest user groups and handing over responsibilities and authority to them .By now about 558 FUGs are formed in the district where 9 FUGs are formed in Siddshoer VDC and plantation work is being conducted through participation of FUG members in each community forest. Out of 9 FUG s In Siddshowr VDC ,Studied SIGASH FUG had been formed in 2057 B.S. and gradually plantations in open land have been carried out in every year.

According to sampled households, due to less economic condition of the FUG, 7 hectare of the area has been planted up it now. Species planted in the forest were Utis, Kafal, Pines, Dhupi, Salla etc. As protection of the forest is very good, so many regeneration have been arisen and are still coming .After plantation and protection, density of the forest has been increased.

5.2.2 Financial and Economic impact on Households

These type of impact could be measured in terms of time saving to collect fodder ,grass , leaf litter and other available and necessary forest resources .Though it was not assessed directly in my study but I came to know after informal discussion with villagers that more then 25% time is being saved for this works now a days .Before protection of these forest people had to be walk about 1 hour to collect forest products even for life litter

.Now they can collect own Bari leaf litter within 20-30 minutes from their forest .It help to engaged them in full time (10am-6am) in their agricultural and business work which as direct positive impacts on economical and financial aspects .Altogether 25 respondent told that there time was saved and they were using that time in agriculture as well as business works for their livelihood.

5.2.3 Impacts on Fuel-wood collection

Previous plantation offered the potential to provided considerable amount of fuel-wood as compared with the degraded sides on which they were generally established .Appellate etal (1988) reported that fuel wood could be harvested in the form of branch pruning in the six year after establishment with the first removal of multisystem & thinning talking place in the ninth year. They reported that nearly 12 ton/hact of oven dry biomass were able to be harvested in the first 10 year leaving the standing biomass of 20 ton per hac.There is a little yield information available for older plantation under appropriate treatment which will both generated regular fuel-wood and provide adequate Silvicultural care for later timber harvest. Nevertheless such yield estimates for fuel wood resulting from pruning and thinning by year from establishment will dependent on the site ,plantation stocking /survival general management (Participatory weeding & animal management)n and harvesting intensity. In sampled households, 18 households supplying there fuel wood demand from the community forest in combination with agricultural residue whereas 6 HH are really suffering from the fuel-wood scarcity but it can be solved after 2-3 years of CF management. These

are the considerable positive impacts of community forest because yield is increasing after protection.

5.2.4 Impacts on Bedding and Composition Materials

Households in the study area use a combination of dry leaf-litter, on-palatable green vegetative material, crop residue and remain of uneaten fodder as animal bedding. This animal bedding, rich in animal manure and urine, is composted in heaps and spread on fields once or twice a year before planting. The majority of bedding materials originates from forest, shrub-lands and grasslands. The importance of bedding materials and compost was apparent amongst the sampled households. Only 5 respondents in sampled HHs have no need of such materials. Community forest has made some important impacts on supply of bedding /leaf-litter materials in a number of ways by establishing sustainable forest management option and equitable distribution of forest products. Under FUGs forest management has been guided by operational plan agreed by the members whom aim both for sustainability and equity. In these forest area where pine plantation has been established, pine needles are often used for animal bedding and rest of the areas where broad leaved species have been established naturally, the fallen leaves of these species are heavily used for bedding materials which help to increase the agro bio-diversity in the long run.

5.2.5 Impacts on Fodder (Forage, Leaves and Grasses)

After fuel- wood, in sample households 19 households considered that fodder is their most scarce products. Scarcity of leaves /grasses /forage /fodder was the most frequently raised problem of the FUGs. It is basically very important for cattle, buffaloes, goats, etc which are kept either for milk production, meat production and or socio-economic support. Fodder/forage harvesting is equally important for bio-diversity conservation and community development. Out of 24 HHs 19 HHs told that community forest are the best possible sources to fulfill basic need of fodder and forage they are getting these products from their community forest in regular basis.

5.2.6 Impacts on other Biological Resources

All sampled HHs realized that after protection of the forest as community forest, the number and distribution of species are increasing. About 40 trees and shrub species were recorded in the study area. Whereas the people hardly remembered 10 frequently abundant species in these forests before ten years. Likewise faunal diversity is also significantly increasing, some mega vertebrates e.g. leopard, deer etc are seen commonly after forest protection which seems other avifauna, herpetofuna and insects might also have increased. So in depth, study on other biological resources is needed to explore for understanding the realistic change. In nutshell, this study was also concluded that there is very positive impact on biological resources after implementation of CF activities.

