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Performance of Community Forestry Governance:

Three case studies from western Nepal

Dissertation

zur Erlangung des akademischen Grades

Doktorin der
Sozial-und Wirtschaftswissenschaft

Studium - Sozial und Humanökologie
Alpen-Adria-Universität Klagenfurt

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September 2011

Acknowledgements

I would like to give acknowledgement to the people who helped me to complete this study. My thesis would not have come to fruition without the sincere help of the following scholars and institutions who have contributed their time, effort and knowledge on it.

First and foremost, I would like to express my heartiest and deepest gratitude to my supervisors Prof. Dr. Marina Fischer-Kowalski and Dr. Simron Jit Singh who always provided me the opportunities, inspiration, guidance, support and invaluable input throughout my study. I am so fortunate to have had such supervisors to whom I am indebted. My sincere thanks go to Prof. Dr. Stefan Vogel for giving his valuable time, despite of his busy schedule, to be part of the examining committee.

During my stay at the Institute of Social Ecology, I have received enormous support from the scientific and administrative staff that provided me with good conditions to undertake my research. In particular, I would like to express my sincere thanks to Prof Dr. Fridolin Krausmann, who guided me to collect data from the FAOSTAT, and to Gerda Hoschek, Michael Neundlinger, Gabriela Miechtner, Andreas Mayer for all the administrative support extended to me so patiently. Special thanks go to colleagues, Nikolaus Ludwiczek, Alexander Remesch, Irene Pallua and Sylvia Gierlinger who supported me effortlessly during the writing of my thesis.

Further, I would like to thank the Austrian Exchange Service (OeAD GmbH) for giving me a North-South Dialogue scholarship to pursue my PhD. Without this financial support, it would not have been possible for me to complete my study.

I express my heartiest thanks to Dr. Bharat Kumar Pokharel, Nepal Swiss Community Forestry Project (NSCFP), for providing valuable input on community forestry governance in Nepal, who also guided me to conduct expert interview at the higher level-stakeholders. I would like to thank Dhananjaya Paudyal and Popular Gentle for their constructive feedback during my research period.

The community forest users of my study site provided much help to me. They welcomed me, provided me their valuable time and necessary information, and in this regard I would like to thank them all, for their cooperation, the valuable information they provided related to my study. I would like to express my gratitude to my research assistants Madhu Rana, Rama Raut, Ganga Raut, Kamaluddin Khan, and Shom Bahadur Sunar, without whose assistance this research could not have been realized. Furthermore, I would like to remember the staff members at the District Forest Office Banke for their valuable support and assistance, who helped me to select the study groups and appoint the research assistants. My thanks also go to the officials of the District Development Bank, the District Agriculture Office, the District Livestock Office, and to FECOFUN for providing information and valuable time during secondary data collection. My cordial thanks go to all respondents and officials of the Ministry of Forest and Soil Conservation, the Department of Forest, the Community Forestry Division, the Biodiversity Sector Program for Siwaliks and Terai (BISEP-ST), SDC-Nepal, WWF-Nepal, Livelihood and Forestry Programme (LFP), CARE-Nepal, Nepal Swiss Community Forestry Project (NSCFP), FECOFUN-Nepal, UNDP, USAID, MEDEP, the Asia Network for Sustainable Agriculture and Bioresources (ANSAB) and Forest Action Nepal.

I would like to thank to all my Nepalese and Austrian friends with whom I shared so many enjoyable moments during my stay in Vienna. My special thanks go to Suzana, Helena, Maria, Alaka and Rudra Chudal for encouraging me and giving so much hospitality in Vienna.

I am very much indebted to my family members, especially my sister Usha Devkota, brothers Subarna Devkota and Dr. Rosan Devkota, sister in law Sabita Khatiwada (Devkota) for their support, encouragement, constant feedback and suggestions during my whole study period. I was also encouraged from my lovely niece Alisha. Nevertheless she is still child and always provides me with mature suggestion while talking on telephone. 'Aunty, how is your progress on the thesis? Take care and doesn't worry, God will always help you." Such advice gave me courage and put a smile on my face. Filial refreshment was also given to me from my lovely niece/nephews, Aditi and Aaron from their sweet babyish voices.

Once again, I would like to acknowledge and express my deepest thanks to all individuals and institutions who directly or indirectly contributed to my entire research work in Nepal and in Austria.

Finally, I would like to dedicate this thesis to my mother, whose invaluable support; encouragement and blessings always inspired me. Without her support and love, I could not have come to this stage. She has always instructed me about the importance of education and guided me in all walks of my life.

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Abbreviations

ACAP	Annapurna Conservation Area Project
ADB	Asian Development Bank
ANSAB	Asia Network for Sustainable Agriculture and Bioresources
AUSAID	Australian Aid for International Development
BISEP-ST	Bio-diversity Sector Program for Siwaliks and Terai
CBD	Convention on Biological Diversity
CBS	Central Bureau of Statistics
CF	Community Forest/Forestry
CFM	Collaborative Forest Management
CFUG	Community Forest User Group
CIDA	Canadian International Development Agency
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNPPA	World Congress in National Parks and Protected Areas
CNRM	Parliamentary Committee on Natural Resources and Means
CPR	Common Pool Resources
DANIDA	Danish International Development Agency (Danida)
DDC	District Development Committee
DFCC	District Forestry Coordination Committee
DFID	Department For International Development
DFO	District Forest Officer /District Forest Officer
DFRS	Department of Forest Research and Survey
DMC	Domestic Material Consumption
DNPWC	Department of National Parks and Wildlife Conservation
DoF	Department of Forest
EC	Executive Committee
FAO	Food and Agricultural Organization of the United Nations
FAOSTAT	FAO Statistical Database
FECOFUN	Federation of Community Forest Users' Nepal
FINNIDA	Finnish International Development Agency
FOP	Forest Operational Plan
FRA	Forest Resources Assessment

FRSO	Forest Resources Survey Office
GA	General Assembly
GDP	Gross Domestic Product
GTZ	German Agency for Technical Cooperation
HH	Household
HMGN	His Majesty's Government of Nepal
HDR	Human Development Report
IAD	Institutional Analysis and Development
ICDP	Integrated Conservation and Development Project
ILO	International Labour Organization
INGO	International Non-Governmental Organization
IUCN	World Conservation Union
JICA	Japan International Cooperation Agency
KMTNC	King Mahendra Trust for Nature Conservation
LF	Leasehold Forestry
LFUG	Leasehold Forestry User Group
LFP	Livelihood and Forestry Project
LRMP	Land Resource Mapping Project
MEDEP	Micro-Enterprise Development Programme
MPA	Marine Protected Area
MPFS	Master Plan for Forestry Sector
MoFSC	Ministry of Forest and Soil Conservation
NEFUG	Nepal Federation of Forest User Groups
NFI	National Forest Inventory
NGO	Non-Governmental Organization
NPC	National Planning Commission
NRM	Natural Resource Management
NRs	Nepalese Rupees
NSCFP	Nepal Swiss Community Forestry Project
NTFP	Non-Timber Forest Product
NTNC	National Trust for Nature Conservation
OP	Operational Plan
PA	Protected Areas

PF	Panchayat Forest
PHPA	Public Hearing and Public Auditing
PPF	Panchayat Protected Forests
RECOFTC	Regional Community Forestry Training Center
REDD	Reducing Emissions from Deforestation and Degradation
SAGUN	Strengthened Actions for Governance in Utilization of Natural Resources
SAMARPAN	Strengthening the Role of Civil Society and Women in Democracy and Governance
SDC	Swiss Development Cooperation
SNV	The Netherlands Development Agency
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
USAID	United States Agency for International Development
USD	United States Dollar
VDC	Village Development Committee
WCMC	World Conservation Monitoring Centre
WWF	World Wide Fund for Nature

Executive summary

Community Forestry in Nepal is based on the realm of a decentralized participatory forest management approach. While this approach has a well documented history in addressing socio-economic, governance and environmental issues, the range of challenges still persist in livelihood and equity, governance and socio-ecological aspects.

These issues are not only important for community forest user groups, but are equally related to multi-stakeholders, ranging from micro to macro-levels that need to be addressed for the advancement of community forestry in the future. This research, therefore, attempts to assist this process, by concentrating study in forest governance issues from micro to macro-levels, including various stakeholders.

The overall aim of this study has been to explore and analyze the effectiveness of community forestry governance in Nepal. Three specific objectives were formulated in order to address the aforementioned issues, which are to: a) analyze the performance of community forestry using a set of governance criteria related to institutional and ecological aspects; b) explore and analyze the contribution of community forestry towards livelihood of forest users; and c) to analyze the governance of higher level-stakeholders (service providers) for the advancement of community forestry.

This research explores and analyses community forestry governance on two levels: a) at the level of community forest user groups, who are the primary users and managers of community forests; and b) the examination of higher-level stakeholders, including policy makers and service providers for community forestry programmes at national-level.

At user group level, research was based on case study approach and the data were collected from three different community forest user groups in the western-region of Nepal: Gijara, Shreejana and Bavanpurwa. Household survey interviews, focus group discussions, in-depth interviews, participatory observation and workshops were the most commonly applied methods of data collection at the user group level. At the higher stakeholders' level, interviews were carried out with forestry experts working in governmental and non-governmental organizations and with donors working for, and supporting, community forestry programmes. In addition to the primary data, various secondary data were also

collected from the community forest user groups, from district and central level stakeholders. In order to draw a theoretical framework, theories and practices of forest governance, decentralization, institutions and property-right regimes were extensively reviewed.

At the user group level, the socio-ecological systems were taken as the unit of analysis in all three cases, focusing on three different aspects: (i) socio-economic, (ii) governance, and (iii) forest-ecology. In the socio-economic aspect, attention was applied to forest products and the benefits distribution system, including equity issues, while in the realm of governance, five main variables were analyzed: transparency, participation, inclusion, accountability and the rule of law. Ecological aspect are dealt with by using different criteria of forest productivity, such as: forest biodiversity, forest ecosystems, forest health, forest resource protection, the impact on environmental services and the impact on forest and farming systems. Ecological criteria were analyzed and compared in the context of 'before and after' the handing over of community forests.

At the higher stakeholders' level, this study investigated their own organizational governance, their relationship to community forestry governance and their contribution to livelihood improvement for the local and primary forest users of community forests. The five different variables of governance, which were also used at community forest users' group-level, have been used to assess the internal governance status of higher-level stakeholders.

The case study findings reveal that the output of community forestry is highly dependent on the internal governance of forest user groups. Among the five major criteria of governance, users' participation, along with their power relation (inclusive executive body), plays a major role in the success of community forestry, yet users' participation in community forestry is seemingly effective when the socio-political environment is favorable to them. Thus, it cannot be generalized that each and every community forest user groups are leading towards success; rather it depends on the functional framework of the group. If community forest user groups have a high level of participation and inclusive governing bodies, then there will be equity in benefit distribution systems and positive ecological impacts can be expected from the forest.

With higher level stakeholders, several discussion platforms, ranging from grass-root to policy level, were identified during field-level interviews. Regardless of their spatial position, it is noticed that government organization has a legal mandate and influences the formulation of policies through a consultative process by involving non-government stakeholders. Despite such efforts, evidence suggests that the formulated policies are partly, or never, implemented on the ground. Furthermore, this study observed that the powerful stakeholders, both governmental and non-governmental (for example donors and INGOs), are playing a major role in decision-making forums, and that NGOs and the federations of community forest user groups are acting in their shadow.

The findings from the user groups and higher level stakeholders clearly demonstrate that the success of community forestry governance is highly dependent on the stakeholders' participation and their influence in the decision-making and implementation process. Higher level governance structure should make efforts to provide favourable socio-political condition within which local level users can effectively act and benefit. Furthermore, the study recommends that the multi-level assessment of community forest governance can give a broader spectrum beyond identifying problems only at the local or users group level. In conclusion, analysis of the decision-making process of the stakeholders and their internal governance structure, are also equally important, because of the correlation between community forestry governance and the livelihood to local forest users.

1. Introduction

1.1 Background

Community forestry is an important intervention in Nepal which is considered an innovative approach in participatory forest management. By the late 1970s, there was extensive deforestation in countries such as India and Nepal which led to environmental degradation (Gilmour *et al*., 2004). The efforts made by central government alone were not able to cope with the trend of deforestation and environmental degradation. The strategies adopted were traditional and based on a top-down policy which underestimated the role and ability of the local people on forest protection and management. It was then realized that the forests could only be saved through the active participation of local forest users (Adhikary *et al*., 2007). At this time, the community forestry concept was developed as a special implementation approach, with the active participation of local people in forest management. This strategy was widely accepted by international communities as a people-centered approach, in order to address the problems of extensive forest and environmental degradation and the issues of the livelihoods of the poor (Gilmour *et al.*, 2004).

On a global level there exist various forms and models of local community participation in forest protection, management and utilization. Some are Joint Forest Management, Social Forestry, Community Forestry and Collaborative Forest Management. Among these forms, Community forestry is considered as one of the best examples where local community groups, called Community Forest User Groups (CFUGs), have been given rights to protect, manage and utilize the local forest resources (Gilmour *et al*., 2004; Agrawal, 2002). There were also promising schemes of local communities who played a leading role in protecting and managing their local forest resources, some in the context of forest movement such as the Chipko Movement in 1973 in the UP hills of northwest India (Agrawal, 2000). After the inception of community forestry, about 15 years was spent in institutionalizing as well as testing the approach. The aim during this period was to involve the local communities in forest management and protection. In some countries of the South Asian region, such as Cambodia, Bhutan, Indonesia, Sri Lanka, China, Lao PDR, Vietnam and Thailand, community forestry has been initiated very recently, and is also gaining good momentum (Glimour *et al*., 2004).

In the early 1990s, there was a further shift in government policies towards more community oriented forest management. The shift was due to the lessons learnt from the inception phase and suggestions from the academic institutions, environmental scientists and activists (Agrawal, 2000). Since the forest management authority has been transferred from the government to the community through devolution, a feeling of ownership has been developed within the local communities by this shift (see also Springate-Baginski *et al*., 1998).

Most studies pointed out that community forestry is one of the successful models of devolution of authority to the local communities. Further, the Local Self-Governance Act (LSGA), which was promulgated in 1999, provided the guideline for decentralized governance in Nepal (Bhattacharya and Basnyat, 2005). Also, the majorities of the developing countries have initiated a decentralized forest management system within the past 20 years, and is regarded as a new and important policy effort of governments. The main reason behind the decentralization is the realization of the inability of governments to address the basic needs of the local people (Burns *et al*., 1994; Mayers and Bass, 1999). Some scholars argue that decentralized common pool resources (CPRs) programmes, such as community forestry are based on the reality that people have an interest to conserve the forests or local resources and are capable of doing so, outside the realms of central government (Ostrom, 1990; Wade, 1988). Local people are more familiar with local conditions so that they can use their management system according to the local context more competently than a centrally proscribed system (Agrawal and Gibson, 1999; Agrawal, 2001). Through this shift in forest policy, i.e., from a centralized system to decentralization, local people have the legal authority or power for decision-making on forest management (Gilmour and Fisher, 1991).

Community forestry is frequently referred to as an example of decentralization for the collective management of local resources, such as Common Pool Resources (CPR) that overcomes the 'tragedy of the commons' (Ostrom, 1990; Baland and Platteau, 1996). For the people living in rural areas, especially in South Asia, community forests are important resources to fulfill their basic needs and to supplement their livelihoods. These locally managed forests provide firewood, fodder, small timber and various non-timber forest products from which poor people benefit, especially as they have little private land to

fulfill such needs. Thus, the CPRs have contributed critically to their survival (Agrawal, 2002).

Today, community forestry has been practiced in many countries, proving to be the most successful model of community participation in forest management; however, management policies, strategies and approaches vary according to local condition (FAO, 1978). It has been found that by the end of 2002, approximately 11% of the world's forests (215 million ha) have been managed by local communities in developing countries and this coverage is expected to increased by up to 45% by 2015 (Bull and White, 2002). Similarly, Pretty and Frank (2000) reported that during 1990 and 2000 more than 320,000 communities, which include more than 10 million people throughout the world, have been organized into various groups in order to manage their local resources.

1.1.1 Community Forestry policy in Nepal

The Master Plan for the Forestry Sector 1988 (MPFS) is the major policy document of the forestry sector in Nepal. Also, the MPFS is the first policy document that recognizes the role of local communities in forest conservation. The document focuses on the participation of communities in forest management activities, decision-making processes and benefit sharing, which is essential for sustainable management and conservation of forests. There are six priority programmes and support programmes in the MPFS, wherein the community forestry programme has been given top priority. This programme is an innovative model that empowers the local people to manage the local forest resources and to reap the benefits for themselves. In this programme, the role of the government is one of a technical supporter and facilitator for the process.

Presently, the community forestry programme in Nepal has been supported by the Forest Act of 1993 and the Forest Regulation of 1995 which has been implemented throughout the country (Kanel and Niraula, 2004). The Forest Act 1993 stipulates that part of a national forest, when handed over to defined Community Forest User Groups, becomes a community forest. After handing over the community forest, the CFUGs conserve, develop, manage and utilize the community forest in accordance with the approved community forest operational plan, which is prepared by the CFUGs themselves, with the technical support of service providers which is finally approved by the respective District

Forest Officer. Thus, the Forest Act 1993 gives CFUGs legal rights over their Community Forest. The official approvals of MPFS in 1988, and the political regime changes in 1990, were important events that helped formulate the Forest Act of 1993 and the Forest Regulation in 1995. These legislations recognized the CFUGs as self-governing autonomous institutions, once a CFUG has been formally registered in the respective District Forest Office (DFO) (HMGN, 1993).

At the initial stage, the focus of community forestry was on protecting the forest and the planting of trees on bare lands, to meet the needs of local people in forest production (Pandey, 2004). As mentioned before, CFUGs have the right to manage, protect and utilize the surplus forest products as prescribed in the forest operational plan. However, in the Forest Act 1993, there is also a provision for a CFUG fund which could be generated by the CFUGs. There are various sources for this fund, such as the income from the sale of forest products, funds collected from fines, and funds provided by service providers, donors and government.

According to the provisions mentioned in the Forest Regulations 1995, CFUGs must spend 25% of the CFUG fund in forest protection and management activities. Recently, the Ministry of Forests and Soil Conservation has formulated Community Forestry Implementation Guidelines 2009, which further elaborate how CFUGs could generate and utilize funds. According to the Guidelines, the CFUG fund should be spent broadly on four categories of activities: a) forest protection, development, silviculture operations and utilization; b) poverty reduction and livelihoods promotion; c) community and infrastructure development, and; d) institutional strengthening, which directly contributes towards good governance. Another provision mentioned on the Guideline is that 35% of the fund must be allocated for the activities that directly benefit poor households as listed in the constitution of CFUGs. The CFUG could allocate the remaining funds for community development, infrastructure development and institutional strengthening activities, according to provisions laid out in the constitution of CFUGs, or as per the decisions made by the general assembly.

1.1.2 Outcomes of community forestry in Nepal

There are many publications in which community forestry outcomes are discussed. As mentioned before, community forestry is one example of decentralization in which the rights and authorities of local communities are well recognized (Maharjan, 1998; Winrock, 2002). The community forestry programme is also understood as a procedure where the local forest resources are equitably distributed to local people. Also, in community forestry, local communities or CFUGs have ownership over the forest while they have access, management as well user rights over it. Since its inception, community forestry has provided good output in Nepal. As of December 2010, about 39% of the total population, i.e., 1.67 million households have benefitted from community forestry (Devkota, 2010). These households have been formally organized into 15,000 community forest user groups which manage 1.23 million hectares of community forests, i.e., 24% of the total forest area of the nation. Average community forest area per CFUG is 85.2 hectares and average community forest area per household is 0.74 hectare (ibid).

Many researchers point out that several positive ecological changes have occurred in forests which have been handed over to local communities. Many empirical studies made on community forestry between 1998 and 2009 clearly indicate that this approach has been effective in protecting and improving the forest condition through natural or artificial regeneration in degraded forest lands (Gautam, 2006; Thoms, 2006; Chakraborty, 2001; Arul and Poffenberger, 1990; Dev *et al*., 2003; Richards *et al*., 2003). The regenerated tracts of community forests could be visibly observed after five to seven years of protection by CFUGs. Also, there are number of cases which show that both the income and forest bio-diversity have increased after the handover to local communities. There is also a rise in cattle stocks after the regeneration of community forests, due to the increasing carrying capacity of the forest (Arul and Poffenberger, 1990). The main reasons for this change are the adaptation of effective protection measures, collective decisions and management of the forests following an efficient operational plan and controlled harvesting (Adhikary, 2005).

Other scholars advocate that community forestry is not only successful in conserving biodiversity, rehabilitating degraded forests and improving the environmental conditions, but also in supporting community development and adopting democratic practices at the

local level (Acharya, 2002; Pokharel and Nurse, 2004). Likewise, the studies also highlight that there are some positive outcomes of community forestry in improving the socio-economic conditions of the local people, such as empowerment and the reduction of poverty (Springate-Baginski and Blaikie, 2007).

There are several factors that contribute to the successful achievement of community forestry in Nepal. After the government of Nepal nationalized the forests in 1975, the international community warned that this move could result in massive deforestation, which proved to be the case. Such warnings, when transferred into reality, pressured for the initiation of a partially decentralized system in 1978 in the nature of *panchayat* protected forests (PPF), as well as *panchyat* forest (PF). After the re-establishment of democracy in 1991, the community forestry approach was further strengthened (Devkota *et al*., 2010).

Besides these achievements, several multi-dimensional initiatives also emerged in community forestry, through non-government stakeholders and donors, who have continued to be involved in community forestry programmes to support government. However, due to insufficient resources and capacities of the stakeholders, it was realized that a reliance on donor assistance was becoming more important in Nepalese community forestry (Ives, 2006:52). After the promulgation of the Forest Act 1993 and Regulations 1995, international donors such as AUSAID, DANIDA, DFID, FINNIDA, SDC, SNV and USAID have provided financial support as well as technical resources to enhance community forestry in Nepal. Presently, community forestry has benefited more than one third of the population of the country, whose coverage is wider than any forestry programmes in Nepal. Furthermore, community forest users groups (CFUGs) have established networks such as Federation of Community Forest Users'Nepal (FECOFUN) and Nepal Federation of Forest User Groups (NEFUG) from local to central level which have also been recognized at international level.

1.2 Problem statement

Despite the real successes in community forestry programmes, there still remain several challenges in the process of decentralization in community forestry. It is true that decentralization or devolution assures the improvement in forest management as the local

forest users groups are involved in the process, which also enhances the sense of ownership. However, there is no guarantee that the poor and deprived people, who are themselves members of community forest user groups, will get more benefits and have equal access to decision making (Charnley and Poe, 2007). Therefore, during the decentralization process, these problems should be given due consideration, so that the concerns of local marginalized groups be properly addressed in order to achieve the objectives of community forestry (Charnley and Poe, 2007). In this way, Shackleton *et al*., (2002) argues that devolution is important, but this in itself does not mean that following devolution local users immediately have the power to manage forests under the given terms and conditions, to enable them to gain benefits from a productive forest. Furthermore, they claim that there are various examples which show that benefits obtained from various community forests differ widely, and where there are measurable benefits obtained from the community forests, they are not distributed fairly or meet the needs of the poorest people in the community.

Arnold (1990), who researched CPR management in India, points out that successful CPR systems are those which are compatible with the local community structure. He further states that most CPR systems enrich the interests of the elite or powerful people who, out of self interest, are reluctant to distribute the returns equitably, thereby denying the poor.

Other scholars, such as Kinsley (1999), argue that problems in forestry are not only associated with biological or technical matters but also with socio-economic and political inequalities that exist in a society. Therefore, a Common Pool Resource (CPR), such as community forestry, should be implemented by a democratic and transparent process for allocating the resources. In other words, costs and benefits should be shared among the resource users (members of a CFUG) in an equitable manner, such that these should be socially acceptable and economically viable. Due to the dominance of the elite in decision making, especially in benefit distribution, there is often a failure to assist and improve the wellbeing of forest dependent poor people. In many cases, poor farmers, whose livelihoods depend on forests, have lost their rights over it (Edmuds and Wallenberg, 2001).

Nepal has been considered a leading country for implementing community forestry, so that it has a long history in decentralization and natural resources management (Devkota *et al*.,

2010). In the initial phase, the main objective of community forestry was to fulfill the basic needs of the people; later it was understood that community forestry should contribute to forest conservation and poverty reduction simultaneously. Hence, the objective was modified accordingly in the Revised Forest Policy 2000. When we analyze the evolution of community forestry, we can find that the issues of livelihood, good governance and ecological sustainability are associated with devolution at the community level, which are dealt with in the following.

1.2.1 Issues related to livelihood and equity

For almost 30 years Nepal has been involved in the practice of community forestry and its development. During that time various amendments of policies and acts, along with institutional changes were carried out to address the issues and problems concerned with forest devolution. Besides the many positive outcomes in community forestry, there are also pressing concerns, such as whether these programmes achieve the real objectives of overcoming forest degradation and poverty reduction.

In various scientific publications, questions have been raised whether community forestry has benefited the poorest people. For example "whether poor people are winners or losers?" (Adhikari, 2005) and "why community forestry failed on a national scale?" (Kanel, 2008). As previously mentioned, community forestry began as an attempt to deal with the issues of environmental degradation and the livelihoods of poor people. Despite much progress, it is frequently pointed out that there are no satisfactory results to show a measurable improvement in the lifestyles of the forest dependent needy, who are members of CFUGs (Gentle, 2000; Nightingale, 2002). Thoms (2006), states in his article "conservation success, livelihood failure? Community forestry in Nepal", that there is little evidence to support the improvement of the livelihoods of the poor as a result of community forestry. There are several cases which explore that power relations between poor and elite members of CFUGs are not equal, so that the poorest households lose the opportunity to fulfill their daily needs from the forests. This means that elites benefit from community forestry while the living conditions of the poor are adversely affected (Dev *et al*., 2003; Malla *et al*., 2003). This can be demonstrated in the imbalance of fire wood distribution amongst rich and poor households, where the poor receive far less than they need, whereas the rich take more than they need (Timala, 1999).

When analyzing community forestry, its positive aspects are seen as the successful restoration of degraded forests and the enhancement of forest products. Within the Nepalese community, there exists a local power structure which results in intra-group inequality. These obstacles have also been explored by Gilmour and Fisher (1991), who mention that the benefits of the development programmes, such as community forestry, have been captured by elites. Therefore, the issue of unfairness and equitable distribution of benefits among the members of a CFUG, in relation to their contribution in community forest management, is a major one. Further, Gilmour and Fisher (1991) specifically reinforce the fact that the decision-making process is often dominated by elites who do ignore the interests and needs of the other sections of society, such as women, the disadvantaged and marginalized groups. It is also common that after the sale of forest products, the expenditure has been made in favor of committee members.

1.2.2 Issues related to institutional governance

There are some emerging issues on community forestry governance such as inequality in participation, decision making and transparency. Various participation levels have been found in community forest management by diverse forest users or households with different socio-economic attributes (see also Hobley, 1996). There is a lower level of participation of poor (lower class) users in community forestry as opposed to higher class (rich) individuals, where mostly higher class people participate in decision making of forest management work (Maskey *et al*., 2003). The factors that affect types of inequality in participation are associated with local norms, cultural values and perceptions and the person's individual characteristic which determine their social hierarchies (Agrawal, 2002; Agrawal, 2001).

It has also been found that some poor households, whose needs are not satisfied or when they do not receive the expected benefits from the community forest, are unwilling to participate in the decision making process or other management work (Malla *et al*., 2003). But in general, in forest management programmes the participation of poor people is generally high, because their basic needs are met from the forest (Springate-Baginsli *et al*., 2003). Likewise, the participation of women in forest management is generally high as they are the collectors and end users of forest resources. However, the role of women in decision-making, like that of the poor and marginalized groups, is not considered or

recognized. Even when they complain, their comments are often neglected or considered as unimportant in decision-making alongside the powerful elites. Women generally hesitate to put forward their views in an open forum; and although women are also members of executive committees, most of the views in the decision making process expressed by men and, as a consequence, the influence of men in decision making is much higher (Gautam, 2004).

In the guideline for implementing community forestry, there is a provision that both men and women from each household are equally eligible for CFUG membership. But in practice, most of the households are headed by men and their name is recorded in the membership list leaving out the name of the women (Seeley, 1996). In male-dominant CFUGs, women are often not informed of the meetings or assemblies which are an important forum for decision making. Likewise, little or no information is given to women about the agenda of such meetings, or the decisions that are made in such forums (Agrawal, 2002).

The factors that are responsible for women's participation in decision making are not only personal factors but include cultural, environmental and socio-economic conditions which determine the ability of a woman to participate in various decisions--making processes (Weingerger and Jutting, 2001). Such social norms or values result in other types of social discrimination like caste, ethnicity, race, gendered norms and perceptions which differentiate some people from others in the same society (Agrawal, 2002). Due to such social inequalities, there is a low representation of the poor, women and other disadvantaged groups in the decision-making process so that the elite maintain a dominant role (Baral, 1999). Therefore, the frequency and level of participation of individual members in group activities, like committee meetings or general assemblies are determined by a complex arrangement of socio-cultural norms and rules, and awareness levels (Agrawal, 2001).

Agrawal (2001) further adds that in addition to local rules and norms, there can also be discrimination in the constitution or in the rules and regulations of the government, which can exclude the poor and females, both in decision making and in benefit sharing. Due to poor governance and weak institutional capacity, there is limited or slow implementation

of devolution policies which affects the 'inferior' sections of society, such as been mentioned (Dahal, 2003). These illustrations clearly indicate that there are still huge challenges to be met in the community forestry decentralization process in Nepal.

Another burning issue in community forestry is the lack of transparency, especially in financial transactions, which has created mistrust among the executive committee members and general users. It is also found that elites have captured most of the positions in executive committees of the CFUGs, which results in poor accountability, irregular financial transactions and exclusion of the weak. These inequities, caused by elite dominance, result in an erosion of trust among the actors or members of the group. Also, the elite limit the authority among themselves, whereupon independent decisions favor groups within the elites (Anderson, 2002 and Malla, 2001).

The above illustrations highlight the issues of institutional governance which are very relevant in Nepal's community forestry. Roberts *et al*., (2007) also emphasizes that economic growth and good governance are necessary for the achievement of sustainable development. In the third National Community Forestry Workshop, held in 1998, various issues relating to community forestry were discussed. The outcome of the workshop recognized that good governance, sustainable forest management and equity are the most important components needed in order to achieve the goal of community forestry (Acharya *et al*., 1998). Other authors, such as Osmani (2004) also highlight the importance of good governance and stress that good governance is an important foundation of community forestry that impacts on improved livelihoods and sustainable forest management. Regarding the key elements of good governance, most of the organizations, such as UNDP (1997), World Bank (2000) and UNESCAP (2008) (cited in Pokharel, 2008) emphasize that transparency and accountability are central to the participatory decision making.

Good governance has also been recognized in periodic plans and strategy papers viz., tenth five-year plan (2002–2007), Interim Plan (2007-2010) and poverty reduction strategy paper (2002) of Nepal. These documents give emphasis on good governance in order to achieve development objectives. Good governance, sustainable forest management and livelihood improvement are also considered as second generation issues faced by community forestry today (Kanel and Niraula 2004). Aids and loans provided by donors

and international organizations stress good governance as being a necessity for developmental programmes such as community forestry. It has been assumed that good governance helps minimize corruption, includes minority voices, advances the poor and most vulnerable groups in the decision making process. Additionally good governance helps bring about mutual trust and understanding among the group members that makes for strong social unity. Social unity is an important factor for institutional sustainability of CFUGs which is the most important factor to achieve ecological sustainability in community forestry.

1.2.3 Issues related to social ecological systems

Social-ecological systems have been used to analyze the issues related to sustainable resources management. For my study, it is a very important tool which helped to analyze community forestry governance relating to forest ecology. Glaser *et al.,* (2008) defines "a social-ecological system as a system that consists of a bio-physical unit and its concerned actors and institutions". Therefore, social-ecological systems comprise of geographic and functional boundaries which have particular ecosystems and socio-economic context.

The key in this system is the interaction between a society and nature. Society is a social unit or population which lives within a certain geographic territory and is integrated by cultural and political commonalities. Such commonalities are reflected in shared decision making and its enforcement, shared mutual responsibilities, such as participation in performing certain duties (Giddens 1989 in Fischer-Kowalski and Haberl, 2007). In other words, "society may be regarded as a hybrid of cultural and natural sphere of causation" (Fischer-Kowalski and Weisz, 1999) and that human beings always mediate between cultural and natural systems. Society may be small or large depending upon the context, and hence, a social unit can be a household, community, state or a federal state (Fischer-Kowalski and Haberl, 2007). In my research, household has been regarded as the lowest social unit and the unit of analysis. In the context of community forestry in Nepal, the Community Forest User Group is considered as a society which has been integrated by cultural and political commonalities interacting with the natural system for their subsistence. Therefore, it is necessary to understand their relation with a natural system (forest ecology) and related issues within the system.

Fischer-Kowalski and Weisz (1999) argue that there exists a mutual relationship between nature and society in such a way that when society influences a natural system, the natural system, in-turn, influences the society. In an example of a biosphere reserve, Fischer-Kowalski *et al*., (2004) points out that if farmers feel they have to work harder in comparison with income, which is less than their inputs, then ultimately the maintenance of biosphere reserve will be threatened. In the same way, community forest user groups (CFUGs) can be regarded as societies that manage the forest (natural system) to fulfill their needs. In return, forest provides them with several material and immaterial benefits. When CFUGs do not get benefits, compared with their input or investment in forest protection and/or management, they will not contribute in the long run, so that ecological sustainability of community forestry will be threatened. Therefore, ecological sustainability could be achieved when the costs or investments made by users are in balance with the benefits. If they are not balanced, the actors (here CFUGs) will try to accommodate it so as to fulfill their needs in such a way that conservation goals could not be achieved (Fischer-Kowalski *et al*., 2004).

It has been criticized that the CFUGs collect forest products not only for fulfilling their basic needs but also to sell economically valuable forest products such as timber, fire wood, *Acacia catechu*[1] (locally *Khair* for *kattha* and *kutch*) and various medicinal and aromatic plants to earn more money. The money earned through the sale of forest products is often misused by the committee, or the elite, rather than benefiting the poor. In this type of collection, the harvested quantity often exceeds the annual allowable cut or production capacity of the forest, so that there is a question of ecological sustainability. These particular issues often emanate from community forests which are rich in economically important forest products and are close to road networks, making it easier to collect and transport such forest products for sale in the market place.

In summary it can be said that ensuring socio-ecological sustainability and community forestry governance are the major challenges facing community forestry today (DoF, 2004), which is the main focus area of this study. Thus, in this study, community forestry governance has been analyzed in three different aspects: socio-economic, institutional

[1] *Acacia catechu,* locally known as *Khair*, is found in tropical to sub-tropical climatic zones, especially along the river side in Terai, Nepal. Its heartwood is used to extract *kattha* and *cutch*, which fetch high prices in Nepalese and Indian markets.

governance and ecological aspects. The study shows how forest governance is interlinked to the other factors mentioned above, and shapes the outcomes and the livelihood of the poor. In this study, socio-economic and ecological aspects was studied at CFUG level, while institutional governance was studied both at the CFUG and multi-stakeholders' level.

1.3 Methods and criteria used for evaluating community forestry governance

It was found that various methods and criteria have been applied for the evaluation of community forestry. Various studies in community forestry by scholars such as Maskey *et al.,* (2003); Agrawal, B. (2002); Agrawal, B. (2009) have focused their attention on gender in particular. Scholars such as Malla *et al.,* (2003) focus on the impact on the livelihood of forest users, while other scholars have highlighted institutional governance (see Chakrawarti, 2001; Agrawal and Chhatre, 2006). Ecological aspects of community forestry have been studied by Arul and Poffenberger (1990) and Adhikary (2005). Similarly some scholars have looked at benefit distribution in community forestry (Adhikary *et al.,* 2007); while others have studied resource conservation and livelihood (Sunderlin *et al.,* 2005; Glimour *et al.,* 2004) and the devolution process (Shackleton *et al*., 2002) in community forestry. Further, whereas most scholars have adopted case study methods from a singular aspect, or reviewed previously published literatures, there remains a lack of integrated approach towards a more comprehensive study.

1.4 Objectives and research questions

The general objective of this research is to explore and analyze the effectiveness of community forestry governance in Nepal, with specific aims as follows:

1. To analyze the performance of community forestry using a set of governance criteria related to institutional and ecological aspects;
2. To explore and analyze the contribution of community forestry towards livelihood of forest users; and
3. To analyze the governance of higher level-stakeholders (service providers) for the advancement of community forestry.

To further explore the above mentioned objectives, the following research questions are framed:

1. To what extent has community forestry in Nepal contributed to the sustainable use of natural resources in terms of improved livelihood options and ecological conditions?
2. What is the role of institutions and governance structure (of multiple scales) vis- á-vis success or failure of community forestry?

1.5 Rationale and justification of the study

To analyze the issues and problems related to community forestry decentralization, as cited above, there is an observed need for empirical research that could reveal the causes or factors behind such problems. Most research studies conducted so far in the field of forest policies have concentrated on a single aspect of community forestry either on participation, livelihood, forest ecology or institutional governance. Therefore, there is a lack of research with an integrated approach that analyses and clearly presents the weaknesses in the decentralization process in community forestry governance. As the ultimate goal of community forestry programme is to improve the livelihood of the poorest forest dependent users, and to ensure the sustainable forest management, this study attempts to combine all the criteria to provide an integrated view of community forestry and evaluate its effectiveness. Furthermore, this study will aim to provide a better insight in the field of community forestry through the analysis of the issues of livelihood, governance and sustainable forest management in an integrated way.

The outcome of this study will be of interest to forestry sector planners and policy makers in order to improve forest governance and contribute to the livelihoods of the poor. This will be a valuable reference to researchers who want to analyze community forestry governance and its relation to livelihood and ecology. This study will also contribute to the scientific field by providing better insights on the specific elements of good forest governance, the contribution of community forestry on livelihoods and ecological sustainability.

1.6 Conceptual framework of the study

Based on the research problems and research objectives, I have adopted "Framework for Analyzing Sustainability of Social-Ecological System", presented by Ostrom, (2009) as the conceptual framework of my study. This framework is relevant for my research as it provides not only which data or variables are needed to be collected, but equally important to analyze and use available data. Figure-1.1 provides an overview of a conceptual framework showing the relationship between four core subsystems such as: **i) Resource system, ii) Resources units, iii) Governance system, and iv) Users.** The subsystems are linked to each other, together with social, economic and political settings and to the related ecosystem (see Ostrom, 2009).

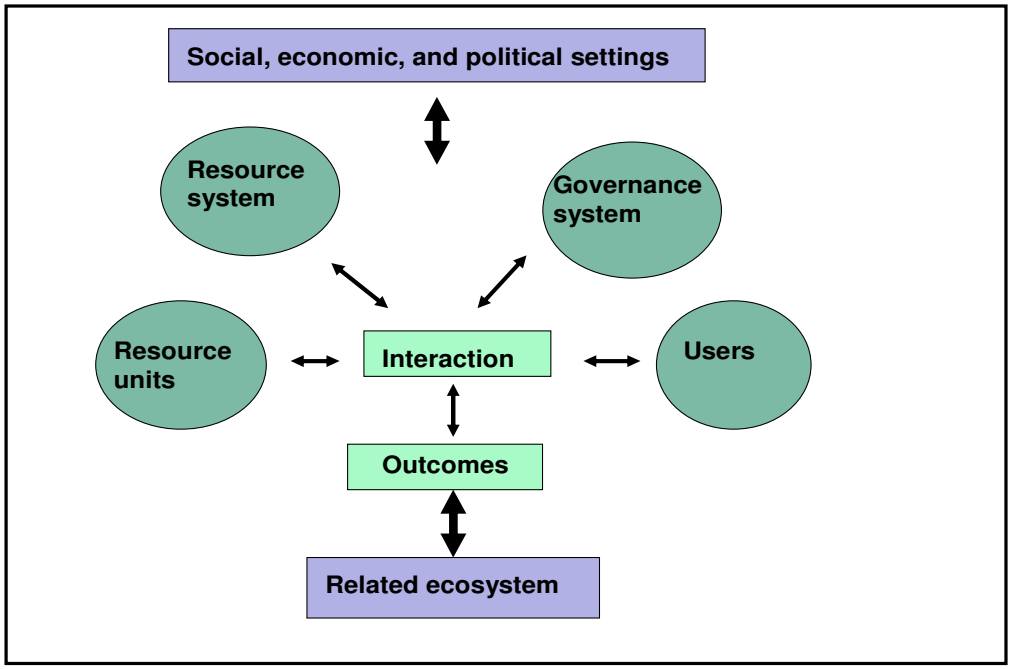


Figure 1.1: Conceptual Framework for analyzing a social-ecological system (Source: adopted from Ostrom, (2009)

The framework places community forests as a "**Resource System**" which includes the forest area and its boundary, productivity of the forest, status of biodiversity and predictability of the resources system dynamics. "**Resource Units**" of the community forest are: trees, saplings, regeneration in the forest and their economic value - utilized by the users and the market price of the forest products. **"Governance system"** of my study is the governance of community forestry related institutions and their performance. In this system both government and non-government stakeholders are involved. It also includes a network structure such as the Federation of Community Forestry Users, Nepal

(FECOFUN) from local to national levels. The rules of community forestry governance include rules of the central government as well as the rules and regulations of the Community Forestry User Groups (CFUGs). This includes the Forest Operational Plan (FOP) and the constitution of each CFUG, as well as the decisions of the general assembly and committee meetings, as an operational and **collective choice rules** (see Ostrom, 2009).

"Users" are forest users, who are the members of Community Forest Users Group (CFUG). They are characterized by distinct attributes, such as caste, ethnicity, income and occupation. Likewise, group size and number of people, leadership capacity, and their knowledge on socio-ecological system, such as carrying capacity, sustainable use of the resources, are other attributes. Hence their understanding of socio-ecological system is vitally important.

As shown in the Figure 1.1, **"interaction"** among the various systems and elements means the sharing of information, decision making, conflict management, forest resources management (such as planting, harvesting, labor investment and overall management), networking and lobbying activities with various stakeholders. During my field study, I attempted to explore these elements and related variables by keeping my objectives, research questions and problems as the main thrust of my research. In my study, I analyzed **"outcomes"** into three distinct categories: **(1) governance (institutional) performance**, **(2) ecological performance** and **(3) Social-economic performance**. Governance performance includes elements such as transparency, participation, inclusion, accountability and the rule of law. Ecological performance includes forest productivity, biodiversity, health of the forest ecosystem, protection of forest resources, environmental services, the impact on forest soil condition and the farming system. The elements of socio-economic performance include livelihood resources and their equitable benefits.

1.7 Structure of the thesis

The thesis is divided into eight chapters, sequentially presented in the first chapter under the following areas: General introduction; problem statement; methods and criteria for evaluating community forestry governance; objectives and research questions; and the rationale of the research.

In chapter two, various publications are reviewed: Forest conservation and biodiversity management in Nepal; forest conservation and biodiversity management in an international context; forest devolution trends and the historical development of forest management system in Nepal; and forest conservation outside the protected area in Nepal, mainly community forestry and other types of forest management.

In chapter three, the theory and concepts related to good governance, institutions, decentralization and their relationship on forest management are reviewed. Also, in this chapter, theoretical aspects of governance focusing on classical, populist and neo-liberal approaches are presented. The concepts regarding common pool resources and corresponding institutions, related to the theoretical debate of institutions and decentralization process are also presented. Finally, a theoretical framework of the research is developed on the basis of a theoretical review of relevant literature.

Chapter four presents a brief introduction on Nepal, as well as introducing the study area where the empirical work was undertaken. Furthermore, this chapter presents land use change, the productivity of agriculture, forestry and livestock, at national and district level in Nepal. Finally, I examine the role of government and non governmental stakeholders in the Nepalese community forestry programme. Chapter five focuses on the research methods, and gives a brief introduction of the research strategy, research methods, the process of selecting the sites and the operational steps adopted in the field activities.

Chapter six explores the findings of the research at the community forest users' group level, which are presented in three different sections. The first section deals with socio-economic aspects, the second section looks at institutional governance and the third section presents the ecological aspects of community forestry. This chapter also presents a discussion on community forestry as introduced in chapter one, which links to the main research questions in the thesis, and presents a critique of the main findings and the extent to which they contribute to an understanding of the effectiveness of community forestry. Chapter seven explores the research findings at the higher level stakeholders' (service provider). Finally, the last chapter logically presents the overall conclusions of the research.

2. Forest management and biodiversity conservation in Nepal

2.1 Introduction

Nepal is a small mountainous country in the central Himalayas with land mass of 147,181square kilometre. The country shares borders with India on the east, west and south, and China to the north. Although, it is relatively small in its land mass, the country is very abundant in cultural, biological and ecological diversity. Biological resources, subsistence farming and associated traditional knowledge play a vital role in the livelihood of rural society in Nepal.

The environmental concerns first appeared in the official discourse of Nepalese development at the Stockholm Conference in 1972. Following the "Theory of Himalayan environment degradation"[2] many scholars argued that poverty and environmental problems are linked in the mountains of Nepal. The globular link between poverty and environmental degradation also gained much attention in the formulation of development policies and plans in Nepal. In the past, environmental policies in Nepal were basically shaped by economic and political interests of the state rather than considering ecological priorities. Although the country has developed and adopted different models related to participatory conservation over the past 40 years, degradation and habitat loss still continues due to weak policy instruments.

This chapter provides an overview on the information and status of forests conservation and biodiversity management in Nepal. The review of the forest conservation and biodiversity management is based on scholarly reviews in respective journals and articles, forest related policy documents. The chapter is divided into six sections, beginning with a short introduction in section one, followed by a review of forest conservation and biodiversity management in an international context in chapter two; section three provides an historical overview of forest management in Nepal with an analysis of the trends in forest devolution and development of a protected area system. The fourth section addresses ideas about forest conservation outside the protected areas in Nepal, with

[2] Erik Eckholm in a 1976 treatise linked population growth to contemporary upland deforestation and soil erosion, which are presumed to cause downstream flooding and silting. Since the 1980s, Eckholm's theory has come under intense criticism on empirical, theoretical, and ideological grounds. There is a widespread belief that an ecological crisis of unprecedented proportion is taking place in Nepal's Himalayan region (Guthman, 1997)

examples of forest management modalities, including community forestry. Section five presents the overall discussion on biodiversity conservation in Nepal. Finally, some conclusions are drawn based on the review and concomitant analysis.

2.2 Forest management and biodiversity conservation: International context

2.2.1 Background

Debates over the use of forest resources became a global issue after the Rio Conference in 1992. The objective of the Rio conference was "sustainable development", with attention focussed on a combination of a development agenda and conservation for a "win-win" solution (Kaimowitz, 2003). Environmental conservation was seen as a contributory factor in the improvement of the livelihoods of poor people, which ultimately reduces pressure on environmental resources and benefits both current and future generations (ibid). On the one hand, conservationists want to conserve biodiversity by the expansion of natural reserves and protected areas; on the other hand people in developing countries want to exploit forest resources to fulfil their domestic needs (Wood,1995). So the issue of forest as a 'national common property' or 'global common property' is not yet known; however, the matter of 'sovereignty' over forest resources has been raised internationally (Kaimowitz, 2003).

Although the issue of conservation of forests and the establishment of protected areas is gaining wider attention in international media and forums, binding agreements to solve the problems has not yet met with success. The international community, including non-governmental organizations, are also raising issues related to the livelihoods of indigenous and local communities (Wood, 1995). This is creating an ongoing debate on forest conservation and poverty in different areas, including Amazonian forests, and other tropical rain forests in Indonesia, Kongo Basin and other countries (ibid).

Unfortunately, in recent years, low priority has been given on the conservation of bio-diversity or forest resources, while issues related to poverty reduction are given more attention (Kaimowitz, 2003). Also, out of eight Millennium Development Goals (MDGs), top priority has been given to eradicating extreme poverty and hunger, while environmental issues are scaled as the seventh goal. Due to this, many forests have been cleared for the resettlement of poverty stricken people, the landless, or victims of natural

hazards such as floods and infrastructure development (ibid). The following sections deal with forest and protected area systems in international and national contexts.

2.2.2 Development of protected areas

The creation and expansion of protected areas (PA) is a global phenomenon. Globally there are about 102,102 protected areas covering an area of 18.8 million sq. km. Out of these, 17.1 million sq. km are in terrestrial regions, covering some 11.5 % of the earth's land mass (Chape *et al.,* 2003). Protected areas are located in 169 countries (ibid).

Different forms of PAs existed for several years, such as protected forest areas in India, which were established more than 2000 years ago (Eagles *et al.*, 2002) and royal hunting reserves were established in Europe for 1000 years. At the early stages, PAs in North America prioritise aesthetics, public health (e.g., hot springs) and revenue generation through tourism (Shultis, 1995). Some of the pioneer PAs established in the United States were selected around Arkansas Hot Springs in 1832 as well as Yosemite in 1864 (Wiersma *et al.,* 2008). Yellowstone, which is the world's first national park, was created in 1872 as a public national park (Wiersma *et al.*, 2008). In Asia, the first national reserve was Corbett National Park in India, established in 1935 (Gujjars, 1997).

Gujjars (1997) further mentions that in Northern countries in the late 1960s, the environmental movement had emphasized that natural uncultivated land should be expanded and developed into protected areas. Following this, the IV World Congress in National Parks and Protected Areas (CNPPA) held in Caracas, Venezuela in 1992, decided each participant country should establish at least 10 percent of their territories under a protected areas system.

The World Conservation Union (IUCN) has defines a protected area as:

"*an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal and other effective means*"(UNEP-WCMC,2004).

The primary objective of protected areas was to protect biodiversity, but PAs also contribute to other important cultural, social and economic values. Protected areas exist under different names in different countries, including wilderness areas, nature reserves,

and national parks (Dudley *et al.,* 2008). PAs have been established to conserve ecosystems around the world with varied management objectives, cultures, ecosystems and governance systems. IUCN classifies PAs into six categories to facilitate the management and planning process. Table2.1 presents the categories of PAs together with their goals and coverage.

Table 2.1: Protected area categories, goals, and global coverage

Category	Major Goals	Area (km2)	% of Global Protected Area
Ia Strict nature reserve	science	805416,3	3,8
Ib Wilderness areas	wilderness protection	726828,3	3,5
II National Park	ecosystem protection and recreation	4228357,3	20,1
III Natural monument/Natural land mark	conservation of specific natural features	193624,5	0,9
IV Habitat/species management area	conservation through management intervention	2049983,5	9,8
V Protected landscape/seascape	conservation and recreation	2632249,7	12,5
VI Managed resource protected area	sustainable use of natural ecosystems	4964733,1	23,6
Unclassified	n/a	5398630,4	25,7
Total		20999823,1	100

Source: IUCN and UNEP-WCMC (2011)

The importance of protected areas has been highlighted in many international conferences, such as the Fourth World Congress on National Parks and Protected Area and in many international conventions, congresses and treaties. Such conventions have provided both binding as well non-binding mechanism to preserve habitats, forest and species in various parts of the world. Some of the key treaties and conventions and their important features are presented in Table 2.2.