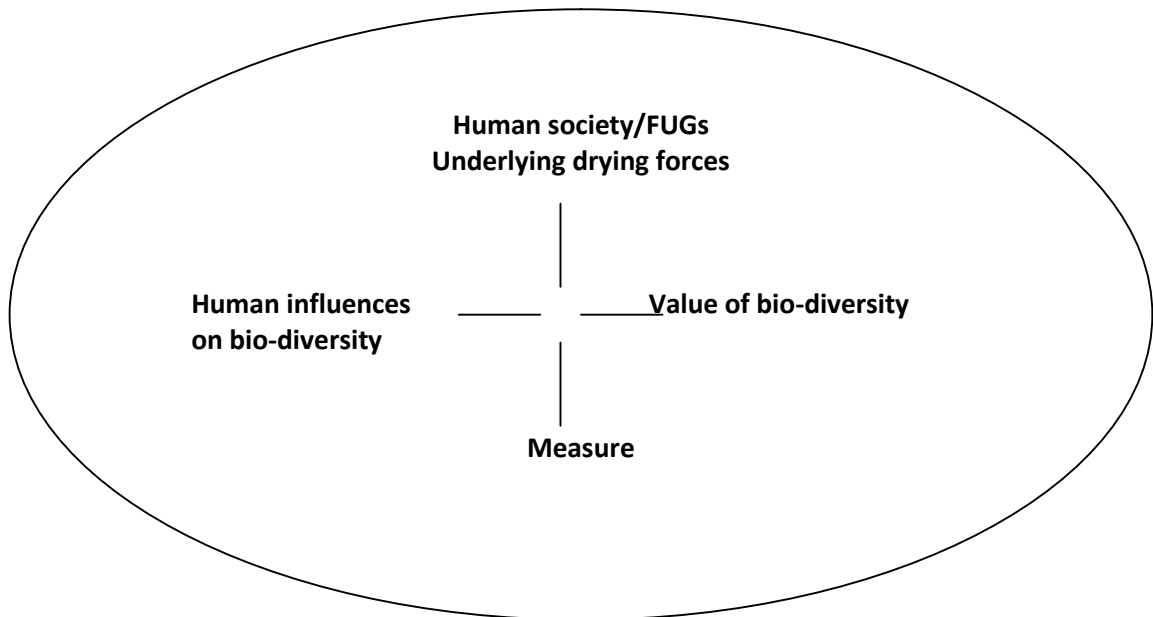
5.2.7 Indirect Impact on Household Income and Household Labor

Though this study is not sufficient to draw the conclusion in this regard but it is seen in the village that people have surpluses time about 2-4 hr/day from leaf litter collection, ground grass collection and even from fodder collection. They can use this time in other works either in household labor and/or other income generating activities. So the in depth analysis is needed for final conclusion but general community forest has very positive impacts on these regard as well.

5.2.8 Forest User Groups and Bio-diversity Conservation

The bio-diversity represents the very foundation of human existence. The following figure also illustrate how the human society and bio-diversity interact with each other, (Heywood and Baste 1995). Perhaps humans have been continuously influencing bio-diversity either in the context of own livelihoods or for satisfying some of their luxuries. But bio-diversity is not valued equally by all human societies due to socio-cultural differences. Hence we need to understand this cycle of interaction for the sustainable use and equal sharing of benefits derived from bio-diversity. That is basic criteria to sustain the community forest

Chart No. 6, Interaction between human society and bio-diversity (adopted from Hery wood and Baste 1996)



We can manipulate the forest user groups influence in the place of human influence on bio-diversity model .Later this figure indicates that FUGs are the key actors and the stakeholders of the community forest. They can influence to conserve or deplete the biological diversity in that particular area so the better the knowledge of the user groups on the value of bio-diversity the larger the possibility to draw the essential steps for its conservation perspective.

5.2.8 FUGs and Community Development

This study also aimed to explorer present and potential impact of CF on community development activities particularly to the FUGs .Similarly ,different modern forest science technology can be transferred cost effectively and timely through CFUG/C. Different training’s ,workshops ,study tours ,and interactions could accelerates the development intervention to villagers through community forestry concept .More then 10 respondents have visited different community forestry practices in far western Nepal and they are very enthusiastic to develop their community forest as manor income sources for their livelihood. The increasing strength of FUG/c as autonomous institutions can assist other community developmental works and these can be developed nicely in the study area .In addition fulfillment of basic needs .Water quality improvement temple

construction, chautro construction, landslide and erosion controls are the direct positive impacts assessed in the study area, which are the preliminary and essential aspects of forest activities .The community development works done by CFUGs are shown in Annex.

Community development activities are the relative function of the local government and total forest users group in that particular area. It means Fug can directly involve in development activities so they can accelerate development works very rapidly if the physical resources, formal authority and responsibility is provided. But sometimes FUG can involve voluntarily for some development activities like Scholl construction, health post construction e.t.c. It depends on attitudes and perception of user group's .If they are actively or popularly motivated they can ask the resources and questioned the development authority to implement the development plan in right time. So the forest user groups, an autonomous entities /bodies are the indispensable part of community development activities in rural areas.

5.2.8 Peoples Attitude towards Bio-Diversity Conservation and Community Development

It is obvious that there is very significant difference in attitudes of different people in a specific object but the consensus can also be developed in a single program. There is a very positive attitude of people regarding the bio-diversity conservation and community development in the study area which is described in the table below.

Table No. 18: Peoples Attitude Towards Bio-Diversity Conservation and Community Development by FUG

	Description	+ve	- ve	Neutral
A	Bio-Diversity Conservation.			
	Impact of existing floral & faunal composition	24	-	-
	Impact of daily composition pattern of forest resources	2	22	-
	Impact of NTFP and its present use pattern	3	20	1
	Impact of medical collection and present use pattern	1	21	2
	others	2	-	22
B	Community Development Activities			
	Potentiality of IGA through FUG/C	24	-	-
	Potentiality of road construction /trial improvement	3	20	1
	Potentiality of health campaign	2	15	7
	Potentiality of formal and informal education	3	17	4
	Potentiality of electricity extension	-1	5	18
	Others	2	2	20

Source: Field Survey, 2008

People have considerable positive attitudes towards bio-diversity conservation and community development through community forestry concept. The desire diversified and well stocked forest in future. They realized that the species diversity is increasing significantly in this CF 90% of the respondents suggested that it is necessary to control fire and harvesting pattern and have to do plantation ,proper thinning ,pruning, NTFP plantation, some area left as undisturbed for bio-diversity maintenance and other different habitat improvement techniques to conserve the bio-diversity for future generation. For this aspects ,DFO should have to provide knowledge the meaning ,role and importance of bio-diversity through various trainings, seminars, meetings, other assemblies and have to provide the

incentive and physical resources for community to conduct related development activities .Proper recognition of FUG/FUC an autonomous ,authorized and self governing organization is necessarily essential from local government bodies so that they can manage plan and conduct various IGAs ,community development activities themselves consulting NGOs/INGOs, other GOs .These opinions were of 22 respondents in total of 24.

Successful and Potential Community Development Activities through FUG

The successful community development activities those have been conducted by the CFUG are papal Chautri construction, tamples of Ganesh & Siddhnath tample, community toilet construction are shown in annex CFUg is playing to conduct different community development activities in future. Different income generation such as co-operatives registration for Jaributi and dairy milk marketing, none timber ,forest product utilization and management, volunteer support on drinking water facilities ,improved cook stove installation ,improved livestock raising ,agri-horticultural development are the potential community development activities which was felt by the CFUG in study area .

5.2.10 Bio-Diversity, Status, Public Concern and Future Visioning

The forest conditions are improving in terms of specters diversification and growth of individual species .It can be improved after application of complete protection and efficient management tools .basically, people desired diversified, well stoked and heterogeneous forest in future. The villagers want to develop their community forest to enhance the tourism for well for of livelihood of local users. The visioning of the respondents assessed by asking them through questionnaires and found that their forest must be diversified, well stoked, dense, with maximum growing stock and better in all respects after 20 year more .

5.2.11 Expectations of Farmers (FUGs) from the –DFO/NARMSAP

- 1- Technical supports are needed in the field of agro forestry ,community forest management ,IGA activities and tourism management
- 2- They desire the easy availability of seedlings of fodder and multipurpose tree species.
- 3- Required some IGA plants and major NTFPs plants, which are suitable to cultivate and manage in their FUGs.
- 4- People are demanding regular field visit by technician and some times by expert to provide timely advised to the users and regular training in the related fields.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary

Forest of Nepal has great importance in fostering the agricultural system and in protecting the hilly and fragile land of Nepal.