Table 2.2: Key convention and features

S.N.	Events	Effects
1	The World Heritage Convention - 1972	Protection of the World's Cultural and Natural Heritage
2	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - 1975	Control international trade in endangered wild flora and fauna that are, or may be threatened with extinction
3	Ramsar Convention - 1971	Protected wetlands of international importance especially as waterfowl habitat
4	Convention on Biological Diversity (CBD) - 1992	Provide a legal framework for biodiversity conservation

Source: Bishop et al., 1995

2.2.3 Development of protected areas in Nepal

The evolution of forest management practices described in the previous section also had an impact on the development of protected areas system in Nepal. The movement of species protection and biodiversity conservation started in Nepal after the nationalization of forests in 1957. The first legislation to protect Nepal's wildlife and biodiversity was introduced in the 1840s during the regime of Jang Bahadur Rana. After nationalization of the forests in 1957 the first Wildlife Act was approved in 1959 with legal protections to protect one-horned rhinos and their habitat in the Terai region of Nepal. After the 1960s more effective conservation programmes were introduced to establish the protected areas (HMGN/MFSC, 2002). The first rhino sanctuary was established in 1964 in Chitwan to protect the population of one-horned rhinos (*Rhinoceros unicornis*). A group of soldiers were trained for this purpose, called "*Gaida Gasti*" to patrol and protect the rhinos. In 1969, seven Royal Hunting Reserves, six in the Terai[3] and one in the mountain area, were established after the promulgation of the Wildlife Protection Act 1969. However, the management of the programme proved ill effective because of the lack of sufficient regulations, efficient staff and proper organization (HMGN, 1989). The FAO and UNDP, through the introduction of major projects after 1965, contributed in the development of the National Park along with the Wildlife Conservation Project in 1973 (Heinen and Shrestha, 2006:45). Following this, the country's first National Parks and Wildlife Conservation Act was formulated in 1973. The Act, which remains in statute, has greatly contributed in biodiversity conservation in Nepal (ibid). The 1973 Act also remained a legal base for the

[3] Terai is the low land of Nepal, altitude < 300 m. from mean sea level.

establishment and management of PAs. The Act consequently amended four times, in 1973, 1982, 1989 and 1993, identified the following six categories of PAs in Nepal (Nepali *et al.,* 2006):

- **National Park:** *an area set aside for the conservation and management of the natural environment, including the ecological, biological and geomorphologic associations of aesthetic importance.*
- **Control (Strict) Nature Reserve:** *an area of unusual ecological or other significance, set aside for the purpose of scientific study.*
- **Wildlife Reserve:** *an area established for the conservation and management of plants and wildlife and their habitat.*
- **Hunting Reserve:** *an area set aside for the conservation and management of wildlife to provide opportunities for legal recreational hunting.*
- **Conservation Area:** *an area managed according to an integrated plan for the conservation of the natural environment and the sustainable use of the natural resources contained within it.*
- **Buffer Zone:** *is a designated area surrounding a national park or a reserve, within which the use of forest products by local people is regulated to ensure sustainability.*

The categories of protected areas presented above fall under the protected areas categories II, IV and VI of the world conservation Union's (IUCN). At present twenty protected areas, including ten national parks, three wildlife reserves, six conservation areas and one hunting reserve are declared and conserved in Nepal, which covers 23.23% of total land mass of the country. The details of protected areas of Nepal are presented in Table2.3 and Map2.1.

Out of twenty protected areas, sixteen are directly managed by the Department of National Parks and Wildlife Conservation (DNPWC), and three others are managed by national NGOs and the Conservation Area Management Council (CAMC).

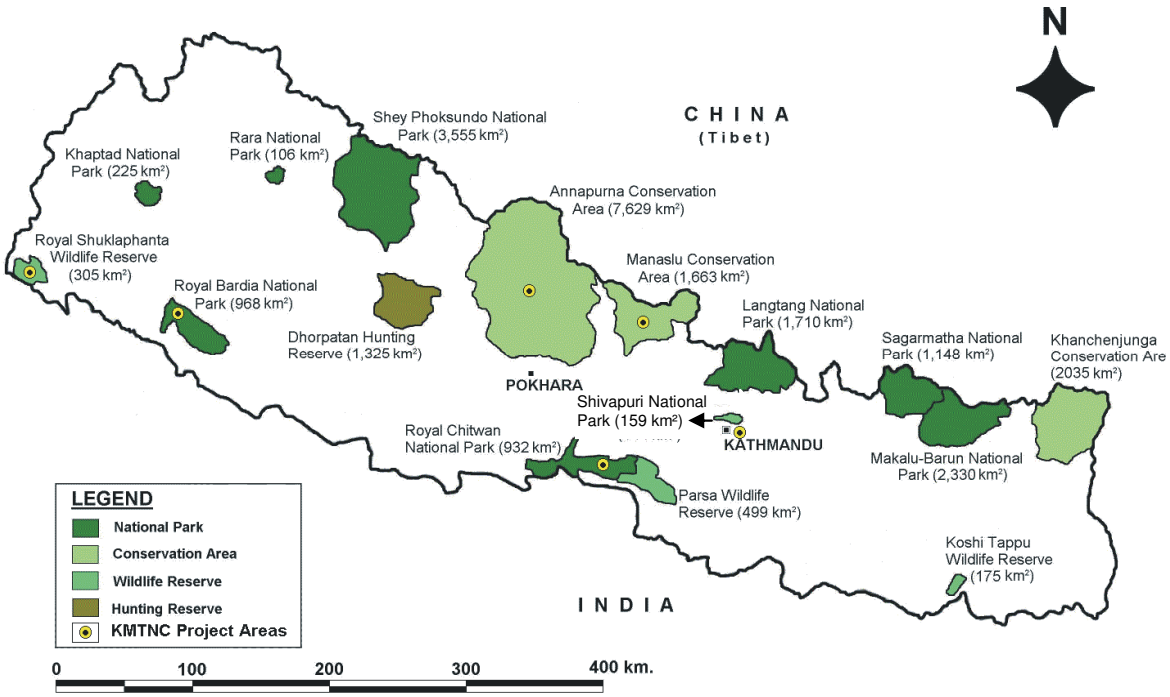
Table 2.3: Protected Areas and their categories in Nepal

S.N.	Category	Number	Area (Sq.Km.)	%
1	National Parks	10	10853.00	31.7
2	Wildlife Reserves	3	979.00	2.9
3	Hunting Reserves	1	1325.00	3.9
4	Conservation Areas	6	15424.95	45.1
5	Buffer Zone	12	5604.67	16.4
	Total	**23.23%**	**34,186.62**	

Source: Ministry of Forest and Soil Conservation Nepal, 2011

Distribution of the protected area in Nepal is such that about 15% of the country's protected areas are in Terai and Siwalik regions, followed by 7% in the mid-hills and the remaining 78% in the high mountains (MoFSC, 2011). These figures clearly show that in the mid-hills, in comparison with other geographical regions, there is still lacking a protected areas network (Nepali *et al.,* 2006).

Two national parks: Chitwan National Park and Sagarmatha National Park are included in the World Natural Heritage sites. These national parks are an important habitat for endangered species like Rhino and Musk Deer. The latter species is found in Sagarmatha National Park where the world's highest peak, Mount Everest lies. Similarly, five wetlands are declared as wetlands of international importance, or ramsar sites, among them Koshi Tappu Wildlife Reserve which is an important habitat of wild buffalo.



Map 2.1: Protected area network of Nepal
(Source: NTNC/ACAP, 2004, Pokhara, Nepal)

Policy and legislation

Different policies, as well as legislation, has been formulated and implemented to manage the protected areas and conservation of biodiversity, habitats, and forest ecosystems in Nepal. The historical development of important policies related to protected areas and their effects are presented in table 2.4.

Table 2.4: Policies and Legislation of Nepal

S:N.	Policies	Effects
1769-1950	Rana and Royal directives	Protection of trees and wild animals in specific areas
1959	Wildlife Act	To provide legal protection to one horned rhinos and its habitat in the Terai region of Nepal
1973	National Park and Wildlife Conservation Act	Conservation of wild animals and habitats; regulating hunting; conservation, development and management of forests of special significant, categorization of protected areas
1973	Royal Chitwan National Park Regulation	Declaration of Royal Chitwan National Park, the first national park in Nepal
1977	Wildlife Reserve Regulation	Management of reserves
1979	Himalayan National Park Regulation	Management of National Parks in the Himalayan region (entrance fee, permit etc.)
1989	Amendment of National Park and Wildlife Conservation Act, 1973	Legalization of the involvement of NGOs in the management of conservation areas
1993	Amendment of National Park and Wildlife Conservation Act, 1972	Provision of Buffer Zone areas
1996	Buffer Zone Management Regulation	Declaration of Buffer Zones around Royal Chitwan and Royal Bardia National Parks for minimal biotic interference in core areas Community participation in nature conservation
2000	Terai Arc Landscape (TAL)	Landscape approach in biodiversity conservation Declaration of trans-boundary protected area corridor and connectivity

Source: Shrestha and Nepal (2002)

Management strategies of protected areas in Nepal

a. Park and people concept in National Parks and Wildlife Reserves

From the beginning of their establishment, the Nepal Army was organized for the security of protected areas from encroachment on forest lands and other illegal activities. This provision was applicable in all protected areas except the conservation areas. However, there were frequent conflicts between local people and park authority due to human and livestock depredations, limited resource use inside the park and crop damage by wild animals (Budhathoki, 2004). These problems provided a lesson to rethink the inclusion of local people in park management, and with the amendment of the National Park Act of 1973 the concept of Buffer Zones around the protected areas was established in 1993. The objective of the Buffer Zones were to provide livelihood opportunities for the people living

around the protected areas, provide them with access to the natural resources in the buffer zone area, and to conserve the biodiversity in the protected areas, while also reducing park and people conflicts (ibid).

To address the issues of the buffer zones, Buffer Zone Management Regulations-1996 and Buffer Zone Management Guidelines-1999 were promulgated in order to encourage people's participation in the conservation and regulation of the use of bio-diversity in the buffer zones areas. Presently, buffer zones have been managed jointly by Buffer Zone Management Committees and User Committees. The amended Act allows for the provisions of the allocation of 30-50% of park revenues for community development and livelihood improvement in the buffer zones.

The main goal of this concept was to reduce park-people conflicts and to create a space for the movement of faunal species. Natural boundaries, like roads and rivers, were considered as the main demarcation of buffer zones around the surroundings of national parks and reserves. Features considered for the demarcation of buffer zones were: areas affected by the conservation efforts in the PA, the geographical location of the PA, the condition and distribution of villages and settlements around the PAs, and the areas marked suitable for management (DNPWC/MFSC, 1999). The provision of the buffer zone concept has been implemented in 11 out of 17 protected areas, and US $1.2 million of park income has been allocated for the implementation of conservation and development-related activities in the buffer zone areas since 1997 (DNPWC, 2003). From the programme's inception, more than 700,000 people living in 185 Village Development Committees have benefited. Moreover, the generation of financial capital through voluntary saving processes in the buffer zones reached more than 500,000 US$ within 5 years of the implementation of the buffer zone programme (DNPWC, 2002).

There are some controversies about the provision and practices of the buffer zone programme. Some scholars claim this practice has improved relations between parks and people which have contributed to more effective management of the protected areas (Budhathoki, 2004). However, others claim several factors and interests from the buffer zone area has made management tasks difficult and that the committees do not have the capacity to properly manage the allocated resources. According to DNPWC (2003), more

than 58% of the fund allocated for buffer zone management has not been used. Another challenge for the buffer zone groups and committees is transparency in the utilizing of buffer zone resources, and adequate representation of women and indigenous people in decision-making bodies like the Buffer Zone Management Committee. According to Paudel (2002), the buffer zone programme has not succeeded in addressing the needs of the marginalized, poor, and indigenous communities. Influence and control over resources and decision making by elites and politically powerful people is common. According to Timsina and Paudel (2003), 54% of the Buffer Zone Management Committee members were from active members of political parties and 75% from higher castes.

b. Integrated Conservation and Development Project (ICDP) in conservation area management

The idea of the ICDP began in the 1980s with the objective to address the socio-economic benefits of local people, along with effective conservation measures (Kremen *et al.,* 1998). As discussed in the previous section, the park authorities recognize local people as enemies of forest and wildlife and the state persists in trying to remove them from the park. Thousands of households who were originally residing inside the park were transferred outside the park in different parts of the country. However, over the past two decades, protected area authorities have gradually recognized that the conservation objectives cannot be achieved without addressing the needs of local communities (Spiteri and Nepal, 2008). Faced with these facts, after the 1980s, a new school of thought realized by environmental and development NGOs, decided that a change in approach was necessary, and initiated the concept of ICDPs in protected area management, focusing on conservation areas. The Annapurna Conservation Area Project (ACAP) in Nepal was one of the successful models of ICDP. In this section the strengths and weaknesses of ICDP in general and ACAP in particular will be discussed.

ACAP initiated its implementation in 1986 in the village of Ghandruk, which served as a pilot project. Gradually the concept has been successfully expanded into the largest protected area (7629 sq.km) covering with 56 Village Development Committees (VDCs) in Nepal. For the management purposes, the ACAP is divided into seven management components with their own dedicated field offices. Based on the Conservation Area Management Regulation (CAMR)-1996, Conservation Area Management Committee

(CAMC) has been formed in each VDC, to carry out development and conservation activities in the VDCs in the conservation areas. The term of CAMC members' remains for five years, after which new committee members are formed. The details ICDP web of ACAP is presented in Figure 2.1.

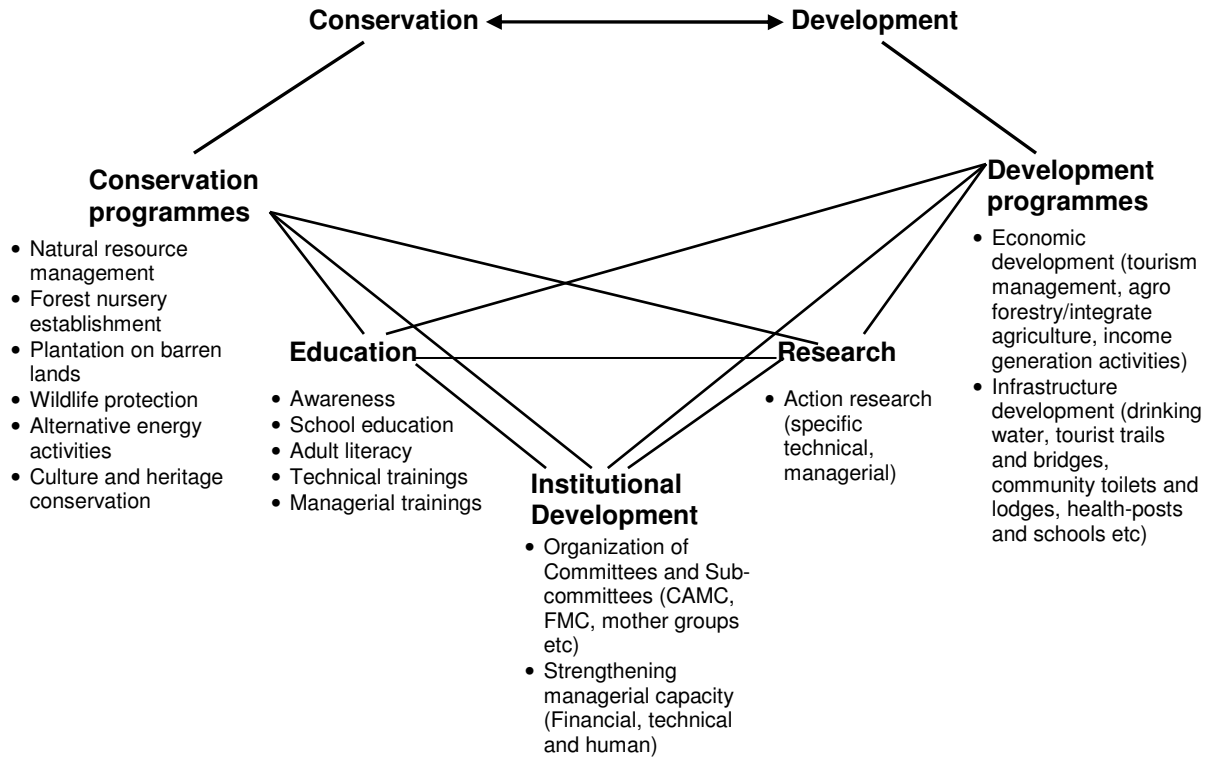


Figure 2.1: ICDP web of ACAP
Source: Adopted from Bajracharya, 2002 and Project Documents of ACAP.

Since its foundation, ACAP has attempted to strengthen the institutional and technical capacity of CAMCs by providing technical, financial and other support initiatives. It provides support in preparing yearly plans, enhances the capacity building of CAMCs through various training programmes and provides support in the implementation of ACAP regulations (Baral, *et. al*., 2007). The empowerment of CAMCs is important in the transference of conservation benefits to local people for their livelihoods (Bajracharya *et al.,* 2005 in Baral, *et. al.,* 2007). ACAP also tries to create a win-win situation between socio-economic enhancement of local community and nature conservation

According to Baral *et al.,* (2007) that ICDPs need longer time frames to manage their conservation goals, as economic development gets higher priority than conservation in the

order of projects. However, in ACAP, the management strategies are focused on the institutional strengthening of local community groups to balance development and conservation goals. Furthermore, the ICDP in ACAP is successful in increasing the awareness among local communities about conservation issues and their active commitment to the conservation programme (Baral *et al.,* 2007). However, contrary to this thought, there is a belief that conservation and development are two different objectives and cannot be achieved in tandem (Oates, 1999). In many situations development activities get priority over conservation objectives (Wainwright and Wehrmeyer 1998); therefore balancing conservation and development in ICDP always presents a challenge, needing commitment, legal framework and incentives.

2.3 Historical development of forest management in Nepal

2.3.1 Background

In Nepal, forest management and conservation began immediately after the downfall of the Rana regime in 1950 (Heinen and Shrestha, 2006:44). After the demise of the Rana regime, monarchism was restored in Nepal. However, historically there has always existed local practices on forest management and conservation, which although were adopted in the past are equally important today, and provide a means to analyze and formulate current strategies. In this line, Nilsson (2005: 832) points out that the forest policies, which are presently under implementation, are also strongly influenced by the history of forestry sector development in Nepal. Therefore, it is necessary to understand and analyze the historical development of the forestry sector.

According to the changes made on forest devolution, the history of forestry development in Nepal can be divided into five different phases (Hobly and Malla, 1996; Pokharel, 1997). The first phase can be traced from 1743 to 1950. During this period, forest lands were distributed to the families of the rulers as private forests. In this time, forest was a means for generating revenue. The second phase (1951-1977) consisted as a counter-devolution, or centralization phase. In this period, the forests were nationalized and managed by central government. During the third phase (1978-1990), an initiative was established involving a participatory management system and provided few rights to the local communities. This phase was termed as “the emergence of participatory (populist) forestry

in Nepal" (Hobley and Malla, 1996:75). Biggs and Messerschmidt (2003:45) stated that field experiments and analysis were made during this period (1978-1990) to formulate progressive forest policies. The fourth phase (1991-1999) saw the important re-establishment of a democratic process and the institutionalization of community forestry. The present phase of community forestry, (from 2000 to the present) has mainly centered on 'second generation issues' like institutionalization and the improvement of internal governance of CFUGs, with an emphasis on the livelihoods of poor households and the sustainable management of resources. Key features in each phase are described in the following sections.

a. Privatization (1743-1950)

Nepal was divided into many small states before 1743. At this period, land policies in those states were such that all land was under the ownership of the state in order to make them productive (Malla, 2001:290). Shah Kings (1743-1845) unified Nepal by intensifying and strengthening the army. During the unification, they granted some areas of land as *Jagir*[4] to soldiers, to motivate them to attack neighboring states. After that Rana regime ruled in Nepal during 1846-1950, they established the hereditary prime ministership and granted the land to their own family members and some officials who had been trusted by them. By 1950, private ownership on the country's forestlands and agricultural increased by 33 percent out of which about 75% of the land was held by Ranas (Regmi, 1978 in Hobley and Malla, 1996:68). During this period, farmers were encouraged to convert as much forest land to agriculture to increase agricultural production. In doing so, farmers had to pay a certain amount of agricultural production as a form of tax, or rent to the rulers. Generally, up to half of the produce that came from the conversion of forest land to agriculture had to be paid as tax or rent. At that time, forest had been controlled by local officials and nobles who were appointed by rulers. In some cases, part of the forest had been controlled by local functionaries (ibid). Malla (2001) pointed to this as an example of a partnership or cooperation between local elites and rulers in order to control the people and resources. Swallow and Bromley (1992) stated that appropriate informal rules were practiced locally during these periods, which they term "governance without government". During these periods the condition of forests improved, although there was no appropriate forest law until 1951.

[4] Jagir denotes 'job' or 'employment'

b. Nationalization (1951-1977)

After the fall of the Rana regime in 1951, the new government began some development programs in Nepal. In 1957, the government nationalized the country's forest resource for the 'good of the nation'. The government's intention in nationalizing the forests was to transfer control and ownership of the forest resources from better off families and a few influential members of the state (Springate-Baginski and Blaikie, 2007). Though the nationalization of forests was well intentioned, in reality it caused massive deforestation in the hills of Nepal (Gilmour and Hobley 1989; World Bank 1978). It was due to the fact that nationalization neglected the customary rights of the local communities to use the forests. In so doing, communities lost their ownership in such a way that there was no alternative management system that could compensate those with ownership rights (Soussan *et al.,* 1995).

In 1961, the government promulgated a new Forest Act in which forest offences and punishments were clearly defined and forest departments were given power to implement the Act (Malla, 2001:292). Although the Act had some provisions for local people to participate in forest management and utilize Panchayat[5] Forests, there were no operational guidelines for its implementation (Poffenberger, 2000). Consequently, very little positive change was achieved in forest protection as local people had little capacity to follow this new Act (Springate-Baginski and Blaikie, 2007). Further, in 1967 the government promulgated Forest Protection (special) Act in which the power shifted to the forest officer and feudal elites (Poffenberger, 2000).

In this way, these forestry development initiatives benefited only powerful local elites or government officers, which resulted in massive deforestation. In 1970, a publication entitled "Theory of Himalayan environment degradation" brought attention to the World Bank, as well as international communities from developed countries. They put pressure on the government of Nepal to take some immediate steps to control deforestation in the hills of Nepal. In 1975, there was a ninth national conference on forestry in Nepal where the issues and problems related to the deforestation were thoroughly discussed. The proceedings of the conference were successful enough to attract the attention of the

[5] Panchayat was the grass root level of government administrative body, now called Village Development Committee (VDC).

Nepalese government which led to the national forest plan of 1976. This plan recognized that government alone was unable to protect the forests without the involvement of local people (Hobley, 1996). In the national forestry plan of 1976, local people's participation was recognized as an unavoidable aspect to counteract the problems and challenges in the forestry sector. Later, the importance of people's participation was reflected in forest policy in 1978.

c. Partial devolution phase (1978-1990)

This partial devolution phase is also regarded as the 'starter of participatory forest management', or 'experimentation of policy as well as practices' in the history of Nepalese forest management. In the mid 1970s, the government of Nepal reinvigorated environmental protection and rural development. This was reflected in the first National Forest Plan of 1976, which proposed the protection and management of "Panchyat Forests" for the local communities' benefits, enacted after 1978 by a set of regulations and systems. Three specific forest rules were put for forward: Panchayat Protected Forest Rules-PPF, Panchayat Forest Rules-PF, and Leasehold Forestry Rules. These rules defined accordingly three categories of forests within a Panchayat, which was given some authorities to protect, manage and utilize those forest lands with the participation of local people (Poffenberger, 2000:61). This initiation was facilitated by the Decentralization Act of 1982, in which local political units in the districts and villages were empowered in the decision making process (Malla, 2001:294).

Thus, these significant steps in 1978 were the first legal initiation for community forestry in Nepal. The Panchayat Rules provided an opportunity for international donors to support community forestry projects, and many international donors came to the aid of Nepal in order to protect the environment from further degradation (Hobley, 1996:75). It was found over time that the management power of the Panchayat had several restrictions for livelihood-oriented forest management, through power brokers and discrimination. Later, these shortcomings in panchayat forest and the Panchayat protected forest regulations were analyzed in the drafting of the Master Plan for the Forestry Sector Nepal (1989), and community forestry took a new and decisive path under the present set-up of community forest user groups (CFUGs) (Springate-Baginski and Blaikie, 2007). The most important change brought on by the Master Plan was the concept of Forest User Group (FUGs) such

that all accessible forests could be handed over to community forest users groups if they proved capable and willing to manage those forests effectively (Bhatia, 1999:9).

d. Institutionalization phase (1991-1999)

The fourth phase (1991 to 1999), also termed the Institutionalization phase, was characterized by a restoration of a democratic process, as well as the institutionalization of community forestry. The Panchayat forest policies were effective up until the movement for restoration of democracy in 1990. Afterward the re-establishment of democratic rule, civil society organizations, mainly NGOs, have since been emerging at national and local levels (Malla, 2001:297). In the 1990 Constitution of Nepal, there was an emphasis on the principles of community forest management, including the essential rights of Nepalese citizens to protect, manage and utilize local natural resources.

Following the recommendations made on the Master Plan for the Forestry Sector Nepal 1989, Community Forestry policies were further strengthened by the implementation of the Forest Act of 1993 and the Forest Regulations of 1995 (Poffenberger, 2000:64). These two legislations accorded with the declared policies that were reflected in the Master Plan, such that community forests could be handed over to the existent users when organized into a community forest user group (CFUG) (Bhatia, 1999:11). Some key requirements of the rules and legislation regarding community forestry were: a) formation and registration of CFUGs, b) formulation of a community forest operational plan, c) process of handing over community forests to qualified CFUGs, d) fines or sanctions when users or outsiders breached the rules or provisions set out in the operational plan, e) collection of forest products from community forest and their sale and distribution, and f) government support to CFUGs through extension programmes (Biggs and Messerschmidt 2003:45).

Since their inception, the numbers of CFUGs has significantly increased in the management of their community forests. These CFUGs have also established networks (such as FECOFUN) at central, district and local level. However, many elites who have been motivated politically, and well-off people who have long held power over the resources, are taking many advantages, such as securing positions in FECOFUN and other similar associations. Though existing alliances and networks have been dominated by elites

and politically motivated people, they are regarded as a strong civil society in the forestry sector in Nepal.

The civil war in Nepal (also, called 'the People's War' by the Maoists) from 1996 to 2006 has also caused some negative effects in the forestry sector. Community Forest User Groups, international donors, national government and non-government service providers have been severely affected by the civil war. Forest user groups and other institutions were forced to pay double tax to the state as well as to the so-called 'Maoist government' (Uprety, 2006).

e. Current management or second generation phase (2000 onwards)

Current forest management, since 2000, has investigated general livelihoods, poverty alleviation, good governance, and sustainable forest management which is also termed as 'second generation issues'. To address these issues, some additional legislation in forestry was formulated and enacted, for example, the Revised Forestry Sector Policy 2000.

Many scholars studying community forestry (e.g. Chakraborty, 2001:350) have mentioned that community forestry practices are effective in conserving forest ecology and native biodiversity both for ecosystem and species' sustainability. This perspective is in line with Brendler and Carey (1998:21), who state that 'community forestry efforts' are integrating conservation (ecological outcomes) by means of economic development (economic outcomes) and social/cultural (social outcomes) ethics that are benefiting local people'. Springate-Baginski and Blaikie (2007) and Chakraborty (2001:1) point out that community forestry intervention resulted in positive outcomes on poverty alleviation. However, Thoms (2006:170) points out in his study 'Conservation success, livelihoods failure? Community forestry in Nepal' that there is a limited evidence to support the contribution of community forestry in improving the livelihoods and living conditions of poor people. He further adds that there exists unequal power relations between poor and better off members of the CFUGs, which favor strict protection rather than encourage more active community use. Although strict protection is helpful in regenerating the forests and conserving the biodiversity, it often ignores the daily forestry needs of the poor (Thoms, 2006:171; Dev *et al.,* 2003).

These statements clearly point out that governance practices adopted in community forestry are still weak, so that the more powerful actors try to harness for themselves the benefits from community forestry. Therefore, second generation issues, such as livelihoods and commercialization of forest products, good governance and sustainable forest management; dominate the present debate of community forestry in Nepal.

2.4 Forest conservation outside protected areas

The Forest Act of Nepal (1993) and the Master Plan for the Forest Sector of Nepal (1989) categorized forests of Nepal into five management regimes. The categories are: community forest (CF); leasehold forest; religious forest; private forest and government managed forest. Following this regime the majority of the forests in Himalayan regions, and the mid-hills, are managed as community forests, in the same way the forests in the Terai region are either under government managed forests or as a protected areas, meaning that only a small patch of forest areas are handed over to the Terai community forest user groups (CFUGs). Recently a collaborative forest management model has been developed and implemented in the Terai region of Nepal, where the benefits from the management of forest resources are shared by government, local elected bodies and user groups.

2.4.1 Leasehold Forests

A change in the Forest Regulation Act in 1989 provided special provision of leasehold forestry for disadvantaged families. Leasehold forestry especially targets forest dependent marginals, poor people and landless farmers to help them improve their livelihoods. The two eligible criteria proposed for leasehold forestry in selecting their target groups are: i) households owning less than 0.5 hectare of land, ii) per capita annual income of the household of less than 3,035 NRs. (equivalent to 110 USD at 1985/86 rates) (MoFSC-DoF, 2009). Thus, many residents of the community, who traditionally used the forests, are not necessarily eligible for membership of a leasehold forestry group. The District Forest Office (DFO) is responsible for identifying appropriate degraded patches of leasehold forests and the eligible households assigned to protect, manage and utilize the forest resources. Following the selection process, the DFO issues a public notice for the formation of a leasehold group to check any objections and claims. The DFO's intention is to get an agreement from the local community before the formation of any groups and the handover of a leasehold forest. Once this process is completed, a Leasehold Forestry User

Group (LFUG) can be formed. The groups then prepare a constitution and an operational plan (OP). Based on the provisions in the OP and constitution, a leasehold contract is prepared and signed by the District Forest Officer and the chairperson of the group. The allocated forest land is leased to the group for a maximum period of 40 years. After the termination of the leased period, a further term of 40 years can be extended. The OP is prepared for five years. Currently the leasehold forestry programme is being carried out in more than 26 districts in Nepal (MoFSC-DoF, 2009).

Many studies have reported that the leasehold forestry programme has extensively improved the situation of degraded land (Douglas 2000; NPC 2000). According to IFAD (2003), the leasehold forestry programme increased the quality of land and livestock of poor families which ultimately resulted in better nutrition, health, education and literacy of the member households. Ohler (2000) reports that the leasehold forestry programme has contributed to increased food security by 16% per capita per month, and that fodder and fire wood collection time has saved each household 2.5 hours a day. The poor households affiliated in leasehold forestry groups have increased their income by selling milk, seeds of improved grass varieties and forest products.

However, contrary studies claim that leasehold forestry users groups are facing problems from excluded households, who did not want to give up their traditional user-rights of the forests to poor households. This means that where households who have been traditionally dependent on forest resources, and denied compensation for availing forest land to eligible leasehold forestry members, leads to friction among these two groups to the detriment of conservation (Nagendra *et al.,* 2005). Karmacharya *et al.*, (2003) also states that the leasehold user groups, who are economically and socially deprived and small in number, are often powerless and face social conflict in the utilization of resources.

2.4.2 Collaborative forests

Collaborative Forest Management (CFM) Policy (2000) is based on the Forest Act, 1993 which made a provision, in collaboration with local communities, for sustainable forest management. The objective of CFM is to achieve multiple benefits such as ecological balance, economic returns and improved livelihood from the management of forests

(CMWG, 2003). According to this policy, the Ministry of Forest and Soil Conservation (MoFSC) has the authority to prepare the collaborative forest management plan.

There are some arguments that in spite of the success of community forestry (CF) in the hills, a successful forest governance system in the Terai is still lacking. The CF programme in the Terai has not been successful in managing forests in a sustainable and equitable way, which is basically to provide access and benefit sharing for the traditional forest users who are geographically located far away (called distance users)[6] from the forests. From the current CF, only 16% of the Terai population have benefited, mostly closer users to the forest, while the remainder of 84% of the population, living in southern part, are excluded from the membership. The revised forest policy of 2000 has provisioned the concept of "collaborative forest management", with the setting up of the CFM (Collaborative Forest Management) whose brief is to incorporate distance users as active beneficiaries, and stakeholders, in the sharing of benefits from forest management. Under the CFM model, benefits from forest management are shared between district, national government and CFM groups.

Both CF and CFM programmes stress the participation of local people in forest management and benefit sharing. However, there are some differences in the two working models, as well as in their approaches. The first difference is the definition of user group members. In the case of the community forest, users are selected based on traditional user rights and proximity to the forests. Over time migrants from the hill regions relocated to forest areas around which they cultivated land, and displaced long-standing communities who previously had user access to the forest. To address this problem the CFM model attempts a more inclusive approach, so that the displaced groups (distance users) could be given access to other government forest areas.

In CF the user committee is formed only by the user group members, whereas in CFM, the collaborative forest management committee (CFMC) comprises users from both local and distance groups, representatives of local and central government, and representatives from

[6] After Malaria eradication, pressure on Terai increased due to the migration from mid-hills and the Indian border, which is accelerated by the construction of east west highway through the heart of Terai. As a result, migrants cleared the forest land and settled around the highway. Consequently, the forest area was confined in northern side of the highway and distance between traditional people (who live in south) and forest became larger and larger.

civil society. In CFM, the benefits from forest management is shared: 25% to the user groups and the remainder of 75% to the government, while in the case of CF, the CFUGs get 100% income generated from their CF. According to the Forestry Sector Policy (2000), Terai CFUGs must pay 15% tax to the local government when they sell surplus timber outside the group. CFMCs provide only one representative from the local inhabitants up to 5 km from the forest, which is inadequate in the management of large patches of forests in Terai, which needs to involve a larger number of people for adequate competency, time and resources. The Local Self Governance Act (1999) has provisioned the role of local elected bodies to prepare plans for the management of natural resources; however, this provision contradicts with Forest Act 1993 and Regulations 1995. The CFM has a provision to include locally elected bodies in the management and utilization of CFM.

The Ministry of Forest and Soil Conservation (MoFSC) implemented a Bio-diversity Sector Programme for Siwaliks and Terai (BISEP-ST) in 2002 with financial support from Netherlands government. The main task of the programme is to prepare a new CFM model for the Terai. BISEP-ST (2006) claims that there are four CFM user groups already formed and are under implementation, comprising in total a population of 400,000 to manage 8,669 ha forest area.

2.4.3 Religious forests

In Nepal religious forests exist throughout the country, yet no studies have yet been carried out to identify the number of religious forests and their role in forest conservation and management. These forests are protected by religious institutions, like temple and trusts for management after being handed over to them by the government. For example, the forest patches around the temples of Pashupati Nath and Guheswori in Kathmandu, the Suryabinayak in Bhaktapr, Bajrabahini in Lalitpur, Bhumithan in Nuwakot, and Rani Ban (Forest) in Kaski districts are well protected and managed by religious institutions. Believers are extremely conscious of the need to protect plants and trees at these places of religious significance.

2.4.4 Government managed forests

All national forests are controlled by the government, based on approved forest management plans. Government forests are managed by the relevant district forest office,

headed by the district forest officer in each district. Government managed forests in all districts are divided into different ranges, which come under the jurisdiction of range post personnel, who are responsible for the management of the forests under their authority. The district forest office carries out all forestry procedures, such as issuing forest product collection permits, as well as overseeing protection and management of the forests according to official management plans.

2.4.5 Private forests

Private forests are defined as forest areas where the trees have been established on private lands. The government provides subsidy for private forests in terms of reduced land taxes if persons undertake the management of forests on their private land. The Department of Forests provides technical support as well as seedlings for the development of private forests for both subsistence and commercial purposes.

2.4.6 Community forests

The guiding major policy documents for community forestry are the Master Plan for the Forestry Sector (MPFS) Nepal 1989; the Forest Act of 1993 and Forest Regulations 1995 which provide a legal, policy and operational framework for its implementation. These documents legitimize CFUGs as independent and self-governing institutions so that they have the authority to protect, manage and utilize the forest resources that have been handed over to them (Pokharel, 2005). Also, these provisions form the basis for community forestry governance (ibid). Community forestry was first officially launched in 1978 under the Forest Act of 1961. However, the regulations were subsequently amended in 1976 as Panchayat Forest and in 1978 as Panchayat Protected Forest (Karmacharya *et al*., 2003).

The guiding documents of a CFUG are constitution and forest operational plans, and the compliance of those documents is a pre-condition for improving their internal governance and forest condition. Time taken during the formulation of these documents depends on how often and how rigorously they discuss the contents on the documents. There are also some provisions mentioned in the Forest Act 1993 and Forest Regulation 1995, regarding the procedures and possible contents that are followed during the formulation of the constitution and forest operational plan. According to current legislation, the District Forest Officer (DFO) is authorized to hand over some part of the government forests to a

CFUG for its management and use based on a forest operational plan (FOP). The identification of local users of the forest and forest boundary is the preliminary work to prepare an FOP and the constitution of the group. Following the formation of CFUG, the constitution of the group is prepared and the CFUGs are registered at the relevant District Forest Office.

The constitution defines the rights and responsibilities of the executive committee as well as the user group members. The provisions and procedures for participation and decision making, benefit distribution, institutional strengthening, and the roles and responsibilities of the CFUG and committee members, are also outlined in the constitution. In the next stage, the CFUG makes a forest operational plan (FOP) with the technical assistance of the DFO. The FOP describes the forest management and operation activities of the community forest. The FOP is developed in consensus between user groups and the DFO and signed by both parties according to forest law. The community forest is generally handed over for a period of five years, and can be extended for the next term. CFUG is formed on the basis of accessibility of users to the forest, traditional user rights, and the willigness and capacity of the local community to manage the forests. The role of forest administration in handing over the community forests is presented in Figure 2.2.

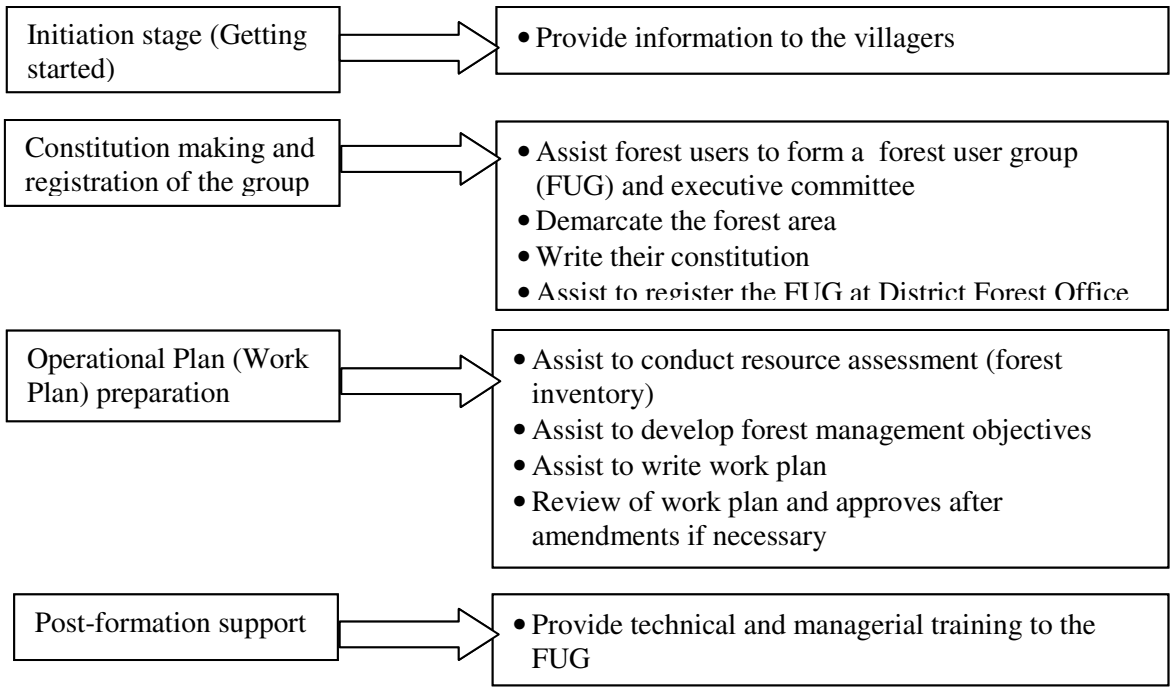


Figure 2.2: Role of Forest Administration while handing over community forests
(Source: Own elaboration, 2011)

Community Forest user group (CFUG) in the community forestry programme

As mentioned above, government policy and legislation recognize CFUGs as a self-governing independent institution, which aims to address the basic needs of the rural people. In other words, CFUGs are a local decision-making forum where the interests of the poorest people are reflected, and such a forum can also be used in the local development planning process. The organizational structure of the CFUG in the national CF processes is presented in figure 2.3.

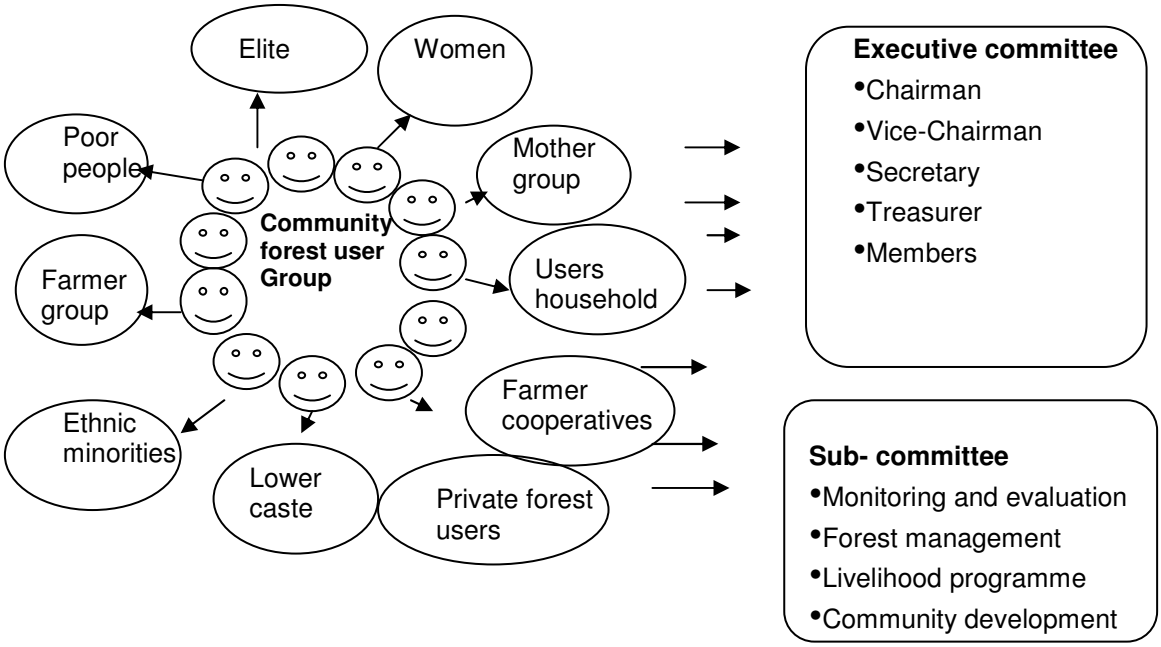


Figure 2.3: CFUG formation and organizational structure
(Source: Own elaboration, 2011)

A CFUG, as described earlier, is a social unit in which different categories of people (forest users) living in a common territory are organized. For example, a CFUG may consist of several households which may or may not be homogeneous in terms of caste and ethnicity, gender, religion, profession, socio-economic status, etc. In an inclusive CFUG, all such household categories are included as general members and they are also represented in the executive committee of the CFUG.

The executive committee is a representative body of a CFUG which executes the decision made by CFUG (general assembly). Also, a CFUG may form several sub-committees in

order to execute certain activities, such as monitoring and evaluation, forest management, harvesting and distribution of forest products, pro-poor livelihood activities and community development activities (including school, road, drinking water, etc.).

The flow of benefits from the forest

The registered CFUGs have a legal authority to protect and utilize the community forest and punish those who break the rules laid down in the constitution and forest operational plan. There are several prescriptions mentioned in the forest operational plan which direct where, when and how to implement forest protection and management activities. Thus, CFUGs protect, manage and utilize the forest products following the forest operational plan and constitution. Although, the members of a CFUG inherit access, use, management and exclusion rights over the community forest, they are not allowed to sell or lease the forest land, as land ownership remains with the government (see also Schlager and Ostrom, 1992; MFSC, 2001). The three major components: **(a) community forest (resource base), (b) CFUG fund management structure and (C) users** determine the status and potential of forest product benefits. Figure 2.4, below, charts how the benefits from a forest flow within the structure of a CFUG. It also describes the various relationships between the three components of community forestry.

a. The relationship between the users and the community forest

Users harvest forest products, such as timber, fire wood, grass, fodder, leaf litter and some non-timber forest products (NTFP) directly from the forest. The pricing of timber, poles, fire wood and other minor forest products is determined by the users themselves, which is also stated in their constitutions. If users want to change the price of particular forest products, they must discuss it with their general assembly, which if agreed, must then be written up in the minutes register and passed on to the district forest office (DFO) for approval. Only then is the amended price made effective. Generally, users have to contribute their labor to garner the forest products, and the amount of work they do is decided by the CFUG. In some CFUGs, users are allowed to collect minor forest products without contributing their labor, but in most cases, users have to pay cash for major forest products, such as wood fuel and timber. For low income users, most CFUGs provide subsidies to help them to get the required quantity of major forest products which they need. The price of the forest product and the subsidies vary according to the decision of the

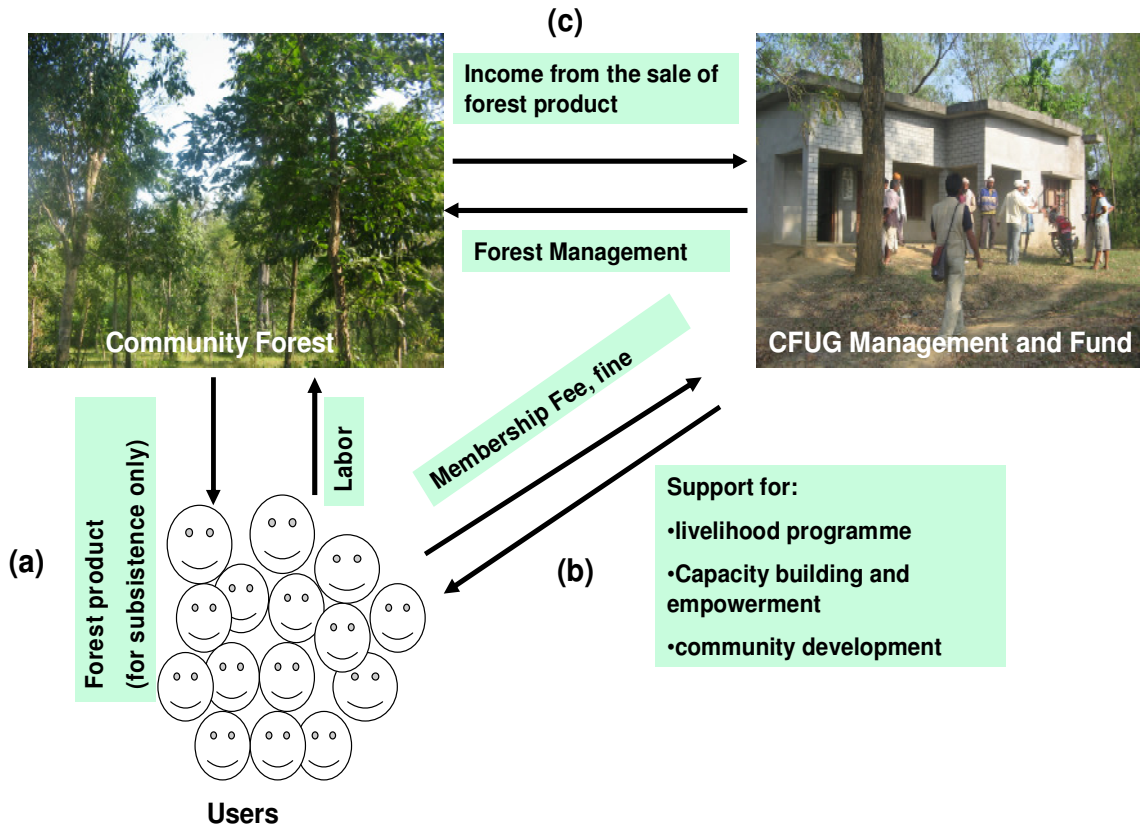


Figure 2.4: Forest benefit flow diagram
(Source: own elaboration, 2011)

individual CFUG. According to forest legislation, the price of forest products should be determined on the basis of the purchasing capacity of low income people, not on the market value affordable to higher earners.

When CFUGs harvest forest products in line with the prescriptions in the forest operational plan, they distribute the forest products amongst themselves in an equitable or need-based manner. For example, a household having a big family would need more firewood than that of a smaller family, and for this reason CFUGs themselves determine the price of the forest products. After distributing the forest products among the members of a CFUG internally, the surplus forest products are sold to outside purchasers. However, the price of forest products sold internally and outside the CFUG differs significantly.

b. The relationship between users and CFUG fund management structure

The greater portion of the CFUG fund is generated from the selling of forest products, but a part of the fund is also generated by the users themselves, through membership fees and fines, when users break the rules. From the CFUG fund, various programmes are implemented that benefit all users with priority given to the poorest members. Recently, the government has formulated a guideline called Community Forestry Guidelines (2009) that outlines how to manage and invest CFUG funds. According to the provisions mentioned in the document CFUGs must invest 35% of the CFUG fund to pro-poor livelihood activities and 40% of the fund invested in social and institutional development activities. The CFUG general assembly decides which activities are to be selected for investment funding. In most cases, users obtain cash or material support for the implementation of various livelihood programmes, such as goat farming, pig raising, bee keeping, small shops, and kitchen gardening. Users are also given development training and tours from the CFUG fund.

The type of support and subsidies vary from one CFUG to another. Some CFUGs provide scholarships for children from poor families and support the victims of natural disasters, such as floods. Additionally, CFUG funding is used for the social activities and infrastructure development, including the construction and renovation of schools, office and small bridge building, road maintenance and water supply lines. Part of the fund is also allocated for CFUG office administration, stationery, salary for the office secretary and forest watcher, snacks and allowances for the executive committee member attending meetings.

c. The relationship between the community forest and CFUG fund management structure

As mentioned earlier, forest products such as timber and fire wood are the major sources of income for CFUGs as well as membership fees. After the sale of forest products, both within and outside the CFUG, cash is generally deposited in the bank account of the CFUG. Each CFUG has a joint account in a bank in the name of chairperson, secretary and treasurer of the executive committee. According to the provisions mentioned in the Community Forestry Guideline (2009), CFUGs must invest 25% of the CFUG fund for forest protection or management activities, which include salary payments for forest

guards, fencing, nursery establishment, silvicultural operations, plantation, tree harvesting and the transportation of timber and fire wood to the depot or CFUG office.

Present scenario of community forestry in Nepal

Since 1990, there are many actors and stakeholders involved in community forestry in Nepal. These actors/stakeholders include central and local governments, I/NGO service providers, CFUGs and their federations, consultants, private sector entrepreneurs, research organizations, professional associations and academicians. This whole process is geared towards the institutionalization of CFUGs for sustainable management of community forests and equitable benefit sharing.

There is a considerable amount of income made from community forests. In 2002, the total annual budget of the Department of Forest in Nepal was 680 million Nepalese Rupees (NRs) while the annual revenue contributed by the department was 550 million Nepalese Rupees. While community forest user groups, who manage only 24% of the total forest area of the country, earned approximately 740 million NRs, this is higher than the annual revenue collected by the Department of Forest (Kanel and Niraula, 2004). This shows that community based forest management systems are highly efficient. In the Fourth Community Forestry National Workshop held in 2004 success stories made abundantly clear that community forestry, managed properly, is both viable and lucrative. It was concluded that community forestry could contribute directly to the 1st and 7th Millennium Development Goals in achieving livelihood improvement, and that good forest governance and sustainable forest management are central to the issues of second generation forestry programmes.

Figure 2.5 presents an average expenditure situation of CFUGs in which the highest priority (36% of total expenditure) has been allocated to community development activities (Kanel and Niraula, 2004). These activities include construction of community buildings, irrigation canals, schools, drinking water supply, road and other physical infrastructures. The chart indicates that CFUGs have invested 28% of their funds for the implementation of forest development and protection activities while the provisions prescribed in the Forest Act and regulations are such that 25% total funds should be set aside for forest protection and management activities. It shows that the communities are becoming more responsible

towards forest protection and management, having expended more than 25% for these activities. It should be noted that the community forestry implementation guidelines suggest that 35% of CFUG funds should be allocated to pro-poor livelihood support programmes, but in reality they have expended only 3% of the total fund towards this. This clearly indicates that the needs of the marginalized and the poor in the community of the CFUGs are not given due priority to enhance their livelihood.

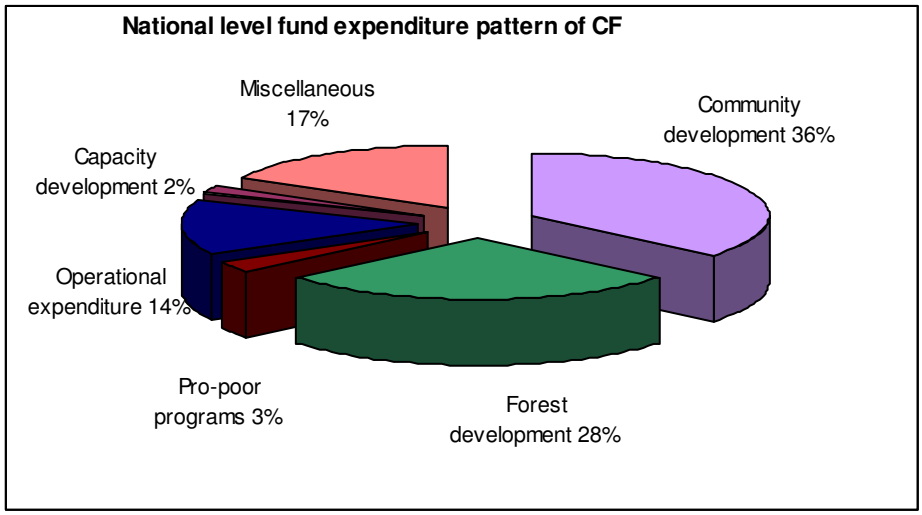


Figure 2.5: Fund expenditure pattern of community forestry in Nepal
(Source: Kanel and Niraula, 2004)

A number of studies have revealed that CFUGs are becoming more transparent in the rule of law, accountability and gender (Pokharel *et al*., 2005; Dev *et al*., 2003). An example from three mid-hill districts of Nepal: Dolakha, Ramechhap and Okhaldhunga, where Nepal Swiss Community Forestry Project (NSCFP) has been implemented, household membership increased from 18% to 76% between 1995 and 2004. Likewise, female representation on CFUG committees in these districts increased from 21% to 35% between 1995 and 2004. In the same way, *Dalit*'s (the lower caste) representation on CFUG committees increased from 3% to 11% during this period and the representation of ethnic minorities on the committees also increased (Pokharel *et al*., 2005).

Whereas the above example shows the positive impacts from community forestry, there are also examples which reveal the negative impacts of community forestry on the livelihoods of forest dependent poor people (Neupane 2003; Timsina and Paudel, 2003). Gilmour and Fisher (1991) and Dougill *et al.,* (2001) mention that the interests of the poor are often neglected during the decision-making process, which are dominated by the local elites.

Thus, there is a wide gap between the poor and the elites in CFUGs which result in inequitable distribution of benefits (Gentle, 2000; Brown *et al*., 2002; Maharjan, 1998). This view is supported by (Springate-Baginski *et al.*, 2001; Hausler, 1993).

Conservation outcomes of community forestry

After the implementation of community forestry, several outcomes related to conservation are expected, especially the sustainability of the forest ecosystem. This ecological sustainability in community forests requires that there is no further reduction of the handed over community forest area and that species diversity and stand density does not decline.

Acharya (2004) argues that at present biodiversity conservation is regarded as a secondary issue in community forestry. He further adds that due to this, there is a loss of original biodiversity, and that plant composition has been changed by other species in community managed forests to fulfill the needs of the CFUGs.

However, many empirical studies on community forestry from 1998 to 2009 in Nepal have shown that community forests have resulted in the improvement of forest conditions and regeneration (Tachibana and Adhakari, 2009; Kanel, 2008; Gautam, 2006, Thoms, 2006; Pokharel *et al.*, 2005; Rana, 2004; Webb and Gautam, 2001; Branney and Yadav; 1998). However, no in-depth macro level studies have yet been carried out to assess the degree of improved forest conditions of the community forests (Kanel, 2008), as most of these studies are based on the interpretation of interviews with stakeholders (ibid).

Due to the lack of baseline data on ecological outcomes of community forestry, there has, from the outset, been a false reliance on the anecdotal experiences of people involved in community forestry. They surmise that there has been no further reduction of community forest area after the hand-over of community forests to CFUGs, but rather that regeneration has improved (Chakraborty, 2001:350). Some studies, however, made on community forestry support the view that the ecological condition of community forests have improved after the hand-over.

Tachibana and Adhikari (2009) based their findings on ground inventory and the aerial photo analysis of 46 randomly sampled registered community forests, and concluded that community forest management contributed to the recovery of forest regeneration. The

studies recommend that registration of a user group enhances the rights of its management committee, which encourages user groups to protect their forests. This protection of forests and the restriction on use of resources is expected to improve regeneration. Gautam (2006), in an assessment of forest condition, using remote-sensing, revealed that community forests invariably improved their forest biological conditions when compared with government managed forests. Pokharel *et al.,* (2005) based on the reference of various studies in the Nepal Swiss Community Forestry Project (NSCFP), mentions that overall forest condition has improved mostly in terms of growing stock, regeneration, rate of annual increment, basal area, species diversity, tress density and wildlife. Further, their study indicates that the number of water springs; duration and volume of water discharge have increased in their local water sources.

The Department of Forests has taken an analysis of forest-cover change since 1991 to 2001 in covering twenty Terai districts in 2005. The study reveals that the previous deforestation rate in these districts has declined from 1.3 per cent per year to 0.06 percent per year in past ten years. The improvement in the decreased rate of deforestation is due to the efforts of community forests (Kanel, 2008:378). Rana (2004) conducted a study in Saptari district using remote-sensed imaginary data, and also reported that the conditions of community forestry are positive in terms of regeneration and vegetation cover.

Chakraborty (2001) based on case studies of two Terai Districts of Nepal, from eight CFUG reveals that CFUGs are protecting their community forests in a satisfactory way. In most cases, although degraded natural forests have been handed over to the CFUG, the forest conditions have gradually improved by the protection of forests from illegal felling, uncontrolled grazing and forest fire, as well as restricting the utilization of resources. Research by Web and Gautam (2001) showed that bio-diversity was quickly restored through succession and that silvicultural thinning did not seriously have an adverse affect on the biodiversity of community forests in the mid hills. Theses various evidences prove that under suitable conditions, community forest management has contributed in the protection of forest regeneration and bio-diversity in the Middle hills of Nepal. Branney and Yadav (1998) reviewed forest condition changes in four eastern hill districts during 1994-97. The study highlights an overall improvement of forest conditions in the CF. The major changes observed were increased number of stems per unit area by 51%, an increase in basal area by 29% and reduced intensity of grazing in CF from 94 to 71%.

2.4 Biodiversity conservation in Nepal

In many respects, commitment towards the protection of biodiversity in Nepal has received international recognition for its conservation efforts (Keiter, 1995). However, these conservation efforts attract controversy. Conservation strategies in Nepal have been largely based on a 'wilderness protection' approach, which undermines the traditional rights of local communities and indigenous people. There are several opportunities and constraints which are mentioned here.

2.5.1 Opportunities

Nepal is rich in natural and cultural diversity, and the ratio of protected area (PA) throughout the country is one of the top ranked in Asia. The provision of the Buffer Zone concept has further increased the area's overall conservation system. The country has shown to be very successful in establishing a large amount of Pas, including areas of biological resources and natural heritage. Nepal is one of the most successful countries where several endangered plant species have recovered after the establishment of PAs (DNPWC, 2001). The following section will focus on the opportunities for forest conservation in Nepal.

Biological and Environmental importance: Protected areas provide a variety of environmental services and benefits such as flood control, soil stability, and purification of water. The protection of resources also contributes in mitigating the effects of climate change. The Buffer Zone Council allocates some resources for the people affected by natural disasters and supports them adaptating to climate change in the buffer zones. In economic terms, PAs have an opportunity to initiate the mechanisms for payments for environmental services (PES). The conservation areas in the Terai and Siwalik regions are mostly dominated by tropical deciduous riverine forest, Sal tress (*Shorea robusta)*, and tropical evergreen forest. These areas are also of international importance in the protection of globally threatened floral species and wildlife. Globally the Himalayan ecosystem in Nepal is unique. Approximately 420 phanerogamic species have been documented at altitudes of more than 5,000 meters above sea level in the Everest region (Nepali *et al.,* 2006). The presence of mosses and lichens are recorded up to 6,300 meters, cushions of flowering *Stellaria decumbens* in Makalu are recorded up to 6,135 meters and *Ephedra*

species up to 5,200 meters in the Himalayan region. Mountain protected areas are famous for endangered animal species, such as the snow leopard, blue sheep, red panda musk deer and various bird species (ibid).

Human resource development*:* A case study carried out in the Makalu-Barun conservation area, has shown that the area provides training and education opportunities for more than 1,158 local people. Such opportunities have improved management skills which generate income for the local people. Additionally, ÖKO HIMAL, an Austrian non-governmental organization associated with the project has trained more than 260 local people since 1996 (Metha and Kellert, 1998). Similalrly, ACAP is contributing towards formal and non-formal education programmes, training, educational tours, as well as conservation education programmes in schools for the past two decades. Moreover ACAP has offered opportunities for international and national researchers in biodiversity conservation and in the field of PA management. More than 100 researchers have acquired new information and greater scientific knowledge through their studies based on mountain environment and ecology in Nepal (Bajracharya *et al.,* 2007).

Economic development: Eco-tourism is one of the major attractions for tourists and a source of essential revenue in Nepal. One of the most important destinations for nature-based tourists is Chitwan National Park in Nepal. In 1994, 60,000 overseas tourists visited the park, and the number has risen by 100,000 in 1998. This influx has generated revenues of NRs 50.6 million (over US$800,000) for the park (Nepal, 2002). Dudley *et al.,* (2008) reported that 50 per cent of the income (revenue) earned by the national park is returned to the communities close to the NPs in Nepal. In Sagarmatha (Mount-Everest) National park, tourism is the major source of income for the Sherpa community, where more than 20,000 mountaineers and trekkers visit the park each year (Nepal, 2002).

Most of the conservation areas in Nepal offer income-generating activities to improve the livelihoods of local communities. These activity programmes include poultry farming, tea cultivation, vegetable and fruit harvesting. Such conservation programmes have greatly enhanced the leadership and income generating skills of the local community, providing them with the incentive to preserve their natural habitat. ACAP has also encouraged the emergence of local entrepreneurs, by delivering skills and knowledge in hotel

management, guest relations, food preparation, sanitation and communication through various training programmes (KMTNC, 1997).

Another study reveals that community savings, via the creation of saving and credit programmes in seven different buffer zones in Nepal, amounted to some Rs.80 million in 2005 (DNPWC, 2005). The education of local people in the value of savings has reduced poor people's dependency on local moneylenders, who charge extremely high interest rates, and adds to the spiral of debt. By utilizing community savings programmes more than 60% of households have benefitted in the buffer zones. The Royal Chitwan and Bardiya National parks have also helped local people to consolidate and increase their financial assets from tourism. The Baghmara Community Forest User Group within the buffer zone area of Chitwan National Park, has earned US$175,000 from tourism programmes since its registration in 1996 (Dudley *et al.*, 2008).

***Infrastructure Development*:** Infrastructural development is an essential asset for local communities residing in the buffer zone and conservation areas. During the past two decades, ACAP has contributed towards the construction of 145 primary schools, 149 drinking water schemes and 14 health posts (Bajracharya *et al.* 2006). In addition to this, ACAP has introduced different alternative energy programmes such as biogas, solar, micro-hydro and improved cooking stoves to conserve the use of fire wood. Such programmes also help in saving time and improving the general health of local people. From 1987, ACAP has installed 2,183 improved cooking stoves, 254 solar systems, 906 biogas plants, and 20 micro-hydropower projects (ibid). Dudley *et al.*, (2008) mentions that most people in the Annapurna Conservation Area acknowledged that some benefits had improved infrastructure, flood prevention strategies from conservation efforts, and about 14.9% of local people received income from tourism.

2.5.2 Constraints

Although biodiversity conservation and sustainable management of forests is one of the priority programs of government and non-government organizations, there are many constraints in programme implementation. This section will focus on main gaps and constraints of current practices in forest management and conservation, especially in the management of protected areas in Nepal.

In Nepal, there still many real challenges on the management and use of forest and biodiversity resources on a sustainable basis. The over-riding issues in this regard are in finding new ways to address deforestation and the loss of biodiversity. The major causes of forest degradation and biodiversity loss are the conversion of forests into farmlands, the development of infrastructures in the forests, and separating many protected areas from their adjoining landscapes. Although community forest management has been established, still the country's economic stagnation has affected the forest-dependent population resulting in a reduction of forest resources. The demand for forest resources such as fire wood, fodder and timber are continuously increasing to meet the demands of population growth, which impacts adversely on forest-dependent communities, who have no alternative ways to sustain or improve their livelihoods.

The following sections deal with the main constraints and threats to forest conservation and protected area management in Nepal.

Habitat destruction/degradation: There is great pressure on wildlife habitat due to the degradation of forest and grasslands as a result of human interference. Fire wood collection and logging results in the depletion of habitat, which is essential for wildlife survival. Bajracharya *et al*., (2007) reports that the collection of timber, fodder, fire wood and grazing are the major causes of deforestation and the depletion of biodiversity in the Annapurna conservation area. A study in the Koshi Tappu Wildlife Reserve (WR) found that there is continual competition and aggression amongst wild animals, such as wild buffaloes, with domestic animals for the common grazing land inside the wildlife reserve area (Bhandari, 1994).

Unregulated tourism and inequitable benefit distribution: A study in the late 1990s reported that despite the increasing number of tourists, the economic benefit of eco-tourism on household income was inadequate to benefit the villages near to the national park. It was been estimated that only six percent of households, out of a population of 87,000 of working age living close to the national park, earned insufficient income from eco-tourism. A study made in 2006 of the two villages closest to Chitwan National Park also revealed serious inequity in the distribution of benefits and costs to local people. The human population living close to the wildlife habitat is increasing by 3.5 percent yearly (Bhandari,

1995). The activities such as fire wood collection, thatch material collection for house construction, agriculture, grass collection for domestic animals, are the main causes of degradation of wildlife habitat (ibid).

***Park-people conflict*:** Most people living near protected areas in developing countries are poor (Brandon and Wells 1992). The protected areas in the developing countries face several conflicts between park and people, mainly due to an ignorance of their requirements, the isolation of local people from park management and an over dependency on park resources (Sharma, 1990). Poverty and population growth in the developing countries also stirs park-people tensions into outright conflicts. Shrestha and Conway (1996) claim that the harvesting of forest resources from the traditional lands of local people, or restrictions on use, are the major causes of park-people conflict in the developing countries. This imbalanced relationship between park and people has resulted in human harassment, death, injuries, damage to agricultural crops and the killing of livestock (Studsord and Wegge, 1995). This form of human conflict and the losses sustained, in human, agricultural and livestock depletion, much to the cost of conservation are met with no compensation (Heinen, 1993). An official report indicates that in Royal Chitwan National Park (RCNP) in 2000/1 each month on average, two people are attacked by wild animals (DNPWC, 2001). The strictly protected National Parks (NP) which provide tourists with attractive holiday adventures, superb landscape and motorized views of exotic wildlife, lie in stark contrast to the impoverished locals who regard such displays of wealth as a reinforcement of their poverty and locked resources (Budathoki, 2003).

Poaching and illegal collection: Illegal poaching of wild animals is increasing in recent years in Nepal, due to weak management and political instability. A huge proportion of illegal trade in wild animals and poaching threatens many endangered species, both in inside and outside protected areas. The illicit trade and poaching of wildlife, mainly one-horned rhinos, tiger and musk deer, is particularly a major concern. Although security arrangements are deployed inside and along with boundary of protected areas, it has been unable to stem the wanton destruction of illegal hunting and poaching. Although this trade is not unique to Nepal, the country's ability to cope with animal trafficking is limited by insufficient resources and technology, so that monitoring this problem by the Department of National Park and Wildlife Reserves remains small scale.

***Law and policy gaps 'power sharing between state and non-state actors'*:** The protected areas and buffer zones fall under the jurisdiction of park wardens, so that they have the authority to implement various conservation activities with the participation of local people (Paudyal, 2001). Several Buffer Zones have been declared, its regulations and guidelines are such that local people are allowed to be members of the Buffer Zone User Groups to conserve them, although present policies and programmes do not provide adequate power to local communities (Agrawal and Ostrom, 2001). Also, the role of user committees in the buffer zones are not well recognized, and act primarily as advisory bodies to park wardens. Although, revenue sharing mechanism between local people (committees) and government is part of the regulation, park authorities are still unwilling to consider the needs of local people and their participation in conservation (Pretty, 2002). Due to this, there is a low level of participation of local communities in conservation. In this regard, the present buffer zone management model may not be sufficiently adequate to make local people active in biodiversity conservation. Another reason is that local people are not much aware of the present benefit sharing mechanism, so there is still a need for convincing and empowering the local people in decision-making process and the sustainable use of biodiversity (Neumann, 1997; Agrawal and Ostrom, 2001). It has been realized that no conservation measures would be successful without good relations and cooperation between local people and park authorities.

2.6 Conclusion

In this chapter a review has been made on forest and protected area management and biodiversity conservation in Nepal. The policy shifts from traditional environmental conservation discourse to a holistic and people centered approach has brought many international and national communities into the field of forest conservation and management in Nepal. The exclusion of local and indigenous people's access to the natural resources in centralized and conservation-oriented approaches has resulted in more degradation of resources and conflicts among the major stakeholders. The participatory approaches such as buffer-zone management, community forestry, and ICDP model of conservation area management are all trying to develop a standard conservation model and improve the access and benefits sharing mechanism of local communities. Due to the uncertain political situation in the country, the future of conservation is still unpredictable,

and its future depends on how effectively the current management efforts obtain support from different actors involved in the process.

Despite the economic, social, and ecological significance of the forest and protected areas, the need to integrate and fully engage local people in forest conservation issues and the practical benefit sharing positives from conservation, remain a particular concern and continued challenge.

3. Common Pool Resources Institution: Theoretical Background

3.1 Introduction

This chapter reviews the literature on theoretical aspects of governance, institutional structure, decentralisation and their interrelationship on forest management.

The initial sections elaborate a theoretical review of the literature on governance and focus on classic, populist and neo-liberal approaches of governance concerning environmental and management impact. The second section describes common pool resources institutions, theoretical debate and characteristics of common pool resources institutions. Within common pool resources ecological criteria are also described, and different frameworks of common pool resources institutions are analysed. The next section focuses on decentralisation processes and issues. Based on insights from the theoretical review, the summary is presented in the last section.

3.2 Governance: an emerging concept in the development debate

Governance has been defined by various authors in different ways. It refers to a process in which an actor or a group of actors are involved in decision making and its implementation (UNESCAP, 2004). Hyden *et al.,* (2004) define governance as a pattern of relationship among state, market and civil society in the process of decision making so as to regulate it in a society. They divide the governance into three levels: local, national to global governance. Furthermore they make a clear distinction between the quality and the process of governance on the basis of indicators which can be used to measure governance. They have presented the principles of good governance in all fields at the global level.

UNDP (1997) defines governance as an effort of an authority or authorities of various sectors in order to manage the affairs of a nation. According to UNDP (1997), it is a process where the citizens or their representative institutions express their voices, exercise their rights and responsibility and negotiate. The important elements of good governance according to UNDP (2002) are the rule of law, transparency, accountability, participation, equity, effectiveness and efficiency to which political, economic and administrative authorities adhere.

The World Bank (2003) gives an emphasis on qualitative or effective governance which includes capacity for policy formulation, a simple process and mechanism to delegate responsibilities and authority, and transparent and accountable working procedures at all levels. In contrast, poor governance is characterised by weak and impracticable policy, administration which is not accountable to people, misuse of power, poor mechanism for transparency and corruption control and a civil society not engaged in public affairs (World Bank, 1997; Rhodes, 1997).

In general, governance includes the methods and processes, both good and bad, which the society uses to distribute power and manage public resources and problems to response to the needs of a society (Gentle *et al.,* 2007). Hyden and Court (2001) present an objectively tested framework about the indicator of good governance consisting of six principles: transparency, accountability, participation, fairness, honesty and efficiency. On the basis of these principles, good governance is regarded as a responsive system of public services, working in different sectors of a state such as civil and political society, government bureaucracy, judiciary and the market.

3.2.1 Theoretical development of governance - The Classic, Populist and Neo-liberal approach of governance

The classic approach to governance dominated thinking from the 1950s to the 1970s. It is a top-down centralised approach that relates rural development with environment conservation. This approach believes that effective sustainable management of natural resources is possible when management power is centralised. Further, it assumes that local people are responsible for environmental degradation; they can neither identify the problems nor adapt to modern technology (Blaikie 1985; Blaikie and Brookfield, 1987). In this approach local institutions, rules, traditions, and norms are regarded as destructive to the environment since they are non scientific and irrational. Further, it assumes that only external agents (such as government, or donor or a researcher) are capable of identifying problems since they have professional expertise and financial resources (ibid). Therefore, this approach neither regards local knowledge nor believes in community-based resources management regimes.

Later, populist approaches emerged at the end of the 1970s as a critique of the classic approach of top-down natural resources management regimes. The main feature of this approach is people-centred using a bottom-up approach (Post and Snel, 2003). Local institutions, indigenous technologies and local knowledge are the major criteria of this approach (Korton, 1980; Richard 1985 and Adger *et al*., 2005). A populist approach emphasises local people's participation and empowerment and assumes that their rights are an important element of sustainable natural resources management (Shukla, 2004; Adger *et al.,* 2005). A populist approach believes that the power of authority should be transferred from centre to the local level institutions, since they have the knowledge and capacity to manage forest resources. It is assumed that when power of authority goes to the local community; then a community-based natural management regime would succeed (Cheong, 2004).

Another approach, called the neo-liberal approach, has been recently developed by the World Bank, which is based on liberal ideology (World Bank, 1992-1995). The key component of the neo-liberal approach is "the market", where it transfers state-controlled management of natural resources to the market giving more power. This approach has been regulated by economic instruments such as markets, policies and institutions (Adger *et al.,* 2001). This approach attempts to respond to the failure of state government on the delivery of goods and services. Further, this approach assumes that poor policy, rules and regulations of the government, population growth and unsuitable property rights are the main causes of environmental problems (Pokharel, 1997). Mahonge (2010) has criticized this approach by arguing that the market-orientated approach also brings inequalities among rich and poor people, where the rich benefit more than the poor while using the natural resources. Also, the incentive mechanisms are inadequate and inappropriate in order to benefit the poor sections of the community.

In terms of institutional understanding these three approaches hold principles which differ from each other. The classical approach is influenced by the book 'Tragedy of the Commons', outlining the logic of Hardin (1968). There are several criticisms of the classical approach. Ostrom *et al.,* (1999) mentions that although the 'tragedy of the commons' occurs in some cases, it should not be generalised. There are several cases where local people have managed natural resources throughout history and build up

sustainable institutions for governing the commons. In one example, the author mentions that the grazing land managed by the state and private sector in Russia and China are more degraded than that managed by pastoralists in Mongolia.

Though the populist theory believes that local resource users and their institutions are capable of addressing the issues of environmental degradation they can manage the resources in an equitable and sustainable manner (Berkes *et al*., 1989; Kothari, 1989), but there are also several cases where the resources are damaged and degraded, where they are managed by the community (Mahonge, 2010). In the other hand, the neo-liberal approach suggests that strong market policies and limited role of government are the key factors that can address the issues of environmental governance. There is also doubt about this approach, insofar as the market and non-state actors are capable in valuing the environmental goods and services appropriately and can respond to environmental degradation in a short time (McCarthy, 2005). In this line, Moor (1992) mentions that the British experience over neo-liberal leadership on privatisation was an incomplete solution, where no harmony existed on such opinions with the state or public sector organisations.

Table 3.1 Key features of three governance approaches to environmental problems

Variable	**Classic**	**Populist**	**Neo-liberal**
Immediate causes of environmental problems	mis-management by users	mis-management by state, capitalists, big business	poor government policies and bureaucratic rules and regulations
Diagnosis of environmental problems	environmental solutions	socio-political solutions	economic solutions
Structural causes of degradation	over-population, backwardness, ignorance	resource distribution, inappropriate technologies	inappropriate property rights, institutions, prices, and rapid population growth
Institutional prescription	top-down centralised decision-making	bottom-up participation	market policies, property rights, resource pricing, self-targeting safety nets
Academic discipline; profession	science; bureaucratic	sociology; activist, NGOs	economics; development professional
Gender orientation	gender blind	virtuous but victimized women	gender myopia
Research framework	systematic empiricism	rapid rural appraisal, community as a unit of analysis	methodological individualism
Technology	soil conservation works	agronomic techniques of conservation	not specified

Source: (Biot *et. al.,* 1995)

In Nepal, state forest administration began by adopting the classical approach of governance, which still prevails in certain areas. After the enactment of Private Forests Nationalisation Act 1957, the government of Nepal nationalized the forested lands which were under the control of local landlords. Although the objective of the nationalisation programme was to initiate effective forest management for the good of the nation, the government, by taking power for the legal control of the forests, this top-down approach resulted in massive deforestation. This classical approach was predominant until the mid 1970s in Nepal. During the late 1970s, the failure of the classical approach to stop forest and land degradation in the Himalayan region, especially in Nepal, it was acknowledged as a serious issue at international level (FAO, 1978). It was blamed on the middle hill farmers who were responsible for such deforestation (Eckholm, 1976). When nationalisation caused massive deforestation, the traditional top-down approach was supposed to be ineffective. International agencies and environmental activists were attentive of such condition and were willing to contribute towards improvement. After that, relevant policies and legislation was formulated in order to address the problem and thereby some reforestation projects were implemented with the help of donors like USAID and CIDA.

It was concluded that the classical approach was incapable of protecting the natural resources, while it neglected the interests of the local people and the importance of their participation. Later, the populist approach was adopted as an alternative to the classical approach. This approach regards the importance of local people and their active participation in forest resources protection, management and utilisation. This approach encourages local people to build local level institutions, share benefits in an equitable manner, formulate and implement pro-poor and gender sensitive programmes (see also Pokharel, 1997). On the basis of this approach, the government of Nepal initiated the community forestry programme in the 1980s. After that it was felt that an inclusive and progressive Master Plan for the Forestry Sector (MPFS) should be formulated. With the support of various donors and international agencies, the government of Nepal was able to formulate the Master Plan for the Forestry Sector Nepal in 1989.

The MPFS has six priority programmes, among them community and private forestry has been given top priority. The MPFS regards the importance of local people and their participation in the conservation of the country's forest resources (MPFS, 1989) and

believes that active participation of local people will solve the problems of deforestation. To encourage the active participation of local people, natural resources management was linked to community livelihood (Gilmour and Fisher, 1991). As a result, the rate of forest degradation was significantly reduced, especially in the hilly region of Nepal (Banskota, 2000). Even though the classical approach was replaced by the populist approach, the community forestry programme was implemented with rules and regulations which were based on a top-down approach.

The neo-liberal approach had been adopted in Nepal in order to harmonize the structural changes in the forestry sector that was supported by the World Bank. In the context of Nepal, these approaches aimed to cut the subsidies in the programmes or activities which caused the over-exploitation of natural resources and environmental degradation (Pokharel, 1997). Due to these reasons, the populist approach has been widely accepted and is becoming a dominant approach in natural resources governance in Nepal.

3.2.2 Governance in forestry

FAO (2005), in a report on global forest assessment, it stated that approximately four billion hectares (about 30%) of the earth's surface was covered by forests. The report claimed that 13 million hectares of forests are being lost annually, but the rate of decline has slowed in recent years. Various problems have been recognised in forest governance at the global level, such as climate change, biodiversity conservation, watershed management, rural livelihood and poverty, illegal logging and illegal trade, resource transfer, political commitments and monitoring and assessment (Brown *et al.,* 2002; Wijewardana, 2005). Although the forest governance at the global level remains very weak, several multilateral agreements in this sector have been executed which are helping to mitigate the adverse effects (Brown *et. al.,* 2002). About 82% of forests are owned by the governments at the global level, but private and community ownership are increasing, covering an area of 11.9% and 8.3% respectively. In developing countries, private and communal ownership reveal a different picture, covering between 5.6% and 14.1% respectively (Agrawal, 2007). In order to halt the trend of deforestation and environmental degradation, decentralisation has been initiated in many countries in the past two decades, with new legislation and policies giving power to local common property institutions in forest governance (Anderson *et al.,* 2006; Brooks *et al.,* 2006; Agrawal, 2007). More than

half a billion poor people in rural areas in developing countries depend on forests for their livelihood. Thus, their impact on livelihood directly depends on the status of forest governance.

In the forestry sector, how far the forests are being managed sustainably depends on the extent and quality of enabling policies and legal and institutional arrangements for forest governance. These arrangements stimulate a society to organise, manage and use the forests effectively (Mayer *et al.,* 2002). There are contrasting interests among local people, national governments and international communities for the management and use of forest resources. Local people are more concerned about meeting their basic needs, national governments are interested in generating more revenue, while international communities are concerned with environment and biodiversity (Prabhu *et al.,* 1998). Therefore, the issue of forest governance is more complicated. It is also common that the poorer the governance system, the faster the rate of forest degradation. Also, it is observed that in most cases the forest which has been under the control of government is poorly governed when compared with the forest which has been handed over to local people (Ostrom, 1999).

The Earth Summit at Rio (1992) was the first important international initiative to improve the governance of the world's forests. There were two streams of thought on national and international level: sustainable use of the forest was the main concern at the national level, while the concern at international level was for environmental conservation (Brown *et al*., 2002). After the summit in Rio (UNCED) in 1992, forest governance initiatives have been more prominent than before. The dimensions of good governance that developed from the Rio summit and their main characteristics are presented in the following table.

Table 3.2: Governance Concepts and their Application in Forest Policy Initiatives

Dimension of good governance	Main characteristics of governance
Rule of law	• Rule-based policy, including law-abiding, impartial and equal treatment of similar cases by authorities
Accountability and Transparency	• Accountability of elected representatives, civil servants and those empowered by joint decisions to perform specific functions, public or private. • Transparency through information sharing, clear decision-making procedures
Participation	• Participation of organized and individual citizens (or empowered stakeholders) in public-sectors decision-making (including partnership among all stakeholders), recognition of gender issues, minorities (an equity issues) and related legitimacy of policies and policy making
Effectiveness and efficiency	• Effectiveness of authorities in achieving their objectives and efficiency in managing their public resources

Source: Rametsteiner (2009)

It can be concluded that the common principles of good forest governance as developed by Rio summit in 1992 (UNCED), RECOFTC (2002) and others discussed above are participation, transparency, accountability, rule of law, equity and efficiency, and power relationship among stakeholders. For the purpose of this research, the main principles of good forest governance are regarded as: participation, transparency, inclusion/equity, accountability and the rule of law.

Agrawal (2001b) who carried out research on common property theory identifies four clusters of variables for successful governance of the CPRs: the resources, the user group, the institutional arrangement and the external environments.

- **The characteristic of the resource system:** The resource system includes a broad set of biophysical variables, such as soil, topography, fire, pests, size of the resource system and its boundaries, mobility of resources, potentiality, ease of monitoring and predictability of flow of benefits.
- **Characteristics of the user group:** These include group size, heterogeneity, interdependence or dependency on forest, poverty, gender, ethnicity, class and income.
- **Institutional arrangement:** Focuses on rules and behaviour. Rules should be transparent, locally created and enforced.

- **External environment:** Variables related to the external environment are demography, culture, technology, market-related factors, the nature of state agencies, and the level of involvement of other actors and forces, such as NGOs and international aid flows which are more interested on issues of forest commons.

Mayers *et al.,* (2002) developed a framework to measure forest governance called 'The Pyramid: a diagnostic and planning tool for good forest governance'. This tool is suitable for participatory assessment in forest governance both at national and international level. This tool could be helpful to fulfil the gap in forest governance, both in field level assessment and in international policy assessment and reporting. In the Pyramid, Mayer *et al.,* (2002) propose five central elements as key indicators for good forest governance.

- **Role**: stakeholder roles and institutions in forestry and land use negotiation and development;
- **Policies**: forest policies, standards for sustainable forest management (SFM) and legislation;
- **Instruments:** a coherent set of reward and punishment tools for implementation;
- **Extension**: the promotion of sustainable forest management to consumers and stakeholders;
- **Verification of sustainable forest management**: audit, certification or participatory review to be undertaken.

These elements of good governance are important for forest stakeholders to control and manage the resources. Further, Mayer *et al.,* (2002) suggests that following five systems (with attributes) will guide the process through, which the elements of good governance as proposed in the pyramid could be realised.

- **Information:** access, coverage, quality and transparency
- **Participatory mechanisms:** access, equity and representation
- **Finances:** externalities and cost-efficiency
- **Skills:** equity and efficiency in building human and social capital
- **Planning and management:**(prioritization, decision-making, coordination and accountability

In the following sections, a review relevant literature has been made on institutional structure as a component of governance.

3.3 Common Property Resources Institutions as component of governance

Runge (1992) defines CPRs "*as a complex system of norms and conventions to regulate individual rights to use a variety of natural resources"*. Jodha (1995:2) defines Common Pool Resources (CPRs) as "those *resources in which a group of people have co-equal use rights, specifically rights that exclude the use of those resources by other people*". Thus, property rights over the resources are the requirement for CPRs to regulate them (Cox, 1989, Jodha, 1995). In addition to ownership, the common property regimes include use and exchange rights, a management subsystem, as well authority for management (Bromley and Cernea, 1989). Some theorists such as Bromley (1986), Oakerson (1992), and Ostrom (1990) claims that the existence of a locally originated, or locally developed management system, are one of the most important characteristics of common property regimes.

According to Bromley (1989), institutions are the rules and conventions of a society that help coordination among people concerning their behaviour. North (1990) states that humans create institutions to structure political, economic and social interaction. Likewise, Vatn (2005) mentions that institutions consist of both informal constraints and formal rules. In this, sanctions, taboo, customs, tradition, and code of conduct are regarded as informal constraints while constitutions, laws, property rights are regarded as formal rules. Institutions are transported by various carriers, such as cultures and structures, so that they might operate at multiple levels of authority (Scott, 1995a).

Generally, there are mainly two important factors, i.e., authority and rules which influence the effectiveness of the institutions, and the institutions are principally formed by ideologies of class, gender, and social division of the society (Meynen and Doornbos, 2004). Ostrom (1990) highlights three factors that play a major role for the stability of an institution. The first factor is to fulfil, with the rules to which each actor has, to make a commitment to a monitoring and enforcement mechanism. The second factor is to help

minimise the violation of rules. The third aspect refers to external factors such as state rules and the political environment which support the stability of an institution (ibid).

As the name suggests, the common property resource institutions manage the common property resources. There are four types of property regimes: state property, private property, common property and open access property (Bromley, 1992; Berkes and Farver, 1989). The major differences among these property regimes are the decision-making process, uses of resources and rules of access. Although, four types of common property regimes are differentiated theoretically, it is not easy in practice to separate them (Pokharel, 1997)**.** Thus, in a practical sense, only a few resources are entirely open-access, communal or state property, and most are a combination of two or more regimes. In the case of CPRs, non-owners or non-users are excluded by communal arrangements. Berkes and Farver (1989) propose four types of property-rights regimes related to CPRs (Table 3.3).

Table 3.3: Property-right regimes relevant to common property

1.Private Property	Rights of the resources and ownership lies with the individual. The incentives of private ownership will ensure individuals invest in long-term returns on their property. State action is required only to regulate and protect property rights.
2. Open-access	Free for all; resource-use rights are neither exclusive nor transferable; these rights are owned in common but are open-access to everyone (and property to no one).
3. State property	Ownership and management control is held by state.
4.Communal property	User-rights for resources are controlled by an identifiable group and are not privately owned or managed by governments; there exist rules concerning who may use the resource, and who is excluded from using the resource, and how the resource should be used. Community-based resource management systems fall under this category

Source: Berkes and Farvar (1989)

Although, there is a similarity between 'common property resources' and 'common pool resources', other terms have been used by McKean and Ostrom (1995). A common property regime refers to such a social arrangement that regulates the conservation, management and utilisation of common pool resources. Furthermore, it also refers to

property rights arrangements through which a group of resources users are able to share duties and rights in order to manage the resource. I have used the term ‘common pool resource institutions’ meaning that a particular common pool resource has been managed by a particular social group, in order to fulfil their needs on a more sustainable basis.

It is common that one type of common property regime can be shifted to another type. When state or communal property are not controlled properly by an owner or an institution, or when the rules regarding its management and use are not clear, in such conditions the common property regimes are shifted into open-access property regimes. When the government nationalised the forests of Nepal, there was a shift of customary common property regimes to state ownership which resulted in massive degradation of forest resources in Nepal (Bromley and Cernea, 1989).

Resource users hold diverse socio-economic positions might have different interests in managing the same CPRs. Comparatively poor households depend more on fulfilling their basic forest product needs (Jodha, 1995). When traditional users are excluded from using the resource on which they depend, there is the possibility of shifting CPRs into open-access resources, a situation described by Hardin (1968) in 'The tragedy of the Commons'. When participatory institutions are not appropriate or inclusive, any type of management or innovation can result in a situation like the 'tragedy of the commons' (Picciotto, 1995). Berkes and Fraver (1989) mention five important principles of common property systems: access to equity, livelihood security, conflict resolution, resource conservation, mode of production, and ecological sustainability, which are all necessary for the success of CPR institutions.

3.3.1 CPRs Institution: Theoretical and policy debate

In the past, there was an on-going debate among social scientists on the role of institutional arrangement and property rights regimes, while managing the natural resources. Along with the changes in institutional arrangement, there were several theoretical and policy debates which still prevail. This is also in line with Hardin’s ‘tragedy of the commons’, which is still leading the debate on the sustainable management of CPRs (Baland & Plateau 1996). Hardin (1968) argues that due to a tendency to maximize the use of natural resources by local users, CPRs have been over exploited. The privatisation or

nationalization of resources can be the only solution to remedy this 'tragedy'. Since then, several heated discussions continue about the pros and cons of common property regimes

Among economists, there is a question as to whether decentralisation with collective action could be effective economically (White and Runge, 1995). On the other hand, many anthropologists believe that local communities and institutions are capable of managing natural resources, as they are well-adopted and flexible and based on past experiences (Klooster, 2000); and locally managed systems are relatively successful in attaining social and ecological sustainability (Ostrom, 1990; Wade, 1988). They also argue that many local user groups are able to manage the CPRs successfully, as they have developed and maintained their institution by themselves. Therefore, some social scientists criticize Hardin's 'tragedy of the commons' by pointing out that it overlooks the reality of self-governing local institutions (Ostrom, 1990 and McKean, 1992). These authors have published several empirical success cases about common pool resources.

The theories related with collective action, common property, social capital and game theories have contributed to the theoretical development of institutions (Agrawal, 2001). However, there is no single theory that has yet been widely accepted which can exemplify the appropriate institutions who can manage CPRs in a sustainable manner (ibid). Some authors emphasize social aspects, such as social capital, social bonds and social norms as the most important components of CPR institutions in order to achieve sustainable livelihoods (Pretty 1999; Ostrom, 1998; Bourdieu, 1986).

Knight (1992), however, criticizes this view, claiming that although social capital is important, all forms of social capital are not appropriate for everyone and everywhere. He argues that some societies which are based on feudal, hierarchical and racist characteristics may also be well organized and have strong institutions with joint mechanisms, but there may be a lack of mutual trust, where fear or power predominates. In this line, some studies highlight that such institutions can be a barrier for sustainable livelihoods because they bring social conflicts and inequity, and encourage only powerful self-serving individuals (Olson, 1965; Taylor, 1982).

Likewise, Ophuls (1973) argues that environmental issues cannot be addressed through the institutions because of the 'tragedy of the commons'. Following this line, Roberrt J. Smith (1981) suggests that better options to avoid the 'tragedy of the commons' is privatization, by ending the common property system. He argues in the favour of a system of private property rights which are based on the economic analysis of common property resources and Hardin's treatment of the 'tragedy of the commons'.

Some scientists argue that opportunities in a society could be determined when institutions apply economic theories. Such institutions can minimise uncertainty through establishing a stable social structure by giving more emphasis on the local communities who can manage CPRs on a sustainable basis (North, 1990). In agrrement Ostrom (1990) mentions that in order to address the issues of CPRs management, such as free riding and inconsistency, high levels of social capital and collective action arrangements within CPRs, users are necessary, who can set rules for CPR management and follow them through.

Agrawal and Gibson (1999) also prefer an insistence on the rules and norms of institutions. They state that such rules and norms can balance human relations with nature, and without them social harmony would be impossible (Bates, 1989; North, 1990). Public control over the commons is necessary to overcome the negative effects of the commons (Carruthers and Stoner, 1981), which means that the degradation of natural resources will occur when there are no local institutions to control it. It has been observed during the past fifty years that over-exploitation, physical degradation and inappropriate measures for conservation of natural resources has resulted in resources degradation, due to a lack of an appropriate management system for natural resources (Ostrom, 1990). In recent years, governments have also realised that they alone cannot conserve natural resources unless local communities are involved. So the local institutions are effective in this case, as they allow local people to run their daily lives without costly negotiation (Bromley, 1993).

Therefore, these arguments clearly assert that inclusive local institutions can lead to sustainable outcomes on common property resources (Olson, 1982).

3.3.2 Theoretical framework for the analysis of Common Pool Resources Institutions (CPRI)

Ostrom (1990), Oakerson (1992) and Ostrom *et al.,* (1994) have designed a model (figure 3.1) that helps to analyse common pool resources institutions and the problems in using the resources (Vatn, 2005). The model consists of four factors: (I) attributes of the resources and technology for resource utilisation, (II) institution, norms and rules, (III) agents and their choices, and (IV) patterns of interaction. The first factor, i.e., the attributes of the resources and technology (I) means that when the resources are adequate to fulfil the needs of the resource users, there is no requirement to regulate the access, and vice versa. The institution or the regime (II) consists of conventions, norms and formal rules which are essential to regulate the resources. Agent and agent's choices (III) play an important role to motivate them in managing the resources, influenced by institutional structure, resources characteristics and opportunities afforded by technology. Finally, problems emerge during the pattern of interaction (IV). Therefore the success of a regime depends on the dynamics of resources and an understanding of the agent's motivation, whether they are positively interpreted or not. If the outcomes do not accord to the expectation, agents can change or modify the institutional structure along with norms and rules (Vatn, 2005).

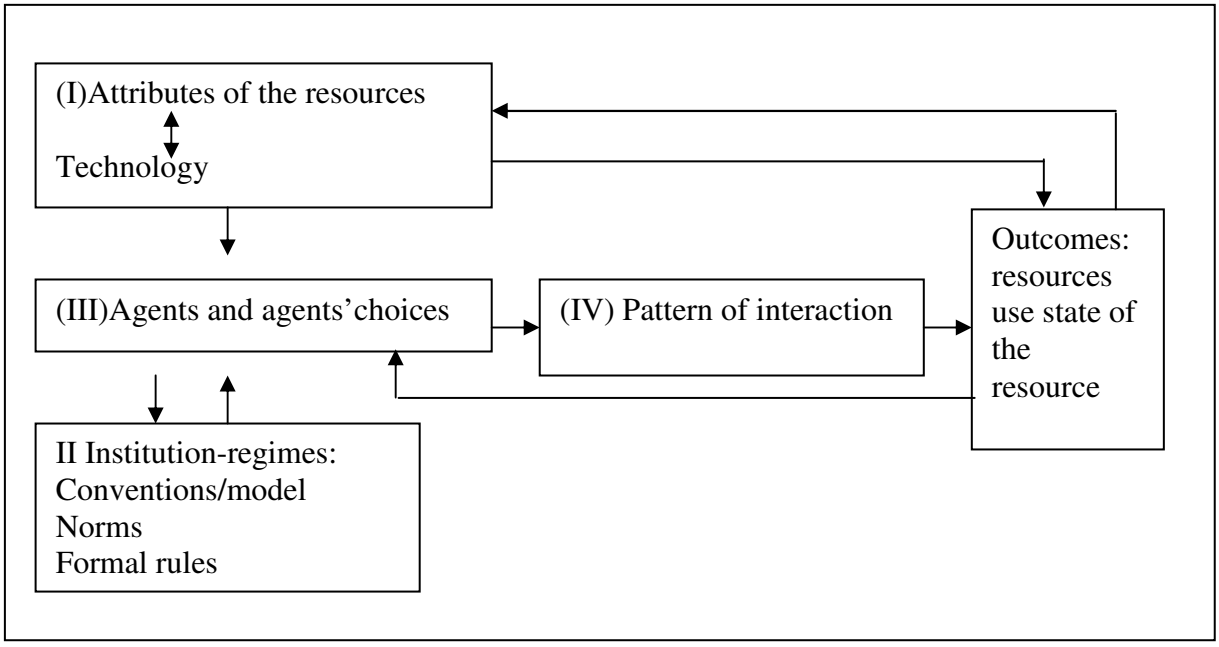


Figure 3.1: Framework for analysing resources use problems
Source: Vatn A. (2005)

Ostrom developed an Institutional Analysis and Development (IAD) framework (Figure 3.2).This framework can be used to examine the institutions which are managing common pool resources. This framework can also be used as a tool for analysing the problems related with resource management and use, depending on the local context and environment.

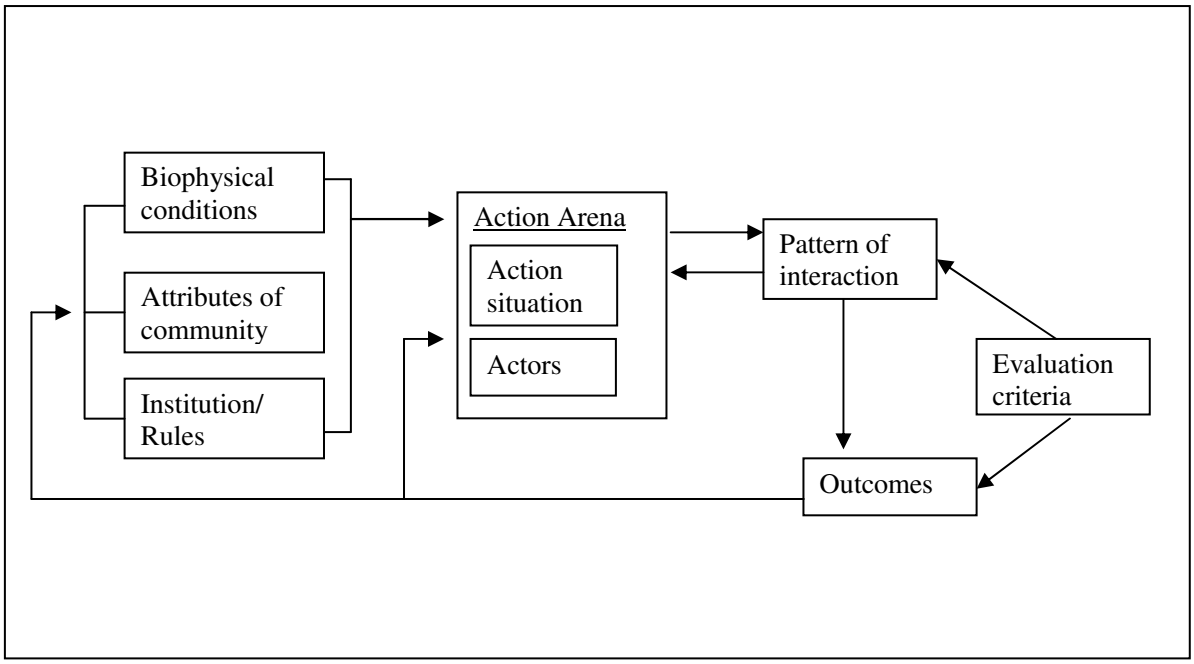


Figure 3.2: Institutional Analysis and Development (IAD) framework
Source: Ostrom, 2005; Ostrom, 2011

This framework, which has been highly used in the common pool resources, provides a clear theoretical concept in this research.

- The first three factors, which are initial conditions that facilitate community forests, as "enabling factors of community forestry into practice".
- Action arena is the context of implementation where multiple actors try to drive community forestry according to their resources and interests.
- The pattern of interactions are the mode of ways of negotiation among the involved actors in the community forestry processes
- The outcomes derived from community forests highly depends upon the capacity of the actor, their interests and the pattern of interactions which is called "governance" in this research.

Biophysical environment is related to the physical condition of the resource system whose characteristics are relevant for effective governance. The important characteristics of forest commons are its size and boundaries, mobility of the resource (or whether the resource is mobile), the resource units that can be stored, rate of flow of benefits or productivity of the resources system, and ease of monitoring (Ostrom, 2007; Ostrom, 2011).

The attributes of the community group or user, refer to the size and boundary of the group, socio-economic characteristics, the nature of heterogeneity among group members, group norms and values, ethnicity, gender, religion, culture, caste, knowledge, and other social capitals that define the characteristics of community.

Institutions/Rules, in this case are define as the set of 'rules in use', that determine different conditions in an action situation. Ostrom (2005) specifies seven types of rules: which are (1) boundry rules (2) position rules (3) choice rules (4) payoff rules (5) scope rules (6) information rules (7) aggregation rules. These rules help to analyze how the behaviour of the actors is influenced by rules (Ostrom, 2005). Thus institutions are the structures in the sense that they determine the strategies of the agents and the relations between them.

The action arena, is the central component of the IAD framework (Ostrom, 2005), where decisions take place. Key features of "***action situations***" and "***actors***" is that they make up the action arena. The action arena is a conceptual space where actors inform themselves, determine alternatives, make decisions, take action and experience the consequences of these actions (Ostrom, 1999, p.20). The presence of particular actors in a certain situation, their roles and the actions they take, are affected by factors in the biophysical condition, communities and institution rules (ibid). In my study, the action arena may be regarded as community forestry governance in Nepal, where the actors formulate strategies, prioritise their preferences within a given structure or situation. ***Actors*** can be both individual users and community forest user groups that implement community forestry activities, including formal and informal organizations, the state and non-governmental organizations. In this study actors are those "who have a stake in a community forestry programme". They are CFUG executive committee members; CFUGs and their federation; NGO/INGOs and donors working/supporting in community forestry sector; government organizations (under

the ministry of forest and soil conservation) of Nepal; and private entrepreneurship (forest based industries). The ***action situation*** refers to the specific type of role interaction that these actors play during decision making. Also, action situations are the social spaces where individuals interact, exchange goods and services, resolve conflicts and solve the problems (Ostrom, 2011, p.11). It includes the value of people, resources, information and beliefs, information-processing capabilities, internal mechanism for decision making and strategies formulation (Ostrom 2011, p.12).