Most of the forest area of the country is being managed as communal forest by user themselves on the basis of locally accepted indigenous /traditional system before the forest was nationalized in 1975. For the last two decades community forestry programmed has been adopted as one of the major strategies for managing country's forests. Community forestry in Nepal has become the most important program within the forestry sector in 1989, enactment of the 1993 community forestry legalization and agricultural perspective plan in 1997, the local communities as forest user groups have entrusted with the responsibilities of management development trend utilization of the forest resources to their proximity. To date more than 13967 FUGs are managing about 1138991 hectares of community forests in the country. Community forestry has various impacts on Bio-diversity conservation and community development in the country. A great national and international interest is paid for the conservation of Bio-diversity. Nepal began establishing a system of conservation reserves in 1970's aimed at conserving a representative sample of existing bio-diversity by protecting representative arrays of ecosystem from human manipulation.

In spite of vital significance of bio-diversity conservation for own existence, the community forestry programmed doesn't encompass potential bio-diversity conservation and community development with in objectives of forest management directly. Though Nepal is significantly rich in both flora and faunal diversity, it is not an exploration to the problem of bio-diversity loss.

During the research of Sigash community forest, the researcher has set some research questions, which are:

1. Are people really aware of bio-diversity conservations?
2. What are the problems of FUG in managing community forestry?
3. Are community forests really supporting the bio-diversity conservation?
4. What sort of activities is initiated by FUG for development of themselves?
5. Are community forests supportive for community development activities?
6. What are the impacts of community forest in the rural people?

The main objectives of the research were to analyze the impact of community forest on bio-diversity conservation and community development activities. This study tried to focus on the existing vegetation status of community forests, attitudes of community forest user groups towards bio-diversity conservation and community development activities, potential and successful community development activities that was initiated by community forest user groups in the community. To fulfill these activities, Sigash community forestry of the Siddshowr VDC was selected as research area. 141 member of the Sigash community forest user groups were taken as sample and other key informants like Ranger, Teachers and VDC members are visited. This study covers both biological and sociological aspects of the community forests. Basically social aspects are covered by households, questioners, survey, informal and formal discussions with forest user groups and committee members, observations and biological aspects are covered from detailed forest inventory record in the community forests. For more information primary as well as secondary data collected. Qualitative data were to be tabulated and analyzed. Sample statistical tools were used for quantitative data analysis.

6.2 Conclusion

The research area, Sigash CF, covers only Siddshowr VDC so generalization may not be valid for all mid hills regions of Nepal .This is only exploratory and descriptive research and all facts of bio-diversity were not covered by this study .species identification and nomenclature work was not completed due to technological expert.

The perception and attitude of the people is very positive towards bio-diversity conservation. They desire diversified, well stocked and dense forest resources in their community forests. Similarly people are very interested on community development through forest user groups but decentralization of the authority and physical resources; have to be provided from local government sector. There is very good institutional strength and decision making capacity with him and between the forest user groups .The overall impact of community forests seems very positive and encouraging the forest bio-diversity status (flora & fauna) is also increasing after the establishment of community forest management system. This whole study was completed with in 11-12.months, time due to limited time frame in the research purpose though it was not sufficient to analyze in depth bio-diversity status.

-) The community development activities through FUG have been done in satisfactory manners and have made further plans for community development in their society.
-) Thy are very much interested and motivated to manage their community's forest in cooperation other development activities simultaneously.
-) Women's participation development activities have seen in satisfactory manner.
-) FUGs have regular meeting general assembly, and also have other records and minutes in office building. So social management in this FUG is satisfactory manner.

-) There is no base line and already documented information about the status of bio-diversity but people realized and expressed that there were less in numbers and frequency of different system.
-) Total no. of forest users are more in compassion to forest area, so the forest is not capable of supplying forest products as they have demanded.
-) The forest users group is heterogeneous in terms of ethnicity and homogenous in terms of religion.
-) Few of the FUGs are not so active in development activities in community forests.

6.3 Recommendations

Based on the findings of the study, following recommendations are suggested.

- More extensive awareness and community training should be conducted by district forest office to make active to passive users. Disadvantaged groups should be given position in users committee to avoid caste discrimination.
- Women participation in decision making should be increased through awareness. They should be encouraged to hold responsible in user's committee.
- Forest user's committee and forest user group should change the existing rule of one representative from one household to the compulsory participation of all users in groups meeting or assemblies.
- The proper committee forest management activities should be conducted annually and periodically.
- The knowledge about the importance of bio-diversity have to be disseminated to FUG/C so that they can be able to conserve, protect and utilize these resources as supplement of community development activities.
- The local political body or local government should have to coordinate and integrate their development budget with CFUG and full responsibility, authority and financial resources should have to be provided to be FUG to sustain the development and conservation activities.

- It is necessary to increase peoples participation in community forest management activities and others community development activities.
- The knowledge about the bio-diversity and community development should be provided through training, seminar, workshop and other audio video programs.
- User group has given more emphasizes only on protection but is not applying management operations effectively. They should increase their participation in forest Management.
- Forest user group should keep their relation with other NGO working Baitadi through which they can get supported forest activities.
- Feasibility study should be carried out about potential IGA & NTFPA management and encouraged them to do IGA in CF.
- Regular field visits by technical staff like APOS, Rangers, and extensions organizers should be increased.
- During last Years ,This forest is well protected .social aspect of equal opportunity to all level of the people should be taken as a condition in community forest for equal participations. During the formation of the forest users committee, criteria regarding cast and ethnic group and religion should be included.

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ANNEX-1

QUESTIONNAIRE FOR HOUSEHOLD SURVEY

Name Of Respondent:

Caste: Age: Male/Female: District:

VDC: Village: Ward No:

1-Household Information:

Table1

2-Family size:

Name of the Head	
Sex	
Age	
Occupation	
Religion	
Marital Status	

Male:

Female:

Total:

3- Education

Table 2

Condition	
Illiterates	
Primary level	
Secondary level	
Post Level	

4-What are your major sources incomes? Give tick mark.

Table 3

Agriculture	
Livestock	
Government job	
Social Service	
Trade	
Others	

5-How much land do you have?

Table 4

Types	Khet	Bari	Homestead	Kharbari	Others
Owned					
Tenant					

6-How many livestock do you have?

Table 5

Types	cattle	Buffaloes	Goats	Sheep	Others
Numbers					
Local/Hybrid					

7-How do you feel your livestock?

- a) Stall feeding
- b) Grazing on govt. land
- c) Grazing on common land.
- d) Combining grazing & stall feting.
- e) Others.

8- What types of products that you feed to your animals? (in Bhari)

- a) Tree/fodder.
- b) Grass.
- c) Straw/Paddy.
- d) Straw/Millet/Mize....
- e) Others.

9-how much feed (not grain) products that you need per year?.....kg/ton. Where do you collect from?

- a) Protracted forest.
- b) Private forest.
- c) Government forest.
- d) Community forest.

10-Have you heard of community forestry?

- a) Yes
- b) No

11-What is the name of your community forest?.....

12-Forest products that you collect from the forest & when do you collect?

Table 6

Fuel wood	Timber	Leaf litter	Jaributi	Others	Remarks

13- Condition of your forest before protecting as CF.

.....

.....

.....

14-when did you start CF? What inspired you to make CF?

Inspiration source:

Time:

Process:

15-How effective is the function of CFUG? Why? Measure of effectiveness.

a) Very good b)Good c)Fair d)Satisfactory e)Poor

16In your experience, mention advantages and disadvantages of CF?

Table 7

Advantages	Disadvantages

17-Are women and low castes (so called) people involved in CF management activities. Y/N, if yes what are the motivating factors for involvement?

Self interest.

Husband /wife advice.

Demonstration .

Training /workshops.

Radio /TV.

Villager requests.

Govt. official requests.

If, no what are limiting factors?

Lack of incentives.

Culture.

Ethnicity.

Time.

Others.

18. What about the people's involvement /participation in community forestry activities?

Activities (<50%)	Good (=100%)	Fair (50-100%)	Less
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Plantation

Protection

Meetings

Silvicultural Treatment

Other communal Works

19-Do you in meeting/workshop/seminar/assembly?

Often attend.

React on other ideas.

Raise questions.

Shy to express ideas.