In Patterns of Interaction and Outcomes, bio-physical, community characteristics such as socio-economic, cultural attributes and institution/rules are considered. There occurs a pattern of interaction that flows logically from the behaviour of actors into the action arena (Ostrom, 1999, P.24). Patterns of interaction refer to the structural characteristics of an action situation and the concerned participants (ibid). The multiple interactions occurring in the different action situation create patterns of interaction that result in predictable outcomes over time. In this framework outcome refers to the result which is based on evaluative criteria.

Evaluative criteria are applied to both the outcomes and the process of achieving outcomes. Ostrom, (2005 and 2011) recognizes a broad list of evaluative criteria that mainly focuses on (i) economic efficiency, (ii) equity through fiscal equivalence (iii) redistribution equity (iv) accountability (v) conformance to values of local actors, and (vi) sustainability. In my study these criteria are summarized into three main parts (i) institutional governance (ii) resources use (livelihood) and (iii) ecological condition. In this framework these three main criteria are used as evaluation criteria.

3.3.3 Criteria to assess the success of common pool resources Institution

Different views and criteria have been proposed by scientists from various disciplines in order to sustain the CPR institutions. It is common that the performance of self-governed CPR institutions varies according to the systems and time. That is why some self-governed resources have sustained and grown for centuries, while others have under-performed and eventually failed (Ostrom, 1999).

Some essential factors are needed to sustain the CPR institutions. Ostrom (1990) analysed why some collective action groups of some common property resources develop solutions and, consequently, are able to go against the 'tragedy of the commons' while others collapse. For the sustainability of common property systems, she suggests that the communities should be able to regard the indigenous rules and regulations and implement mutually acceptable rules. Ostrom (1990) formulated eight design principles for the success of CPR institutions. She explains that these design principles are also conditions that help to account for the success of the CPR institutions. Based on her extensive research on common-pool resources, she concludes that healthy, long-term institutions are characterised by most of the design principles listed in Table 3.4, while weak institutions are likely to be characterised by only a few of these principles (Blomqvist, 1996; Ostrom, 1991).

Table 3.4: Ostrom's eight design principles

1. Clearly defined boundary of the resources and the user groups	Individuals or households who have rights over the resources must be clearly defined
2.Operational rules suited to local conditions	Operational rules governing time, place, technology and/or quality of resources used and cost in terms of labour, materials, and / or money should be appropriate to local conditions
3.Collective choice arrangements	Individuals affected by the operational rules can participate in modifying those rules
4. Monitoring	Monitors, who actively audit CPR conditions and user behaviour, are the users, or are accountable to them
5. Graduate sanctions	Users who violate operational rules are subjected to sanctions dependent on the seriousness and the context of the offence
6. Conflict resolution mechanisms	Users and their officials have rapid access to low-cost, local arenas to resolve conflict among users or between users and officials
7. Recognition of rights to organise	The right of users to device their own institutions is acknowledged and therefore not challenged by external or government authorities
8.Multiple layers of nested enterprise	Institutional mechanism of CPRs are organised in multiple layer of nested enterprise

Source: Ostrom (1990:90)

The first design principle states that there should be clear rules that show who has the rights to use which resources (with clearly defined boundaries). Once this is made clear, then users are aware of who has the right to use that specific resource, so that they can take the necessary action against non-users. Principle 2, concerns the fair rules and costs that help balance the relationship between costs and benefits. If it is not balanced, those users who contribute time, resources and efforts will not be satisfied and they will not sustain their contributions which ultimately results in the failure of the CPRs. If rules are not cost effective, unfair and unsuitable to local contexts, then it is unlikely to sustain CPR institutions. Attention has been given to collective choice arrangements in Principle 3, so that users should take part in modifying their operational rules to suit their context over time. In Principle 4, Ostrom points up the importance of sanction and control which is facilitated through regular monitoring. Monitoring also helps correction for wrong-doing.

Her view in Principle 5 is that sanctions should be relative to the seriousness and the context of the offence. The user who violates or breaks the rules repeatedly faces a penalty that will ensure the offender will be unlikely to break the rules in the future. In Principle 6 she emphasizes the low cost and logical way for conflict resolution. Users and their officials should have access to low-cost and local arenas to resolve the conflict in time. Principle 7 and 8 are related to autonomy. She mentions that when the rights of a group are recognised by government at all levels the legitimacy of the rules, as formulated by the users, will be less frequently challenged by external authorities. In cases of larger resources, there may exist many participants with nested enterprises, ranging from small to larger in size which can solve a diverse range of problems. When an organisation is nested within a larger level, externalities among the groups can only be addressed in those settings, as separate to smaller settings. Thus, only two of the eight design principles (principles 7 and 8) are connected to the relationship of a CPR Institution or group with other groups or authorities, whereas the rest of the principles focus mainly on local institutions and their relationships within this context (Agrawal, 2002). While Ostrom (1990) designed 8 principles or conditions for the success of CPR Institutions, Baland and Platteau (1996) identified 12 criteria and Agrawal (2002) summarized those 12 criteria for the successful governance of the commons into four main categories (table 3.5).

Table 3.5: Baland and Platteau (1996)'s criteria

Criteria for the successful governance of the commons
1. Resources system characteristics
2. Group Characteristics ▪ Small size ▪ Shared norms ▪ Past successful experience-social capital ▪ Appropriate leadership, which is familiar with changing external environments ▪ Interdependence among group members ▪ Heterogeneity of endowments, homogeneity of identities and interests (1 and 2 Relationship between resources system characteristics and group characteristics)
3. Institutional Arrangements ▪ Rules: simple and easy to understand ▪ Locally devised access and management rules ▪ Ease in enforcement of rules ▪ Accountability of the monitors and other officials towards the users (1 and 3 Relationship between resource system and institutional arrangements
4. External environment ▪ Technology ▪ State: -Supportive external sanctioning institutions -Appropriate levels of external aid to compensate local users for conservation

Source: Baland and Platteau (1996) in Agrawal (2002)

According to Ostrom (1990), resources with well-defined boundaries are better managed as CPRs than resources without clearly defined boundaries. This is more practicable when benefits and the group is relying on the resource system then it is difficult to accommodate resource boundaries in oreder to balance the group needs and resources flow (McCarthy *et al*., 1999). Agrawal (2002) agrees that the size of the resource system should be proportional to the size of the group. He makes the case for larger resources so that the groups or their authority should be organised in a nested approach. He also adds that a fair distribution of the benefit is essential for the sustainability of the institutions, although a large numbers of variables affect the sustainability of institutions that govern CPRs. There is also an interaction between variables that may affect the outcomes so that the interactive effect must be considered when analysing the sustainability for the commons.

Baland and Platteau (1996) made several studies on the commons such that their conclusions are similar to that of Ostrom (1990). Agrawal (2002) puts a view after reviewing their study, that none of the property rights regimes appear to be fully efficient in their findings. In this, Ostrom (1990) focuses mainly on the specifics of institutional arrangement for the successful governance of the commons, while Wada, Baland and

Platteau (1996) included non-institutional variables as well in their conclusion. According to them, there are four sets of variables which lead to the successful management of the CPRs: (1) characteristics of resources, (2) nature of the groups depending on resources, (3) institutional regimes for management of the resources, and (4). the relationship between a group and external forces and authorities like state, market, and technology. Baland and Platteau (1996) also stress the importance of external aid and strong leadership for the success of CPR institutions.

The above mentioned criteria are the general criteria necessary for the success of CPR institutions. This study examines the conditions for sustained effectiveness of CPRs and the institutional arrangements for local forest resources to achieve good governance.

3.4 Ecological criteria to assess group effectiveness

Agrawal (2001) determines that institutions represent both physical and social environments, so that incentive structures are important for the institutions to function. Recent theories related to natural resources governance emphasise that institutional stability and outcomes are the important elements to be considered while analysing CPR institutions. While considering outcomes, two types of outcomes should be taken into account: ecological sustainability and economic efficiency or poverty reduction. Institutional stability, ecological sustainability, and economic efficiency could be achieved if natural resources are managed under common property regime (Larson and Bromley, 1990; Ostrom *et al*., 1994; Baland and Platteau, 1996). Ecological sustainability means that the forest area does not shrink further and forest quality (in terms of the diversity of forest products and age composition) does not deteriorate.

Conditions such as poverty alleviation and ecological sustainability are also considered as the criteria for the evaluation of ecological outcomes. Also, the multiple choices between competing land use patterns (agriculture vs. forestry) and the arrangement of output in forestry (i.e. production of fire wood, or whether biodiversity conservation or other forest products should be a priority) should not be undermined for maximising the outcomes. Therefore, ecological criteria are equally important, along with institutional criteria while assessing the strengths of a group or CPR institutions (Pokharel, 1997). The ecological criteria developed to assess the effectiveness of the groups are derived from both the

literature and field study. Conley and Moote (2003) have developed ecological criteria to assess the effectiveness of a group (Box 3.1).

Box.3.1: Ecological criteria to assess the effectiveness of a group

- Improved habitat
- Land protected from development of infrastructures
- Improved water quality
- Changed land management practices
- Biological diversity conservation
- Soil and water resources conservation

Source: A. Conley and M. A. Moote (2003)

Over the past two centuries, the common changes in forests are: loss of old and new natural forests, decreased forest area, increased isolated patches, conversion of forests into other land use and the construction of road or other infrastructures. All these developments have had a severe detrimental effect on native ecology. Through better management, these adverse trends could be reversed or slowed down. How far progress has been made on forest recovery of a particular area could be measured through the use of ecological indicators (Noss, 1995).

Noss (1995) developed four criteria for the conservation of biodiversity, which are commonly used to assess the performance of resource conditions. These criteria are given as follows:

1. Represent all kinds of flora and fauna (or ecosystems) which is possible within the natural range of the variation of the resource;
2. Maintain or restore populations of all native species in such a way that their distribution pattern and abundance is similar with that of nature;
3. Sustain ecological, hydrological and biological processes prevalent in the resource, so as to adapt to the changing environment;
4. Use the resources in such an eco-friendly way that ecological integrity could be maintained. Uses that are not eco-friendly and lacking ecological integrity must be discouraged.

These criteria mentioned above are developed on the basis of scientific research. Scientific knowledge is necessary for a general understanding, but not sufficient for sound natural resource management (Schusler *et al*., 2003) in the local context. The combination of local knowledge with scientific knowledge is more accurate and more useful than knowledge developed by specialists or professionals alone (Jackson and Kassam, 1998). Pokharel and

Subedi (2007), after studying CPR, claim that ecological criteria should also be developed, combining general scientific criteria with local knowledge, and have accordingly developed the following ecological criteria (Table 3.6) to measure the success or performance of a community forestry programme.

Table 3.6: Ecological criteria for the success of community forestry

Criteria	Ways to measure the criteria
Access to fire wood	▪ Percentage of users obtaining fire wood ▪ Amount of fire wood collected in a year
Access to timber	▪ Percentage of users obtaining timber (in cubic feet or number of logs) ▪ Volume of timber collected in a year (cubic feet)
Access to fodder	▪ Percentage of users obtaining fodder ▪ Frequency of fodder collection in a year
Use of compost through leaf litter	▪ Percentage of users collecting leaf litter in a year ▪ Amount of compost used on farmland (weight)
Incidence of forest fires	▪ Number of forest fires occurring in a year
Forest condition	▪ Condition of regeneration in a forest ▪ Tree canopy in a forest ▪ The shapes of trees in a forest
Diversity of plant species	▪ Types of plant species available in the forest
Trees on private land	▪ Number of trees on private land
Occurrence of landslides	▪ Frequency of landslides in a year
Greenery in the area	▪ Percentage of formerly denuded hills and barren area covered by vegetation
Water availability	▪ Duration of water availability in the area
Occurrence of rainfall	▪ Frequency and amount of rainfall in a year
Taste and quality of drinking water	▪ Cleanliness and chillness of water
Soil fertility	▪ Darkening of soil cover ▪ Amount of compost application in a year ▪ Amount of grain produced in a year
Availability of water sources	▪ Number of springs/volume of water available in the area ▪ Travel time for fetching drinking water ▪ Use of water for irrigation
Systematic management, regular thinning and pruning activity in forest	▪ Number of thinning and pruning activities conducted by the CFUG ▪ Percentage of forest users who obtained training on silvicultural operations ▪ Number of trained people available during thinning and pruning activities
Availability of non-timber forest products (NTFPs)	▪ Percentage of users collecting non-timber forest products (NTFP) ▪ Frequency of collecting NTFP
Availability of wildlife	▪ Frequency of wildlife appearance in the area ▪ Number of livestock killings/attacks by wildlife in a year

Source: Pokharel and Subedi (2007)

3.5 Decentralization

As mentioned previously, decentralisation is related to the process and quality of governance, which is considered synonymous with the redistribution of authority, power and resources from central government to lower levels or territorial units of governments, institutions and local groups (Smith, 1985; Agrawal and Ribot, 1999; Ribot, 2004). Devolution of powers to lower level actors helps them to exercise a certain degree of autonomy (Booth, 1985; Smoke, 1993). In brief, decentralisation will be effective when it includes local processes such that local authorities are empowered in the decision making process. When local authorities make decisions about the protection, management and use of the resources, such decisions will benefit the local people. Such decentralisation can also be termed as democratisation and institutionalized forms of community participation (Larson and Ribot, 2004). Multiple reasons have been given for the emergence of decentralisation (or here, good governance), which has also been considered an important policy that balances environment and development (Agrawal and Gupta 2005).

Although several theories on decentralization have been developed, in practice decentralization is not functioning as well as the theories might suggest. Most decentralization theories are adapted from new institutionalisms which puts forward 'if-then' propositions, such that if the institutions (i.e., actors, power and accountability) are correct, then it is likely that the outcomes will be positive (Larson and Ribot, 2004). Additionally, the level of decentralization and its outcomes depend on many factors: the capacity of local actors; incentive mechanisms; socio-political conditions and the form of the organisation; social hierarchy; ownership of land and forest; and the roles played by elite actors, government and development agencies towards the institutions (Ribot, 1999).

Furthermore, Larson and Ribot (2004) explain that democratic decentralisation is a process that involves the lowest level of political administration. However, in reality there are very few democratic mechanisms established at the village level, so that government offices at the higher level are not being made accountable to the local people. This demonstrates the limitations of decentralization. Downward accountability is an important factor to establish democratic decentralization effectively, so that livelihood concerns could be incorporated into the decision-making process.

Some decentralisation theorists have explained that inclusion, equity and efficiency can be achieved through decentralization, so that management could be more sustainable (Manor, 1999; Crook and Manor, 1998). They believe that when public decisions are brought closer to local people, it helps government officials to be more open and accountable to them, which results in increased equity and efficiency (Mawhood, 1983). In this connection, several authors have put much emphasis on local representation, to achieve some form of downward accountability (Ribot, 1995; Agrawal and Ribot 1999). Through decentralization, local knowledge, input and influence is brought into the decision-making process that helps to formulate inclusive policies (World Bank, 1997). Such participatory processes and methods of decentralization could be important instruments in order to identify and include the poor and marginalised people in decision making (Hobely, 1996).

Local participation in the decision-making process would help to develop ownership for the local people, allowing them to create their own rules for resource use (Ostrom, 1990). Such 'ownership' by local people would actively engage them in the implementation, monitoring and enforcement of such rules. In addition, marginalized groups could have better powers in local policy making because their participation in decision making, would increase the notion of equity (Carney, 1995; Ostrom, 1990). Equity depends on various factors, such as the institutional arrangement, policy design, and accountability of the authorities towards the people, and the participation of the poor on local political activities. When local leaders are elected through democratic processes, their accountability towards the people could be enhanced, as they become more concerned about service delivery to the public. Also, when the poor participate in the political process, they can influence leaders (World Bank, 1996c). In addition, when there is increased competition in service delivery, and the poor have greater access to resources, their decision-making capacity is also increased.

By decentralisation, it is generally understood that fiscal, political and administrative powers are transferred to the local authorities, so that it can change the degree of mobilization and the allocation of public resources. It can also address various issues, ranging from service delivery to poverty reduction. Local institutions should have sound knowledge and understanding of the decentralization process to enable them to manage it properly (Litvack *et al*., 1998). Therefore, successful decentralization depends on specific

institutional design, but it is especially difficult to realize in developing countries because of a lack of information, and weak institutions. Decentralization also improves competition among authorities and promotes better political participation according to Ribot *et al.,* 2006. Furthermore, it is believed that decentralization provides incentives to local people so that they are motivated to protect and manage their local resources (World Bank, 1997).

Although, various types of decentralization have been illustrated in various research publications, it can be divided into four major types (Both 1985; Smoke, 1993; Ribot 2004), which are presented below:

***Administrative decentralisation (also called de-concentration)*:** this is the process which transfers power to local authorities from the centre. This type of decentralization aims to assist line ministries, such as education, health, public works and the environment, so that the performance of local people could be made known and local resources mobilized.

Democratic decentralisation: also termed political decentralisation, suggests that power should be transferred to actors or institutions which are accountable to the people, with the aim of increasing the participation of the local people in the decision-making process. It is an institutionalised form of participatory approach, whereby local institutions and representatives are made accountable to the local population so that meaningful decisions can be implemented

Fiscal decentralisation: this refers to the transfer of funds from central to local authorities, or fund-raising powers transferred to local authorities, so that the latter are able to collect tax, charge fees, receive grants and impose fines.

Economic decentralisation: this action refers to the deregulation of centralized state control, in regarding to strengthen the private sector and the partnership promotion between the state and the private sector.

3.5.1 Rationale for decentralization

Since the mid 1980s, most of the developing countries have adopted decentralization as a global movement. Since then, it has been deemed an appropriate approach for development which increases the effectiveness in service delivery from state to local level (Ribot, 1999; Fisher, 1991). Cheema and Rondinelli (1983) made the following observations and suggested rationale for decentralization.

- Highly centralized planning and control of development activities during the 1950s and 1960s led to deconcentration as an alternative system to overcome the weaknesses of the centralized planning procedure.
- In order to control growing inequalities, the influence of equity policies formulated in the 1970s led to the exploration of new ways to manage social development programmes through the participation of marginalized and local people.
- In theory, decentralization is aimed at increasing the effectiveness and efficiency of development activities. It was realised during the early 1980s that societies were becoming more complex and that government intervention was increasing. In such a situation, planning and administering the activities from the centre were considered to be no longer possible.

Many theories can be found in the literature for decentralization, but all of them are neither relevant nor specifically important for a particular country, due to the differences in socio-cultural, geographic, economic, political and many other factors. The World Bank emphasizes that decentralization, the volume of public goods and the rate of economic growth should be related to each other (Ehdaie, 1994). It has been argued in some publications that local governments achieve goals more successfully than central governments (Pauly, 1973). In the same way, others argue that central distribution of resources is equally important and also helps to overcome the potential biases of local elites (Inman and Rubinfeld, 1997). Among the many theories expounded on the issues and resolutions of state or devolution, some point out that when there is resource mobility and openness in the local economy, the efforts made on decentralization will be frustrated.

3.5.2 Decentralization on natural resources management

Decentralization for forest management in the Third World is based on social justice, equity, and political and economic development (Ostrom, 1999). Central governments in most of the developing countries are transferring their role on forest management to local authorities, or communities with certain rules and regulations concerning power, functions and responsibilities.

According to Agrawal (2001), there are now more than sixty countries which claim they have a decentralised system for natural resource management. In a review of trends in forest policy change, Hobely (1996) recommends some agenda for decentralization in forest management. Decentralisation in natural resource management appeared during the 1990s as a result of an increasing need for public sector reform, equity and partnership, which was further supported by the Rio Summit in Agenda 21. Thus, decentralization in natural resource management is regarded as a good option for local people to increase their authorities. But in the meantime, it is also regarded as a threat to central authorities and elites who fear losing their power, income or resources (Larson and Ribot, 2004).

Critics of decentralization for natural resources management proclaim that the rules related to natural resource governance are often weak and insecure during the crisis of change. This generally happens where the resources are valuable or are under common property management, as in Indonesia and Mongolia.

In Indonesia, central government suppressed decentralization when violence occurred after decentralization took place (Peluso, 2002). In the Philippines, central government delegated certain management powers to local government units and people's organisation in the name of decentralization in forest management, but this effort was incomplete and failed fully to address people's need (Mango, 2001). Other problems associated with decentralization are when the local elite resort to violence to assert their dominance in the local community. This resort to violence was reported in Indonesia, Mali and Cameroon, when the governments in these countries made various efforts to decentralize authority to local resource users (Resosudarmo, 2002).

Contrary to this, there are also some successful examples of decentralization on natural resource management. In Kumaon, India, decentralized democratic authorities have been managing forests in a sustainable way for more than 70 years (Agrawal, 2001). Likewise in Nicaragua and Bolivia, local councils are providing strong support to the communities in order to protect the forests, following decentralisation on forest management. In these countries, local councils are playing a leading role for protecting the forest against the commercial interests of outsiders (Pacheco, 2002). In Nicaragua, indigenous groups have been managing their natural resources where they select their own candidates to represent in municipal office (Larson, 2002).

Some actors, such as development agents and some environmentalists, are promoting decentralization as a means to increase the equity and efficiency in natural resource management (Agrawal, 2001). During the decentralization process, these actors support for the local people in order to recognise their values, access, use and management capabilities and to voice their claims and concerns on natural resources.

Larson (2002) argues that the decentralization of natural resources management is a positive step because these resources have historical importance in the community, where local knowledge and traditions of every-day use and management are customary, (also Kaimowitz and Ribot, 2002). Thus, effective and responsible natural resource management will arise from an active process of decentralization, not only from above, but also from below. (Ribot, 2002) puts the view that democratic decentralization can promote efficiency, democracy, equity, and resource management.

In short, many research papers assert that the transfer of power to local institutions is a necessary condition for effective decentralization (Agrawal and Ribot, 1999). However, these authors also specify that the decentralization process of natural resources management, thus far, has met with mixed fortunes because of a number of realised and unforeseen obstacles during the implementation process. Therefore, the issues mentioned above should be given careful consideration during any devolution process in natural resource sectors.

3.6 Summary

In this chapter, a review has been made on the concepts and theories of governance, CPRs institutional structure and the decentralization process. The term governance has been used to describe the process and quality of governance and, basically, three approaches of governance have been introduced: classical, populist and neo-liberal approaches. In the developing countries the populist approach has been introduced in many national policies. In the context of Nepal, there was a shift of forest governance from the classical approach to the populist approach. The populist approach, which demands the participation of local people in decision making, implementation and benefit sharing, has also encountered several problems, which will be described in the following chapters. The neo-liberal approach of governance emerged as a result of state failure. Thus, the concepts and approaches of governance are changing as per the context over time, in order to improve or achieve good and proper governance. The characteristics of good governance are based on the principles of participation, transparency, accountability, rule of law, equity, efficiency and effectiveness. These principles are applied in assessing the outcome of the decentralisation/devolution process in forest management.

Theories on common pool resource institutions exemplify both success and failure cases in all property regimes. These institutions interact with others based on rules and norms and without them social interactions would be impossible (Bates, 1989; North, 1990). When CPR Institutions are inclusive in itself, they lead to sustainable outcomes on CPRs (Olson, 1982). Thus, good governance and supportive institutional structures are directly related to each other, so that supportive institutional structures produce better quality governance. In contrast, poor and unsupportive institutional structures result in poor governance.

Although, the theories related with common property resources attempt to address most of the issues related to CPR and corresponding institutions, some important issues such as those related to socio-economic aspect, such as class, caste and gender are often ignored or not properly addressed. These socio-economic issues are more common in highly stratified societies in many developing countries, such as Nepal, where the Hindu society is dominant. In Hindu society, power is determined by the elite and upper caste people; therefore, such issues also need to be addressed for the success of CPR institutions. .

This study will focuses on governance and institutional aspect within the decentralisation/ devolution process in Nepal, wherein the above theoretical reviews provide a sufficient framework to analyze common pool resource institutions with socio-ecological aspects, and these concepts are applied in my results and discussion which follow.

4. Description of the study areas: Their regional and national context

This chapter presents an overview of Nepal and the study area, examines Community Forest User Groups selected for study, their socio-economic conditions; land use and land productivity, and population growth trends. Further it will describe stakeholders and their role in the Nepalese community forestry process, including government and non-government stakeholders, donors and private sector such as forest-based enterprises.

4.1 The socio-economic context of Nepal

Nepal lies in the southern slopes of the Himalayan Mountains. It has India on its southern, eastern and western borders and China to the north. The country has a total land mass of 147,181 km². Based on the topographic features, Nelson (1981) divided the country into five major physiographic regions, which run in parallel from north-west to the south-east. However, Nepal can be seen as a country divided into three broad agro-ecological zones which are low land, mid hills and high lands. Low lands (Terai and Siwalik hills) are located in the southern part of Nepal running from east to west. Its elevation ranges from 60m above sea level to about 1000m, comprising 27% of Nepal's surface area. The vegetation below 500m is tropical, and between 500 and 1000m is sub-tropical. The low lands are heavily populated so that there is great pressure on forest resources. The mid-hills (Mahabharat Lekh and Midlands) region is a wide belt of land allied east to west in central Nepal. Its elevation ranges from 1000m to 3000m above sea level, comprising 30% of the surface area of Nepal. The mid-hills have the greatest ecosystem and species diversity with temperate vegetation. The high lands (Himalaya Mountain and high mountain valley) region elevates above 3000m, comprising 43% of the surface area of Nepal. Sub-alpine vegetation occurs between 3000m to 4000m, whereas alpine or tundra vegetation is found between 4000m to 5000m.

According to the administrative division of the country, there are 5 development regions, 14 zones and 75 districts. There are regional offices in each development region, and district headquarters in each district. Every district is divided into several smaller development units called Village Development Committees (VDC) and municipalities, which are also regarded as grass-root level administrative units. According to the Central Bureau of Statistics (CBS, 2008), the total population of the country is 28.6 million, in

which urban and rural population make up 18% and 82% respectively. The average population growth rate is 1.7%. The density of population is 189 persons per square kilometre. The average GDP growth rate is 3.53, and income per capita is USD 640 (CBS, 2010). Nepal ranks among the world's poorest countries. Presently, about 24% of the population live below the poverty line. Agriculture is the main source of income, on which 71% of the population depends. Gross Domestic Product (GDP) contribution from the agricultural sector is 32.12% and arable land accounts for 21%. The forest area of Nepal is estimated to be about 5.83 million hectares, which is 39% of the total geographical area of the country (DoF, 2010). Out of the total forest land, 24% has been handed over to local communities as community forest. Forest is also an important source for livestock feeding. It is estimated that more than 40% of livestock feed is derived from the forest. At present, livestock density is 220 livestocks per square kilometre.

4.2 Overview of the research area

The field study was undertaken at Banke district which lies on Mid-Western Development Region of Nepal, under the Jurisdiction of District Forest Office (DFO) Banke. The district is situated approximately 507km west of the capital Kathmandu. It takes some 13 hours by bus or one hour by plane from Kathmandu to Banke. Banke covers an area of 225,836 hectares, which includes 46 Village Development Committees (VDC) and one municipality, over an area of 1314 hectares. Most of the land in this district is located in the plane area, which is called Terai and some areas situated in the Bhawar and Chure hills. The elevation of the district varies from 127.5m to 1290m above sea level, where there are tropical and subtropical vegetation. Maximum temperature of the district is 46 degrees Celsius in summer and the minimum temperature is 5.4 degrees Celsius in winter. The district headquarters is based in Nepalgunj which is close to the Indian boarder of Rupehdia.

Agriculture is the main occupation in this district, in which more than 67% of the economically population are actively involved. The total population of the district is 385,840 (CBS, 2003) of which 187,609 are female and 198231 male. The population density is 123 persons per sq .km, and the population growth rate is 3.5%. Out of the total population, approximately 17% of the population live in the city of Nepalgunj; the remainder live in the rural areas. There are 67,279 households in the study district, with an

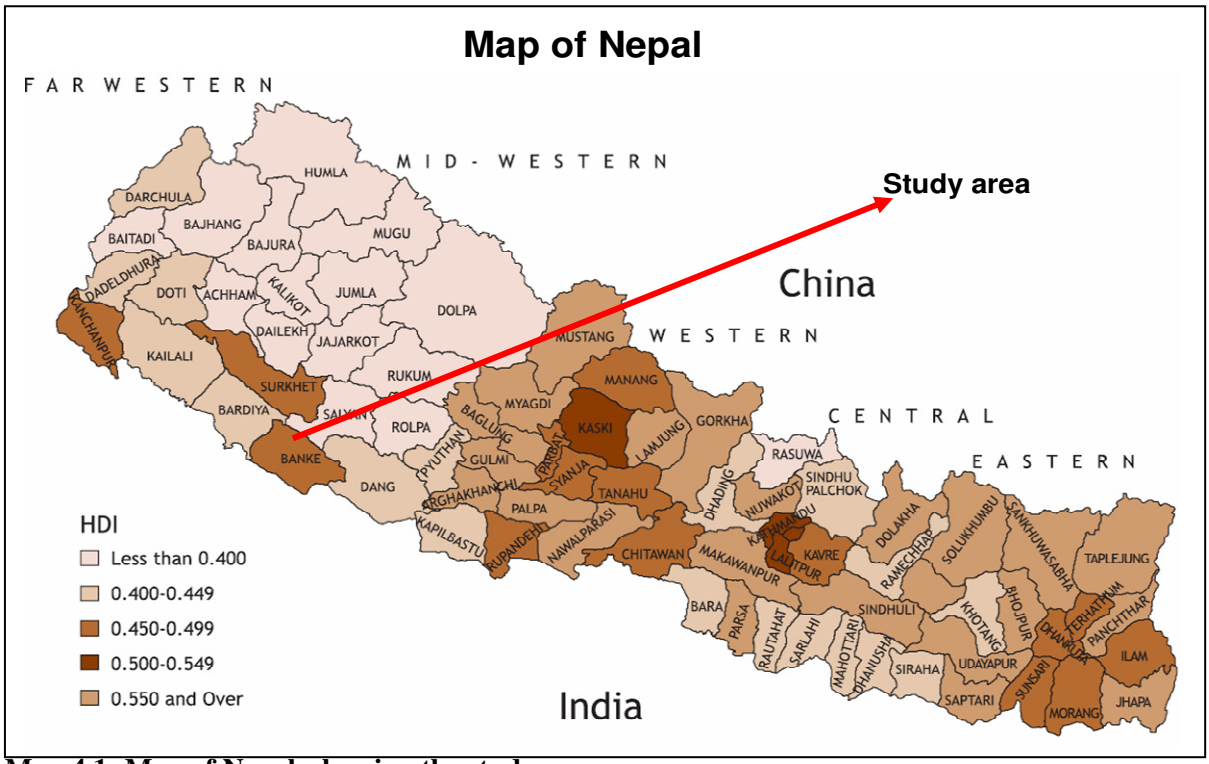
average family size of 5.7 (CBS, 2003). The average literacy rate of the district is 51.22%, with male and female literacy rates at 59.97% and 42.62% respectively (DEO, 2009). There are more than six languages spoken in this district and the majority of the population are of the Hindu faith (Table 4.1).

Table 4.1: Languages and religion in Banke district

Language	Population %	Religion	Population %
Awadhi	44.16	Hindu	78.49
Nepali	35.13	Muslim	18.99
Tharu	14.99	Buddhist	2.02
Hindi and Urdu	1.45	Christian	0.36
Magar	1.38	Kirat	0.01
Others	2.89	Others	0.13

Source: Yearly report of District Development Committee, Banke (2010)

In the Banke district, average life expectancy rate of males is 61.01 years, and for females it is 61.41. The fertility rate is 5.5 children per woman, but there is a relatively high rate of child and infant mortality, i.e., 144 and 74.7 per 1000 live births respectively. Immigration is one of the major problems in this district, where thousands of people from the hill regions migrate to the district every year to find work in agriculture or business. This migratory pattern puts enormous pressure on human habitats, agricultural land, and on natural resources. As per the DFO record (2009), more than 51% (133,295 ha) of land is covered with forests, including productive, protective and community forests.



Map 4.1: Map of Nepal, showing the study area

4.3 Community Forest User Groups in Banke

To date there are 107 Community Forest Users Groups (CFUGs) registered in Banke and 18032.86 hectares of community forests have been handed over to the respective communities (DFO, 2009). Through community forestry, a total of 20,682 households (HHs) comprising a population of 122,797 (32% of the district population) have benefited in this district (DFO, 2009). Gijara Community Forest User Group was the first group in the district to whom a Community Forest was first handed over in 1995.

Gijara Community Forest User Group

Gijara CFUG is located in Udarapur VDC, which is approximately 20 km north-west of the district headquarters in Banke. In 1990, some local people sought protection against the continuing degrading of their open grazing land, and after five years of campaigning a forest operational plan and constitution was approved by the district forest office in Banke. Thus, the forest was handed over to this group as a Community Forest in 1995. According to forest rules and regulations, forest operational plans and constitutions of CFUGs need to be renewed every five years. In this CFUG, the forest operational plan and its constitution has been renewed and revised twice. This community forest, which consists of 133.85 hectare, is managed by both men and women. This CFUG has 267 households as members of CFUGs with per-capita (household) forest land of approximately 0.50 ha.

The forest is surrounded by the Mankhola river in the west, north and south. Its eastern boundary ends on private cultivated land. Bardia district lies in the west, bordering with the Mankhola river. Due to the scarcity of forest in the vicinity, where forest users are heavily dependent on its resources, such as fire wood, conflict inevitably ensued over the forest boundaries of the newly instated CFUG by the land users in the Bardia district, which was finally settled in the Supreme Court of Nepal. From the management perspective, the community forest was ultimately divided in to five different blocks. The forest is mainly plantation forest which is composed of tropical hard wood species, among which Sissoo (*Dalbergia sissoo)* and Khair (*Acacia catechu)* are the major species for timber production. This forest is also rich in various Non Timber Forest Products (NTFPs) such as Sikakai (*Acacia consinna*), Pipla (*Piper longum*), Bel (*Aegle marmelos*), Rattan and Bamboo. The forest also has an abundance of wild fauna, such as Nilgai (Blue Bull), Ghadiyal (crocodile) tiger (*Pathera tigris*), rabbit, monkey, jackal, fox, peacock and Black Patrideg.

The CFUG is predominantly occupied by the lower Hindu caste, with 82 households, followed by Muslim and Tharu, with 62 and 41 households respectively[7]. The remainder of the households belong to higher caste and other ethnic groups[8]. The total population of this CFUG is 1712 with a male and female population ratio of 880 and 832 respectively. The average literacy rate is 34.39% (male 42.34%, and female 25.84%). The majority of the population (75%) are Hindu followed by Muslim 23% and 2% Christian. The major occupations of the land users are agricultural and labourers.

Shreejana Community Forest User Group

Shreejana CFUG is located in Kohalpur VDC, which is approximately 20km east from the district headquarters in Nepalgunj. Shreejana community forest consists of 55.5 hectare which is divided into five blocks for management purposes. This forest was handed over to the community as a community forest in 2002 and renewed in 2008. The forest boundaries are arranged such that there is private cultivated land in the east, the Rohini River in the west, the national east-west highway in the north and a footpath in the south. The forest condition was much degraded before being handing over to this CFUG as a community forest, with only some scattered trees and shrubs. Users say that after protecting it as a community forest, its condition has greatly improved. Most of the forest area has been covered with plantation forest, and the other part of the forest is composed of tropical hardwood species. The major tree species for timber production are Sisoo (*Dalbergia sissoo*), Khair (*Acacia catechu*), Simal (*Bombax ceiba*), Asana (*Terminalia tomentosa*), Karma (*Adina cordifolia*) and Jamun (*Sygygium cumini*). There are several species of NTFPs from which the users reap benefits. This CFUG has some wild fauna, such as rabbit, tiger, fox, wild boar, monkey, Mayur (peacock) and Black Partridge.

This CFUG has a total of 61 households as beneficiaries, with a per-capita (household) forest area of 0.91 ha. This CFUG is dominated by higher caste people (33%), 19% Chhetri, the remainder (48%) comprising Magar, Newar, Tharu and a *Dalit* household. All users are Hindus by religion. The total beneficiaries of this forest are 395, where the male population stands at 198 and females at 197. The population growth rate of this CFUG is 2.69%. The main occupations of the users of this CFUG are agriculture, business and

[7] Lower caste refers to Sunar, Pariyar. Muslim (Khan) and Tharu (Chaudhary)
[8] Higher caste: Bramin, Chetri, Ethnic group: Newar, Gurung, Magar and Yogi

labourers. The literacy rate of males is 59% and for females it is 36%. Except for the Tharu community, the other people living in this area were immigrants from the hill regions of the country, mainly from the Puthan, Jumla and Jajarkoat districts.

Bavanpurwa Community Forest User Group:

Bavanpurwa CFUG is located in Kamdi VDC, south east part of the district headquarters in Nepalgunj. The forest area covers 216 hectare. The total beneficiaries of CFUG are 233 households with per-capita (household) forest area of 0.93 hectare. It was a dense forest until 1964, with a diversity of wild fauna, until it became severely degraded.

Between 1966 and 1975 huge deforestation occurred due to country's political situation which precipitated massive degradation. Later, around 1977, forest replantation took place under the initiation of the district forest office. Since 1998, the local people started to protect the forest, with each household collecting NRs 10 to pay for a hired forest guard in order to protect the area, until the forest was given the status of a CFUG and handed over to the forest users. From the management perspective, the community forest was divided into eight blocks. The forest has been dominated by tropical Sal (*Shorea robusta*), a popular timber tree species in the Terai, followed by Sisoo (*Dalbergia sissoo*), Khair (*Acacia catechu*), and Karma (*Adina cordifolia*). The forest is rich in wild fauna, such as fox, wild boar, monkey, rabbit, Black Patridge, and the Mayur Peacock. In terms of socio-economic ranking the majority of the community forest users are considered poor (see Chapter 6). The total population of the group is 1406, comprising 754 males and 652 females. The average family size of the CFUG is 5.9 persons per household and population density is 0.36 /hectare. This group consists of people of terai origin and immigrants from the hills, both Hindu and Muslim, with the latter being in the majority. Literacy levels in the community are approximately 50% for males and 20% female. Agriculture is the major occupation of the users, with the poorest working as labourers.

Economic and livestock situation in the studied area

In all the studied CFUGs, the major sources of income are agriculture, business, livestock farming and labour workers. The economic situation varies in Bavanpurwa CFUG, insofar as there are landless people to those having 8 hectares of land per household. In Gijara

CFUG, there is on average 333 sq m of land per household and a maximum of 3 hectares of land per household; whereas in the Shrejana CFUG the low income household has 1000 sq m of land, while a high income household has 9 hectares. Levels of livestock has been analysed by comparing the situation over a 10-year period (from 2001/02) to 2009/2010). The major livestock are cow, buffalo, goat, pig and rabbit, with data revealing a decrease in actual numbers of livestock, but an increase in productivity.

The reason given for this livestock demographic, according to users, is that local breeds of animals have been replaced by improved breeds, resulting in higher production, and greater availability of grass and fodder in the community forest.

Table 4.2: Livestock situation

2000/01	**Gijara CFUG**	**Shreejana CFUG**	**Bawanpurwa CFUG**	**Average weight**
Cow (m/f)	350	16	348	100kg
Buffalo (m/f)	284	61	331	150kg
Goat	745	156	650	15kg
Pig	8	0	0	20kg
Rabbit	34	0	0	1.5kg
2009/010	**Gijara CFUG**	**Shreejana CFUG**	**Bawanpurwa CFUG**	**Average weight**
Cow (m/f)	248	13	321	150kg
Buffalo (m/f)	220	45	295	250kg
Goat	470	130	545	25kg
Pig	10	0	0	20kg
Rabbit	25	0	0	1.5kg

4.4 Land use change, land productivity and population condition in Nepal

Land use or land cover change is also known as 'land use change modified by human activities' (Ellis and Pontius, 2010). Various scientists define and conceptualize land use change in various ways. Natural scientists define 'land use' as a term where human activities such as forestry, agriculture and building construction change the land process as well as the condition of biodiversity and hydrology (ibid). Land use change causes greater environmental change, both at the local and global level including biodiversity loss and climate change.

To understand land use change in Nepal, both district and national level data for the period from 1954 to 2005 was collected. Most of the district level productivity information, such as agriculture, forestry, livestock and population was collected from the district agricultural development office, the district forest office, the district veterinary and animal husbandry office and the district development committee (DDC). In doing so, both published and unpublished records were collected. Further district level data on productivity, import and export was collected from the Central Bureau of Statistics of Nepal (CBS), both from old records (unpublished) and newly published books and booklets. It is important to understand, however, that due to a lack of database or organized file management systems, it was difficult to collect old data from the district and national sources.

National data was collected from a number of various sources. Data related to agricultural land, permanent meadow and pasture were collated from FAOSTAT. National level productivity data and population data were collected both from FAOSTAT (2009/10) and CBS (2010) of Nepal. Data relating to forest land between 1961 and 1985 were collected from different sources: from Master Plan for Forestry Sector, (1989a, 1989b), reports from Forest Resource Survey Office (FRSO) 1963/64 (in Acharya *et al.,* 2009); forest inventory report of Land Resources Mapping Project LRMP 1978/79 (in DFRS, 1999) and Nepal forest Inventory (NFI)-1994; report (in DFRS, 1999). Land use data between 1990 and 2005 was collected from Global Forest Resources Assessment (FAO, 2010) and the country report (FAO, 2010). It must be noted here, that because of inconsistent inventory sources, there exists various conflicting data relating to forest areas and land use change in Nepal.

In this section, the focus has been made on land use change from 1954 to 2005. Further, description has also been made on land productivity, population growth and domestic material consumption (DMC) between the period of 1961 to 2005 in both national and district level.

4.4.1 Land use change at national and district level

In this section land use change in Nepal is analyzed for the period from 1954 to 2005 and is presented in figure 4.1 and 4.2. At the national level, agricultural land increased from 4,023,000 hectares in 1975 to 4,210,000 hectares in 2005, which shows that agricultural

land increased overall by 187,000 hectares. However, during the period between 1954 and 1961 forest land actually shrank, which coincides with the Nepalese government programme of forest nationalization. For local people this nationalization programme meant a loss of forest ownership, which they had been protecting, managing and utilizing for many years. Consequently, illegal encroachment and deforestation increased at an alarming rate during this period, especially in the hill regions of Nepal. Between 1965 and 1985, forest land started to increase, and with the introduction of the community forestry programme in Nepal in the early 1980s the extent of forest land has remained consistent. The handing over of forest land to local communities has ensured that CFUGs have been proactive in the protection, management and utilization of forest land, to meet their basic needs and to improve their livelihoods.

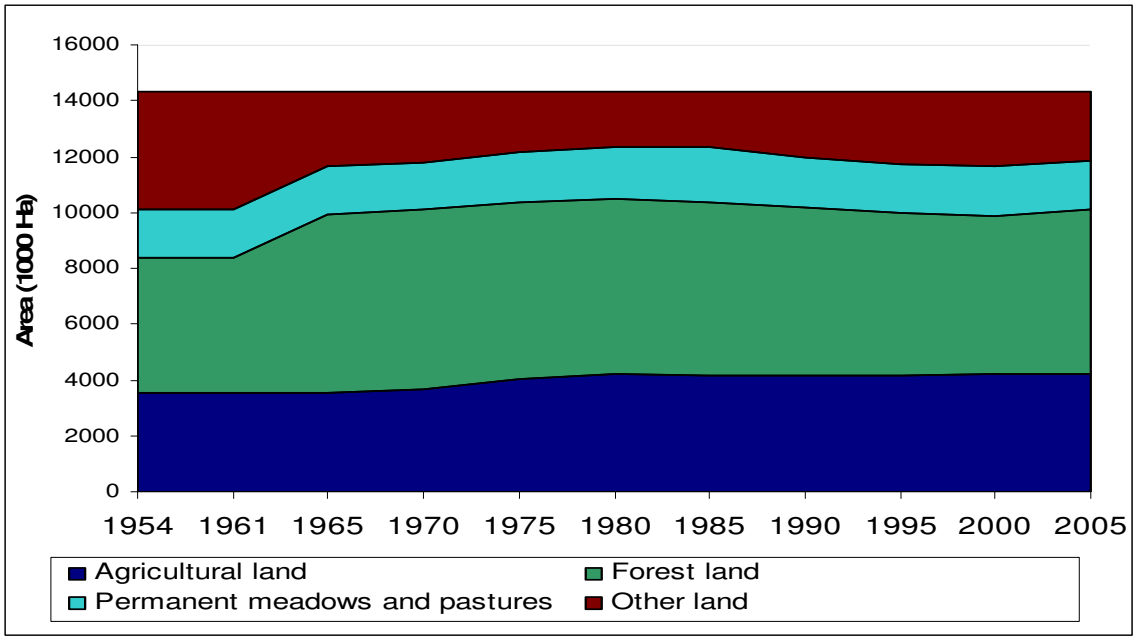


Figure 4.1: Land use change at the national level

From 1995 to 2005, forest land area slightly decreased, but the fluctuation was not significant. The reason for this was that community forestry (CF) activities focused on maintaining the quality of the forest and not on its expansion. The inception phase of community forestry was from the late 1980s to 1990 and concentrated on small pockets of Nepal, but during the 1990s, the community forestry policy and its programmes were scaled up to include the entire country. Various studies reveal that this policy has brought significant positive changes on the restoration of denuded mountain landscape. A study made of 20 Terai districts (southern most districts) of Nepal revealed that the rate of forest cover change during the period 1990/91 to 2000/2001 was less, with an annual forest cover

decreasing rate of 0.06% (DoF, 2005). Before community forestry was introduced in these terai districts the rate of deforestation was 1.3% per year (Kanel, 2008:378). Visual interpretations as well macro level studies reveal that Nepal's forest coverage and forest condition has significantly improved because of the intervention of Community Forestry (ibid). However, data to validate the present condition of forests has yet to be updated (FAO, 2005).

At the district level, forest land area was 113,000 hectares during 1954 to 1965, while agriculture land was 92,000 hectares. Between 1970 and 1975, agricultural land was increasing, but forest land was in decline. During this period, mostly in the plain (Terai region) area of the country, many people migrated from the hills and encroached into the forest, which the subsequently cleared for cultivation.

From 1980 to 1985, agricultural land in the Banke district decreased while forest land experienced an increase. After this period, however, both agricultural and forest land reached condition levels comparable with 1954.

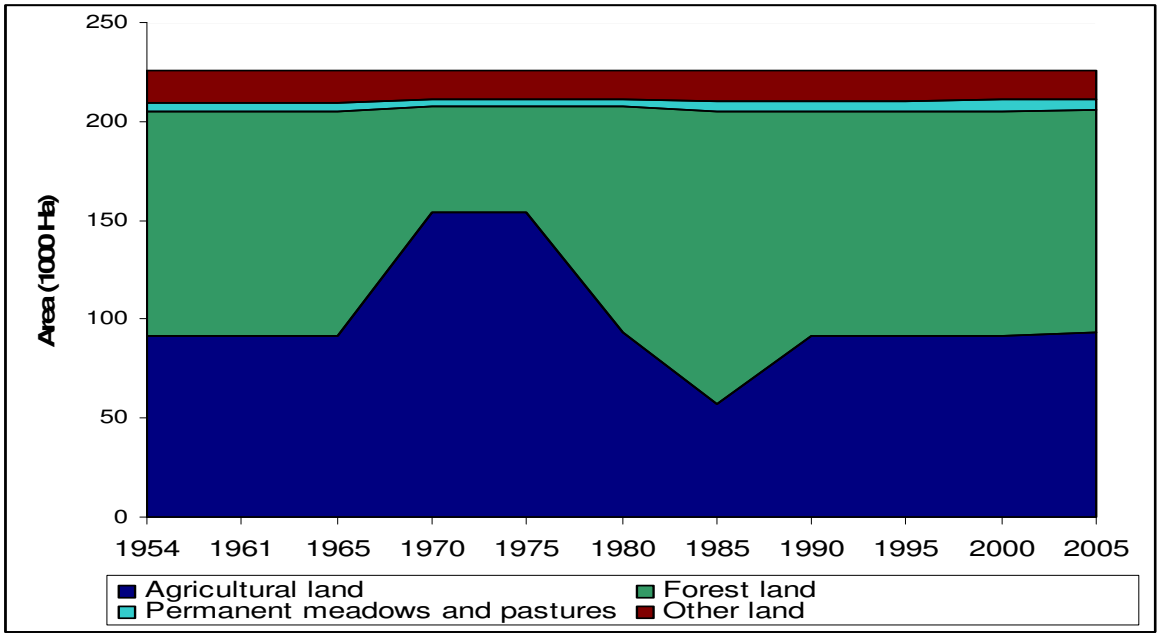


Figure 4.2: Land use change at the district level

Figure 4.1 and 4.2 shows that, there was no significant land use change in permanent meadows and pastures, both at national and district level. 'Other lands' includes all other types of land except forest land, agriculture land, and permanent meadows and pasture. 'Other lands' in this category includes land occupied by infrastructure, such as buildings, canals, roads, etc. This category also includes rivers, lakes, rocks and land covered with

permanent snow. At the national level, 'other land' increased between the periods of 1954 to 1961. Then in 1965 there was a noticeable reduction in this land type, which remained constant until 1885. However, from 1990 to 2005 we see a gradual increase in 'other land' use, matched by a decrease forest land use. At the district level 'other land' remained stable throughout this period.

4.4.2 Population trends and density at national and district level

The implications of land use patterns are related to population dynamics. To fulfill the resource needs for increasing population, land use change occurs. Clearing forest areas for agricultural production, or developing infrastructures to address the needs of a growing population are typical examples of land use change (Hunter *et al*., 2001). Thus, it is clear that population growth is one of the main causes for land use change. In most of the developing countries, the pressures of a growing population have a direct relation with deforestation (Templeton and Scherr, 1997).

Figures 4.3 and 4.4 present the population growth trend at national and district level. In 1961, urban and rural population was recorded at 4% and 96% respectively at national level. At this time, the total population of Nepal was 9,873,000. In 1995, urban population grew by 16% while rural population fell to 84%. Over this 34-year period (from 1961 to 1995), the total population of the country almost tripled to 27,222,000. Likewise, population density also increased exponentially: from 67.08 persons per square km in 1961, to 184.95 persons per square km in 2005.

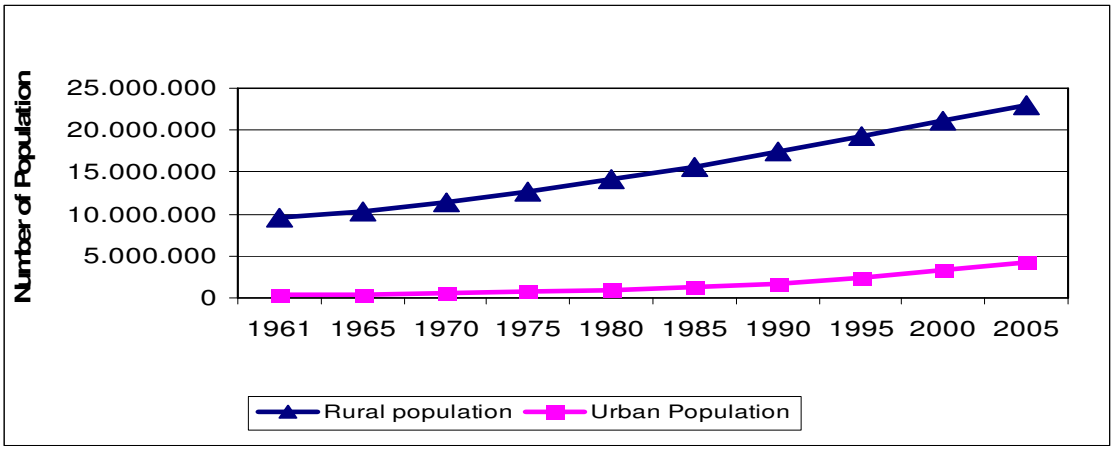


Figure 4.3: Population growth trends at national level

At district level population growth trends show that both urban and rural population increased up to 2005. In 2005, rural and urban population was 85% and 15% respectively.

Population density was 41.61/sq.km in 1961 and 194.25/sq.km in 2005, which was higher than the national level of population density. This pattern coincides with increased immigration from the hills of Nepal by people seeking more productive land. The net outcome at national and district level, regarding population growth trends, shows that human mobility and density has put increasing pressure on both agriculture and forest lands, with no evidence to suggest a reversal of this trend.

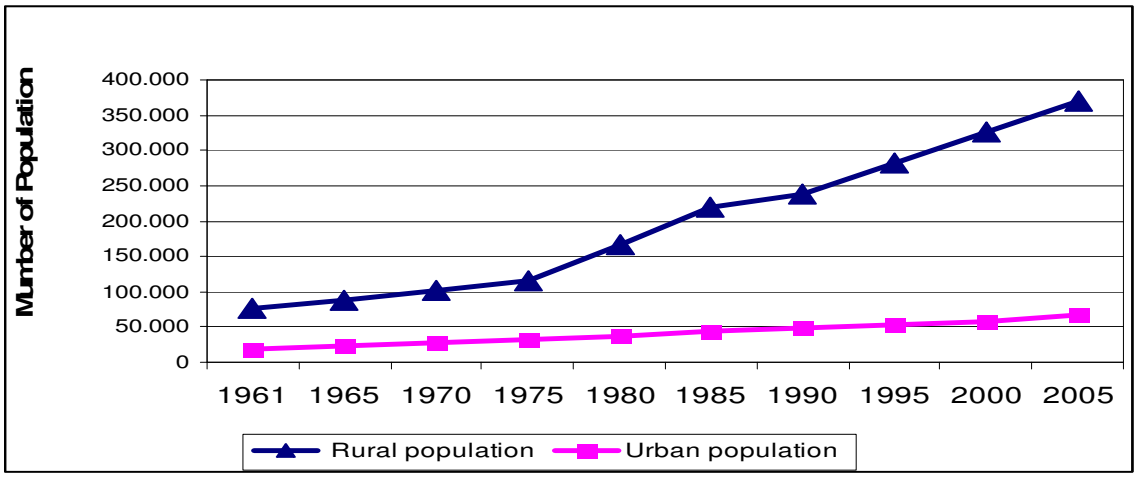


Figure 4.4: Population growth trends at the district level

Table 4.3 below shows the migration patterns from three different ecological regions of Nepal. Between 1981 to1991, a high percentage of population moved from the mountain areas and hills of Nepal to the Terai region of the country; whereas a very low percentage of people migrated to the hills from Terai. The 2001 census shows that this population movement from the mountains and hills to the more fertile region of Terai since 1981 continued unabated.

Table 4.3: Migration status of Nepal

	1981	1991	2001
Place of Birth	[%]	[%]	[%]
Mountain	32	16	17
Hill	64	76	69
Terai	4	8	14

Source: Environmental statistic (CBS, 2008)

After malaria was controlled in the Tarai area in the early 1950s, migration from the mountains and hills into the Terai continued apace. Likewise, population mobility from rural to urban areas increased, as people went to the towns and cities to find work and to study (Magar, 2008). At this time population records were maintained only to register new

births, and national statistics for population growth and migration went largely unrecorded as they were not considered important (Magar, 2008).

4.4.3 Land Productivity in national and district level

Land productivity data at the national level shows that there was an increasing trend of agriculture and forest productivity from 1965 to 2005. Land productivity at the national and district level are presented in Figures 4.5 and 4.6 respectively.

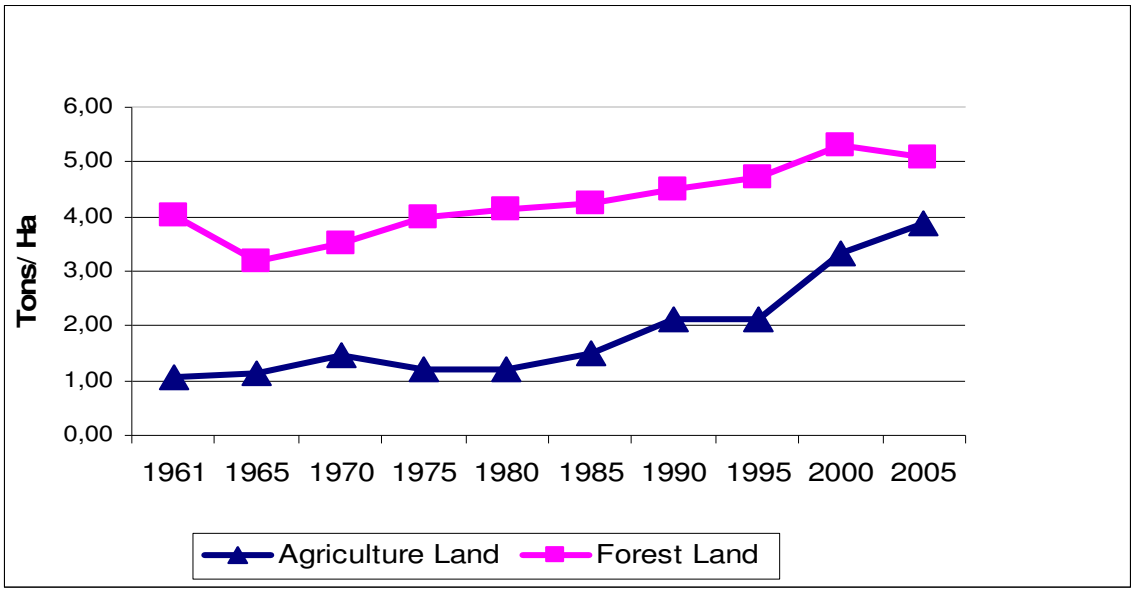


Figure 4.5: Land productivity at the national level

At the national level, agriculture productivity increased in 1970 (1.46 tons/ha), with a slight drop in 1975, but by 1985 it was again on the increase (1.5 tons/ha) and 2.14 Tons/ha in 1990. In 2005, land productivity reached 3.88 tons/ha, which was due to the green revolution in the agriculture sector in Nepal.

Forest productivity in 1961 was 4.02 tons/ha, after which it began to decrease during the period of 1965-1975. This trend reversed from 1980 to 2005 when productivity levels reached 5.07 tons/ha in 2005. This upward trend in forest productivity shows the positive impact of the community forest programme, which gave local people the responsibility to protect and manage the forests more efficiently and effectively than before.

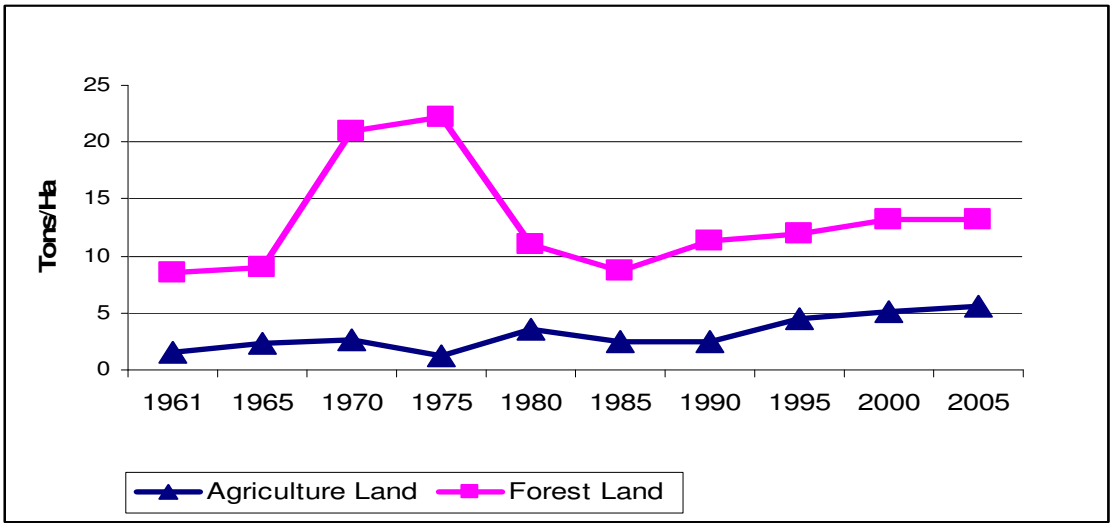


Figure 4.6: Land productivity at the district level

At the district level there was much fluctuation in forest productivity as compared with agricultural productivity. Between 1961 and 1990, forest productivity rose and fell sharply, but a more gradual trend of growth emerged from the mid-1980s up to 2005 when it reached 13.18 tons/ha, which was more than double as compared to the national average. Regarding agricultural productivity we can see a more stable fluctuation in productivity from 1961 to 2005, when it reached 5.54 tons/ha, a figure that was also higher than the national average.

4.4.4 Domestic Material Consumption (DMC/capita)

Domestic material consumption was calculated on agriculture products, forest products and animal products. Agriculture crop includes cereals (rice, wheat, barley, maize, and millet), cash crop (sugarcane, oil seed, tobacco, potatoes, pulses, tea and jute) fruit, and vegetables. Animal products include milk, fish, eggs, meat and animal hides. Similarly forest products are fire wood, sawn wood, round wood, saw log and veneer logs.

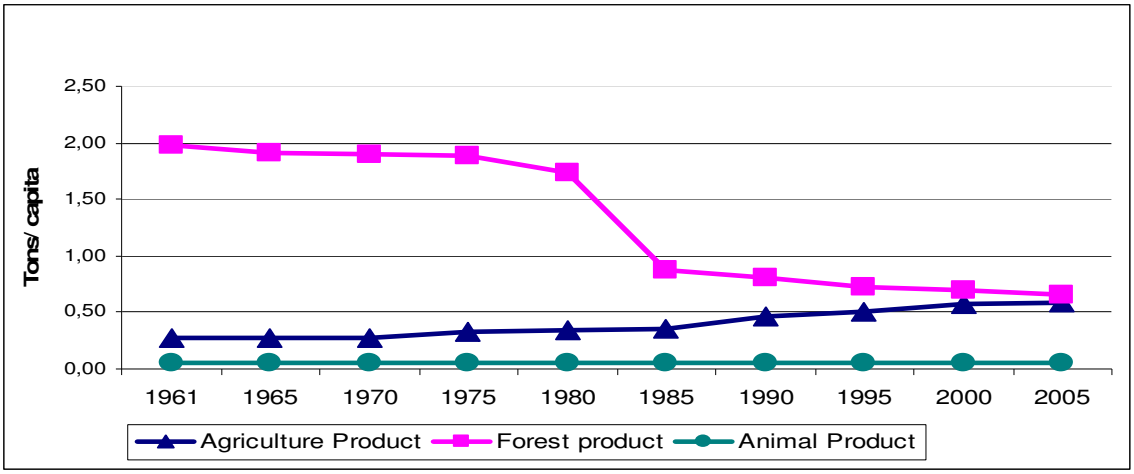


Figure 4.7: DMC/capita at the national level

Figure 4.7, above, presents the Domestic Material Consumption (DMC/capita) at the national level, which shows a continuous increase in agricultural products up to 2005. In 1961, DMC/capita in agriculture was 0.27 tons, doubling to 0.59 tons in 2005. DMC/capita in forest products was 1.98 tons in 1961, which decreased slowly to1980. However, between 1980 and 1985, DMC/Capita in forest productivity decreased significantly, and fell to 0.9 ton by 1985. In subsequent years DMC/capita in forest product decreased slightly up to 2005. However, it can be seen that DMC/capita for animal products remained constant throughout this period.

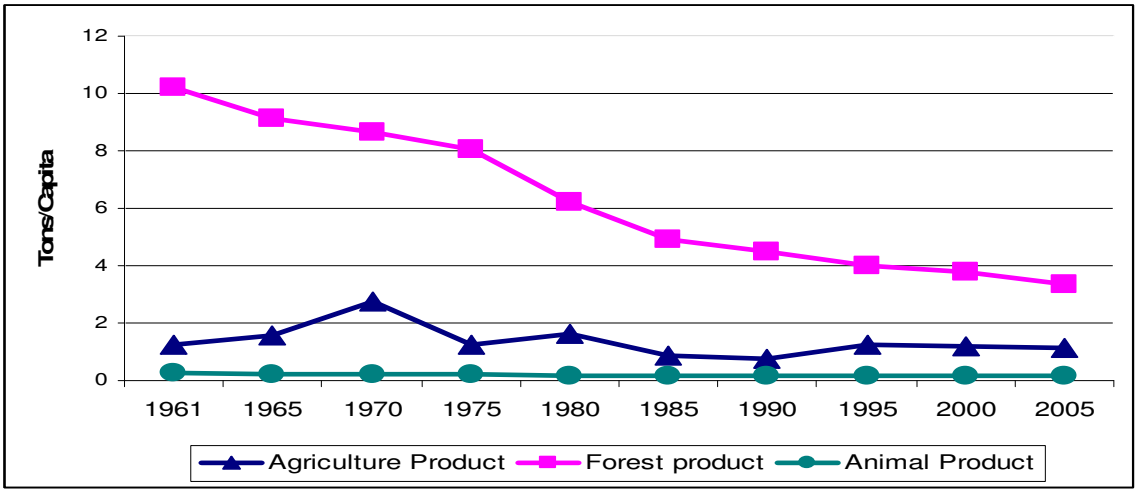


Figure 4.8: DMC/capita at the district level

At the district level, DMC/capita (Figure 4.8) reveals a similar trend to the national level in animal productivity, insofar that animal products remained constant between 1961 and 1990, after which there was a slight increase in 1995 which continued up to 2005, when it stood at 0.15 ton/capita, compared with 0.26 tons/capita in 1961.

In 2005, DMC/capita in agriculture products was almost 1 ton/capita, after peaking in 1970 at more than 2 tons/capita. However, DMC/capita of forest productivity fell sharply throughout this period. In 1961, DMC/capita in forest products was 10.19 tons, which fell to 3.34 tons/capita in 2005. Compared with the national level, DMC/capita in agriculture, forestry and livestock at district level was much higher.

4.5 Stakeholders and their role in Nepalese community forestry process

There are two kinds of stakeholders which play a major role in the community forestry programme and its processes in Nepal.

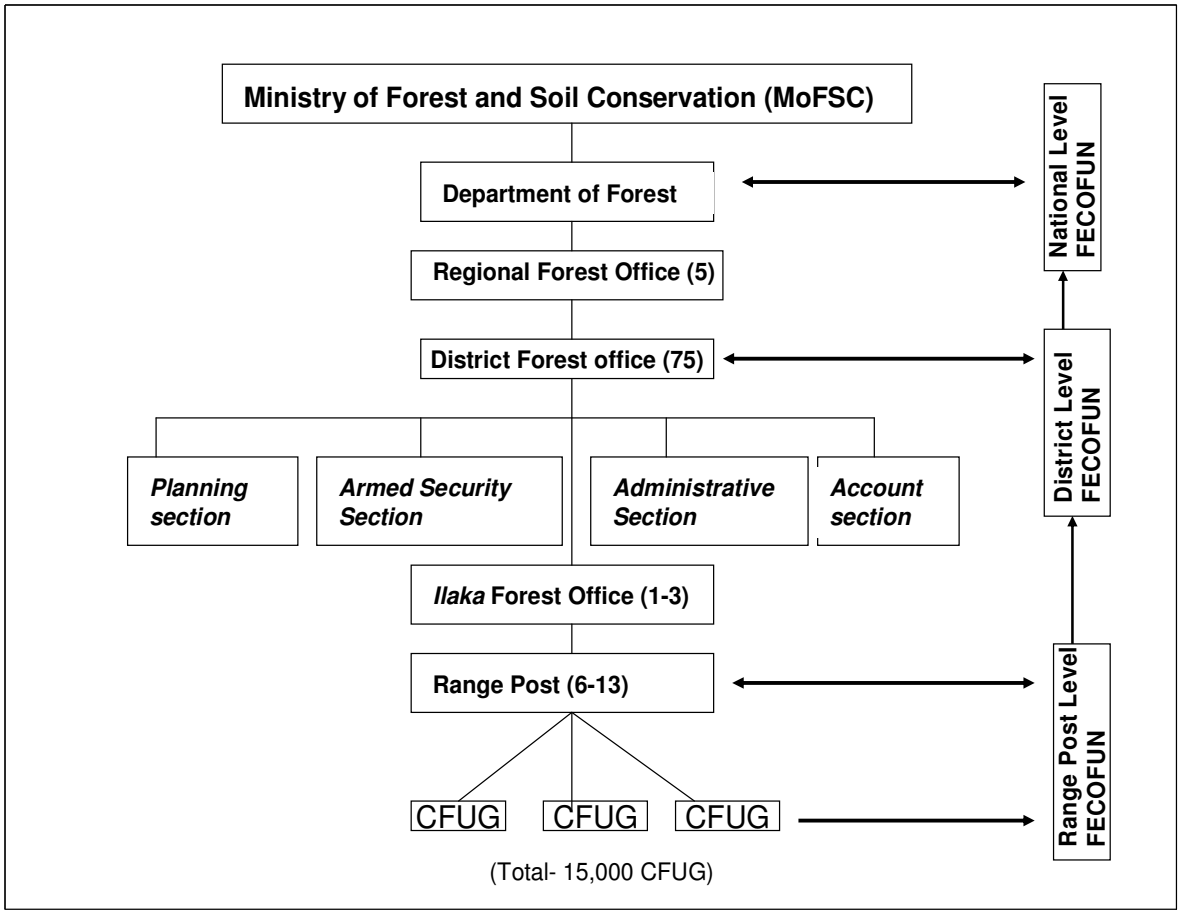


Figure 4.9: Governance and Institutional structure of CF across scale
Source: (Own elaboration 2011)

The above figure shows the structure of community forestry governance in Nepal and the interaction among various stakeholders, from local to central level. The Community Forestry Division of the Department of Forest is the central level government organization which is responsible for implementing the community forestry programme. There are 74 District Forest Offices in Nepal which work directly under the Department of Forest.

Elsewhere, the Regional Directorate of Forest is responsible for coordinating with the districts under its auspices and is also responsible for monitoring the district level forestry sector activities.

The lowest unit of government organization which provides services to CFUGs at field level is the Range Post, which is under District Forest Office jurisdiction. There are several NGOs and other stakeholders at the Range Post level which provide services to CFUGs within the Range Post. Also, CFUGs are organized into a network or federation called FECOFUN, whose lowest level within the network starts at the Range Post stage. Presently, FECOFUN has three different levels of networking: Range Post, District and Central level. There is frequent interaction among district level stakeholders at district and Ilaka level. The district level forestry stakeholders are represented in a forum or committee, called District Forest Coordination Committee (DFCC), where at the district level are NGOs, civil society, FECOFUN and government organizations such as DFO, District Agricultural Development Office etc. who come together to discuss relevant issues. In every district, there is an interaction forum or DFCC which is responsible for the planning and monitoring of the district level forestry activities, focusing on community forestry. It also tries to address any prevailing issues and resolve conflicts. Likewise, there is regular interaction amongst central level stakeholders, which include FECOFUN, the Department of Forest and the Ministry of Forest and Soil Conservation, INGOs, donors and national level NGOs. Similarly there is also formal interaction between District level stakeholders, including FECOFUN, and the corresponding Regional Forest Office. The purpose of forums is to address and resolve general issues arising and to put forward optimal solutions.

The following sections present the details of government and non- governmental stakeholders and their roles in the Nepalese community forestry process.

4.5.1 Government stakeholders

The following are the main government stakeholders of the forestry sector in Nepal. Firstly, three stakeholders are assigned to play a major role in formulating forestry sector policy-making including community forestry and also to monitor the effectiveness of the programmes. Other government stakeholders, described below, are responsible for

implementing the programme, providing services to community forestry and monitoring their progress.

a. Parliamentary Committee on Natural Resources

There is a provision to form a parliamentary committee on natural Resources in the Constitutional Assembly Rules, 2008. This committee has been headed by an independent chairperson who has been elected by the members of the Constituent Assembly of Nepal. Also, the designated chairperson should also be a member of the Constituent Assembly. The committee supervises the activities of the government on natural resources and the environmental sector. This committee plans and executes activities and decides where and when they are to be carried out. It organizes discussions and prepares a first draft, with the help of appointed specialists, and forwards their findings and recommendations to parliament for endorsement. Being a legislative sub-unit, the committee can ask the relevant ministries to provide required information or clarification on the subject matter. Although, the committee does not deal directly in specific cases of community forestry, it oversees current issues and problems in community forestry in Nepal, and renders advice to the Ministry of Forests and Soil Conservation, the Ministry of Environment and other government agencies.

b. National Planning Commission

National Planning Commission (NPC) is the governmental body which formulates annual and periodic development plans, which are finally approved by parliament. NPC prepares and circulates planning guidelines to the necessary line ministries and parastatals to prepare their sectoral draft plans as per the guidelines. They work out internally for the preparation of their plan, and for this they adopt a bottom-up planning process. Finally, they submit their plan to the NPC and then the NPC organizes meetings with the relevant ministries and parastatals to discuss the submitted draft plans. When necessary, the NPC can ask them to justify the proposed plan. During the process, the NPC can also seek advice from independent specialists to provide feedback on the submitted plans. Then, the NPC compiles the plans and presents their findings to the National Development Council (NDC), where representatives from political parties, development regions, civil societies and other concerned stakeholders sit together and discuss the plans drafted by the NPC.

After incorporating feedback from the NDC, the NPC then prepares the final draft plan with the assistance of the Ministry of Finance and other line ministries. Following this procedure, the plan is submitted to the parliament for endorsement.

The organizational structure of the NPC is such that it is chaired by the Prime Minister of Nepal. Other members include a Vice-Chairman, member-secretary and six other officials. There are different divisions in the NPC, among them the Agriculture and Rural Development (ARD) Division which is responsible for coordinating the inter-sectoral programme planning, programme budgeting and the monitoring of forestry-related activities. Among the policy-level institutions, ARD acts as a legislative entity since it is a parliamentary body. It can give directives to the government, and can question the performance of the government and other entities within its mandates. Thus, the NPC prioritizes the sectoral programmes, allocates resources and works as a central governmental agency for the monitoring and evaluation of development plans, policies and programmes. During the formulation of the national periodic development plan (generally for 5 years), it formulates the national development goals, objectives and strategies. In periodic plans, sectoral, sub-sectoral or cross-sectoral development strategies and programmes are worked out in detail with estimates of the resources. In this way, the NPC provides a platform for an exchange of ideas, discussion and consultation related to the development of the country. It also analyzes the problems of civil societies, non-governmental organizations and the private sector in the country.

c. Ministry of forest and Soil Conservation (MoFSC)

The Ministry of Forest and Soil conservation is the main central governmental agency which is responsible for the conservation of biological diversity and sustainable management of forest resources. The Ministry of Forest and Soil Conservation, established in 1959, is the top body of the forestry sector bureaucratic hierarchy. It is the main actor in the forestry sector policy process, which formulates and implements the forestry sector policies. There are five departments under the ministry which support policy formulation: Department of Forest, the Department of Soil Conservation, Department of National Parks and Wildlife, Department of Forest Research and Survey Centre and Department of Plant Research. The Department of Forest is responsible for implementing the community forestry programme, but each department is responsible for implementing and monitoring

the programmes. Most of the formulated activities are implemented by their respective district level offices, however, the MoFSC and their respective departments also prepare directives and implementation guidelines, which are forwarded to district level offices in order to facilitate the implementation. Such directives or guidelines are not endorsed by parliament; therefore, those directives and guidelines must be compatible with forestry sector policies, rules and regulations.

Under the Ministry of Forest and Soil Conservation, more than 16000 permanent staffs are employees, which are presented in the following table.

Table 4.4: Human Power in and under MoFSC

S.N.	Description	Human power (No)
1	Ministry of Forest and Soil Conservation	78
2	Department of Forest (including DFOs)	7336
3	Department of Plant Resources	349
4	Department of National Park and Wildlife Conservation	968
5	Department of Soil Conservation and Watershed Management	540
6	Department of Forest Research and Survey	105
7	Regional Forest Directories (5 RFD)	94
8	Regional Training Centers (5 RTC)	79
	Sub-Total under MFSC	9549
9	National Park and Wildlife Reserves Security (Nepal Army)	6887
	Total permanent Human power working in and under MoFSC (Forestry sector)	16436

Source: MoFSC, 2010

d. Department of forest (DoF)

The Department of Forest (DoF) is responsible for the implementation of forestry sector plans, programmes and projects. It is also responsible to protect and manage the national forests of Nepal by enforcing the Forest Act 1993 and corresponding regulations and guidelines. The Department has been headed by a Director General of the Forests, who is assisted by three Deputy Director Generals. There are three divisions in the Department of Forest: (i) Community and Private Forestry Division, (ii) National and Leasehold Forestry Division and, (iii) Planning Division. Each of these divisions is headed by a Deputy Director General. The major activities of the Department of Forest (DoF) are to manage the country's forest resources for the conservation of the natural environment; the planning

and implementation of forestry-related activities; and to coordinate with the relevant stakeholders. The Department also supports and facilitates the Ministry of Forests and Soil Conservation on policy formulation. Thus, the department contributes to the economic development of the country through revenue generation from the sale of forest products; improve the livelihood conditions of the community through the implementation of related policy, ensure compliance within the rules and guidelines.

e. Regional Forest Directorates

Regional Forest Directorates work directly under the Ministry of Forest and Soil conservation in order to monitor forestry sector programmes at the regional level. In doing so, it coordinates with the Department of Forest or other concerned departments under the MoFSC. The head of the directorate is a Regional Director (RD), who is assisted by a Deputy Regional Director (DRD), two or three forest officers and other support staff. The Regional Directors are assigned to five development regions in Nepal. The major responsibilities of a Regional Forest Directorate are to support the ministry for bottom up planning processes; the monitoring and supervision of forestry sector programmes or activities, which are implemented at the districts within the respective regions. It also coordinates with relevant stakeholders at the regional level to facilitate implementing the programmes.

f. District Forest Office (DFO)

The District Forest Office is at the third administrative level in the forest bureaucracy hierarchy which is headed by a District Forest Officer. The District Forest Officer is mainly responsible for planning and implementing the complete works related to forestry at district level also, the DFO has been given the authority to enforce the Forest Act 1993. Further, the DFO is responsible for the handing over part of the national forests to the CFUGs. In doing so, the DFO approves the constitution and operation plan of the CFUGs. The District Forest Office facilitates CFUGs in capacity building and conflict resolution. In each District Forest Office, there are one to four Assistant Forest Officers, one of which is based in district head office, whereas the other three are based at Ilaka Forest Office. There are two to three Ilaka Forest Offices in each district which is headed by the Assistant Forest Officer. There are six to 13 Range Posts under the Ilaka depending on the area of forests and intensity of work. The Ilaka Forest Office is responsible for the planning and

monitoring of all Ilaka-level activities. A ranger is the in charge of a Range Post who is supported by five forest guards in the hill districts, and 10 to 20 armed Forest Guards in each Terai district. A Range Post covers four to six Village Development Committees (VDCs), which are grass-root level political administrative units. The Range Post is responsible for overall community forestry processes, such as surveying and mapping forest areas, assisting the CFUG for the preparation of forest operational plans and constitution and monitoring overall CFUG activities. The Range Post is also responsible for the protection and management of other forests, such as government managed forests within the Range Post territory.

4.5.2 Non- government stakeholders

Non-governmental stakeholders play a major role in Nepalese community forestry programmes and processes in connection with the following.

a. Community Forest User Groups and their executive committees

According to the provisions in the Forest Act (1993) and Forest Regulations (1995), the national forest could be handed over to the local communities as CFUGs to the extent they are willing and able to manage it. This process involves the identification of users, the formation of a community forest user group (CFUG), preparation of the constitution of the CFUG and the forest operational plan. Once the forest has been handed over by the DFO to a CFUG, the group is then fully responsible for protecting, managing and utilising the community forest. There is an executive body within the users group called the executive committee. The user groups select, elect and assign the main responsibilities to the committee as the provisions mentioned in their constitution. The constitution should not contradict with the provisions mentioned in Forest Act 1993 and Forest Regulations 1995. Generally, the committee members are elected for a period of one to three years. The main tasks of the executive committee is to coordinate with the government and other stakeholders, to protect, manage and utilise the community forest and deal with regular activities related with community forest and group mobilisation. The committee is also responsible for the allocation of CFUG funds for forest management, livelihood, and other rural development activities according to the decisions made by the CFUG general assembly or as per the provisions mentioned in forest operational plan and constitution. To

deal with specific issues, such as monitoring, forest products collection and distribution, community development, livelihoods, the CFUG can form many sub-committees.

b. FECOFUN

FECOFUN stands for the Federation of Community Forestry Users, Nepal, which was established in 1995. It is a national federation or network of forest user groups. The networking of FECOFUN consists of three levels: Range Post, District and Central. It advocates for the rights of community forestry user groups. FECOFUN at Range Post and District level coordinates with Range Post, Ilaka the Forest Office and the District Forest Office to address the issues in community forestry at local level. At central level it represents the concerns of community forestry user groups and participates in policy formulation with the Department of Forest and Ministry of Forest and Soil Conservation. It is the largest civil society organization in Nepal. Out of 15,000 CFUGs, more than 10,000 user groups, which include more than five million people, are members of FECOFUN throughout Nepal. With FECOFUN support, forest users are becoming more aware of their legal rights and the power of lobbying politicians to formulate conducive policies in community forestry. They also communicate their concerns and progress through the media, such as newspapers and radio. FECOFUN empowers forest users through different capacity development programmes, such as study tours, workshops, networking and training in collaboration with different NGOs and INGOs.

c. Associations, NGOs and INGOs

There are approximately 35 associations in Nepal involved in the forestry sector. Among them, the Ranger Association of Nepal (RAN) and the Nepal Forester Association (NFA) are professional associations working to promote professional ethics. NFA and RAN were established in 1974 and 1990 respectively. The NFA regularly publishes a forestry journal called “The Nepal Journal of Forestry”, which integrated various articles that address various issues related to forestry and natural resources management. In addition, the NFA provides consultancy services in the field of natural resources and biodiversity conservation through their highly skilled members.

Non-governmental organizations (NGOs) are citizen-based organizations that work independently, generally delivering resources or providing some social function. In many fields, these types of organizations are called "civil society organizations”. The main

purpose of NGOs in the forestry sector is to provide services and to advocate the rights of women, and to help poor and disadvantage people. After the re-establishment of multi party democracy in 1990, many NGOs became involved in the forestry sector, which works from grass-root level to central level. International Non–Governmental Organizations (INGOs) give support to the government for forestry sector development in Nepal. They support the CFUGs in institutional development and policy advocacy through various capacity development programmes. They also provide financial support to CFUGs for promoting livelihoods and the development of infrastructures. Some NGOs and INGOs also conduct research on various topics related to the forestry sector. INGOs and NGOs can also be regarded as development partners, as they deliver services to the communities with the partnership of the government. According to Kobek and Thapa (2004), there are more than 30,000 NGOs in Nepal, out of which 16,425 are registered with the Social Welfare Council (SWC) and about 15,000 are registered with District Administration Offices (DAO).

d. Donors

After the extensive degradation of the forest resources in Nepal during the 1960s and 1970s many multi-lateral and bi-lateral donors provided technical and financial support to Nepal. The first Community Forestry Development Project was started in 1980 in Nepal. The project was funded by the World Bank with technical assistance from the Food and Agricultural Organization (FAO). Since then, many community forestry projects have been supported by various international donor organizations in different districts in Nepal. These organizations include: DFID –UK, SDC-Switzerland, GTZ-Germany, SNV-Netherlands, USAID-United States, DANIDA–Denmark, Aus Aid-Australia, CIDA-Canada, JICA–Japan, FINIDA- Finland and ADB (Asian Development Bank). With their support, the Nepalese Government was able to initiate community forestry projects in many parts of the country.

At the beginning, most of the donor funded-projects focused on the technical aspects of community forestry. Since 2000, however, most community forestry donors have also turned their attention to governance and livelihood issues, such as the USAID-supported SAGUN/SAMARPAN forestry programme and DFID funded programmes. In spite of receiving big amounts of foreign aid to improve economic development, the well-being of

the Nepalese community people has still not met their expectations, where top-down governance is cited as the main obstacle. However, international financial assistance has brought many benefits to the development of the forestry sector.

e. Forest-based enterprises

The promotion of forest-based industries is one of the six primary programmes envisaged by the Master Plan for the Forestry Sector Nepal 1989. There are a number of private enterprises which have been involved in the promotion of forest-based enterprises. Forestry sector policy 2000 identifies the role of the private sector in the support of forestry enterprises. Private enterprises in Nepal are allowed to access forest products and raw materials for commercial purposes, by obtaining a permit, as laid down in the Forest Act 1993 and Forest Regulation of 1995. Among the various forest-based enterprises to have benefited from this initiative are saw-mills, furniture manufacturers, rosin and turpentine industries, and medicinal and herbal plants processing companies. All these enterprises play a major role in producing various forest-based products through using local workers, which boost the local economy.

5. Research Methodology

5.1 Introduction

This study is based on both qualitative and quantitative methods. Research was carried out on two levels: Community Forest User Groups at the field level and stakeholders (service providers) at the central level. Case study approach was applied at the CFUG level in which three CFUGs with various socio-economic and ecological conditions were selected. At the CFUG level, primary data was collected by using participatory methods which were semi-structured and in-depth interviews, focus group discussions, participatory observation and workshops. The secondary information was collected from the records of the CFUGs including the minutes of committee meeting and the general assembly of the CFUG, income-expenditure registers, constitutions and forest operational plans, leaflet and periodic reports of the CFUGs and local level stakeholders (such as DFO and FECOFUN).

Data was collected in two phases. First, field work was carried out from November 2008 to January 2009. In this period, data related to institutional and livelihood aspects were collected from the two cases. Over the same period, expert interview at the stakeholders' level (service providers' level) was also carried out. In the second phase, between February-April 2010, another case was selected for the study. In addition to institutional and livelihood aspects, information on the ecological aspects of all three CFUGs was collected at this phase. Preliminary findings were shared with the corresponding CFUGs during the second phase and relevant feedback and information were incorporated. The details of the research strategy and methodology are presented in the following sections.

5.2 Research Strategy

A case study approach was adopted in this study in order to acquire in-depth and relevant information of the people or groups and their surroundings over a period of time (Neuman, 1994; Baxter and Jack, 2008). Schramme (1971) defines case study as *"the essence of a case study, the central tendency among all types of case, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result"*. Case study is a research strategy consisting of appropriate methods for data collection, presentation, analysis and interpretation. It is therefore more than a data collection technique or research design (Stoecker, 1991). In case study research, single or

multiple cases could be taken into account that includes quantitative and/or qualitative information (Yin, 1994b). Descriptive exploratory case study research generally focuses on wh-questions such as who, how, what, where, and why. A descriptive case study presents an entire description of an occurrence within its circumstance, and an explanatory case study focuses on cause-effect relationships which describe how events occurred (Yin 2003). Descriptive case study is based on descriptive theory that covers scope and insight of the case under study. Case study has been considered an important strategy in evaluation research (Guba and Lincoln, 1981; Yin, 2003). This strategy can be applied to evaluate the intervention or situation which consists of unclear and multiple sets of outcomes. Understanding this approach is also important for a researcher to minimise the potential biases or errors during the research process. Outcomes from case studies can be presented in many forms such as simple presentation, reports or articles (Yin, 2003).

Case study strategy has been applied to explore forest management issues, and it has been found that this strategy can capture complex situations more accurately (Muhammad *et al*., 2009). This strategy has been applied by many researchers to evaluate a particular case. Smith and Glass (1987, in Neuman, 1994) define evaluation as "the process of establishing value judgments based on evidence". It measures how effective are the policies, programmes, or activities (Neuman, 1994). Therefore, both quantitative and qualitative evaluation techniques have been applied in this case study, such that the collected data were both qualitative and quantitative in nature. Methods used to collect such data included semi structured interviews, participatory observations, focus group discussions, expert interview, workshop, in-depth interview and a review of relevant documents**.**

There are so many complication associated with community forestry governance so that the mix of qualitative and quantitative approach applied in this research is very relevant while it enhances the reliability and validity of the results (Chaseling, 2000; Baxtor and Jack, 2008; Yin, 2003; Flyvbjerg, 2006). The approach used in this study is a social science case study approach.

5.3 Conducting field work

5.3.1 Study site selection

a. Banke district was chosen for this study; the rationales for choosing this study site are:

i) No such study has been carried out by researchers except the evaluation and reporting made by service providers.

ii) It is far from the capital Kathmandu (507 km west) and most of the previous researches have been centred in the surrounding regions of Kathmandu valley.

iii) The numbers of Community Forest User Groups who have been managing respective community forests are more in number compared with other Terai districts. The district is close to the Indian boarder so that the illegal trade of forest products and good forest governance are the emerging issues in this area.

iv) Due to political movements in Terai, several Terai districts have suffered from security problems. Although this district has faced security threats, it was not so difficult for the researcher to collect essential information from the field after taking necessary precautions.

b. The criteria for the selection of the study area

A research protocol was designed before selecting the research site. The basic criteria mentioned on the protocols for the case selection were:

i) The studied groups were formally registered and handed over at least five years before the study;

ii) The groups had already done well-being ranking, at least 4 years before the study;

iii) Different wealth level groups;

iv) Size of the groups as well as the size of the forest (larger and smaller groups, as well as forest area);

v) Groups located in different geographical locations of the district;

vi) Heterogeneous groups in terms of gender, caste, wealth and origin (Terai or hill origin).

After interaction with the district forest office and NGOs/INGOs working in the community forestry programme, nine community forests were randomly selected.

Preliminary site visits was carried out at all selected CFUGs to verify the information. Finally three CFUGs were selected for the study: Gijara, Shreejana and Bavanpurwa.

5.3.2 Research sample and sample design

Sampling is an important technique and a process in research. In this process, some parts or small portion of the population are examined or partial information is collected so that it represents the attributes of the whole population (Kothari, 2002). Given limited time and resources, collecting all information from a larger population is impracticable, thus the designing and selection of a sampling is regarded as a crucial part of the research. In general, the size of the sample should be optimum so that it is neither too large nor too small (Sharma, 2003). But, in fact, the selection of the sample is based on the objectives and nature of the study and population such as the number and category of respondents (ibid).

Household was the unit of observation and interview in my research. A household in Nepalese society represents a family who live together and shares the same resources and property. Respondents for the semi-structured interview were selected based on well-being ranking in each CFUG. There is a list of the households of forest users or beneficiaries in their forest operational plan and constitution. These households are categorised in three economic or well-being strata: rich, medium and poor. Stratified random sampling technique was applied for selecting the three categories of households for semi-structured interview. Such stratification was made to reduce the standard error. In proportionate stratified sampling, same proportion of the population has been selected from each stratum while in disproportionate sampling such proportion is not equal. For example, stratified sampling can adequately cover the attributes of minorities rather than using non-stratified sampling. When a population consisting of various attributes has been divided into various homogenous groups, then within-group variation will be less than the population. In such a case the stratified random sampling will give a more precise outcome than simple random sampling. Therefore, samples selected from stratified random sampling are more representative than simple random sampling. Hence, random sampling may not include the information of all such strata so that the researcher should use stratified sampling when a stratum consists of a small percentage of a population, whereas a random sampling might miss the stratum by chance (Neuman, 1994). Therefore, stratified random sampling is

applied in my study by drawing the sample households from each economic stratum to ensure their representation.

The researcher calculated the number of households belonging to each wealth strata (class). Finally 80% (for one smaller group) and 30% (for two larger groups) of households from each wealth strata were randomly selected. A total of 200 household from the three CFUGs were selected for this study.

Table 5.1: Sample size selected for the study area based on economic class

S. N	CFUG Name	Total HHs	Number of respondents based on economic class						Total sampled HH
			H-Income		M-Income		L-income		
			T	S	T	S	T	S	
1	Gijara	267	59	18	75	23	133	40	81
2	Shreejana	61	17	14	20	16	24	19	49
3	Bavanpurwa	233	56	17	83	25	94	28	70
	Total	561	132	49	178	64	251	87	200

(T= Total household S= Sampled household HH= Household H=High M=Medium L=Low)

Detailed information was taken from some key informants. Key informants from CFUGs for this study were the principal persons who hold basic information of the groups concerned and their community forests. They were the members of the committees at present and in the past: forest watchmen and Village Development Committee (VDC) members. In total, 25 in-depth interviews and 11 focus group discussions were conducted with an anticipation to receive detailed and accurate information.

Table 5.2: Sample size selected for the study area based on gender

S.N	CFUG Name	Number of respondents based on gender		Total
		male	Female	
1	Gijara	46	35	81
2	Shreejana	28	21	49
3	Bavanpurwa	38	32	70
	Total	112	88	200

The questionnaires were prepared in the Nepali language for the convenience of respondents and the researcher. A set of questionnaires, in English, is attached in Annex 1.

5.3.3 Selection and orientation of research assistants

Five research assistants were hired during the research period. Two males and three females with Bachelor degrees in social science were recruited as research assistants. The

male research assistants were assigned to the Gijara CFUG, one female to the Shreejana CFUG and another two to the Bavanpurwa CFUG. Research assistants were oriented about the objectives, research questions and methods required for data collection. The research assistants were able to fluently read, write, listen and speak the local languages: Awadhi and Tharu. Their knowledge on these languages helped to make for friendly environment during interview and group discussions. In addition to these assistants, a local facilitator was hired in each selected CFUG. The hiring of local facilitators helped to instil confidence in the local people which helped to create a good research atmosphere.

5.3.4 Pre-testing the questionnaire

The household survey questionnaire (for semi-structured interview) was prepared in English and translated into Nepali. During interviews questions were put to the respondents in their mother tongue, either in Awadhi or Tharu. The questionnaire was pre-tested by the researcher and research assistants by carrying out 15 interviews at Gijara CFUG. The pre-testing helped to improve the unclear questions and complex words, by way of asking and answering, the repetition of similar words and the duration of time it took to fill out the questionnaire. Outputs from the pre-testing were noted down and the questionnaires were improved accordingly. This technique was also helpful to arrange questions in sequence.

5.3.5 Instrumentation

Both qualitative and quantitative data were collected in this study. Collected data from focus group discussions, in-depth interviews and expert interview were recorded by means of a digital voice recorder and a field note dairy. The recordings were translated into English after the field study. Information collected from semi-structure interviews was recorded directly to the questionnaire form. A digital camera was used to take pictures during the process. A field diary was regularly maintained during the field study.

5.4 Data collection

Data were collected in two three-month phases between November 2008 and April 2010 (a total of six months). Both qualitative and quantitative methods were used to collect data. Semi-structured interview, expert interview, in-depth interviews, focus group discussions, participatory observation and workshops were the main methods to collect data.

Additionally, CFUG committee meetings and general assembly observation, informal discussion and interview with key informants were also carried out.

5.4.1 Interviews

One of the most important sources of information in case study method is the interview. Different interview methods were carried out during these studies which are described as follows.

Semi-structured interviews (Face-to-face interview)

In this study, one of the common methods used for data collection was semi-structured interview (or face-to-face interview) which is also regarded as an instrument for acquiring sociological and psychological information (Weisberge *et al.,* 1996; Sharma, 2003).

In this method, the interviewer puts questions to an interviewee (respondent) from the set of questionnaires to obtain relevant and appropriate answers. During this process, the interviewer should use a language that is understood for the interviewee and adopt a face-to-face interpersonal position (Neuman, 1994). In this study, semi-structured interview was used to acquire the socio-economic, institutional governance and ecological information from the forest users. Questions asked in this method were both open and closed ended questions. Some multiple choice questions were also asked in this process.

The questionnaire survey method was used to cross-check the information derived from the literature review and to assess the connecting relationships (Neuman, 2006). Although the questionnaire survey is a reliable method, sometimes respondents feel it is uncomfortably formal and become too tense to answer the questions properly. In such a situation, the interviewer or facilitator should be careful on the validity of the answers (Dudley, 2005).

Expert interviews

Weiss (1994) points out that the expert interview is a suitable tool for collecting information on the experiences and opinions of the interviewee. Thus a more personal interview, in which the interviewee finds a friendly environment to respond to the questions asked by an interviewer, helps the interviewee to explain things in their own words. It is a good strategy in qualitative data collection (Neuman, 1994). In expert interview, open ended questions were put to the interviewee and experts working in

governmental and non-governmental organisations. In this process, checklists and questions were prepared before the interview and appointments made in advance. During the interview, some questions were modified, supplementary questions added and their sequence changed according to the depth of the answers.

Informal interviews were carried out with 25 experts from different governmental and non-governmental organizations and donors who were working in the community forestry sector in Nepal. Interviews were carried out with 10 government officials, from The Ministry of Forest and Soil Conservation (MFSC); the Department of Forest (DoF); the Regional Director of Forest (RDF); and District Forest Officers (DFOs), as well as staff from a government pilot programme BISEP-ST. At non-government organizations, 15 interviews were carried out. These organization were Livelihoods and Forestry Programme (LFP, DIFID funded programme); CARE International in Nepal, MEDEP (a UNDP funded programme supporting local groups for micro-enterprises development); Netherlands Development Cooperation (SNV); the World Wildlife Fund (WWF); Swiss Development Cooperation (SDC); USAID; UNDP; Forest Action Nepal (a national level NGO researching community forestry); FECOFUN (Federation of Community Forest User Group in Nepal); and ANSAB (Asia Network for Sustainable Agriculture and Bioresources).

In-depth interviews

This is also an open-ended interview, which is aimed at obtaining detailed information on a specific topic or subject matter from the point of view of the respondent (Guion, 2006). It is a qualitative research technique in which individual interviews are carried out so that respondents are able to provide information and divulge their views on the subject concerned. (Boyce and Neale, 2006). To explore an individual's perspectives, this type of interview is useful, but when it is necessary to explore opinions about a group's collective activities, then focus group discussion is more appropriate (Mack *et al.*, 2005; Boyce and Neale, 2006). In in-depth interviews, informants are asked open-ended questions, where probing could be done whenever the interviewer thinks it necessary to obtain in-depth information (ibid). This is also called qualitative interviewing because this technique intends to collect qualitative data (Patton, 1987). Also, this type of interview is much more appropriate when the interviewee is asked to deal with a sensitive topic which he or she might hesitate to answer in a group. Therefore, the in-depth interview technique was used

in this study to identify group level governance issues in detail. In this research, 25 in-depth interviews were carried out at the CFUG level, each interview taking approximately one hour to complete.

5.4.2 Workshop

One-day workshops were conducted separately in the three CFUGs being studied**.** The objectives of the workshops were to explore empirical evidences on five dimensions of governance: accountability, participation, transparency, rule of law, and inclusion/equity. Thirty participants took part from each CFUG, including committee and CFUG members, as well as women, lower caste, and marginalized users. Detailed information on each group was studied before conducting the workshop. The set of criteria and indicators explaining each governance dimension were developed before the workshops began, and matrix ranking was used to rank each indicator. During the workshops, the participants discussed their group status thoroughly until they reached a mutual agreement on their self evaluation. They were than asked to write the agreed score of their perceived ranking

5.4.3 Focus group discussion (FGD)

Focus group discussion is a research technique in which a group of certain individuals are selected by the researcher so that they gather in a mutually agreed place to discuss a specific topic (Powell *et al*., 1996). In this method, when people say something in a group, there is little chance of manipulating the information because other people in the same group are listening. In other words, this method helps to acquire information, such as experiences, attitude, belief and the views of the respondents, which would be impossible to obtain by using other methods (Morgan and Kreuger, 1993). This method is suitable for collecting qualitative data.

One or two researchers usually facilitate the process and the selected participants are requested to answer or discuss their views on a given subject or topic. During this process, one researcher asks open-ended questions to participants and the other notes the answers or responses of the group. Participants are encouraged to give a detailed answer on the questions or topics rather than reply with a short “yes” or “no” as the discussion develops. This method helps researcher to collect more information in a relatively short period of time (Mack *et al.,* 2005). Also, in this process, group consensus may or may not be

achieved, as there could be different views from the respondents on a particular topic. These diverse views could also be important for the researcher to analyse the local context. In this research, focus group discussion was done with a female group, low income group and a lower caste group in order to obtain necessary information related to gender, caste, culture and the socio-economic status of the CFUGs. Focus group discussions were conducted in each CFUG, inviting 10-12 members in each focus group discussion. In total, 11 focus group discussions were conducted during the field work.

5.4.4 Participatory observation

Participatory observation is a research technique that is applied to divulge or disclose characteristics of groups or individuals, which is not possible by using other techniques (Bell, 1987:88). This technique has been most commonly applied in social research as it increases the chances of gaining access to valuable information or events for scientific research that are otherwise unattainable or confidential (Yin, 2003).

Information collected from interviews may not reflect the complete picture of an individual or a group. In such a context, information obtained from observation might be more reliable than the expression of the respondents. This method was useful for this research, not only in collection, but also in triangulation of information. This method was adopted during committee meetings, public hearings and public auditing (PHPA), general assemblies (GA), workshops and community forest observation,

5.5 Secondary data collection

Relevant secondary data was collected from both published and unpublished reports, books and records from Governmental Offices (GOs) and Non-Governmental Offices (NGOs) and International Non-Governmental Offices (INGOs) working in the related field. Secondary information was collected from CFUG records[9], reports (narrative and quantitative) from various service providers, recent data on CFUGs in Nepal, the 5th report (the most recent) of the Community Forestry National Workshop[10]. A number of published and unpublished documents were also consulted.

[9] Here records are: CFUGs's booklet, forest operational plan and forest constitution, meeting minute, minute of General Assembly and public hearing and public auditing, annual report, auditing report, work plan
[10] The Fifth Community Forestry National Workshop was held November 2008, in Nepal

Further literature review was also carried out. Literature review reveals the concepts and ideas of other specialists in related fields of study, and provides an opportunity to discover what they think, do and find. In research, it helps the researcher to conceptualise his or her whole research process. In a general sense, literature review helps the reader to summarize, analyze and blend the ideas and arguments of other people (Longman, 2000). Literature review is one of the important methods in this research. In this study, literature review has been used to find the required information and to critically appraise the theoretical concept of community forest governance and the review of forest policy in Nepal. Science direct, various books, related research articles published in international and national journals, research reports, project reports and publications of various organizations, and reports prepared by researchers experienced in forest policy were reviewed. Various publications of the Government of Nepal, publications from national and international non-governmental organizations working in the forestry sector in Nepal, and journals related to community forestry policy of Nepal, were also reviewed. Furthermore, the theories related to forest governance, institutions, and decentralization were also read and applied.

5.6 Data triangulation

Data triangulation, in general, refers to verifying the data by means of various methods. In social science, triangulation is defined as the cross-checking of different kinds of data or methods (Olsen, 2004). In some cases, the information that has been given in an interview may be different from the real situation. Therefore, it is important to verify whether the information acquired from an interview or group discussions coincide with reality (Neuman, 2002). Likewise, information obtained from observation alone, in some cases, might not be enough to evaluate past phenomena. Therefore, triangulation is important in each and every scientific research that increases the precision as well as the reliability of the information.

At the CFUG level, different methods were used to verify the data, such as semi-structured interviews, focus group discussions, in-depth interviews and workshops in each and every case. Once collected, data were cross-checked with progress reports, audit reports, meeting minutes, publications, CFUG policy documents, such as constitutions and forest operational plans. Observations were done by participating in the general assemblies, committee meetings, public hearings and public auditing (PHPA) programmes.