20-Have you been involved in CF, OP preparation & do you know the rules & regulations of community forest activities?

21-have you heard of Bio-diversity conservation? Y/N

22-What are the attitudes of people towards bio-diversity conservation and community development activates through community forestry?

Attributes

Positive

Negative

Neutral

Toward bio-diversity conservation.

- a) Existing floral and faunal composition
- b) Consumption pattern of daily needs (fuel wood /fodder) .
- c) NTEP and its uses.
- d) Medical plants and their uses.

Community development

- a) IGA through FUG
- b) Roads and trail improvement
- c) Health.
- d) Education.
- e) Others.

23-What were the species of flora and fauna found in your community forests ten years earlier?

Table 8

<u>Flora</u>	<u>Fauna</u>

24-Can you tell whether species diversity is increasing or decreasing after the implementation of community forest activities ,or much has been done by your self ?

If increasing, what are the new species seen?

Table 9

Flora	Fauna

If decreasing, what are disappearing species?

Table 10

Flora	Fauna

25-Are there any provision for

- a) Medicinal plant collection.
- b) Wild life hunting.
- c) Exotic spp plantation.
- d) Grazing.
- e) Control burning.
- f) Stone collection& quarries.

26-Are there any open land in the forest? If yes then.....hectare.

27-Have you seen any wild life spp. at that forest? If yes which species?

28-What types of plant spp you looked to remove from forest and why?

29- Do you like to plant any exotic spp? If yes why?

30- What should be done for bio-diversity conservation?

- a) Grazing control.
- a) Fire control.
- b) Harvesting control.
- c) Habitat improvement.
- d) Plantation of indigenous spp.
- e) Proper tending operation.
- f) Others.

31- What are community development activities initiated by Fogs?

- a) Drinking water.
- b) Health service.
- c) Formal and informal education.
- d) IGAs.
- e) Road construction.
- f) Others.

32- What are the decision criteria for selecting community development activities ?

What are the successful and potential of development activities that can be done by FUG?

Table 11

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33- What are the strengths and weakness of FUG/FUGs?

Table 12

<u>Strength</u>	<u>Weakness</u>

34-Are there any significant impact of community forest?

Positive impact

Positive health impact

Fund mobilization impact.

Common property use pattern.

Landslide & erosion control

Employment opportunities.

Benefit sharing.

Water quality improvement.

Social change.

IGA.

Negative impact

Decrease animal husbandry due to grazing control.

Development impact within & between Fogs.

Others.

35-How can you lunch community development activities through Fogs & What can you suggest for its sustainability?

.....

.....

.....

36-How FUG can be mobilized for bio-diversity conservation and community development activities?

Bio-diversity conservation

Providing knowledge for BD ans its role for human development etc.

Community development activities

Giving incentives,

Trainings,

Workshop, seminars.

37-What is your vision about the community forest after 20 years ? And suggestion to sustain your community forest?

38-Do you have any thing to say ? if yes ,please explain.

ANNEX 2

Model of Questionnaire for PRA

1- Name of ethnic groups/interest group/

VDC: Village: Ward:

2- What is the name of your community forest?

3- What is the area of your community forest?

.....hecter/ropani.

4-How do you protect your community forest?

- a) Funding to a watcher by each household.
- b) Watching by each HH in turn.
- c) Stick system.
- d) Others.

5-Species ranking on the basis of preference.

Table 1

S.N	Timber spp	Firewood spp	Fodder spp	NTFP

6- User compotion.

- a) Total number of household.....
- b) Total number of users.....
- c) Numbers in user committee.....

Male.....

Female.....

7- What is the criteria for users committee formation?

- a) Caste basis.
- b) Wealth basis.
- c) General consensus.
- d) Others.

8- Have you seen wild life spp in your community forest? If yes then,

Table 2

Name	Animal	Bird

9- Are your CF helpful in BD conservation? If yes, then how,

.....

.....

.....

.....

10- What do you mean by participation?

11-Do women use to involve in CF activities? Mentionactivities.

.....
.....
.....
.....
.....

12- Have you seen fund of FUG? If yes, how much money, From

Where.....
.....

13- Write dawn CD activities conducted by FUG?

.....
.....
.....
.....
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.....
.....
.....
.....
.....

14-What type of advantages and disadvantages that CF providing the villagers?

Advantages

Disadvantages

15-What type of new spp, seen in your CF?

Table 3

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