Observation was also carried out in all community forests under scrutiny, with committee members, forest guards and general members of the user groups, for the collection of ecological information and to verify the data collected from other sources. Further, cross-checking was done by asking stakeholders, such as government and non-government stakeholders, who work directly with the CFUGs about the performance of the CFUGs under study.

At the stakeholder's level, the obtained information was cross-checked with their organization's reports and publications. National level policy documents, reports of the various task forces were also consulted to validate the data. In the event that stakeholders (service providers) might conceal certain weaknesses and exaggerate strengths, cross-checking was done by inquiring about the performance and behaviors of the government stakeholders with non-government stakeholders, and vice versa. Thus, the collected information was verified by means of triangulation using various methods.

5.7 Data analysis

Data analysis in this study includes the organization of the data; tabulation, (statistical) analysis and conclusion (see also Pant and Wolf, 2002). During data analysis, the collected information was edited, coded and classified. Information was collected with the help of checklists and questionnaires which were in line with the research objectives and research questions. The data collected from semi-structured interview through household survey questionnaires were coded and analyzed using Statistical Package for Social Science (SPSS, version 18.0). Descriptive statistical analysis was used to describe the variable. Cross tabulation, frequency tables, percentage and graphs were made to find the relationship between wealth, gender and other variables. Information obtained during group discussion, in-depth and expert interview were analyzed manually and the results presented in texts, tables and figures.

6. Findings from the case studies

This chapter explores the findings of the research, which are presented in the following three different sections. The first section deals with the socio-economic condition of the study area, as well as its economic and livelihood status. The second section deals with forest governance at institutional level, focusing on the five major dimensions of institutional governance; and the third section explores the different ecological dimensions of the ecological condition of community forest.

6.1 Social, economic and livelihood aspects

This section examines the social, economic and livelihood status of the study area in Nepal, which is divided into two parts. The first part explores the social status of forest users groups and the second part deals with economic and livelihood outcomes of community forestry.

6.1.1 Social status of community forest users groups

This section explores the socio-economic characteristics of the study area, including household size and gender structure, caste and ethnicity, occupation, level of education and age composition.

a. Household size and gender

The study area comprises a combination of mixed communities. The average household size and gender structure of the study area is presented in Table 6.1.

Table 6.1: Household size and gender structure

Study Sites (CFUGs)	Average number Female	Average number Male	Total family size
Gijara (n=81)	3.3	3.1	6.4
Shreejana (n=49)	2.9	3.3	6.2
Bavanpurwa (n=70)	3.5	2.9	6.4
Overall average (n=200)	**3.2**	**3.1**	**6.3**

In the studied CFUGs, the average family size is 6.3 per household, which is larger than the national average (5.44). Gender structure analyzed among the sampled households reveals that the average female population is slightly higher than the male population**.** The

average family size of the households of the three CFUGs revealed no significance difference between them.

In Nepal, especially in rural areas, extended families live together, whose household size is relatively larger than that of urban areas. Also, in rural communities the household size varies from one ethnic group to another. For example, in the rural areas of Terai, Tharu and Muslims live together in bigger families than other households. Household size with gender structures are important variables, which play a significant role in determining the socio-economic status of the households. Male and female members of a household play different roles and responsibilities, not only in the family but also in society. Household structures also have a significant effect on household income, and because they consist of members of a community forest user group. Household size and gender structures have an effect on forest management, benefits distribution and community development.

b. Caste and ethnicity of the respondents

There are more than 60 ethnic groups in Nepal which have their own languages. Also, different dialects are spoken in some geographic locations. Therefore, Nepalese society is diverse in terms of ethnicity, culture, religion, language and socio-economic conditions. Despite such diversity, the people of Nepal are socially cohesive and live peacefully together. In terms of origin, there are three races: Indigenous Nepalese (or *adibasi*), Indo-Nepalese and Tibeto-Nepalese. Among them, Indo-Nepalese, also called Indo-Aryan, is the dominant group in Nepal which is divided into four hierarchical caste systems. The four hierarchical castes are Bramin, Chhetri, Vaisya and Sudra, of which Bramin is positioned on the highest level and Sudra is regarded in the lowest caste. *Dalit* is regarded as a synonym of Sudra, who is also called 'untouchables'. There are also variances in the hierarchy among socio-economic class, ethnicity and caste. As a CFUG is comprised of a group of local communities, there exist within each group several castes, ethnicities and socio-economic classes. Therefore, community forestry is also connected with socio-economic issues which are analyzed in the following sections.

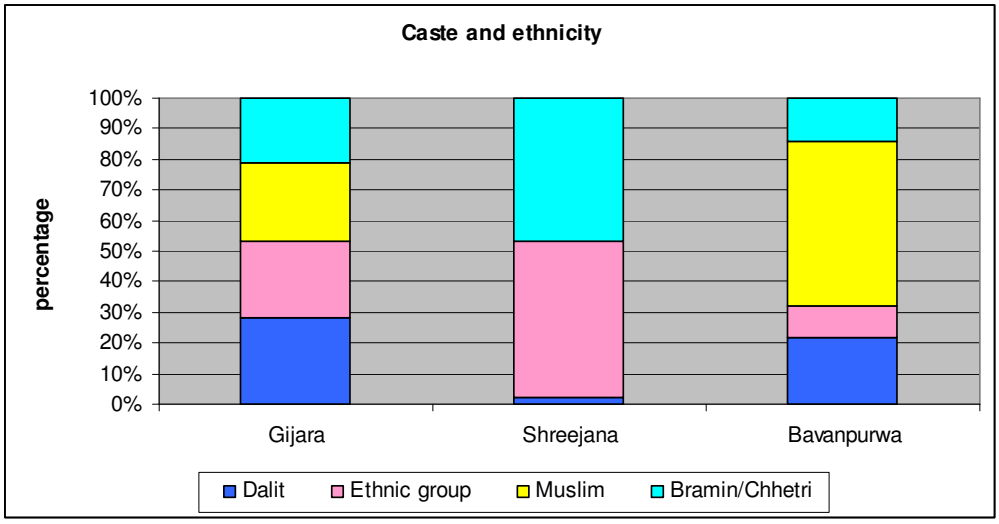


Figure 6.1: Caste and ethnicity of the respondents

The figure above shows the composition of respondents in the study areas with regard to caste/ethnic groups in the three CFUGs. In the Gijara CFUG the four ethnic groups were almost equally represented, with *Dalit* respondents at 28% and Bramin/Chettri 21%, the remainder being made up equally of Muslim and ethnic groups. In contrast, out of 61 households in the Shreejana CFUG only one household was *Dalit*, comprising 2% of the respondents. The majority of respondents here were from ethnic groups (51%), followed by Bramin and Chhettri at 47%. At the Bavanpurwa CFUG the majority of respondents were Muslim (54%) whilst *Dalit* made up 22%, Bramin and Chettri 14% and the ethic group was 10% respectively. In the studied area family names are indicators of caste and ethnicity. For example, the higher caste (Bramin and Chhetri) can be identified by the following family names: Paudel, Karki, Thapa, Bistha, Khadka and Baral, whereas in the ethnic groups familiar names are Tharu (Chaudhary) Newar and Gurung. *Dalit* (lower caste), however, have the family names Kami, Damai, Sarki, Chamar, Teli, Kori, Sunar. In the Gijara and Shreejana CFUGs, the family name of Tharu belongs to the dominant ethnic group, who are the indigenous people of the plain area (Terai region) of Nepal.

c. Occupation

Agriculture is the main occupation in the study area. In addition to agriculture, business, public service and labour work are the other means of household income. The occupations of households, as reported by the respondents, are presented in Figure 6.2. In the Gijara CFUG out of 81 households interviewed, 82% were involved in agriculture, 5% were involved in business, 3% worked in public service and 10% were engaged in labour work.

In the Shreejana CFUG, out of 49 households interviewed, 86% were engaged in agriculture, 10% involved in business, 2% active in public service and 2% for labour. Likewise out of 70 households interviewed in the Bavanpurwa CFUG, the percentage of the households engaged in agriculture was 73%, followed by 4% in business, 1% in public service service and 22% were labourers. Compared with other CFUGs the highest percentage of people in the Bavanpurwa CFUG was involved in labour work.

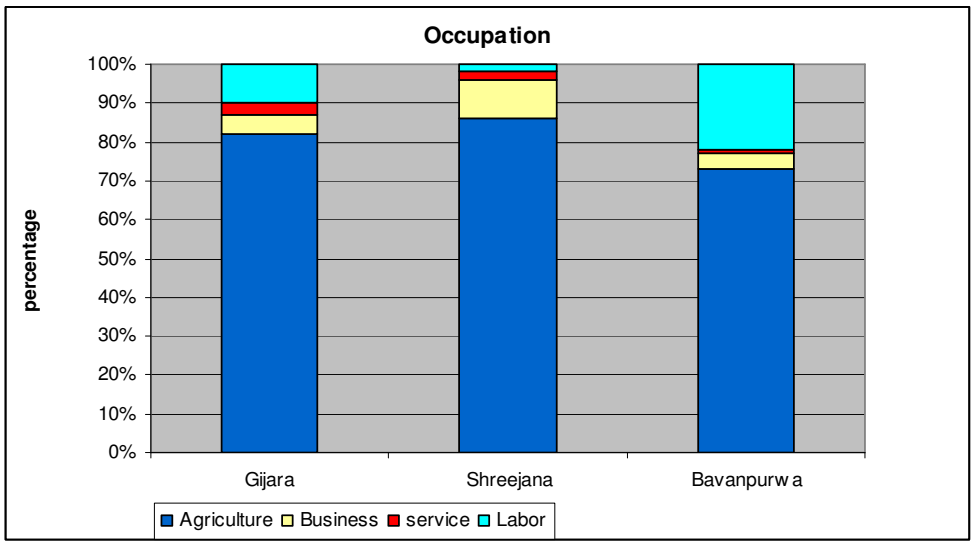


Figure 6.2: Occupation of the respondents

d. Educational status

The educational status of the respondents throughout the study area was found to be very poor. Education is one of the most important determinants of the socio-economic condition of people. Among the three studied CFUGs, the level of education of the Shreejana CFUG proved to be the highest (67%). Only 31% were literate in the Bavanpurwa CFUG, whilst 49% were literate in the Gijara CFUG, which is lower than the average for the Banke district as a whole (51.2%). In all three CFUGs, the literacy level in primary education was higher: Gijara 27%, Shreejana 35% and Bavanpurwa 24%. The education percentage in secondary education and higher secondary and university level revealed a declining trend in all three cases. In Gijara, only 7% and 4% of respondents were pursuing higher secondary and university level education respectively. In Shreejana, the percentage of respondents studying in higher secondary and university level was 10% and 6% respectively. Likewise in Bavanpurwa only 1% was pursuing higher secondary and university level education (see figure 6.3).

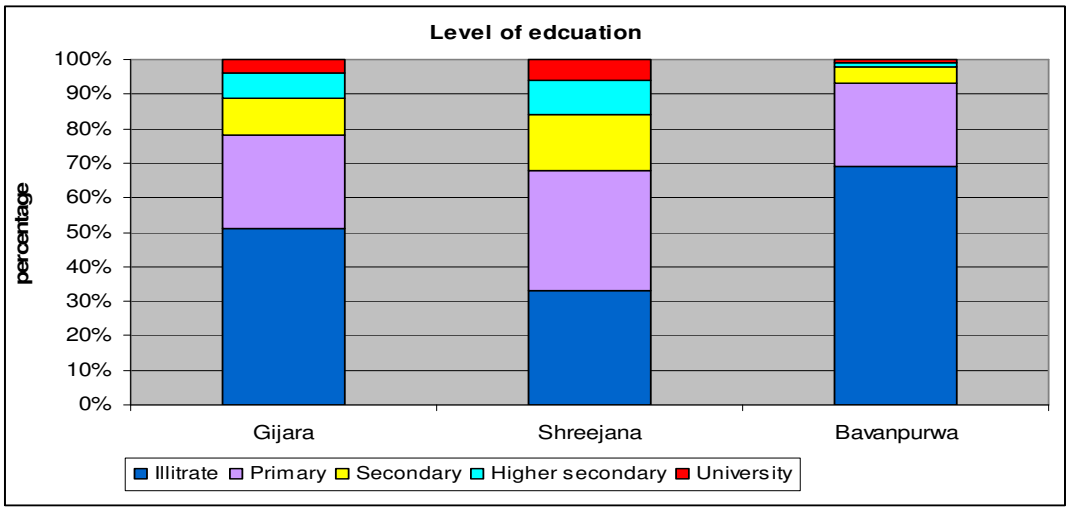


Figure 6.3: Educational level of the respondents

e. Age composition of the respondent

The age composition of the respondents ranged from 21 years to 80 years. The maximum proportion of age group representation was 31 to 60 years in all three CFUGs, which were 70%, 51% and 60% in Gijara, Shreejana and Bavanpurwa respectively.

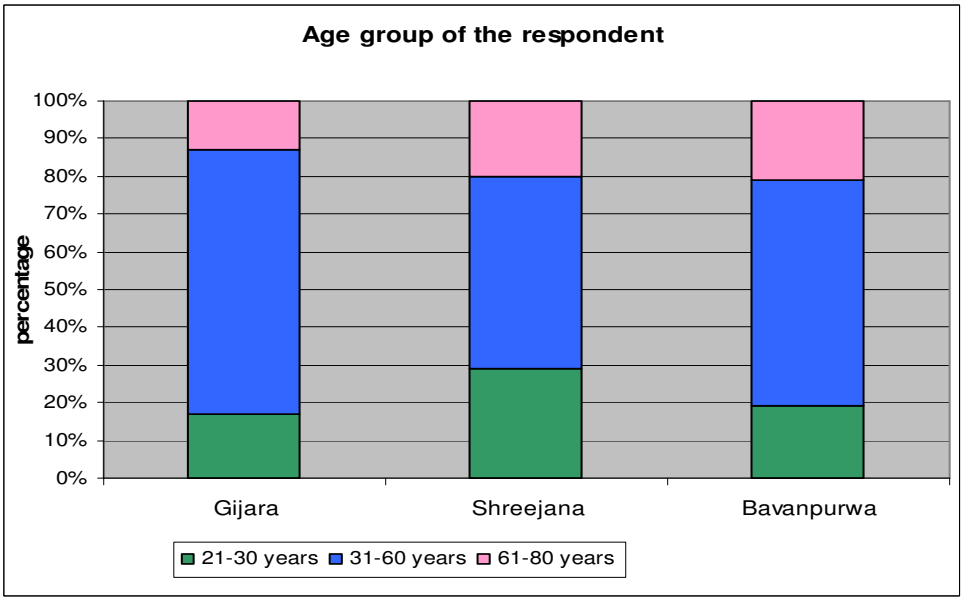


Figure 6.4: Age group of the respondents

f. Details of the respondents

Due to the variation in the number of users in the three CFUGs, it follows that the numbers of respondents in those CFUGs were not equal. The respondents were selected on the basis of their well-being and gender. In all of the three CFUGs, the majority of the respondents were from the low income groups, representing 50%, 39% and 40% from Gijara, Shreejana and Bavanpurwa respectively. In terms of gender, the number of male respondents was

slightly higher than that of female respondents. There were 57% male respondents from Gijara and Shreejana CFUGs, while there were 54% from Bavanpurwa CFUG. The total number of respondents from the Gijara CFUG was 81, followed by 49 and 70 from Shreejana and Bavanpurwa CFUGs respectively.

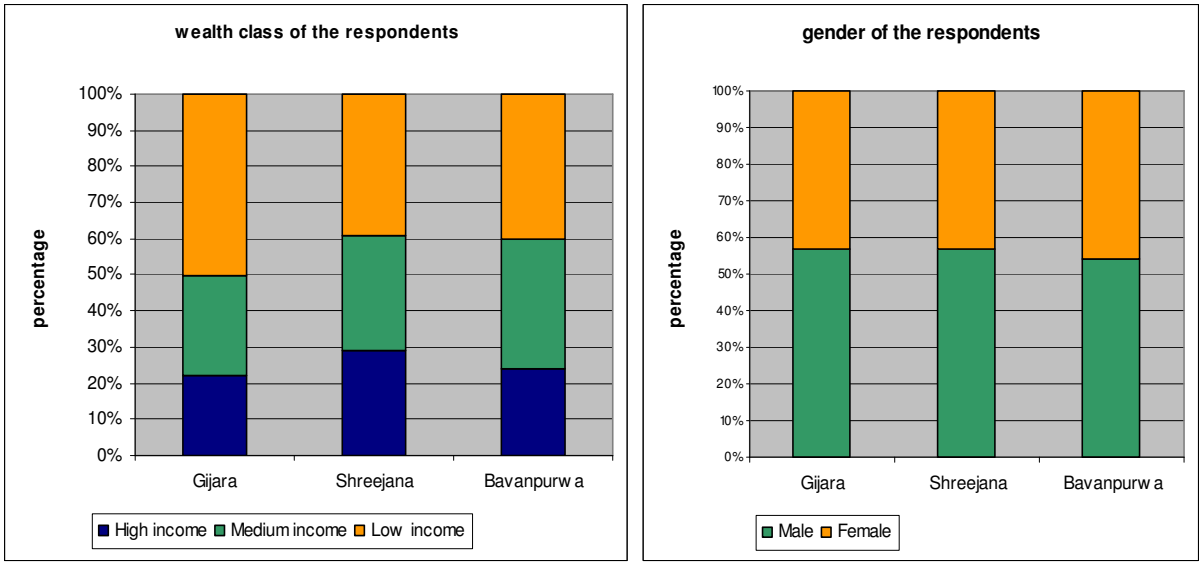


Figure 6.5: Number of respondent (based on wealth and gender)

6.1.2 Economic and livelihood outcomes of community forestry

The community forestry programme contributes to the rural livelihoods of the forest dependent users in various ways. Mainly it provides forest resources, support for the livelihood programme and institutional strengthening through various educational schemes, awareness programmes, training and tours. Community forestry governance starts right from the beginning of group formation. This section is divided into the following sub-sections, which identifies the poor members through well-being ranking, forest benefit distribution, financial status of the CFUG, support for human capitals through the community forestry programme and status of social capitals in detail.

6.1.2.1 Identification of low income household through well-being ranking

In the CFUGs, the socio-economic condition of a household is identified by means of well-being ranking. This tool has been applied by using local criteria developed by the users themselves, which reflects the socio-economic status of a household in relation to the others. Generally, staff from the District Forest Office, and other service providers, facilitate the ranking process and the results recorded in their constitution. By using this ranking, households within a CFUG are generally categorised into high, medium and low

income households. This type of ranking is important before implementing targeted programmes for low income households, such as pro-poor livelihood programmes. In my study area, all CFUGs have made this type of participatory well-being ranking and the user households have been categorised accordingly. In my case study, the criteria developed for well-being ranking were not the same in the three CFUGs due to their variation in socio-economic conditions. In general, the criteria included the area and productivity of private land, income, engagement in government jobs and other professions.

During the course of the study, group members mentioned that SAGUN-CARE Nepal supported them for facilitating their well-being raking. Users in the Gijara and Bavanpurwa CFUGs, said their well being ranking was conducted in clusters due to the scattered area and large number of households, and finally the results were compiled at CFUG level. But, in the case of the Shreejana CFUG, as the group consists of only 61 households, well-being ranking was carried out at CFUG level. The well-being status of the studied CFUGs has been described in chapter five under the method section.

6.1.2.2 Status of forest benefits distribution

Different benefits such as fire wood, fodder, ground grass, bedding material and timber are available in the forests, which are made accessible and usually distributed as per the decisions of the CFUG general assembly. Details of forest product supply from the studied CFUGs during a fiscal year are shown in Table 6.2. The details of supply were calculated on the basis of the CFUG's forest product distribution records. All the forest products were calculated in monetary terms, even though users received some forest product free of charge. During discussions with the Gijara and Shreejana CFUG groups, they stated that as forest users they received fire wood, grass, fodder and bedding materials without cost, but in return they had to contribute towards forest management and forest patrolling activities. In the case of Bavanpurwa, users had to pay cash directly for fire wood and timber, but they had free access to grass, fodder, and bedding materials without any cost. Here also, it is necessary to contribute towards forest management work voluntarily (*quid pro quo*) to receive these benefits. Forest products, such as fire wood, grass, fodder and bedding materials are locally measured in a unit of *bhari*[11] and timber is measured in cubic feet, but in this analysis bhari and cubic feet are converted in to tons. The distribution of forest product depends on the size and nature of the forest.

[11] A *bhari* is a local unit for measuring the quantity of fodder, fire wood and bedding material. In my research, *bhari* has been converted into tons (1 ton = 36.3 bhari).

Table 6.2: Cash equivalent of forest product across user groups and income level

(Summary table, details mentioned in Annex.3) (Income in Nepalese Rupees)

Average amount of forest products used per household	High income (HI)		Medium income (MI)		Low income (LI)		Total supply	Total Financial value
	Forest products/HH	Financial Value	Forest products/HH	Financial Value	Forest products/HH	Financial Value		
Units	[Tons]	[NRs]	[Tons]	[NRs]	[Tons]	[NRs]	[Tons]	[NRs]
Gijara CFUG (N= 267 Households, High income=59, Medium income=75, Low income= 133)								
Fire wood	3.1	5,628	3.3	5,927	3.6	6,521	906	1,643,810
Grass, fodder and bedding materials	6.7	2,500	7.5	2,890	8	2,977	2,003	760,250
Timber	3.5	13,340	3.5	13,260	2.6	10,027	814	3,115,195
Total	**13.3**	**21,468**	**14.3**	**22,077**	**14.2**	**19,526**	**3,723**	**5,519,255**
Shreejana CFUG (N= 61 Households, High income= 17, Medium income=20, Low income=24)								
Fire wood	1.8	3,309	1.8	3,266	2	3,629	115	208,651
Grass, fodder and bedding materials	11.4	3,897	12	4,200	13.2	45,729	750	260,000
Timber	1.6	6,199	1.6	6,120	1.2	4,675	89	339,966
Total	**14.8**	**13,404**	**15.4**	**13,586**	**16.4**	**12,877**	**954**	**808,617**
Bavanpurwa CFUG (N= 233 Households, High income =56, Medium income=83, Low income =94)								
Fire wood	4.5	8,165	4.3	7,804	2.8	5,134	875	1,587,565
Grass, fodder and bedding materials	5.5	2,099	5.7	2,069	6.3	2,348	1,370	239,000
Timber	3.9	14,950	3.5	13,416	1.7	6,375	667	1,950,712
Total	**13.9**	**25,214**	**13.5**	**23,289**	**10.8**	**13,858**	**2,912**	**3,777,277**

Sources: CFUG benefits distribution record (2008/2009) One year average of exchange rate: (NRs 100= € 1)

Table 6.2 shows the average quantity of forest product utilised per household and the financial evaluation of the forest products in the studied CFUGs.

Distribution of timber

Among the various forest products, timber is regarded as the most valuable and essential forest product in the study area. It is used in the construction and maintenance of houses and animal sheds, ploughs and simple implements such as sickle, axes and spades, and is valued highly; unlike fodder, medicinal plants and other non-timber products which are regarded as minor forest products. In the studied CFUGs, timber has been measured in cubic feet (cft); which has been converted into tons.

In the Gijara CFUG, users mentioned that during focus group discussion the rate of timber was written on each of the logs at the depot and users could select their requirements according to their needs. They also added that users received subsidies of 35%, 30% and 25% for low income, medium income and high income households respectively. There is a provision in the forest operational plan that users can also get subsidy for timber, but for other forest products the users must contribute voluntarily in forest management activities, i.e. cleaning, thinning, pruning and harvesting for certain days as mentioned in their forest operational plan. If users do not want to contribute voluntarily for forest management activities, they have to pay the full cost for the forest products and are not entitled to subsidies.

Table 6.2 shows that the total supply of timber in the Gijara CFUG was 814 tons and the total financial value is NRs 3,115,195. All three CFUG had different selling rates but in this analysis the market rate is used. The market selling price was NRs 3,825/ tons which was the same in all three CFUGs. On average a high income household received 3.5 tons per year, equivalent to NRs 13,340, medium income household 3.5 tons, equivalent to NRs.13,260 and low income household 2.6 tons, equivalent to NRs.10,027. Compared with low income households, high and medium income households got more timber.

In the case of the Shreejana CFUG, the forest contains mostly pole-sized trees and hence the distribution of timber was less when compared with the other two community forests. Table 6.2 shows that the total distribution of timber was 89 tons, the financial value

equivalent to NRs 339,966. On average high income, medium income and low income households received 1.6, 1.6 and 1.2 tons of timber respectively. Financially, a high income household receives benefits equivalent to NRs 6,199 per year, whereas medium and low income households received benefits equivalent to NRs 6,120 and NRs 4,675 respectively. Per unit price of timber was the same to all people having different wealth status. Following discussions with in-depth interviews and focus group discussion, users divulged that poor households were not getting subsidy for timber, and that forest products were distributed equally to all users. If users wanted to buy timber they had to pay accordingly, as mentioned in FOP, which is lower than the market rate.

In the Bavanpurwa CFUG, the total distribution of timber amongst the households of the CFUG was 667 tons. In monetary terms this is the equivalent of NRs 1,950,712. On average high income, medium income and low income household received 3.9 tons, 3.5 tons and 1.7 tons of timber respectively. In monetary terms, high income household obtained benefits equivalent to NRs 14,950, followed by medium households NRs 13,416 and those of low income household NRs 6,375. The price of the timber was same for all users. During focus group discussions in the Bavanpurwa CFUG, users said there were no proper rules for forest product distribution, although there is a provision for forest product distribution in the forest operation plan but it is not implemented. During the focus group discussions and in-depth interviews, low income users revealed that the price of timber and fire wood was very high, and that low income users were not able to pay for It., as expressed in the quote below:

"We do not know how the forest product distribution system functions. If we ask committee members about the price for timber, the members tell us it is a very high price. We cannot afford such high prices and thus so we do not buy it from CF." - Focus group discussion, low income users, Bavanpurwa CFUG

Distribution of fire wood

In the studied area, fire wood[12] is one of the basic forest products for daily life sources. Forest users need fire wood for cooking and heating. In my study area, branches of trees

[12] In rural areas of Nepal, people generally collect fire wood from the forest and home gardens but in those villages where forest is far than 3-5 km, they use agricultural residues and animal dung as alternative of firewood.

and produce from thinning, singling and cleaning are used as fire wood. During felling and silvicultural operations, fire wood is collected and distributed to the users. Fire wood collection and its distribution differ amongst the three CFUGs, but in all cases, there is a provision for fire wood collection and distribution, and the community forests are opened twice a year to serve this purpose. On special occasions, such as marriage, festivals or rituals, forest users are permitted to collect extra fire wood from their community forest. Sometimes, fire wood is also kept in the CFUG depot for emergency cases. The users, who need fire wood for such a special or emergency purpose, are directly fed from the depot. In the study area, the market selling rate for fire wood was NRs. 1,714.36/ tons.

Table 6.2 shows that supplies of fire wood amongst the three CFUGs varied. In Gijara CFUG, users received a total of 906 tons of fire wood, which is the equivalent of NRs 1,643,810 in monetary terms. On an average, a high income household received 3.1 tons, whereas medium and low income households were getting 3.3 and 3.6 tons of fire wood. In monetary terms, it is equivalent to NRs 5,628, NRs 5,927 and NRs 6,521 for high, medium and low income households respectively. Results show that poor households received more fire wood than rich and medium households.

In the Shreejana CFUG, a total of 115 tons of fire wood was distributed to CFUG households, which is the equivalent of NRs. 208,651. On average, a high, medium and low income household got 1.8 tons, 1.8 tons and 2 tons respectively, which are equivalent to NRs 3,309, NRs 3,266 and NRs 3,629. Focus group discussions revealed that high income and medium income households also received fire wood from private land, and they were also using LP (liquid petroleum) gas and biogas for cooking food.

In the Bavanpurwa CFUG, the total distribution of fire wood was 875 tons, which, in monetary terms, is equivalent to NRs 1,587,565. On average, high income households received 4.5 tons, and medium and poor households got 4.3 tons and 2.8 tons respectively. In monetary terms, high income households were getting fire wood equivalent to NRs 8,165, whereas, medium and low income household were getting fire wood equivalent to NRs 7,804 and NRs 5,134. Results shows that rich and medium households got fire wood at almost double the cost of poor households. During focus group discussions, low income users mentioned that they were not getting the required amount of fire wood from the CF

and therefore they make *guitha* (fuel materiel prepared from straw and animal dung) as an alternative to fire wood. During the discussions, low income users also complained that they were not only getting any subsidy for fire wood, but were also not getting the required amount of fire wood.

"Even for the fire wood, whenever we ask them they reply that it has already been reserved for some others. Therefore, they provide forest products to the elite first; we are allowed to buy it only if it remains after distributing them" -Focus group discussion, Low income users Bavanpurwa CFUG.

Throughout the studied CFUG's, it was apparent from the focus group discussions and in-depth interviews that low income users depended on the forest for fire wood. In the three CFUGs, Gijara and Shreejana CFUG, low income users got more fire wood than high income users.

Distribution of minor forest products

Grass, tree fodder and bedding materials are considered here as minor forest products and its collection and distribution status for the three CFUGs are given in table.6.2**.** Fodder and grasses are collected in the studied area almost throughout the year. During the field study, users from Gijara and Shreejana CFUG reported that they were adopting stall feeding, so that animals were not allowed to graze inside the community forests. In the studied area, grass and fodder are important resources for animal feeding, but in the case of Bavanpurwa CF, users mentioned that they did not give much priority for stall feeding. Bedding materials are also one of the most important forest products in the studied area, which are usually collected in two seasons. Generally, leaf litters and fallen dry materials were collected in the winter season, whereas green foliage was collected in the rainy season. Both types of bedding materials are used for compost.

Information obtained from the Gijara CF implies that a total of 2,003 tons of minor forest products, equivalent to NRs 760,260 were distributed in a year. On an average, high income households received 6.7 tons, whereas the medium and low income households were getting 7.5 and 8 tons. In monetary terms, a high income household was receiving benefits of minor forest products equivalent to NRs 2,500, whereas, that of medium and low income households were receiving NRs 2,890 and NRs 2,977. In the case of Shreejana CF, the total distribution of forest products was 750 tons, equivalent to NRs 260,000, whereas, on average, a high income household received 11.4 tons, the equivalent of NRs

3,897. Here, medium and low income households received 12 and 13.21 tons, which is equivalent to NRs 4,200 and NRs 4,572.9. Likewise, in the case of the Bavanpurwa CF, high income households received 5.5 tons, whereas medium and low income households were received 5.7 and 6.3 tons respectively. In monetary terms high income, medium income and low income householders received benefits equivalent to NRs 2,099, NRs 2,069 and NRs 2,348. In total, users of the Bavanpurwa CF were getting minor forest products of 1,370 tons, which is the equivalent of NRs 239,000.

Results from the studied CFUGs shows that low income households were getting much more minor forest products than that of high and medium income households. In the Gijara and Shreejana CFUGs, low income households were getting much more fire wood than that of high and medium income households, whereas high and medium income households were receiving a greater amount of timber than low income households, throughout all CFUG.

In the Gijara CFUG, on average a high income category household got total financial benefits from the forest products, equivalent to NRs 21,468, whereas that of medium and low income households took NRs 22,077 and NRs 19,526 respectively for all forest products. In the Shreejana CFUG, high income households got benefits equivalent to NRs 13,404, while medium and low income households were getting NRs 13,586 and NRs 12,877 respectively. In the Bavanpurwa CFUG, high income households received benefits equivalent to NRS 25,214, whereas that of medium and poor households were getting the equivalent of NRs 23,289 and NRs 13,858. Results from all the studied CFUGs shows that high income and medium income households were getting more benefits than that of low income households, the difference was not significant amongst the three wealth categories in the cases of Gijara and Shreejana CFUGs. Whereas in the case of Bavanpurwa CFUG, the benefits received by high income and medium income households were almost double than that of low income households. In this case the executive committee was captured by the elite and the voice of low income people was not listened to.

6.1.2.3 Biomass production from community forests

Table 6.3 (below) presents the amount of forest biomass that was extracted by CFUGs for the purpose of their household consumption and for CFUG fund generation by selling

surplus forest products outside the CFUGs. Forest biomass includes timber, firewood, grass, fodder and leaf litter as bedding materials. At the Gijara CFUG, all of the user households extracted an almost equal quantity of biomass for household consumption. In total, 68% of the biomass was extracted by users for their household consumption, whereas 32% of biomass was extracted for the purpose of generating CFUG funds through the sale of the products. Similarly at the Shreejana CFUG, per capita forest product extraction was almost similar in all income groups of the users. Total biomass extracted by users for household consumption and for generating CFUG fund was 72% and 28% respectively. On the other hand, per capita biomass extraction between high and medium income people in the Bavanpurwa CFUG was almost similar, i.e., 2.3 tons/capita and 2.2 tons/capita respectively, while the per capita extraction of low income people was lower (1.7 tons/capita). Out of the total extraction, 85% of biomass was consumed within the CFUG and 14% of it was sold outside to generate the CFUG fund.

Table 6.3: Biomass extracted by Users (for household consumption and sale)

	High income	Medium income	Low income	Total	
Units	[tons /capita]	[tons /capita]	[tons /capita]	[tons]	[%]
Gijara CFUG					
Forest products: extraction by users for household use	2.1	2.2	2.2	3,723	68%
Forest product: extraction for generating CFUG fund				1,778	32%
Shreejana CFUG					
Forest products: extraction by users for household use	2.3	2.4	2.5	954	72%
Forest product: extraction for generating CFUG fund				378	28%
Bavanpurwa CFUG					
Forest products: extraction by users for household use	2.3	2.2	1.7	2,912	85%
Forest product: extraction for generating CFUG fund				502	14%

Source: CFUG Records (2009)

6.1.2.4 Costs and benefits from community forestry

The following table (Table 6.4) presents the input or labor contribution of the users of community forests, for forest management and the net benefit they received from the forest to meet their subsistence needs. In the Gijara CFUG, the average contribution of labor per household was 16 days per year, while in Shreejana and Bavanpurwa CFUGs, similar contributions are 12 and 10 days per year respectively. Per day labor contribution was

calculated in monetary values using market costs for unskilled labor, which is NRs. 200/day (the equivalent of €2 per day). In all CFUGs, all households, irrespective of wealth classes, had to contribute labor on equal days. If they did not contribute according to the decisions of the CFUGs, they had to pay the cash equivalent. If they did not contribute or did not pay cash as a substitute for monetary contribution, the household(s) were excluded from CFUG membership.

Table 6.4: Costs and benefits of the users according to income level

Cost and benefits of CF users	High income	Medium Income	Low income
Gijara	[NRs]	[NRs]	[NRs]
labor contribution by household to CFUG	3,200	3,200	3,200
household income from forest (subsistence)	21,468	22,077	19,526
Net income of household	**18,268**	**18,877**	**16,326**
Shreejana			
labor contribution by household to CFUG	2,400	2,400	2,400
household income from forest (subsistence)	13,404	13,586	12,877
Net income of household	**11,004**	**11,186**	**10,477**
Bavanpurwa			
labor contribution by household to CFUG	2,000	2,000	2,000
household income from forest (subsistence)	25,214	23,289	13,858
Net income of household	**23,214**	**21,289**	**11,858**

Source: CFUG records and Interview with group (2009)

At the Gijara and Shreejana CFUGs, both high income and medium income category households received net benefit from the forest which was more than that of low income households. In these CFUGs, medium income households had a slightly higher net income than that of high income households. In comparison with Bavanpurwa CFUG, the net benefits amongst the three categories of wealth rank people were not significantly different, but in the case of the Bavanpurwa CFUG, high income households had more income than the households whose wealth rank was in a lower position. Compared with the low income households of Bavanpurwa CFUG, the high and medium income households were getting almost double net benefit from the forest.

6.1.2.5 Financial status of CFUG

In general, the financial status of the study area includes different sources of income, and total income and expenditure pattern of the CFUGs, which is represented below.

Table 6.5: Income sources of CFUG's in absolute figure and as percentage of total income
(of a five-year period) (Income in Nepalese Rupees)

Total income from 2004/05 to 2008/09	Gijara		Shreejana		Bavanpurwa	
	[NRs]	[%]	[NRs]	[%]	[NRs]	[%]
Forest products	3,652,569	86	896,395	61	1,463,700	59
Fine	38,912	0.9	7,206	0.5	26,848	1.1
Visitors fees	14,561	0.3	12,939	0.8	0	0
Livelihood programe	103,553	2.3	44,025	3	0	0
Support from organization	263,828	6	233,900	16	134,900	5.4
Interest	21,590	0.5	10,626	0.7	1,107	0.1
Loan	85,954	2	102,003	7	231,128	9.4
Others	75,418	2	171,455	11	618,498	25
Total income	**4,256,385**	**100**	**1,478,549**	**100**	**2,476,181**	**100**

Source: Audit and financial reports of the studied CFUGs, field survey 2008 and 2009, Nepal
(One year average of exchange rate: NRs 100= € 1)

a. Income sources and income status of CFUG:

According to forest legislation in Nepal, users have the authority to raise money from selling different forest products. The economic outcomes of the CFUGs are determined from the resource status of the forest, and besides forest resources there are several income sources which are mentioned below.

Based on CFUGs' audit and financial report, income of the studied CFUGs during the past five fiscal years (2004/05 to 2008/09) are summarised in table 6.5**.** The total amount and total percentage of each income source are provided in the table. In all studied CFUGs, the highest income found during 2008/09 fiscal year in which Gijara CFUG, which had a total income of NRs 4,256,385. Likewise, Shreejana and Bavanpurwa CFUGs had a total income of NRs 1,478,549 and NRs 2,476,181 respectively.

Income from the sale of forest products: This category includes income from the selling of fire wood and timber to forest users and outsiders, income from the sale of Acacia catechu (*Kutch* and *Katha*) to the private industries, income from the sale of minor forest products like grasses, thatch grass, medicinal and aromatic plants and other non-timber forest products (NTFPs). In all three studied CFUGs, forest products were the major sources of income. In Gijara CFUG, 86% of the total income was derived from the sale of forest products, and in the Shreejana and Bavanpurwa CFUGs, the income derived from the sale of forest products was 61% and 59% respectively.

Income from fines: This includes income from financial penalties given to users and outsiders, such as fines from illicit tree felling and sale, fines obtained from the punishment of animal grazing inside the restricted area of the community forest, etc. The total income from fines in the Gijara CFUG (NRs 38,912), is higher than others two CFUGs

Income from visitors' fees: This includes fees obtained from researchers, entry fees from visiting study teams and organisations, and fees collected from other study tour groups. Compared with other CFUGs, the Gijara CFUG received the highest income (NRs 14,561) from visitor fees.

Income from the livelihood programme: Income here includes seed money from the livelihood programme. Users get support/subsidy for the livelihood programme from the CFUG fund and after implementing the programme, and receiving the benefits from the programme, they have to return a certain percentage of the sum provided from the CFUG fund. In this study the Gijara CFUG received the highest income from the livelihood programme compare with the other two CFUGs.

Income from the support of various organisations: This includes cash and material support from International Non-Governmental Organizations (INGOs) and governmental organisations in order to implement livelihood, forest management and other development activities to benefit the CFUGs. Another source of income was support from the organisations. In the case of the Gijara CFUG, 6% of the total income was derived from the support while that of Shreejana and Bavanpurwa CFUGs was 16% and 5.4% respectively.

Income from interest: It includes the interest from the capital as deposited in the bank, interest or profit to and from the CFUG fund and from any investments made from the CFUG fund.

Income from loans: This includes loans with or without interest to the users from CFUG fund. In Shreejana and Bavanpurwa CFUGs, all users including low income users, received loans at certain interest rates, but in the Gijara CFUG, the loan was provided without any interest for low income users. Thus, the income from the loan is higher in Shreejana (NRs 102,003) and Bavanpurwa (NRs 231,128) than in Gijara (NRs 85,954).

Income from others sources: It includes income from rented material and services, such as chairs, carpets, training hall facilities, parking and access of commercial vehicles. At the Bavanpurwa CFUG, 25% (NRs 618,498) of total income was derived from other sources mainly from vehicle entry fees. CFUGs allow trucks and tractors to collect gravel and sand in the river banks that boarder the community forest on the condition that each and every entry of the vehicle for that purpose must have to pay entry fees, which goes to the CFUG fund.

b. Expenditure status of CFUGs fund

Forest rules and regulations authorize users to generate funds and invest for different activities. According to the forest regulation of 1995, 25% of revenue that is generated from the forest product must be allocated for the forest management activities, and the remaining 75% of the fund must be used for community development (i.e. schools, roads, drinking water, etc) and institutional development. According to the most recent Community Forestry Guideline 2009, CFUGs have to allocate 35% of the total generated revenue, derived from the sale of forest products, to livelihood improvement programmes for low income and marginalized users. Details of annual expenditure during the past five fiscal years (2004/05 to 2008/09) of the studied CFUGs are shown in figure 6.6 (Detailed data is presented in Annex. 2).

The five activities having highest percentage of expenditure were: CFUG administrative costs, institutional development, forest management, livelihood promotion[13] and community development. Details of expenditures and its impact on the livelihood of forest users are presented as follows:

[13] Even though, llivelihood promotion activity was one of the top five important activities of the CFUGs, it was not given due consideration in Bavanpurwa CFUG.

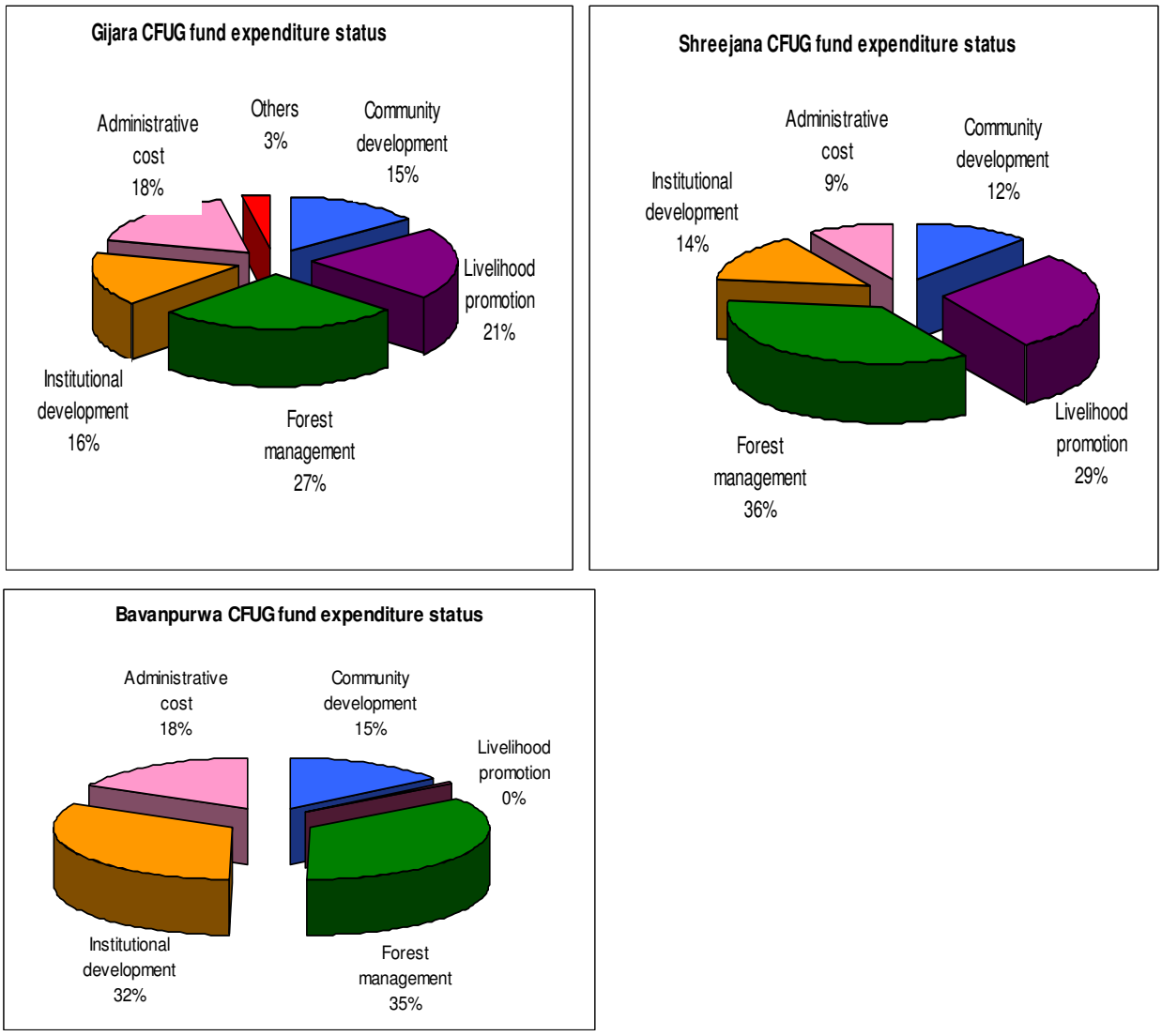


Figure 6.6: Expenditure of CFUGs' fund (of a five- year period)
Source: Audit and financial reports of the studied CFUGs, field survey 2008 and 2009, Nepal

Expenditures on CFUG administration and office management: The expenditure percentage is given in Figure 6.6 which shows that the expenditure of funds for administrative purposes varies in the three CFUGs. Gijara and Bavanpurwa CFUGs invested 18% and 17.6% respectively from their total income for administrative and office management purposes, whereas Shreejana CFUG was 9%. Gijara CFUG spent its fund towards salary payments in public administration. This CFUG expended funds by providing allowances to the members of the executive committee during each monthly meeting, and at the Shreejana CFUG a secretary was given a staff salary.

In the case of the Bavanpurwa CFUG, the office secretary was also provided with a monthly salary and members of executive committee were given allowances for attending

monthly meeting through administrative costs. Generally, in all cases examples of administrative and office management expenditures are: office stationeries costs, committee members allowances for meetings, costs for committee meetings, office furniture, telephone, electricity, fuel, transportation, publicity, office staff salaries, such as secretary and helper, as well as costs for celebration days (e.g., June 5 World Environment Day), tax to the government. However, it is made explicit that administrative expenditure clearly reduces available funds for other CFUG activities, such as livelihood

Expenditure on institutional development: In all studied CFUGs, the percentage of total funds invested for institutional development varies. At Bavanpurwa CFUG expenditure was highest for institutional development (32%), while that of Gijara and Bavanpurwa CFUGs expended 16% and 14% respectively on institutional development. Since Bavanpurwa CFUG was spending higher percentage of their income on office building construction, less was spent on other institutional development activities. In general, institutional expenditure are: forest operational plan renewal costs, costs for the training, workshop and excursion, CFUG office building construction and maintenance, cost for well being ranking, membership renewal costs, costs for auditing, information/notice board construction, costs for internal governance assessment, expenses for general assemblies, public hearings and auditing, coordination and networking. In all three studied CFUGs, they have their own office building which is a positive signal that the CFUGs are in this way taking institutional development seriously. Accordingly, expending high amounts of money for office building construction reduces funds for other institutional development activities.

Expenditure on forest operation and management: Expenditure patterns presented in figure 6.6 above show that the allocation of CFUGs funds for forest management activities are 27% in Gijara, 36% in Shreejana and 35% in Bavanpurwa respectively. Examples of forest operations or forest management activities across CFs include salary for forest guards, costs for forest patrolling, costs for nursery construction and seedling production, protection wall construction against flood, *kanjihouse*[14] construction, labours, tools, cost for access road construction inside the forest, fire line construction and maintenance,

[14] Kanjihouse is a local term used to denote a shed that is made inside or outside the community forest for the purpose of keeping confiscated cattles that are allowed to graze without permission inside the community forest. Those cattles are freed after the owner pays penalty or are auctioned.

plantation costs, cost for forest inventory, allowances for the technician, silvicultural operation (cleaning, pruning, thinning, and weeding), tree marking, felling, de-branching, de-barking, sawing, transportation to the depot, as well as piling. The management cost of CFUG also depends on the user's contribution. At the Gijara CFUG, most of the management works are done by volunteers, which is why they have been given forest product subsidy. Therefore, in case of the Gijara CFUG, forest management costs are less than the other two CFUGs. In Bavanpurwa, users were not contributing voluntarily, therefore all the management works were done by hiring labourers. In Shreejana, most of the forest is pole sized and thus required more cost for management work. Although users contributed towards some activities voluntarily, this, in itself, was not sufficient. As mentioned before, CFUGs must allocate at least 25% of total funding for forest management activities as per the forest regulation of 1995. At the time of this research, CFUGs were expending more than 25% of funding in this area, signifying a positive sign of users moving forward towards sustainable forest management.

Expenditure on livelihood promotion: In the studied CFUGs, the allocation of funds for the livelihood promotion activities was 21% in Gijara, 29% in Shreejana and 0.1% in Bavanpurwa CFUGs. Among the various pro-poor activities, providing loans for income are: generating activities such as micro enterprises development, animal husbandry (goat raising, pig farming, poultry farming, buffalo farming), bee keeping, the establishment of kiosk or small shops (meat and general shops), small kiosks for tea and snacks, NTFP cultivation, kitchen gardening, deep boaring for irrigation, improved cooking stove (using charcoal and fan), and scholarship programmes for students from low income household are implemented as livelihood promotion activities in the studied area. At the Gijara CFUG, the livelihood programme focused as per the well-being ranking and mainly low income users were supported and provided subsidy for those activities. In the case of Shreejana CFUGs, they did not have any specific poor focus programme and thus low income category users did not get subsidy for it, although they got loans with low interest rates for livelihood programme. In Bavanpurwa CFUG, they also did not have any specific livelihood promotion activities, except marginal scholarship support for students of low income households. There are some views of respondents about livelihood programme which were divulged during in-depth interviews.

Box 6.1: Views of respondents on livelihood improvement

"A family belonging to a poor group is eligible to borrow loans of up to NRs 10,000 at a time from the CFUG fund. The loan is interest free and its payback period is 3 years. The amount is sufficient for a family to initiate a small enterprise within a village. However, it is not a small deal for a user who depends on daily wages to run his family like me. Therefore, I was really afraid to borrow the loan from the CFUG fund. I was not confident whether I could pay back the loan in time. The CFUG secretary encouraged me to grasp such a good financing opportunity and to initiate a small enterprise. After that, I borrowed NRs 8,000 from CFUG fund and started a small business of making snacks (pakauda, samosha, namkin, Jeri, Tikiya) last year. The enterprise has gone well and has a big profit margin. Presently, I am earning about NRs 500 per day. For me and for the family like mine, this is a good income. I have already saved NRs 6,000. Out of it, I already invested NRs 3,000 to other user group members as loan. I am getting a reasonable interest from my capital. I have already paid back NRs 1,500 to the CFUG fund. I am sure that I will be able to pay back the remaining loan within the specified period. From the earning, I have already built a small house. The passage of the house is being used for cooking snacks. I have already mentioned that the enterprise covers all of my family expenditures. Beside snacks making, I have a small shop from which there is an extra income. Without the support from the CFUG fund, I would say that I wouldn't have improved my family condition to this extent."
*(*A low income women member in Gijara CFUG*)*

"During Maoist insurgency, while I was returning on the way home from the field, suddenly a bomb blast on me and I lost my one arm with whole body injury. After that, I am unable to work but my wife earned some money from labour work that supports feeding our family. To repair my house, I took loan of NRs 1,500 from outside to buy timber from community forest but committee member told me to wait for some more months. I waited for a year but they did not provide me timber yet and the loaned money has already been expended. I did not ask them any subsidy but wanted to buy the timber with the full cost. Up to now, they did not provide me the timber and hence I do not expect any support for improving my livelihood condition." (A low income male user of Bavanpurwa CFUG)

*"I do not have my own land. I became member of our CFUG about five years ago. On that time CFUG asked me RS 6,000 as a new membership entry fee. Being a very poor, it was not possible for me to manage such big cash. Therefore, CFUG decided to employ me as a forest guard with the salary of NRs 2,000/month. I paid all in the instalment basis. Now, I have been provided NRs 2,700/month as salary. If I work as a labour at least I can get NRs 6,000 per month. In one hand CFUG is providing job for me and on the other hand it's really hard to manage my five family members with NRs 2,700 (*equivalent to Euro 27*). Whole day I have to spend time for forest patrolling work so I am not able to do other external job. I requested to the executive committee several time for the increment of my salary but they did not listen. Now I am taking loan to manage my family. Therefore, it is hard to say that after having job from CFUG my livelihood condition is not improved.*
(A low income, *dalit* male member in Shreejana CFUG)

Expenditure on community development: Allocations of funds for community development among the three CFUGs are not much different (Gijara CFUG allocated 15%, Shreejana 12% and in Bavanpurwa 14.8%). Community development activities include infrastructure development such as: community building construction, support for Masjid/Temple construction or renovation, support for drinking water system, village road and foot trail construction, support for schools, small bridge construction, support to youth clubs, etc. It is assumed that these activities could improve the livelihoods of the poor users, by generating employment, but the evidence shows that this is not the case. From religious and socio-cultural perspectives, support for the Masjid, sports (e.g. in Bavanpurwa CFUG) and support to the youth clubs (e.g. in Gijara CFUG) are positive but they do not contribute the livelihood improvement of poor people.

Other expenditures (miscellaneous): CFUGs were expending a low proportion of funds for miscellaneous activities. Gijara, Shreejana and Bavanpurwa CFUGs expended 3%, 0.1% and 0% respectively for miscellaneous items. Various local-level institutions rely on CFUGs for support. It was divulged that they had to donate to certain organisations, political parties and sister organisations against their will. Also, organisational visits were logged under guest, miscellaneous headings.

6.1.2.6 Support for human capitals through training, tours and exposure programmes

Through community forestry programmes, a number of training, workshops and study tours were conducted with the support of government and non-government organizations. These training and workshops were conducted both at the local and district level which raises the awareness level of the users. According to CFUG's records, members participated in different training and workshops. At the district level, users of community forests were provided with different training, i.e., forest inventory and management training, proposal writing training, nursery establishment and management training, NTFP cultivation training, bee-keeping training, mushroom cultivation training, NFE facilitators training, leadership capacity development training, human rights and advocacy training, governance and social inclusion training, training of trainers (TOT), livelihood improvement training, NTFP group exposure trips outside the district, and governance exposure trips outside the district. Most of these capacity building activities were organised by SAGUN/CARE-Nepal, while others were organized by the district FECOFUN and District Forest Office.

Respondents were asked whether they had participated in community forestry training, workshops or not. According to the findings, the majority of respondents at Gijara and Shreejana CFUG participated in training and workshops (figure 6.7). In the case of Bavanpurwa CFUG, participation in training was low because users mentioned that since they were not active, they were getting less support from the service provider for training and that the CFUG itself did not give priority to human resource development. In all three cases, female participation was lower than male counterparts, and participation of low income users was also lower than that of high income and medium income users.

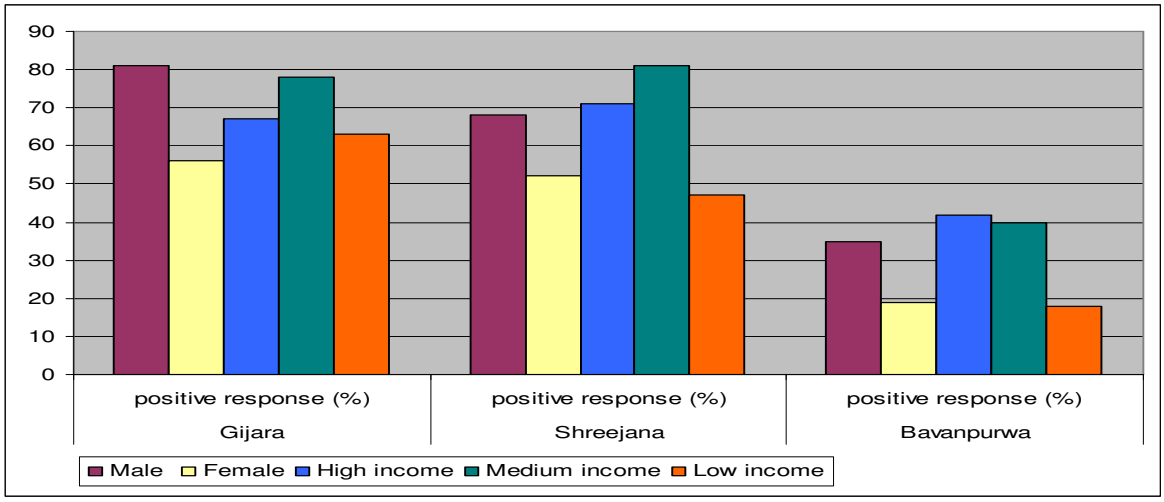


Figure 6.7: Participation of CFUG members in training

For the sustainability of the programme, it requires developing human local resources. In all three studied CFUGs, people received different skilled development training. At Gijara CFUG, there were two male local resource persons (LRPs) who were capable of writing proposals, able to do forest inventories and conduct local level training and governance coaching classes. At Shreejana CFUG, there were two female LRPs, both of whom were able to conduct governance and advocacy training at the local level and able to write proposals. At Bavanpurwa CFUG, users participated in different training but they do not have LRPs.

6.1.2.7 Users' opinion on social interaction within the group and with other stakeholders

Community Forestry Users Groups also function as a local level common forum where social development issues are discussed in addition to forest management and institutional development. Local communities are empowered in the decision-making process by arranging small clusters or hamlet level meetings in addition to the general assembly for

the whole group members. When the CFUG is relatively big in size and households are distributed in various clusters, the hamlet level meeting is more effective, especially for women, the poor and deprived communities. The following figure presents the opinions of the respondents on outcomes after creating the different levels of discussion within the groups.

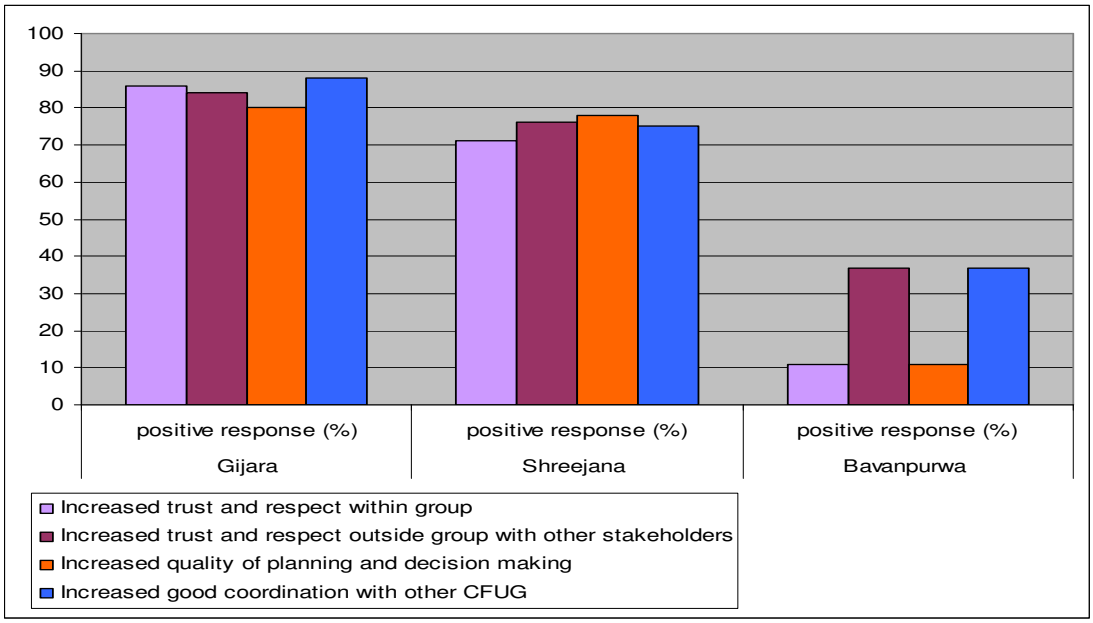


Figure 6.8: Status of social interaction within group and to other stakeholder

In all studied CFUGs respondents were asked whether the mutual trust and respect increased within the group members after the implementation of community forestry programme. The majority of respondents (above 79%) of Gijara CFUG agreed that there was an increased trust and respect within the group. They also mentioned that level of coordination has also been increased with other CFUGs and stakeholders. Within the group, there was an improvement in the planning process and decision making. Also the majority of the respondents (above 70%) from Shreejana CFUG held similar views. The response was different in the case of Bavanpurwa CFUG, where only 10% of the respondents were agreed that there was an increase in trust and respect within the group with improved quality of planning. But, 38% of the respondents of this CFUG agreed that there was an increase in trust, coordination and mutual understanding with other CFUGs and stakeholders. Users of this CFUG also mentioned that they did not have good relations with the members of executive committee because they were grouped into two active political sides, who often debated with each other. Due to this political reason, social interaction among the members of Bavanpurwa CFUG was very poor.

6.2 Institutional aspects of Community Forest Governance

In this section, the result related to five major dimensions of institutional governance, i.e. participation, transparency, accountability, rule of law and inclusion/equity in community forestry, are presented.

6.2.1 Participation in CFUG programmes on the basis of gender and wealth

Participation is "a process through which stakeholders influence and share control over development initiatives, and the decisions and resources which affect them" (World Bank 1996:3). This section explores participation in two ways: the level of participation between gender (male and female) and the level of participation amongst different socio-economic status households, such as wealth (high income, medium income and low income) for different CFUG's programmes and forest management activities. During the interview four scales of participation categories: **always**, **mostly, rarely** and **never** were used. While during data analysis using SPSS, due to low case number, error occurred; thus to ensure a sufficient number of case four categories merged into two categories: **always** and **moderate** in one category and **rarely** and **never** in another category. The following table shows the Pearson's value of cross tabulation. Pearson's value (P) <.05 indicates that the result is significant. The detailed data are presented in Annex.4.

Table 6.6: Participation in CFUG programme on the basis of gender and wealth

	Based on Gender			Based on Wealth		
	Gijara	**Shreejana**	**Bavanpurwa**	**Gijara**	**Shreejana**	**Bavanpurwa**
	N=81	N=49	N=70	N=81	N=49	N=70
	M-46, F-35	M-28, F-21	M-38, F-32	HI-18, MI-23, LI-40	HI-14, MI-16, LI-19	HI-17, MI-25, LI-28
1.Physical participation in decision making	P-value	P-value	P-value	P-value	P-value	P-value
▪ Meeting(tole/cluster)	0.018	0.017	0.003	0.017	0.055	0.027
▪ General Assembly (GA) and Public Hearing and Public Auditing (PHPA)	0.006	0.401	0.001	0.631	0.04	0.026
▪ Forest operational plan and constitution preparation	0.003	0.801	0.016	0.885	0.026	0.043
▪ Monitoring and evaluation	0.026	0.018	0.047	0.041	0.213	0.023
2. Active Participation in decision making	0.002	0.009	0.01	0.031	0.035	0.036
3. Participation in managing and caring for the forest	0.023	0.032	0.000	0.041	0.844	0.043

a. Participation in cluster meetings

There are different forums for discussion and participation, the initial level of discussion forum before general assembly is called a cluster meeting also referred to as a *tole* meeting. During cluster meetings, only the cluster people meet and discuss their needs. They also select cluster representatives for the member of executive committee and finally general Assembly (GA) elects/selects the executive committee. All needs are discussed in cluster meetings and forwarded to the GA for a final decision.

In all three cases (table 6.6), the findings from the household survey reveals that overall participation of males in cluster meetings was significantly higher than female. Also, the level of participation of the households was different, according to wealth status. In all three CFUGs, high income and medium income users had significantly higher participation than low income users. Results show that the participation of female and low income users was much lower than male and higher income users. During the focus group discussions, female participants divulged that they were not informed, and that most of the time they were unaware about the gathering (meeting) and that male member of the family who participated in the meeting did not share the output with their family. Low income users also said that most of the time they were not informed during cluster meeting.

b. Participation in general assembly, public hearing and public auditing

The General Assembly (GA) is a decision-making forum of CFUGs, where all members listed in the constitution present, discuss the agenda and make decisions. The procedures and conditions for conducting a general assembly are mentioned in detail in the constitution of CFUGs. The general assembly can change fully or partially the members of executive committee and amend the provisions laid out in the constitution or in community forest management plan, but those decisions must not contradict with the Forest Act 1993 and Forest Regulations 1995. Therefore, it is an authorised body which drives the CFUGs by making decisions. It is mandatory for CFUGs that they must organise an assembly at least once a year. Generally, CFUGs organise it twice a year; one for the purpose of yearly planning for the forthcoming year, based on their approved operational plan, and the other for reviewing the activities of the previous year for future improvements. To incorporate the voices of the poor, women and marginalised groups, it is important that they should actively participate in the general assembly. Such participation will be then inclusive and

improve the community forestry governance. It was found that the GA is normally held twice a year, in which all user households are invited in time to participate. It is mandatory that at least one person from the user household must participate in the general assembly. Generally, executive committee members are elected for three years by the general assembly but the duration may differ from a CFUG to another depending on the provisions laid out in their constitution.

Public Hearing and Public Auditing (PHPA) was recently initiated by the government to improve the level of transparency and enhance governance. In the constitution of Nepal, there is a provision that every citizen has a right to access information related to public affairs. This provision has been recently incorporated into the constitution of the CFUGs as well, to develop mutual trust and understanding amongst the CFUGs and to make the activities of CFUGs more transparent. Public hearings are practiced in CFUGs as a tool for information sharing and for monitoring activities. During this process, an issue is generally selected, where users ask questions related to the topic to duty bearers, such as executive committee members or service providers, including NGOs and the DFO. Then they assess the strengths and weaknesses of the case and explore the areas of improvement. In public auditing, the income and expenditure situation of particular activities is presented by the executive committee to the right holders or target groups. Also, in this process, detail estimates, implementing procedures and achievements of particular activities are presented (SAGUN, 2005). After the discussion, the statement must be endorsed by all persons present in the public auditing. When there is still a misunderstanding on certain statements, political parties and civil society representatives try to mediate the process.

Generally, public hearings and public auditing are organized simultaneously. These PHPA activities have contributed to improving the level of transparency of the CFUGs and have discouraged improper allocation of funds to certain activities which do not directly benefit the poor. These activities encourage general members of CFUGs, including women, the poor and *dalits* to take part in the process so that they have better access to information regarding expenditure, quality, quantity and duration of the activities completed. Thus, these activities are also regarded as part of participatory monitoring and evaluation tools, as all concerned stakeholders, including the members of a CFUG, take part in them. In my

case, CFUGs conducted public hearings, public auditing and general assemblies simultaneously.

The results in (table 6.6) reveal that participation during general assembly and, public hearings and public auditing programmes by male members were Gijara (85%); Bavanpurwa (53%) which were significantly higher than female (57% in Gijara and 16% in Bavanpurwa) members. At Shreejana CFUG also male (64%) participation was higher than female (52%) but not significantly different. Results show that on the basis of wealth Gijara CFUG (HI-72%, MI 83%, LI 73%) was not significantly different, but in Shreejana (HI-71%, MI-75% and LI 37%) and Bavanpurwa CFUGs (HI-39%, MI- 46%, LI 15%), participation of high income and medium income households were found to be significantly higher than that of low income households.

Gijara and Shreejana CFUGs conducted general assemblies and PHPA twice a year but in Bavanpurwa CFUG, they hardly had a general assembly once a year and sometimes there was no general assembly and PHPA. Former two CFUG are conducting GA and PHPA simultaneously although respondents from Bavanpurwa CFUG said that they were not aware of PHPA. As far as religion is concerned, Gijara and Bavanpurwa CFUGs have more Muslim communities. During focus group discussions with Gijara CFUG, they mentioned that there was a significant difference between *Madhesi* (terai origin) and Pahadi (hill origin) women's participation, which is about 20% and 80% among *Madhesi* and Pahadi (including Muslim) respectively. But in the case of Bavanpurwa CFUG, participation of Muslim women was less than 5%. During focus group discussions respondents mentioned the following view.

"Culturally, female are not allowed to go out for gathering and work in my society. If we do not follow the culture, it is interpreted as a traditional/cultural violation and even if they are not punished, at least one will loose her social status in the society." (Focus group discussion with Muslim women, Gijara CFUG).

"In most of the time of general assembly, we were not informed so how could we participate in the general assembly? Member of executive committee and some elites, who

have influence (power) over others, were only participated in the meetings and general assembly." (Low income male group users, focus group discussion, Bavanpurwa CFUG).

"My husband has been working far away from home and comes home very rarely. So, my involvement in all CFUG function is mandatory. I have been participating all the offered meeting, general assembly, public hearing and public auditing programme regularly." (In-depth interview with a women member of Shreejana CFUG).

c. Participation in forest operational plans and CFUG constitution preparation

Constitution and forest operational plan (FOP) are the guiding documents to run the CFUG and to carry out forest management and other social development activities. To reflect the needs and interests of the poor, women and marginalised groups, such as *dalits*, in those documents, it is important that they participate during the preparation of these documents and their voices are incorporated. The participation of gender and members from different socio-economic status (well-being) within the CFUGs in forest operational plans and constitution preparation is presented in table 6.6.

Findings show that the level of participation between male and female members of Gijara (male 83% and female 51%) and Bavanpurwa (male 42% and female 16%) CFUG are highly different. Male participation was significantly higher than that of female in both CFUGs. At Shreejana CFUG male (61%) participation was slightly higher than female (57%) but not significantly different. In contrast, if we see from wealth status at participation level in Gijara CFUG between high income (72%), medium income (78%) and low income (78%) are almost same, even low income users' participation was slightly higher than high income users. At Shreejana (Hi-64%, MI-81%, LI- 37%) and Bavanpurwa CFUG (HI-53%, MI-28%, LI-18%) participation of high and medium income users was significantly higher than low income people but in general it was very low participation in Bavanpurwa CFUG.

At Bavanpurwa CFUG, respondents mentioned that they were not aware about the contents of forest operational plan and constitution, most of the time executive committee formulated them without informing general users. According to the provisions mentioned in the forest operational plan CFUG must renew the operational plan every five years. Also

the needs of the users have to be incorporated in the operational plan but users mentioned that their needs were not incorporated in the operational plan.

"We never involved during formulating rules and regulations of CFUGs, i.e., forest operational plan and constitution. We only know that committee do not allow entering inside the forest to collect fire wood and timber when we need. They only inform us when they feel our participation during jhadi fadai (cleaning work) in the forest". (Low income women group, focus group discussion, Bavanpurwa CFUG).

d. Participation in programme Monitoring and Evaluation (M&E)

Monitoring and evaluation is one of the most important activities of CFUGs. Overall findings reveal that all studied CFUGs member's participation on M&E was very low compare with the participation of other programmes. In all three cases, female participation (Gijara 20%, Shreejana-14%, Bavanpurwa 16%) was significantly lower than that of male (Gijara 44%, Shreejana 46%, Bavanpurwa 37%). Participation of low income (Gijara 20%, Bavanpurwa 18%) was also significantly lower than high income (Gijara 44%, Bavanpurwa 53%) and medium level (Gijara 48%, and Bavanpurwa 20%) members at Gijara and Bavanpurwa CFUG. In the case of Shreejana CFUG, participation of low income (21%), was also lower than high income (50%) and medium income (31%) members but was not significantly different (see table 6.6).

During focus group discussions and meetings with executive committee at Gijara CFUG, mentioned that they select M&E sub-committees each year. M&E sub-committees monitor and evaluate governance (i.e., governance coaching class, NFE) and livelihood programmes. Findings also show that only few respondents participated in the M&E programmes. Shreejana also selected M&E sub-committee, which evaluated the progress of governance and livelihood programme, but in most cases executive committee did M&E by themselves. At Bavanpurwa CFUG, they did not have M&E sub-committees but whenever there was a need to monitor the programme they formulated a committee and monitored the programme; but mostly members of the executive committee monitored NFE (Non-Formal Education classes) during previous years.

e. Participation in executive committee meetings

The executive committee of a CFUG is the body which executes the decisions made by the general assembly; implements the forest operational plan and obeys the constitution of the CFUG while performing the organisational duties. It also coordinates with other CFUGs, governmental and non-governmental service providers and other stakeholders representing the CFUG (Devkota, 2010). There is a provision on the CFUG constitution that executive committees must organise the committee meeting once a month where every member should participate. Interviews were carried out only with the members of the executive committee. Result revealed that in Gijara and Shreejana CFUG, there were all (100%) members of the executive committee who always participated in the executive committee meeting. In Bavanpurwa CFUG, 57% of male members and 33 % female members always participated in the meeting. Likewise, members from high income households had 50%; medium income household 75% and that of low income household had 50% regular participation during executive committee meetings.

f. Active participation during meeting and assembly

Depending on the well-being of forest users, their participation in meetings and assembly of a CFUG varies. Even when the users present themselves in such meetings, it does not mean that their participation is active or meaningful. When the users are able to put their concerns in meetings or assemblies where decisions are made, and such concerns are given due consideration, only then their participation will be valuable. In this research, the role of the users who play during their participation is categorised into two entities: (a) passive participation: those who only listen and speak rarely and (b) active participation: those who mostly listen, speak and put agenda actively.

Gijara CFUG

Respondents were asked whether they only listen or actively participate during meetings and general assemblies or public hearings and public auditing programmes**.** 76.1% male participants stated that they participated and actively spoke out during meetings and put agenda forward during discussions. Female respondents, on the other hand, stated that only 42.9% actively participated in discussion forums. Active participation of male was almost two times higher than that of female. Likewise as per wealth class, 72.2% of high income and 78.3% medium income respondents stated that they actively participated during meetings and assemblies, whereas only 47.5% of low income respondents participated

actively. The active participation between male and female and between wealth classes was significant (P= 0.002 and P= 0.031 respectively). During in-depth interviews one woman mentioned her views:

"Sometimes I attend general assembly but I never speak because I feel shy and do not feel comfortable to speak in front of the people in public events. Though, I speak Tharu language and not able to speak Nepali, committee members understands my language. Sometimes I understand what is going on and sometimes I do not understand what is spoken or decided during the meetings and assemblies." (a Tharu women of Gijara CFUG)

"During the meetings, I feel shy to speak because I do not have such habit to speak in front of man. If we have separate option for discussion among women it will not be a problem for me." (A Madheshi women member of Gijara executive committee)

Shreejana CFUG

In this CFUG, 38.1% of female respondents and 61.9% male participants stated that they spoke out and put forward an agenda. The ratio of active participation of males was almost double that of females. According to wealth class, high income 78.6%, medium income 68.8% and low income 36.8% actively participated during meetings and general assemblies. The active participation between male and female (P=0.009) and among wealth classes (P=0.035) was significantly different. Active participation of male, high income and medium income users was considerably higher than that of female and low income users. During in-depth interviews I also found the same opinion.

"I am from Tharu community and my mother tong is Tharu, so my Nepali language is poor. I do not feel comfortable to speak during meeting and general assembly. I really do not follow the discussion." (A low income Tharu male member of Shreejana CFUG)

Bavanpurwa CFUG

Active participation of members in this CFUG also varies according to gender and socio-economic status. Only 37.5% of female respondents stated that they actively participate, speak out and put forward agenda, whereas 62.5% of male participants stated that they participated actively in meetings and assemblies. Here active participation of males was almost two times higher than that of females. According to wealth class, high income (70.6%), medium (64.0%) and low income (36%) actively participate during meetings and

general assemblies. The level of active participation between male and female (P=0.01) and between wealth classes (P=0.036) was significantly different.

*"Very few numbers of female attend general assembly, we rarely speak, if we speak also mostly executive committee do not listen to us. We have several problem but we were not able to put our problem during discussion." (*Women focus group discussion, Bavanpurwa CFUG)

g. Participation in forest management activities

In a community forest, forest management activities are plantation, thinning, pruning, singling, cleaning, weeding, fire line construction, fire suppression, forest patrolling and harvesting. The silvicultural operations are clearly mentioned in the Forest Operational Plan and given high priority by the users. In general, most of these activities are operated voluntarily by users themselves. For forest products which are sold outside, paid labours generally work harvesting, logging and transportation to the temporary depot.

Data presented in table 6.6 (details mentioned in Annex. 4) reveals that all high income, medium income and low income households participated in forest management activities in CFs and both men and women as well, but the degree of involvement was quite different. The participation of women in forest management activities was found to be significantly higher than that of men in all studied CFUGs (in Gijara male-63%, female-86%, Shreejana male-57%, female-86% and in Bavanpurwa male-21% and female 69%). Similarly in Gijara (HI-56%, MI-65%, LI 85%) and Bavanpurwa (HI-35%, MI-28%, LI-61%) participation of low income households was higher than high and medium income households. In the case of Shreejana CFUG, the level of participation among high, medium and low income users was not significantly different. Findings show that high and medium income households participated less than the low income households in forest management activities. Rich users said that low income households needed more fire wood than them and therefore these people participated more than the high income household in forest management activities.

In-depth interviews and focus group discussions also revealed that female and low income households participated more in forest management activities than male, high and medium income level households. If users do not participate in forest management activities they

will not get forest products and this adversely affects their livelihood, especially in the low income household:

"As compared with the male members, female members participate more in the forest management activities. We have observed mostly that female participation is more than 80% during the collection of fire wood and fodder. As you see, many female users have been participating forest patrolling though it is risky." (Women, focus group discussion, Gijara CFUG).

"If I don't go for forest management work, I am not allowed to get forest products and also subsidy for livelihood programmes. That means I will be excluded from the benefits that derive from the forests." (In-depth interview, a poor member of Gijara CFUG*)*

"Forest management activities are compulsory for all users whether they are rich or poor. In case when we are not able to contribute voluntarily, either we have to pay for the labour or we will not get any benefits from forest." (Women, focus group discussion-Shreejana CFUG)

h. Influence on decision making

It was found that the involvement of the poor, and women, in forest management activities was very high but their involvement in the decision-making process was very poor. It implies that their physical presence in such activities could not guarantee that they are also involved in the decision-making process. Unless they actively participate in decision-making process, most of the decisions are made by men and well-off people in their favour.

During focus group discussions and in-depth interviews users were asked what influence they had on decision making in major activities i.e. annual planning formulation, forest benefit sharing, participants' selection for training and tours and CFUG fund mobilization. It was found that during annual plan formulation and forest benefit sharing the majority of users (about >51%) took the decision, but participant selection for training and tours, and fund mobilization, usually the executive committee, took the decision in Gijara and Shreejana.

There was a different view in Bavanpurwa CFUG, in all the decision-making process, where always the executive committee made the decision because users were not informed and participation of users was very low during the decision-making process.

"During general assembly, we are not asked about our need and interests, only executive committee and some elite including local politician discuss among themselves and make the decision. Not only we agree on the decision but also we are not able to oppose and our *voice never listened." (*Focus group discussion, poor male users Bavanpurwa CFUG).

6.2.2 Inclusion

All forest users have equitable rights in the process and practice of CF. Inclusion retracts any kind of discrimination on the basis of caste, class and gender. In this study inclusion is focused mainly in the composition of the executive committee.

a. Inclusion on executive committee

From constitutions and records of all three CFUGs, information on composition of last three consecutive executive committees was collected. The records show that, at Gijara CFUG representation of women, low income and *dalit* are increasing in recent years (2006/07) executive committee as compared to the previously elected/selected first and second executive committee. According to the forest policy of Nepal, at least 33% of women should be in the executive committee but still women representation is only 31%. During focus group discussions, they mentioned that they adopted democratic ways for committee members' selection. In this selection interested users put their candidacy on different posts and then voting or general assembly selects the members of executive committee.

Table: 6.7: Inclusion on executive committee

	Total Members	Female	High income	Medium income	Low income	Dalit
Gijara CFUG	[No]	[%]	[%]	[%]	[%]	[%]
Year (2006/07)	13	31	15	39	46	31
Year (2005/06)	14	21	29	50	21	7
Year (2002/03)	18	17	45	33	22	17
Shreejana CFUG						
Year (2007/08)	9	44	33	33	34	11
Year (2004/05)	9	44		44	33	11
Year (2001/02)	9	56	56	11	33	11
Bavanpurwa CFUG						
Year (2006/07)	16	19	44	43	13	13
Year (2005/06)	14	21	50	36	14	50
Year (2002/03)	13	23	31	54	67	23

At Shreejana CFUG, there is almost equal representation from all socio-economic classes of users at present (2007/08) executive committee. Female representation is 44% which is much higher than government forest policy (33%). There was only one *dalit* household in this CFUG and thus *dalit* representation was constant. Since this group is small, users mentioned that they selected members of executive committee during general assemblies.

In the case of Bavanpurwa, female, low income members and *dalit* representation are decreasing (2006/07) in the executive committee than the previous two executive committees. Records show that this executive committee was dominated by males from high income and medium income users. In this CFUG, most of the users were not aware how executive committees were selected but members of the executive committee said that they were selected in two different ways: during general assembly and individually by the chairman and vice-chairman.

b. Inclusion in key positions of executive committee

Key positions of the executive committee (EC) include chairmen, vice-chairmen, secretary, joint-secretary and treasurer. Representation of women, low income users and *dalit* in key positions of the executive committee indicate their active role in the committee. In all three CFUGs, three different executive committee patterns were obtained through their records and constitutions. There was one male *dalit* represented in Gijara CFUG during all three different executive committees but there no female *dalit* representation in either of the

three CFUGs. The representation of women (all higher caste) from high income and medium income was two, two and one during the first (2001/02), second (2004/05) and third (2007/08) EC in Shreejana CFUG. There was no female representation in all three different executive committees in Bavanpurwa CFUG. In Gijara CFUG, there was a representation of two low income males in the committee (2006/07) but in Shreejana and Bavanpurwa there was one low income male representative (2006/07) EC.

Table 6.8: Inclusion of women, *dalit* and the poor in key positions

		Male	
Gijara CFUG	**Women**	**low income**	**Dalit**
Year (2006/07)	1(LI)	2	1
Year (2005/06)	0	0	1
Year (2002/03)	0	0	1
Shreejana CFUG			
Year (2007/08)	1(MI)	1	0
Year (2004/05)	2 (HI,MI)	1	0
Year (2001/02)	2 (HI,MI)	1	0
Bavanpurwa CFUG			
Year (2006/07)	0	1	0
Year (2005/06)	0	1	0
Year (2002/03)	0	0	0

HI-high income, MI-medium income and LI-low income

6.2.3. Information communication and transparency

Transparency is an important dimension of community forestry governance. When there is a system of information flow within all members of a CFUG regarding the community forestry processes, including their fund management, then the CFUG could be considered a transparent CFUG. This study focused on two different aspects of transparency, a) is there transparency in CFUG fund, income and expenditure and b) is there transparency on information dissemination about constitution, operational plans, yearly programmes, a forest product distribution system, general assembly (GA) and public hearings and public auditing (PHPA). The detail of the result is presented in the Table 6.9.

Table 6.9: Users' opinion on transparency on fund management and information

	Gijara (N=81)	Shreejana (N=49)	Bavanpurwa (N=70)
	Positive response (%)	Positive Response (%)	Positive Response (%)
Transparency on fund management			
▪ Proper management of Income and expenditure	82	74	14
▪ Conducted regular auditing	85	67	11
Transparency on information dissemination			
▪ Information through conducting General Assembly (GA) and Public Hearing and Public Auditing (PHPA)	79	73	13
▪ Information on yearly programme	89	67	7
▪ Information on forest constitution and operational plan	49	29	7
▪ Information on forest product distribution system	85	71	7

Gijara CFUG

The majority of respondents agreed that they had proper management of income and expenditure, and were regularly conducting auditing from the external auditor. The majority of respondents also agreed that CFUG were conducting general assemblies (GA), public hearings and public auditing (PHPA) programmes regularly which contributed for a high level of transparency. The overall information flow of this CFUG was high. During focus group discussions and in-depth interview, they mentioned that they had cluster representation in executive committee and in each cluster they had notice boards, which I have also observed during my field work. After meetings and general assemblies, the cluster representative put important information on the notice board so that general users could easily get information. Respondents said that the CFUG office was open every day (even during weekends) before sunrise and is closed after sunset so the users could receive information easily. Results show that there was low information flow on forest constitution and operational plans although during focus group discussions users mentioned that they were aware about the rules, regulation, and forest product distribution system.

According to the discussion with the users and result from interview, the majority of users believed that their CFUG is transparent. During in-depth interview one respondent stated that:

"I am sorry to figure out the income and expenditure of our CFUG but I believe the CFUG fund mobilization and information are very transparent. To make information transparent, executive committee were arranging regular public hearing and public auditing, and internal and external auditing. To make it publicly known, the CFUG used to display the financial report in a regular basis in CFUG office notice board and cluster notice board. Each members of the CFUG are encouraged to go to the office to see the financial report if anybody intends to do so."

Same opinion was found during women focus group discussion. They gave a specific instance.

"Our CFUG is very transparent. Last year, executive committee sold 4 pineapples and ½ kg of lichi, income from those fruits was deposited in CFUG fund accurately. If CFUG have even very low income, say NRs one they deposit it to the CFUG fund."

Another respondent during in-depth interview divulged about transparency of the group which might be risk for the future.

"If CFUG committee misuses the fund we can easily notice it so we are much aware. Here everything is transparent and we do not have any doubt to the executive committee. So now a day during public hearing and public auditing, my participation on those activities is becoming less. I feel from other also same opinion."

It is clear from the above narrative that the CFUG was maintaining transparency on information dissemination along with financial details which led to mutual trust among the group.

Shreejana CFUG

In the Shreejana CFUG, transparency on fund mobilization was at a satisfactory level. The majority of respondents agreed that they had proper management of income and expenditure. They arranged regular auditing (at least once a year) from the external auditor. The majority of respondents also agreed that the CFUG was conducting regular general assembly (GA), public hearings and public auditing (PHPA) programmes. The information dissemination system was at satisfactory level although they do not have other systems for information dissemination except the general assembly. Users who participated in general assembly and PHPA could get information; otherwise they needed to visit the secretary at their house because CFUG's office was only open during meeting as they do not have their office helper. From household survey interview, it was found that the users

have very low level of information on forest constitution and operational plan. The majority of users did not know details about forest operational and constitution. During focus group discussion and in-depth interview, users mentioned that they did not have a proper forest product distribution system within the group for the timber whilst the people who are not the members of the CFUG; a certain fixed price is mentioned in the constitution and forest operational plan.

During in-depth interview one of male participant said that:

"*According to my understanding, our CFUG is very transparent. After the introduction of public hearing and auditing, executive committee members have nearly no chance to hide the financial transactions and without public hearing and public auditing programme, external auditing will not be validated. During PHPA users of CFUG were always asked for clarification in each item of expenditure. EC was maintaining all records which were discussed in each and every meeting and general assembly. There is a necessity to submit external audit report every year to the District Forest Office. If we want to see details at any time, we have access over it."*

Another female respondent was also mentioned similar opinion about transparency.

"I don't see any misuse of the group fund. If any of the forest users have confusions and find any hidden transactions, they have chance to raise the issue during general assembly, public hearing and auditing programme. Treasurer of the committee keeps the details and receipt, if we ask treasurer; she must show us in details".

Bavanpurwa CFUG

The majority of respondents agreed that CFUG did not have proper management of income and expenditure. Records were not maintained properly and general users were not aware about their funds. The majority agreed that they did not have regular auditing, regular general assembly (GA), public hearings and public auditing (PHPA) programme. Furthermore, the information dissemination system was also very poor and most of the users were not aware about the CFUG programme. Respondents of this group mentioned that the majority of the users were not informed during conducting GA and PHPA. Results from household survey interview shows that the users had a very low level of information on forest constitution and operational planning. The majority of users and even members of the executive were not aware about forest operations and constitution. Most of them agreed

that they did not have systematic forest product distribution system and implementation process as well. During in-depth interview, one of the male respondents mentioned that,

"A*s I already said that we are not informed about any activities. I am sure that there is corruption but no one has capacity to ask them, even budget is confidential. I have seen many times that executive committee sold timber outside the group where does this money go? How much money we have, where is it? Either in the hand of chairman, treasurer, secretary or bank we do not know*."

During male focus group discussion they mentioned specific incident: *"Executive committee conducted GA and PHPA very rarely and majorities of the people were not informed, I do not know why. Every time we request information, the official start to point out one another, the chairman says the details are with treasurer and when we ask the treasurer, he says I don't have any thing, it is all with chairman. They blame one another and even we are not aware how much balance we have. This is the way they deal with the members so we just leave these days even to ask them about financial matter of CFUG."*

It was revealed that transparency is also related to religion and leadership, one of the Hindu, male respondent (minority group in this CFUG) told that:

"I am not sure what the plans of CFUG are and how much budget they have, I knew that majorities of the people are Muslim, here we are very few Hindu and we Hindu were not invited during GA and PHPA. Most of the executive committee members are from Muslim so they inform only to Muslim community. While we had Non–Muslim chairman, at that time he did not make any bias and we all were invited for GA and PHPA."

6.2.4 Accountability of general users and CFUG committee

Accountable CFUG or executive committee must obey the duties and responsibilities as mentioned on the constitution or forest operational plan and follow the decisions made by the general assembly for the benefit of the general users.

Accountability has been studied in the following aspects: a) accountability of CFUG Committee on governance and livelihood programmes (whether it is mentioned in the operational plan and constitution or not, revision of operational plan and implementation of

the programme, and implementation of decision made my general assembly and PHPA). b) accountability on bearing duties and responsibilities.

Accountability to implement governance and livelihood programme

In the case of Gijara (Figure 6.9) CFUG, 78% of respondents agreed that governance and livelihood programmes were mentioned in their forest operational plan and constitution. Some 75% of respondents agreed that the programmes mentioned in the operational plan had been implemented. The decision made in the general assembly for public hearing and public auditing was also implemented. Likewise, 65% of respondents agreed that the mentioned programme on operational plans was revised according to the situation and needs of the users.

At Shreejana CFUG, 55% respondents agreed that governance and livelihood programme was mentioned on their forest operational plan and constitution, and the programme had been implemented. Only 39% stated that the programme had been revised and practiced according to user needs, but the majority (60%) agreed that the decision of GA and PHPA was implemented. During focus group discussion and in–depth interview, users of Gijara and Shreejana CFUG mentioned that they had been participating on governance coaching as well as training on governance and advocacy organized by other organisations.

In Bavanpurwa, accountability was very low (8% to 11 %). It was found that less accountability was one of the major problems of this CFUG. During focus group discussion with low income users of Bavanpurwa CFUG members said: *"We are very poor, we thought that after community forest we will get more benefits but that was our dream and never fulfilled. We do not know constitution and operational plan but we know that we never got support for livelihood programme, we wanted to buy fire wood but most of the time we did not get it than how can we imagine support for livelihood programme?"*

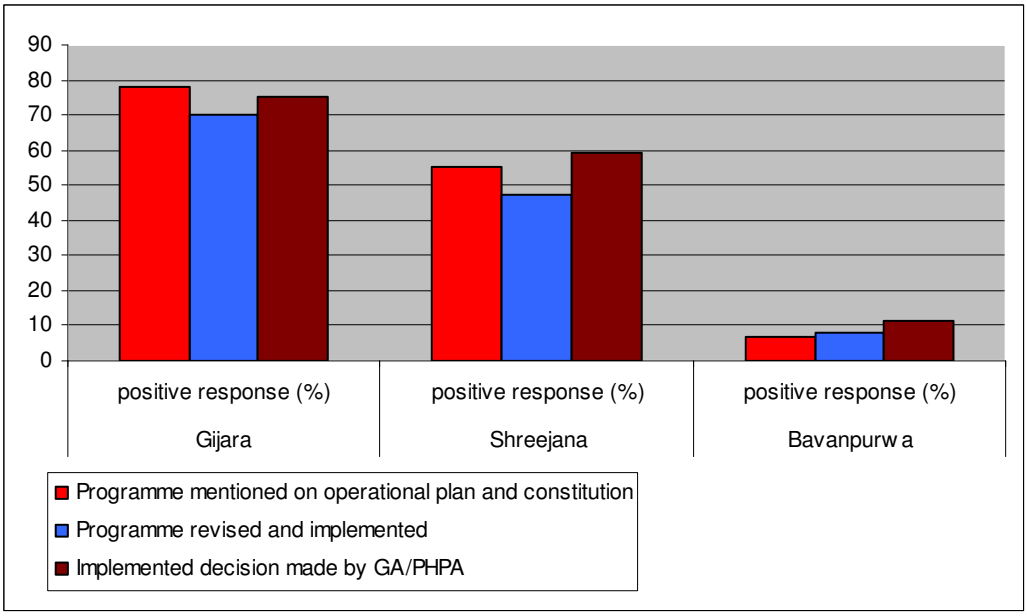


Figure 6.9: Accountability to implement governance and livelihood programme

During in-depth interview at Bavanpurwa CFUG a user said: *"I am a poor user, I was ill for last two years. At that time I got support from relatives and my neighbour for my treatment. I requested CFUG to support me but they did not listen to me. I heard that CFUG allocated some fund for supporting livelihood programme thus my family requested to CFUG but they did not provide any support. While I was hospitalised, I was not able to contribute for forest management activities. Finally they cut out all the benefits that could be distributed to my family. Therefore, I am not getting any benefit from the CFUG/CF now, so how can I expect support from CFUG for livelihood activities?"*

From the above result and statement, it proves that Bavanpurwa CFUG was not accountable for governance and livelihood programme.

Accountability to take responsibility

During focus group discussion and in-depth interview users said that in Gijara CFUG more than 75% of users and CFUG committee members were aware of their responsibilities. At Shreejana CFUG general users (about 75%) were more accountable than members of the executive committee (about 50%). In Shreejana CFUG, users mentioned that executive committee was frequently changing, thus new members of the executive committee were not much aware about their responsibilities. In Bavanpurwa CFUGs, during focus group discussion users said that very few (about <25%) both general members and executive committee took responsibility.

6.2.5 Rule of law

Rule of law is to what extent are institutions able to be trusted, to be accurate or are able to provide an accurate result based on their policies and objectives which are compatible with the corresponding rules and regulations of the state. It is, therefore, an important element of good governance. Here, the adopted measure of rule of law in CFUG's constitution is presented. These are grouped into three: a) the rules related to programme, b) rules related to the access into the forest and forest products, and c) general rules in the CFUG's constitutions.

Table 6.10: Adopted measure of rule of law in CFUG's constitutions

a. Rules related to programme	**Rules which were mentions in all three CFUG`s constitutions**
General Assembly, Public Hearing and Public Auditing	General assembly is mandatory which is conducted at least once a year in each CFUG.
Renewal of operational plan	Operational plans of the CFUGs have to be renewed in every five years
Inclusion in executive committee	It is mentioned in the CFUG's constitution that 33% of the members of executive committee should be from women. For the representation of *dalit* and marginalised groups in the committee, the provision in the constitution is that they will be represented as their household number as compared with the total number of households of the CFUG.
Auditing (internal and external auditing)	Each CFUGs conduct internal auditing through public hearing and public auditing programme and then ask for a external auditor for financial auditing in each year, within two months after the completion of current fiscal year
Duration of executive committee	Each executive committee has duration of three years, after that the general assembly of the CFUG selects / elects the new executive committee
Sanctions	Sanction is mentioned in the constitution against rules violations
b. Rules related to forest and forest products	
Harvesting green fire wood	Harvesting green fire wood is prohibited. Users are allowed to harvest green fire wood only during silvicultural operations as prescribed in the Operational Plan.
Harvesting green standing trees	Felling green standing trees are prohibited. Users are allowed to harvest only 3D (dead, dying and diseased) trees
Encroachment of forest land	Encroachment of forest land is prohibited
Cultivation of agriculture crop	Cultivation of agriculture crop inside forest is prohibited, but the CFUG can cultivate perennial medicinal and aromatic plants as per the prescription on Forest Operational Plan.
Mining and charcoal making	Mining and charcoal making is prohibited inside the forest
c. General rules	
These include objectives and programmes related to empowerment of women and marginalised users, incorporation of needs of different interest groups and coordination and networking with different stakeholders	

Rules related to the programme: In all studied CFUGs, there is a provision of general assembly, public hearing and public auditing which must be conducted at least once a year. That provision is stated in their operational plan and constitution. In the case of Gijara CFUG, the record showed that the general assembly, public hearing and public auditing were conducted twice a year, but in Shreejana CFUG those activities were conducted once a year following the rules. In the case of Bavanpurwa CFUG, those activities were conducted irregularly. In all the three CFUGs, it was found that their operational plan was reviewed every five years. It was also found that Gijara and Shreejana CFUG were following the constitution properly. In the case of Bavanpurwa CFUG, it was found that the CFUG was not following constitution while selecting the executive committee as there was low representation of women, *dalit* and marginalized members in the committee. From the record of CFUG and focus group discussion it found that Gijara and Bavanpurwa CFUG were conducting internal and external auditing regularly. In the case of Bavanpurwa, both internal and external was not conducting regularly and sanction mentioned in the constitution was not followed properly.

Rules related to forest and forest products: In the case of Gijara and Shreejana CFUGs, focus group discussion and in-depth interview revealed that rules related to the access into the forest and forest products were followed well. In contrast, it was observed in Bavanpurwa CF that green fire wood was collected and green standing trees were felled by CF users themselves, violating the rules. In this CF, outsiders were also collecting products due to ineffective monitoring system.

General rules: According to the in-depth interview and focus group discussion, it found that Gijara CFUG has clear objectives and programmes related to the empowerment of women, *dalit* and marginalized groups. The need of different interest groups was incorporated into their forest operational plan and implemented as well. This CFUG has good coordination with various district level government and non- government service providers: District Forest Office, FECOFUN (Federation of Community Forest Users Groups), CARE-Nepal. This CFUG has also conducted some partnership programmes related to the coordination and networking with those service providers. By now, two local resources people (LRPs) have been developed in this group through different capacity development training, conducted by the CARE- SAGUN programme and District Forest Office. These resource persons are now able to facilitate various training. Additionally,

users mentioned that the rules and provisions mentioned in the constitution and forest operational plan were followed properly. Thus, Gijara CFUG is heading towards institutional sustainability.

In Shreejana CFUG, they had clear objectives and programmes related to the empowerment of women, *dalit* and marginalised groups. They have incorporated the needs of different interest groups in forest operational plan and constitution but the implementation part was found to be not satisfactory. During focus group discussion users mentioned that there was a very limited programme implemented for women and marginalised users. This CFUG had also developed guidelines for a livelihood programme but the majority of users were not still aware of it. Furthermore, this CFUG had a good coordination with various district level government and NGOs and had networking with FECOFUN. They conducted non-formal education and governance coaching with the support of the SAGUN forestry programme as a partnership programme. Results from household survey and focus group discussions revealed that among the users, there is no discrimination in relation to caste, class and ethnicity. Furthermore, users mentioned that rules and regulations mentioned in the forest operational plan had been followed properly.

In Bavanpurwa CFUG, from group discussion, it was found that the majority of users were not in agreement about a clear goal, a vision and objectives related to the empowerment of women, *dalit* and disadvantaged groups which had not been included in their forest operational plan and constitutions. According to the forest rule and regulation, CFUGs must renew the forest operation plan every five years and the need of marginalised people must be incorporated. Although an operational plan was renewed the need of marginalized group was not incorporated. During focus group discussion and in-depth interview, the majority of the respondents emphasized that there was discrimination among gender, class and religion. Further, users mentioned that this CFUG had also had an opportunity for the capacity development training from service providers but they could not develop local resource person (LRP), who could contribute towards institutional sustainability. This CFUG was affiliated to FECOFUN but has a lack of institutional capacity to implement partnership programme and to prepare the guidelines. Rule, regulations and prohibitions were mentioned in forest constitution but were not followed;

even the executive committee was found to be breaking the rules and involving in corruption.

6.3 Ecological outcomes of Community Forestry

Ecological outcomes refer to how far community forests are protected or managed in order to maintain the natural conditions of forests so that the forest ecosystem has been stabilized. In other words, when a community forest has been brought towards its natural condition and the biodiversity has been conserved, ecological outcomes will be positive. In this study, forest ecological outcomes are measured by means of two different methods: 1) direct method, by comparing the forest inventory data for two different periods, and (2) indirect method, by collecting the perceptions of users on changes in forest ecological condition before and after handing over of the community forests. The second method was also adopted in order to verify the different measures adopted for conserving forest ecology.

6.3.1 Implemented measures/methods for forest ecological conservation

While studying the measures chosen for the conservation of forest ecology, comparison has been made between the prescriptions mentioned on the community forest operational plan and their execution. Both direct and indirect measures were adopted by CFUGs to conserve the forest and biodiversity, which are presented in table 6.11. A direct measure adopted was the conservation of environmentally sensitive forest area. Indirect measures adopted were technical management and implementation, forest-biodiversity conservation, low access, access banned and monitoring method.

Technical management: Technical management here refers to what extent community forests are managed following the prescriptions mentioned in the forest operational plan. This is important because technical management can ensure that community forests are managed on a sustainable basis. In my study, it was found that all three community forests were divided into several blocks, where forest inventory was carried out. In each block, each and every plant species was recorded by means of line plot sampling. The plant species were classified into herbs, shrubs and trees. Tree species were further categorised into regeneration, sapling, pole, and trees.

Table 6.11: Implemented measures of forest ecological conservation in community forests

	Gijara	Shreejana	Bavanpurwa
Technical management			
Forest inventory : boundary and status of species	✓	✓	✓
Forest division into many blocks for management	✓	✓	✓
Forest management: e.g. nursery establishment, plantation, environmental education , fire-line preparation)	✓	✓	✓
Block wise management plan, i.e., thinning, pruning, cleaning, wedding and harvesting	✓	✓	✓
Forest-biodiversity conservation method			
Conservation of environmentally sensitive area, wild fauna and flora	✓	✓	✓
Low access			
leaf-litter and ground grass collection	✓	✓	✓
NTFP collection for business purpose	✓	✓	✓
Fodder grass collection	✓	✓	✓
Access banned			
Green fire wood collection	✓	✓	✓
Green standing tree felling	✓	✓	✓
Mining, forest fire, cultivation, encroachment and hunting	✓	✓	✓
Grazing	✓	✓	**x**
Monitoring method			
Monitors by Forest guard	✓	✓	✓
Patrolling by CFUG member	✓	✓	**x**
Fencing for nursery	✓	✓	✓
Sanction against rules violators	✓	✓	✓

Source: Forest operational plan and field interview

After the inventory in each block, the variables which determine the forest condition of a community forest were estimated. These variables are: a) growing stock of the forest, measured in volume per hectare as well as number of stems in each development class per hectare, b) mean annual increment (MAI), and c) annual allowable harvest (AAH). In addition to NTFPs (including medicinal plants), fire wood, fodder species and wild fauna were also recorded in the FOP. Block-wise management activities, i.e., thinning, pruning, weeding were prescribed. Forest conservation activities, i.e., plantation, fire line construction, environmental education were prescribed in FOP of all studied community forests.

Forest biodiversity conservation method: In all of the studied CFs, environmentally sensitive forest area was protected by applying some protective measures. There were five reasons behind the causes of protecting the environmentally sensitive zones: i) protection against soil erosion; in all CFs stripes of 50m from the both sides of the river belt were

protected and prohibited to harvest any forest products, ii) protection of water catchments area iii) protection of mother trees iv) protection of endangered species both wild fauna and flora v) limiting the harvesting on low density area.

Low access/access banned: Access to collect ground grass, fodder grass, leaf litter, and NTFPs for commercial purposes had low access in all the three community forests. Individual households were not allowed to collect NTFP for commercial purposes without permission from the committee. Ground grass, fodder and leaf litters were allowed to be collected in certain months of a year. During the rainy season, users were not allowed to collect ground grass, fodder grass, leaf litters and NTFPs in order to protect the forest from ecological damage in all three cases. In order to conserve the biodiversity, some activities like mining, forest fire, grazing, hunting, encroachment/farming were prohibited inside the community forests. In the case of Bavanpurwa CF, grazing was prohibited in their constitution but its implementation was very weak and in practice they were not able to control grazing. Dead trees were allowed to be harvested but the felling of green standing trees and the collection of green branches/poles as fire wood were also prohibited. If the rules were violated by any person, they were punished according to the rules mentioned in FOPs/constitutions.

Monitoring method: Monitoring is the key activity for improving forest condition and governance. All CFUGs adopted a monitoring system. In all cases, they appointed forest guards. The number of forest guards in a CFUG depended on the size and condition of the forest. In Gijara and Shreejana CFUGs, forest guards performed the daytime patrolling while the users performed night patrolling. In case of Bavanpurwa CFUG, forest guards were involved on both the night and daytime patrolling. Fencing is another measure of protecting the forest. In all studied CFs, nursery, plantation and part of the regeneration area in the forest were protected by means of barbed-wire fencing. Another control measure was sanctions against violators, which was adopted effectively in Gijara and Shreejana CFUGs.

6.3.2 Forest ecological condition from inventory data

While studying and analysing forest/ecological conditions, the following variables were taken into consideration: forest area, number of trees per hectare (with different development classes), and standing volume.

Two different forestry inventory data were compared to verify the forest ecological condition. Before handing over the forest to the community, forest users had conducted forest inventory with the technical support from the district forest office. This was necessary for preparing a forest operational plan. This provision is also mentioned in the Forest Act 1993 and Forest Regulations 1995, such that before handing over, and after every five-year period of handing over, a forest inventory must be carried out. Other inventories are also necessary during the renewal of a forest operational plan. In this study, change in forest ecological condition was studied by comparing the first inventory data during the process of community forest handing over with the latest inventory data. In the case of Gijara and Bavanpurwa CFUGs, community forests were handed over in 1995 and 1999 respectively so that they had conducted first inventories in the same year before handing over. These CFUGs had renewed their operational plan twice, so that the change in forest ecological condition during a 10-year period was compared. In Shreejana CFUG, the first inventory was carried out in 2002 and the forest operational plan was renewed once, so that its forest inventory data was compared over a five-year period. Table 6.12 shows in detail the forest inventory data in two different periods.

In all cases, it was found that the values of all indicators determining forest ecological condition, such as tree density, tree volume, poles, saplings and regeneration were very low before handing over as community forest (old inventory data) as compared with the new inventory data.

In the Gijara community forest, the average growing stock before and after hand-over was 198 and 2478 stems per hectare including regeneration. If we consider the changes on tree stocking (density), the positive change in stocking of Gijara CF was 85.7%. Similarly at Shreejana and Bavanpurwa CFs, the number of trees per hectare increased from 93 and 67 to 119 and 93 respectively. Thus the positive changes in forest stocking (trees) in this CFs were 28% and 38.8% respectively. In all cases, inventory data shows that after handing over to the forest community, the status of forest ecological condition was much improved.

Table 6.12: Change in community forest stocking (status) before and after handing over

		Gijara			Shreejana			Bavanpurwa		
Indicators	Unit	Status of forest (1995)	Status of forest (2005)	% Change	Status of forest (2002)	Status of forest (2007)	% Change	Status of forest (1999)	Status of forest (2009)	% Change
Tree density	number of tree/hectare	70	130	85.7	93	119	28.0	67	93	38.8
Total tree volume	Volume /hectare (cubic meter)	18.9	30.4	60.6	16	20.5	28.1	14.7	24	63.3
Poles	Pole / hectare	95	197	107.4	40	58	45.0	40	66	65.0
Saplings	Saplings /hectare	98	199	103.1	76	118	55.3	78	107	37.2
Regeneration	Seedlings /hectare	527	9387	1681.2	265	5686	1457.8	345	2662	671.6

Compared with all indicators, the percentage of positive change in regeneration is very high, since CF has controlled grazing and forest fire. Compare with other CFs, the regeneration at Bavanpurwa CF increased at a lower rate because grazing was not controlled effectively.

Overall, the percentage of positive change in Gijara CFUG was very high compared with the two other CFUGs. The reasons behind it are the inventory intervals, silvicultural operations and the active participation of users in forest management. In Gijara CF; forest inventory was made over a 10-year period as in Bavanpurwa, while in Shreejana CF, it was made in a five-year interval. Similarly, in Gijara CF; forest management activities like silvicultural operations had been performed in all blocks as per prescriptions made in Forest Operational Plan. Likewise, the users in this CFUG participated actively in forest management. All these activities contributed to a high percentage of positive change in forest stocking in this CFUG.

6.3.3 Forest ecological condition from the user's perspective

It is important to analyze the forest ecological condition before and after handing over the forest to the community forest user groups as community forest; however, limited data on forest inventory (presented in table 6.12), details data were not available regarding the ecological condition of the forest before the handover. To analyze it, the questionnaire survey was carried out and data was collected from the interview, focus group discussion and secondary sources which include community forest operational plan and constitution

of forest users group. In doing so, perception of respondents on it were collected, such as impact of forest production, forest biodiversity, forest ecosystem and forest health, forest resources protection, impact on environmental services, impact on forest soil condition and farming system. Respondents evaluated the status of ecological criteria, comparing before and after community forestry conditions based on their knowledge and experiences using three scale response choices. The scale (1) represents increase or improvement in forest condition, (2) decrease or the worst forest condition and (3) represents the same as before. Table 6.13 presents a perceived mean score for each criteria. The details table is presented in Annex.5.

Table 6.13: The impact of community forest on forest ecology

Criteria	Positive Response			Remarks
	Gijara (N=81)	Shreejana (N=49)	Bavanpurwa (N=70)	Bavanpurwa
Impact on forest Production				
(i) Capacity of timber, fire wood, grass and fodder, NTFP production increased and (ii) Stocking of timber, pole and saplings increased	92%	70%	54%	
Impact on Biodiversity				
(i) Natural regeneration, (ii) No of species diversity, (iii) composition of crown cover, (iv) Number of wild fauna	85%	67%	48% (i,ii,iii)	same as before (74%, iv)
Impact on the health of the Forest Ecosystem				
(i) Decreased pest, disease and insects, (ii) decreased browsing/ grazing affect	86%	76%	71%	negetive response (56%,i)
Impact on the protection of forest resources				
(i) Wild fire decreased , (ii) protection of environmentally sensitive zone, (iii) protection of endangered species (iv) trend of deforestation decreased, (v) illegal hunting and illegal trade decreased, (vi) encroachment of forest land decreased, (vii) removal of green biomass decreased	83%	68%	63%	same as before (71%,v)
Impact on environmental services				
(i) Impact of flood and drought decreased, (ii) water level raised,(iii) positive change in hydrological cycle	60%	60%		same as before 59%
Impact on forest soil condition and farming system				
(i) Forest soil organic matter/ soil layer improved (ii) Agriculture land's soil condition improved,(iii) Crop production increased, (iv) Livestock situation improved	84%	69%	54%	same as before (58%, ii,iii)

(Categories: increased after CF, decreased after CF and same as before CF)

Impact on forest production: Productive function of a forest refers how much valuable forest products can a community forest produce to fulfil the basic needs of the forest-dependent people, as well as to contribute in local and national economy. It covers all types of timber and non-timber forest products (NTFPs) including medicinal and aromatic plants. In all three studied CFUGs, majorities of the respondents were agreed that the capacity of the forest to produce timber, fire wood, grass and fodder, and NTFP had increased. Likewise, the forest stocking in terms of trees, poles, saplings and regeneration had increased after handing over the forest to the CFUGs.

Impact on biodiversity: Forest biodiversity means the richness and variety of living beings on the forest area, including the diversity within species, between species and of ecosystems (HMGN/MFSC, 2002). Therefore, it includes a multitude of plants, animals and micro-organisms that are living in the community forest. Thus, it is a key element, which indicates the ecological condition of a forest. A community forest is located in such a small geographical area that ecosystem diversity within the community forest was difficult to determine. Thus, biodiversity has been studied at the species level in this research.

In this heading, focus is made on natural regeneration, species diversity, composition of crown cover and population of wild fauna. In two cases (Gijara and Shreejana) majorities of the respondents were agreed that natural regeneration was increased after handing over the forest to the community. Likewise, the majorities were agreed that species diversity and composition of crown cover increased after implementing the community forestry programme. With regard to wild fauna of Gijara and Shreejana CFUGs, the majority of the respondents were agreed that wild fauna increased after handing over the community forest.

In case of Bavanpurwa CFUG, majority of the respondents agreed that natural regeneration, number of species diversity and composition of crown cover were increased, but on the other hand majorities agreed that there was no change on the number of wild fauna in the forest before and after handing over the community forest.

Impact on the health of the forest ecosystem: Natural processes and human activities can affect forest health. Under this heading, the situation of pest control, disease and insects, with regard to browsing/grazing are analyzed. In Gijara and Shreejana CFUG, majorities of respondents agreed that pest, disease and insects, browsing/grazing decreased after handing over the community forest. But in the case of Bavanpurwa CFUG, majorities agreed that while the pests, disease and insects increased and the browsing/grazing affects was decreased after the programme of community forestry.

Impact on the protection of forest resources: In my study the frequency of wildfire, protection of environmentally sensitive zone and endangered species, deforestation trend, illegal hunting and illegal trade, encroachment of forest land and removal of biomass were analyzed under this heading. In all cases, majorities agreed that after handing over the forest to the communities, the frequency of wild fire decreased. Similarly it found that there were increased trends of protecting environmentally sensitive zone as well endangered species. Majorities agreed that trend of encroachment on forest land as well as the removal of biomass was decreased after the community forestry. Likewise it was found that illegal hunting and illegal trade decreased in Gijara and Shreejana CFUG but there remained the situation as before in Bavanpurwa CFUG.

Impact on environmental services: Forest provides not only the direct material benefits but also the environmental services which are vital for all living beings. Soil erosion or landslide occurs less in the forest area as compared to agricultural or other land use forms. There are other so many environmental services the forest offer. Another important function of the forest is to regulate water sources and maintain water quality of rivers. Also, they control flood by their spongy capacity. To perform such functions, it is important that forests must be protected. Under this heading, users' perception on impact of flood and drought, water level and hydrological cycle were analysed. In Gijara and Shreejana CFUG, majorities agreed that after protecting as forest impact on environmental services was increased. In the case of Bavanpurwa, majorities agreed that there was the same situation on environmental service as before.

Impact on forest soil condition and farming system: In Gijara and Shreejana CFUGs, the majorities of respondents agreed that there was a positive change in forest soil organic

matter, agriculture land soil condition, crop production and livestock situation after implementation of community forestry. In the case of Bavanpurwa CFUG, the majority of the respondents said that there was no significant change on crop production. It found mix results forest soil organic matter increased and livestock situation improved, but agriculture land's soil and crop production were the same as before. During focus group discussions and in-depth interview with the respondents of Gijara and Shreejana CFUGs, they mentioned that grazing and browsing was prohibited inside the forest, and users adopted stall feeding. This also helped to collect the manure from animals in the animal shed. Additionally, the respondents from Gijara and Shreejana CFUGs mentioned that they were collecting leaf litters from the forest to make compost. In the case of Bavanpurwa CFUGs, users mentioned during focus group discussions that they were collecting leaf litters from community forest for the compost but the majority of the users were not practicing stall feeding. Therefore, they illegally allowed cattle to graze in the forest throughout the day which resulted in a less amount of manure collected in the cattle shed for replenishing soil to enhance agricultural production.

6.4 Governance, participation and outcomes: Summary of findings

In this section discussion has been made on community forestry governance analyzing the relationship of community participation with institutional, economic and ecological variables.

6.4.1 User's participation and transparency in community forests

It is true that the participation of users is very important for the success of community forestry, a superficial understanding of participation is not sufficient as various levels of participation occur. For the effectiveness of the community forestry programmes, the concept of inclusive participation has been recently developed. Agrawal (2001) mentions that, there exists a ladder from passive to active participation. When users get necessary information but lack the opportunity to influence decision making, such participation is 'passive' and when their voice is strong so as to have an influence in decision making then such participation can be regarded as 'active'. Therefore, for evaluating the success of community forestry, these criteria must be taken into account.

Level of awareness and level of participation are related, so that when the general users are aware on the respective topics, they can confidently present in meetings and raise their voices so that their opinions are given due consideration in decision making. In this way, their participation will be meaningful (Agrawal, 2001). Similarly, for effective governance, developing mutual trust, understanding and support to each other within group members is necessary. For this, another criterion, viz., transparency is important which ultimately contributes for the success of CF governance

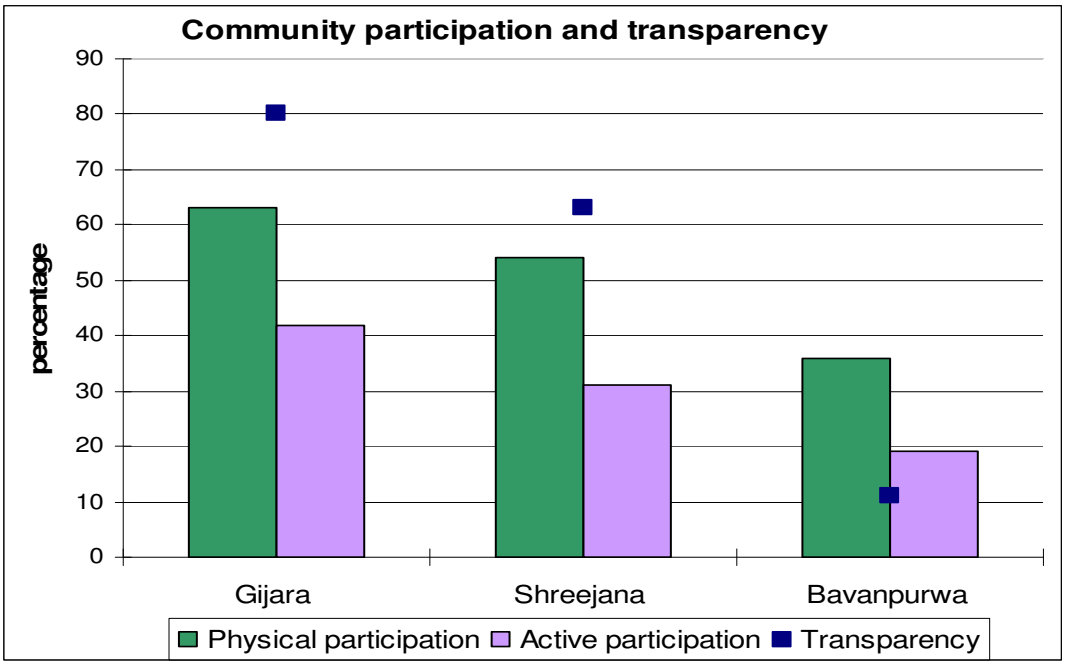


Figure 6.10: Community participation and transparency

The Figure 6.10 shows a correlation between participation, both physical and active, with transparency such as on information and fund management. When the level of participation is high, the level of transparency is also increased, and vice versa. In the case of Gijara and Shreejana CFUGs, more than 50% of the households participated regularly in the major CF activities, leading to a high level of transparency. In contrast, the level of participation was found very low in the case of Bavanpurwa CF, resulting in low level transparency. Public hearings and public auditing are the major activities to make CFUGs more transparent. When users have a low participation on such activities, there are more chances that the executive committees hide important information on CFUG funds. In all cases, active participation is very low from the low income people and women, compared with high income groups and male users. The figure shows the participation, both physical and active, is directly proportional to transparency.

In the following section, discussion is made on the participation of users in various activities of transparency.

Participation in decision making

In Gijara and Shreejana CFUGs, the level of participation was found to be good, while in Bavanpurwa CFUG the level of participation of women and the poor was very low. If we compare the level of participation between gender and wealth status, participation of women and low income household is lower in the decision-making process in all three cases than high income household. In cluster meetings, general assemblies, operational plans and constitution preparation and committee meetings, the level of participation from male and high income group was higher than women and the poor. Similar findings were reported by Thoms, (2008); Nightingale (2006) and Springate-Baginski *et al.,* (2001). They have pointed out that after studying various districts in Nepal, there are hardly hundreds of CFUGs out of 13,200 CFUGs, who have been adopting transparency and inclusive participation in the decision-making process.

Therefore, only the head-counting of women and poor people in meetings and forum does not imply that they have participated in the decision-making process. Their participation is meaningful only when they are present in the decision-making forum. Thoms (2008) and Nightingale (2006) also mention that the participation of women, poor and *dalit* in the CFUG committee meetings and assembly was so low that they could not speak on such forums. Consequently, they have no important role in the decision-making process.

In this study, there is mixed findings: in the Gijara and Shreejana CFUGs such that all users including women and marginalized users participated in decision making. They played a role in the formulation of annual plan and benefits sharing, but during the selection of participants in tour and training programmes, CFUG fund mobilization, decisions were made by executive committee in all of the CFUGs. Banjade *et al*., (2006), who had made a study of nine CFUGs in seven districts in Nepal, also found similar results. They pointed out that executive committees play a major role in the decision-making process. Likewise, the studies made by Dougill *et al.,* (2001); Malla *et al.,* (2003) also report similar results that most of CFUG decisions were made by committee members. This was due to low level of participation of women, poor and *dalit* in CFUG committee

meetings and general assemblies and hence they have no significant role in decision making.

There are some reasons why there is a low level of participation of women in the decision making process. One reason is due to the social norms, and another is the low level of education. Nepalese traditional culture is such that males are considered logical, analytical and strong in public forums, compared to women and hence males are given higher priority in meetings. When there is no male member in a family and the participation is mandatory, then women participate in the meetings with the fear that fines would be otherwise paid (Acharya and Gentle 2005). Another reason for the less participation of women is that most women prepare food for all members of the family, care for livestock and perform other reproductive works so that they are busy doing their own work during such meetings. In the Muslim communities of the study area, women are not allowed to go outside from their houses. All these factors are obstacles for their effective participation in decision-making forums like executive committee meeting, general assembly, public hearing and public auditing.

In the case of diverse communities, the main reason why the poor and *dalit* were less inclined to participate during discussions (in all studied groups) is that they hesitated to speak in front of a higher caste and high income level people. In the case of Bavanpurwa CFUG, such groups were neither informed of the meetings or had been provided extra incentives during the distribution of benefits. As they were absent in such meetings, their voices were not taken into account.

Participation in forest management activities

The findings of the study show that even though the participation of women and low income users in decision making was very poor, their participation in community forest management activities was high. There are some reasons why women participate actively in community forest management. Firstly, rural women are culturally responsible for the collection of many forest products such as firewood for cooking and heating; fodder, grasses and animal bedding to meet the daily forest needs. There are both positive as well as negative outcomes from the active participation of women in forest management activities. Positive outcomes are that their active participation contributes to an increase in

productivity of the forest and hence the benefits. This contributes for forest regeneration and biodiversity. Better forest protection and management means that forest users would be able to harvest more timber, fire wood, fodder, bedding materials and other forest products. These findings are consistent with the earlier studies (Agarwal, 2001a; Buchy and Subba, 2003; Agarwal, 2009).

During interviews with women members, they told that women invest more time while they are engaged on forest management activities so that they have very limited time to participate in meetings or other decision-making forums. Further, they said that women and the poor in all three cases depended more on the forest than better-off people. Also, the wealthier people often send their representatives (generally personally paid laborers) for forest management activities in spite of participating on such activities themselves. Low income forest users cannot afford labor therefore, they participate themselves in forest management activities. When they do not participate, or when they do not send their representatives for accomplishing such activities, they have to pay fines for absenteeism.

Participation and inclusion in executive committee

In the studied CFUGs, the practice of including women, low income and *dalit* users in the newly formed executive committees and their key positions are increasing when compared to the past (e.g. Gijara and Shreejana CFUGs). In this line similar observation has been made by Bhatta and Gentle (2004). Similarly Maharjan *et al.,* (2004), while studying 18 districts where the SAGUN programme was implemented, mentioned that the participation of women and *dalit* in the executive committee had increased from 38 to 42% and from 8 to 13% respectively within a year. In the same way, Pokharel and Nurse (2004) in their study from three mid hill districts of Nepal observed that the participation of women in CFUG committees had increased from 19% to 30% between 1996 and 2003. Likewise, there was an increased representation of *dalit* in executive committees whose percentage increased from 2% to 7% during 1996 to 2003. They also mentioned that the representation of women and *dalit* in the key positions of executive committee had also increased. Furthermore, Gentle *et al.,* (2007) made a study in community forestry in Bardia District of Nepal. They reported that the number of women in the key positions increased from 189 to 260, between 2004 to 2005 throughout the district. The increased number of women in key positions of the executive committee were able to influence the decision making process

more than before and that decisions addressed the concerns of marginalized groups and women

However, findings from Bavanpurwa CFUG were different from that of the other two cases. In this CFUG, there were decreasing numbers of women and disadvantaged groups in the newly formed executive committee, whose majority members represented high income male users. Various studies made on community forestry by Malla *et al.,* (2003); Pokharel *et al.,* (2008) also reported similar findings, such that when the executive committee and its key positions were occupied by high income or elite people, they made the decisions which are favorable only for them, and not for women, the poor or disadvantaged groups. Hausler (1993), in her study on community forestry in Nepal, also raised the issue of inclusion of marginalized users in the executive committee. According to her, the executive committee is based on local power relations so that marginalized users are often excluded from decision making. A study conducted by Hills and Shields (1998) in India also observed that the forest protection committee of joint forest management is always dominated by wealthier people.

Thus, the findings of this study reveal that when the executive committee has higher representation of economically better-off forest users, the decisions are made in their favor. The inclusion of women, *dalit* and low income users in executive committee and its key positions is very important, so that they can put forward their opinions in the decision-making forum and make more effective and equitable governance. It is also found that only the physical representation of these marginalized users in the CFUG executive committee was insufficient, while open environment, support from the household and their empowerment were equally important (e.g., in the case of Gijara and Shreejana CFUG).

Transparency on CFUG funds and information

Transparency is regarded as an elementary part of good governance (UNESCAP, 2011), and it requires a relationship that involves the mutual exchange of information and knowledge through open discussion and interaction (Ostrom, 1997). In every democratic government, easy access to information is essential (Lachapelle *et al*., 2004). This is also true for the effective governance in community forestry.

In this research transparency has been studied in two aspects: transparency in information sharing and the transparency in CFUG funding. As presented in the results (see figure 6.10 as well), the level of transparency in both aspects was observed high in Gijara and Shreejana CFUGs. In this case, similar observation had been made by Dhital *et al.,* (2004) at seven CFUGs from three Terai districts: Udayapur, Sirahaa and Saptari. They found transparency and accountability levels had been improved in CFUGs when compared to the past. Similarly, a study made by Bhatta and Gentle (2004) in community forestry of Kailali district found that the level of transparency had increased in CFUGs especially on the status of CFUG funding and its mobilization by practicing public hearing and public auditing (PHPA). They mentioned that about 60 CFUGs had practiced PHPA on a regular basis. In this study, the main reason of the high level of transparency in the two studied CFUGs (Gijara and Shreejana) was that they were conducting regular public hearings and public auditing (PHPA) programmes and all users were informed in time.

However, in the case of Bavanpurwa CFUG, it was found that both aspects of transparency levels were very low. This group did not conduct regular PHPA programmes, so that the users were not clear about the CFUG fund and its management. The main reason behind it was that the users were not informed about the meetings and general assembly, and the CFUG committee did not adopt any information sharing mechanism for the general users. Therefore, the general users did not believe that the CFUG fund was managed transparently. Similar findings were noted by Lachapelle *et al.,* (2004) while conducting a study in the three CFUGs in the middle hills of Nepal. They mentioned that the fund of the CFUGs was generated from sources such as selling forest products and by membership fees of the general users, but the members of the CFUGs did not know how much group funding they had and how it was mobilized. Similarly, another observation was noted by Kotru (2008) in the case study of Rangapur and Sabaiya Collaborative Forest Management (CFM) in Rautahat and Parsa district (in the *Terai* region of Nepal) - that the level of transparency among the CFM users was very poor. They did not know what amount of timber, firewood and other forest products were sold and how much income the CFM groups generated. Likewise, Jamarkattel *et al.,* (2009), who studied in community forestry at three Terai districts of Lumbini Zone[15], western Nepal, found that about 29% fund of the CFUGs invested under miscellaneous headings. This indicated that a huge percentage of

[15] Lumbini Zone, which lies in Western part of Nepal consists of 6 districts, out of which three districts, viz., Nawalparashi, Rupandehi and Kapilvastu are located in the Terai region of Nepal.

the CFUG fund was spent under the uncertain heading, which meant that the fund managed by CFUGs in this district was not transparent.

This study also reveals that the lower the level of active participation of general users on CFUG activities, the higher the level of mistrust among them. It was found in the case of Bavanpurwa CFUG that the level of participation of general users on meetings and assembly was very poor and they suspected some key persons of the executive committee might have benefitted personally by mobilizing the CFUG fund. But, their doubts was not verified by other means, because during my study I noticed that no one had taken legal action or investigation against the executive committee about the CFUG fund management. Furthermore, it was found that the CFUG had very poor record-keeping and they did not request any external auditor for auditing their account regularly. Similar observation was found in the SAGUN programme area by Maharjan *et al.,* (2004), where the CFUGs had a poor fund management system and about 43% of the CFUGs did not do the auditing of their accounts. Therefore, the reason for uncertainty and mistrust among individuals is due to poor and inadequate information (Ostrom, 1990) which affects the governance of community forestry.

6.4.2 Community participation and accountability

In my study, accountability has been discussed in two aspects. One is the accountability of good governance and the livelihood programme, while the other is the accountability of the executive committees and general users on performing their role and responsibilities according to the operational plan and constitution of the CFUGs.

Figure 6.11 below shows the graphical correlation between participation and accountability. When the level of participation of users is high, executive committee and the general members of the CFUGs are found more accountable on governance, and implementing livelihood programmes that benefit the poor and women; also they are more aware of their role and responsibilities. In the case of Bavanpurwa CFUG, the level of participation was very low resulting in a low level of accountability. Therefore, participation, both physical and active, was a positive correlation with accountability.

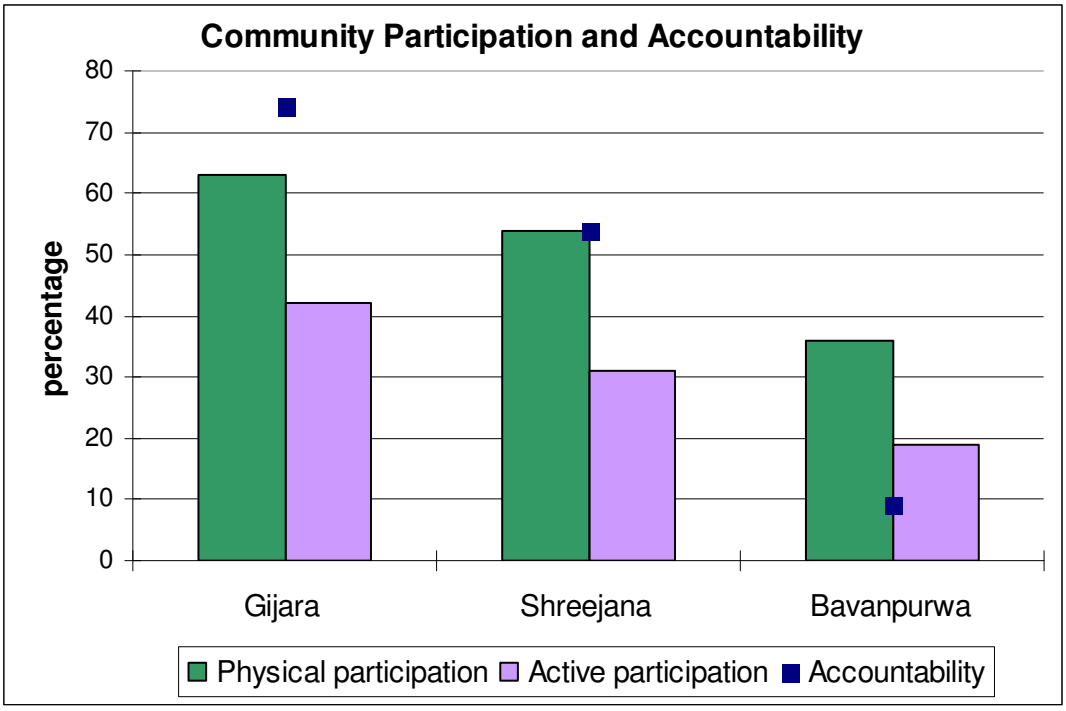


Figure 6.11: Community participation and accountability

It the case of Gijara and Shreejana CFUGs, both the general users and members of the executive committee were found accountable towards their role and responsibilities, especially on governance and marginalized group focus programmes. The reason is that they have trust and understanding amongst themselves so that there is no conflict amongst users, and their forest operational plan and constitution are governance and livelihood sensitive. The CFUG fund is allocated and mobilized for pro-poor livelihood programmes. A study made by Pokharel and Nurse (2004); Bhatta and Gentle (2004) also mentioned newly prepared forest operational plans and constitution of the CFUG are addressing the issues of governance and equity. Similarly, a study made by Dhital *et al*., (2004) in seven CFUGs of Saptari, Udayapur and Siraha districts of Nepal found that there was no conflict and mistrust amongst the members of executive committees so that they were becoming more accountable towards their duties and responsibilities.

Gluck *et al.,* (2004) stress that when locally elected bodies (e.g., the executive committee of a CFUG) is accountable towards the people or towards their duties and responsibilities, local people could be empowered so that public resources could be managed efficiently. However in the case of Bavanpurwa CFUG, results indicate that executive committee was not accountable in its roles and responsibilities to implement governance and livelihood programmes. In this CFUG, general users did not trust the executive committee due to the

lack of transparency. Similarly due to a lack of knowledge, power and incentives, general users were also unaccountable towards their roles and responsibilities. It was also found that internal conflict amongst the CFUG members increased day by day since, different politically active group were represented in the executive committee. The another main reason of low accountability and weak enforcement of the rule of law was due to the existence of several armed groups in the Terai region, and that the forests were the safe area for them to defend the government. Chaudhary (2004), who studied 15 CFUGs in two eastern Terai districts, viz., Sarlahi and Mahottari, also found that the enforcement of rule of law was comparatively poor than the other elements of good governance. These were the main causes that the Department of Forest was not able to work freely in the Terai (Kotru, 2008). These factors ultimately not only affect good forest governance but also the sustainable management of community forests.

6.4.3 Community participation and benefits from forest

It was found in this study that community forestry has contributed to the rural livelihoods in two ways: through resources flow and institutional strengthening. Resources flow includes timber, grass, fodder, fire wood and bedding materials for livestock. Likewise, institutional strengthening includes the benefits such as provision of seed money and subsidized loans to the poor, women and marginalized groups for livelihood programmes. Institutional strengthening also includes various capacity building training, support for the formation of social, financial and physical capitals such as construction of CFUG buildings and support for schools, bridges and road construction and social networking.

This section deals with the equity issues in relation to user's participation and forest benefit distribution, CFUG fund mobilization and the capacity building or various training programmes for the users.

Community participation and forest benefit distribution

Figure 6.12 shows that there is a positive correlation between participation and forest products or benefits distribution. It was found that the level of participation was higher in Gijara and Shreejana CFUGs as compared with Bavanpurwa CFUG. In the later case, there was a big difference on benefit distribution among the three categories of users with regard to well-being, due to low level of participation as compared with the other two cases. High

income and medium income users received almost double benefit than low income people. The main reason for this was that the main positions of the executive committee in Bavanpurwa CFUG was taken by wealthier people where the equity issues raised by low income users had not been listened to by the executive committee. Another reason is that during the meetings, where decision had to be made on forest product distribution, most of the low income households did not participate. In the later case, the price of timber was so high poor people were not able to afford it. There was no provision for distributing the timber with a subsidized rate for the households having a low income. These households were also often discriminated during fire wood distribution.

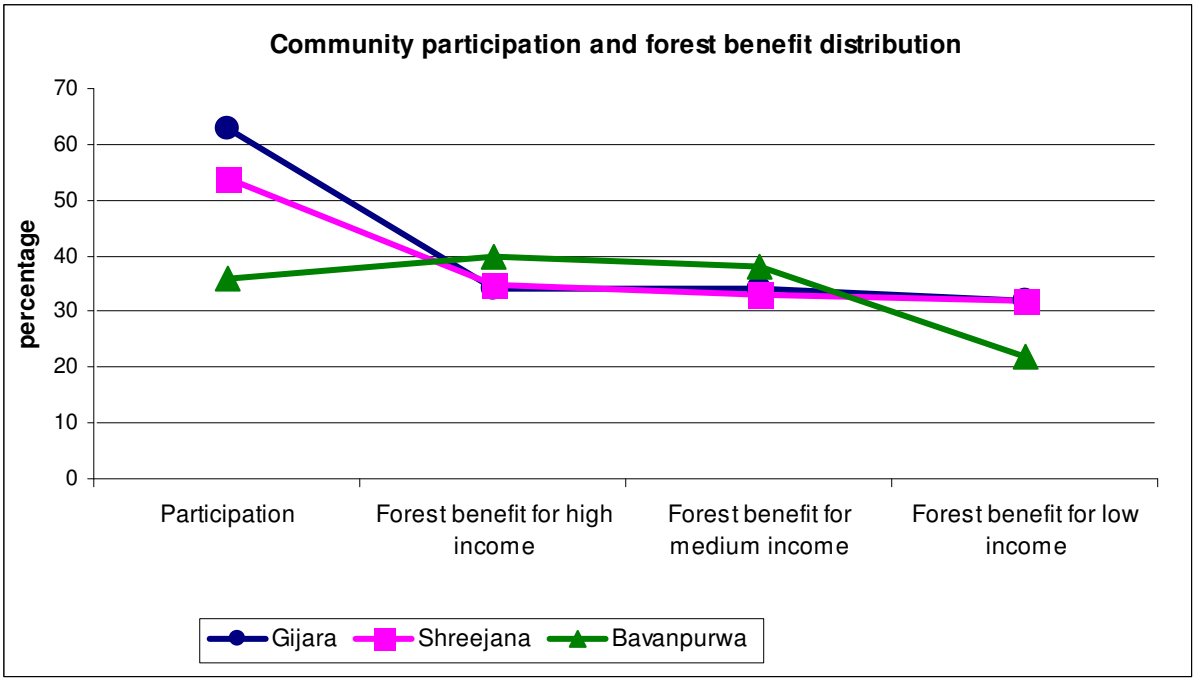


Figure 6.12: The relationship of participation and forest benefits distribution on various income groups

Several studies which have been made on community forestry and livelihoods criticized that there is a lack of positive benefits for the users, especially the poor, women and marginalized groups who are facing daily problems of hand-to-mouth existence. Graner (1997) argues that community forestry has not benefitted the poor as expected, since they are often excluded from CFUG membership and from forest benefits. Maharjan (1993) points out that the there is a gap between the benefits and costs (or inputs or contributions) of users for CF management, such that the benefits from the forests are less than their inputs. In this way, Branney and Yadav (1998) and Das (2000) note that most of the CPR institutions have focused on institutional strengthening, but in the meantime they have

given low priority for benefits distribution at the household level. In this study, there were mixed results regarding equity in forest products distribution.

This study shows that a higher proportion of timber-recipient households are from those households which have high to medium level income, though the overall proportion of benefits are not much different amongst the households with three wealth status, as in the case of two CFUGs: (Gijara and Shreejana). These CFUGs adopted an equitable benefit distribution system. They are much more concerned about equity issues, so that the users obtained forest products at a subsidized rate. Similar findings have been reported by Pokharel *et al.,* (2005) on this issue. In a report from Swiss Community Forestry Project, working in the Dolakha, Okhaldhunda and Ramechap districts, it was mentioned that there was a practice of distributing forest products equitably within the studied 134 CFUGs, from which the poor or low income people had benefitted well. In those CFUGs, poor households could buy timber from the respective CFUG at the subsidized rate, ranging from free of cost to 10% of the normal price of timber. By this provision, about 36% of the CFUG households were able to get timber and other forest products at a subsidized rate. Therefore, when compared to the past, the trend of mobilization of CFUG fund and the distribution of forest products has been increased in favor of the poor (ibid). Thus, equity and inclusive participation in decision making, implementation and benefits distribution are important elements of good governance through which the poor or low income households could be much benefitted (Dev *et al.,* 2003). But, there is a big challenge in maintaining equity, especially during the distribution of benefits. It is because the elites or better-off users often seize the benefits (e.g., in the case of Bavanpurwa CFUG).

Some researchers argue that even though the CFUGs have strong unity amongst themselves this does not mean that they are able to maintain equity in resources distribution (Adhikari *et al.,* 2004). But in my study research, when CFUGs were socially united, there was a high chance of success in community forestry and equity in resources distribution. In my case, Gijara and Shreejana CFUGs are practicing equitable benefit distribution, which are very strong in social unity.

CFUG fund mobilization

All studied CFUGs generated larger amounts of funding from the forest products; more than 60% of the CFUG fund is generated from the sale of forest products. Additionally another huge source of income of studied CFUGs is from the support of the organizations as service providers, which basically is for the support of livelihoods for the poor.

It was found that large amounts of the fund had been invested in office administration, community development, institutional development and forest management activities. According to the forest rules and regulations, at least 25% of the fund must be invested in forest management and 35% of the fund in the livelihood programme. Findings (see previous section) show that all CFUGs invested more than 25% of the fund for forest management activities, but in comparison with other activities, a low amount of funding (21% in Gijara, 29% in Shreejana and 0.4% in Bavanpurwa) was invested in the livelihood programme.

In this study, two CFUGs were supporting the livelihood programme for the poor users providing revolving funding. Gijara CFUG supported the poor livelihood programmes, where poor households had been given priority for all livelihood programmes, such as goat and pig farming, and shops selling meat, vegetables, tea, snacks and other retailers. Shreejana CFUG was also mobilizing funds for the livelihood improvement programmes but did not have a special subsidy for livelihoods programmes which assisted the poor.

Results indicate that livelihood support programmes have both positive as well as negative effects. The majority of poor users received benefits from such programmes but due to the selection of inappropriate or ineffective activities, users were not getting the expected benefits. In the study area, poor users were supported in pig farming and NTFP cultivation, but poor people, who were facing daily needs for food, were not able to afford big quantities of pig feed. Also, the users were not able to sell their products due to a lack of an appropriate market for NTFPs. Thus, both of these programmes failed and instead of getting income from such programmes they fell into debt. In order to address this issue, Thoms (2006) suggests that livelihood conditions for the poor could be improved if product-market linkages are taken into account before selecting the livelihood improvement programmes.

Irrigation programmes like deep boring, vegetable farming and buffalo farming are effective livelihood programmes which were implemented at Shreejana CFUG but from these programmes mostly wealthy people have benefited. Poor people do not have sufficient land and are not able to afford buffalo since they have to pay back the loan to the CFUG fund. Also, Bavanpurwa CFUG mobilized only 0.4% of the total CFUG fund for poor focus livelihood programme. In this line, Kanel and Niraula (2004), who studied community forestry in Nepal, mentioned that less than 3% of the CFUG fund was allocated to improving the livelihood conditions of the poor.

It was found that CFUGs were giving priority in community and infrastructure development activities rather than pro-poor livelihood activities, so that poor people did not benefit from such activities. They invested their funds in construction and maintenance of schools, village roads, community buildings and bridges. Though such activities are important it is only the wealthy forest users who derive benefit. Also most low income people are not able to send their children to school because they cannot pay the fees. Pokharel *et al.,* (2007), in their study in the Dolakha, Ramechhap and Okhaldhunga districts, found that approximately 40% of the fund from 692 CFUGs was invested in infrastructure development activities in a six-year period. This investment was about NRs 10 million. Similarly, Kanel and Niraula (2004) report that more than 36% of CFUG funding has been invested in rural development activities, such as school buildings, roads and drinking water systems.

Opportunities in training programmes

In this study, it was found in the case of Bavanpurwa CFUGs that forest users, mainly males from the economically better-off community were getting more training opportunities than women and low income groups (the poor). In the Gijara and Shreejana CFUGs it was found that women and low income participation was comparatively lower than better-off people. This was because women and the poor were not selected by executive committee as participants for training and also an allowance was not provided to the participants in most of the training projects. Poor users who need daily wages for their livelihood could not participate in such training. Another reason behind it was that most of the women and the poor are illiterate, so that the training packages were only appropriate for people who were literate and could understand the ideas therein. This shows that there

is still a lack of appropriate manpower in forestry who can properly facilitate training for the people who are illiterate (Kandel and Subedi, 2004). For these reasons most of the elite and members of the executive committees of the CFUGs take various advantages from training or observation tours that are organized by service providers, giving less opportunity for women and poor users.

In spite of giving less opportunity for women and the poor people of the CFUGs in such capacity building programme, there is also a positive outcome from such programmes. By utilizing capacity development programmes, local people are able to facilitate illiterate women and the poor for empowerment and capacity building which the CFUGs support. Also, it has been already mentioned that service providers or support organizations were organizing various awareness and skill development training projects to the CFUGs which contribute to the institutional development of CFUGs. Still, it is necessary that women and poor users should be empowered and capacitated. In this way Maharjan *et al.,* (2004) also notes similar findings from the study of the SAGUN project area covering the 18 districts of Nepal.

6.4.4 Forest benefit to the CFUG fund and perceived ecological conditions

There are different sources of income for CFUGs. In the studied CFUGs, the major sources of income are the forest products and the financial support from the organizations or service providers. This income is deposited into the CFUG fund directly, and users get support indirectly through this fund for livelihood and other community development programmes.

Total income during the past five years, observed in the studied CFUGs, shows that there is a different level of income amongst those CFUGs due to a difference in forest area and resultant productivity. Thus, the total income over a five-year period is divided by the area of the forest. Figure 6.13 shows the relationship of income of the forest with per hectare area and perceived ecological conditions. In Gijara and Shreejana CFUGs, income from the forest per hectare was higher than Bavanpurwa CFUG, where the perceived ecological conditions were also better.

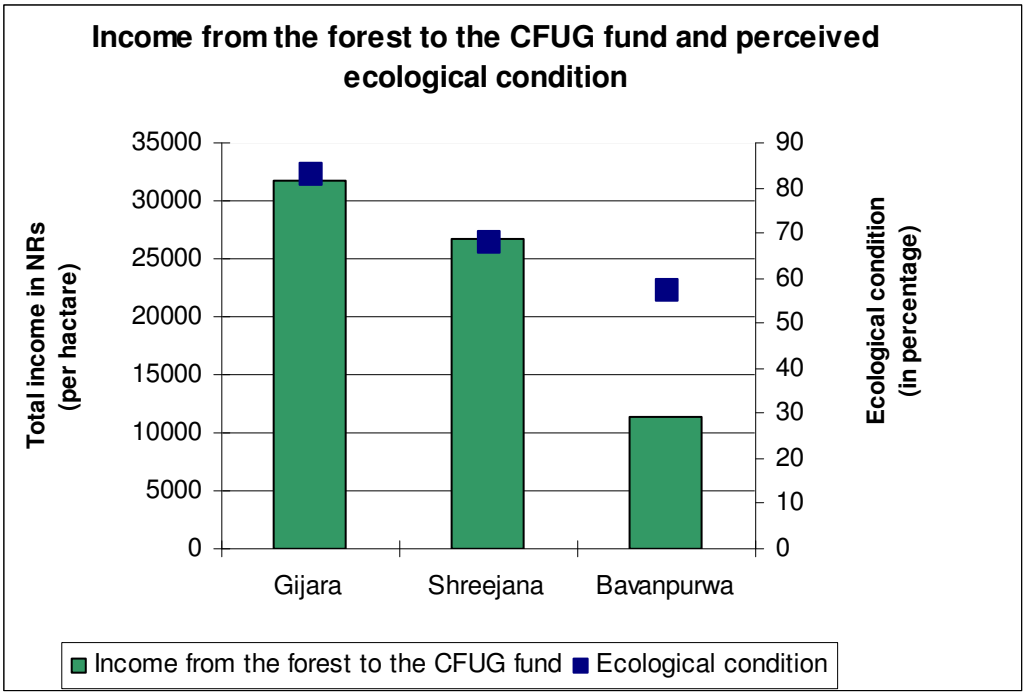


Figure 6.13: Income from the forest and perceived ecological condition

In the Bavanpurwa CFUG, income from the forest was very low in comparison with the ecological condition of the forest. The main reason for this was that only the users who had a high and medium level of income were utilizing the forest, while the poor were getting very less quantity of forest products. It was also noted that the income from the forest is not made transparent to the users, and these records were not included in the audit report. In this case, when the community failed to protect the forest as per the prescriptions in the forest operational plan, the forest will be taken back from the forest department as per the provisions in the Forest Act 1993. Because of this possibility Bavanpurwa CFUG protects the CF and, hence, the forest ecological condition is better when compared to the income. Compared to the two other CFs, the perceived ecological condition of the Bavanpurwa CF still needs to be improved.

6.4. 5 Forest benefits to the household and perceived ecological condition

Forest products that are collected from community forests are distributed to the forest users at the household level. As mentioned previously, forest users received various forest products such as timber, fire wood, and other minor forest products from the community forests. Forest subsistence received per household per year has been converted into the cash equivalent. Also, the total quantity of forest products or bio-mass received per household per year has been calculated.

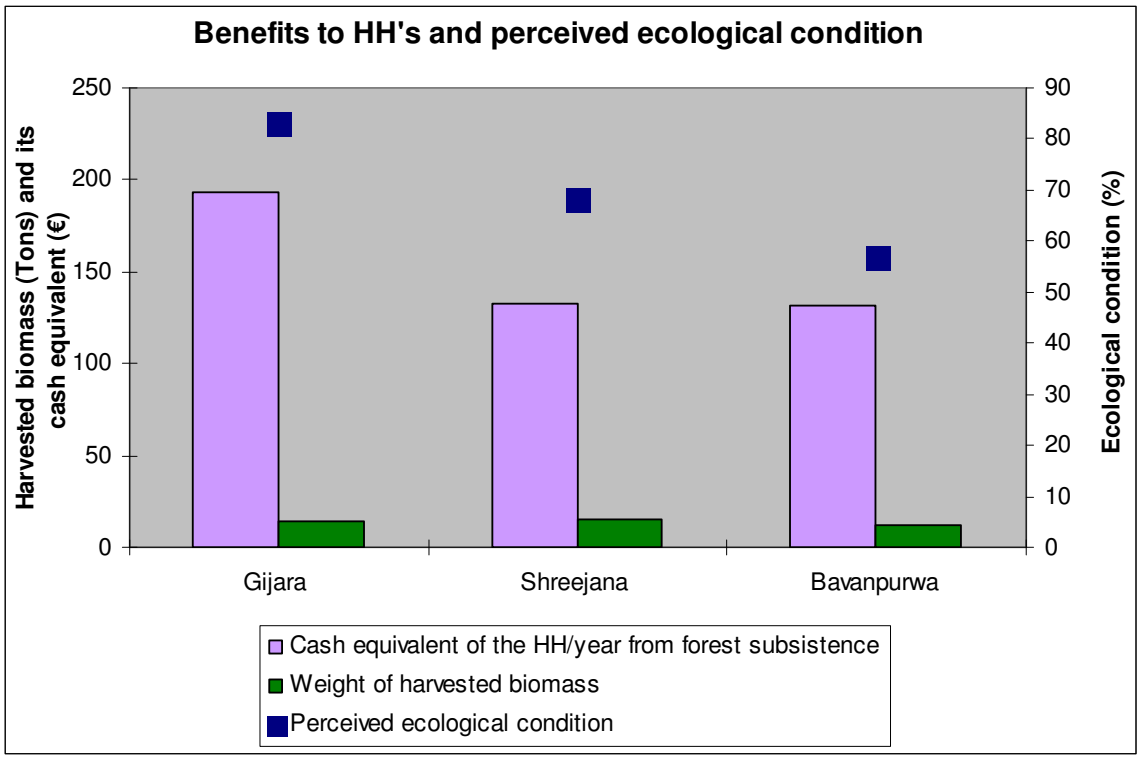


Figure 6.14: Benefits to households and perceived ecological condition

Figure 6.14 above shows the correlation between the benefits obtained by the user households and perceived ecological condition of the community forest. A benefit obtained per household per year has been calculated by converting the quantity of forest products received per household with the price, which is the cash equivalent of the benefit per household per year. Also the relation of benefits with perceived ecological condition has been shown by converting the quantity of various kinds of forest products received per household per year into the weight, called bio-mass. In Gijara CFUG, the average household got 14 tons of forest biomass per year; similarly, bio-mass obtained per household per year in Shreejana and Bavanpurwa CFUGs were 15 and 12 tons respectively. Among the three CFUGs, the total quantity of forest products harvested and received per household per year in terms of weight (biomass) did not differ significantly, but its cash equivalent is much different. At Gijara CFUG, each household received NRs 19,338 (€ 193.38), the cash equivalent of benefits from forest products. Such benefits were NRs 13,256 (€ 132.56) and NRs 13,153 (€131.53) at Shreejana and Bavanpurwa CFUGs respectively. In the case of the Gijara CFUG, the cash equivalent of forest benefits per household was much higher than the other two CFUGs. This was because the users received a greater quantity of timber than the other two CFUGs, and the cost of the timber was very high when compared with other forest products.

The figure also shows that even though extraction of biomass per household was not much different among the three CFUGs, the perceived ecological conditions varied among the three community forests. Compared with the other two CFUGs, Gijara CFUG extracted more timber biomass and, therefore, the users from this CFUG were getting more benefits than other CFUGs. Likewise, Gijara CFUG was more capable in maintaining the forest ecological condition, since it was heading towards sustainable forest management and, therefore, a sustainable harvesting system.

6.4. 6 Community participation and perceived ecological conditions

Nepal is regarded as a pioneer country in community forestry, where this programme started during the late 1970s. This study on community forestry indicates that there is a significant improvement in the ecological condition of the forests after they were handed over to local people as community forests (see previous section). Furthermore, evidence suggests that there is a positive correlation between people's participation and forest ecological conditions. Springate-Baginski *et al*., (2001); Adhikari *et al.,* (2007) also noted that previously denuded forest lands are now regenerated, and that when forests were handed over to local communities, the people participated in protecting their forests due to an increased sense of ownership. Despite the success stories of community forestry, for the improvement of forest ecological conditions, this is offset by the massive forest degradation in the past, when the forests of Nepal were nationalized in the Private Forests Nationalization Act in 1957. This act did not consider the needs and interests of the local people on forest management. After this Act the forests were degraded to such an alarming rate that the government was not able to control it. Only when the government realized that the participation of local people in forest management was absolutely necessary did the situation began to improve. This was reflected in the Master Plan for the Forestry Sector Nepal (MPFS) 1989 by giving first priority to community forestry than the other five major forestry sector programmes. Figure 6.15 also shows that ecological condition of a forest is good only when there is a high level of participation of the local people, and vice versa.

In the case of the Bavanpurwa CFUG, both the level of participation of the forest users and the ecological conditions of the community forest were low, compared with the other two CFUGs. Although the ecological condition of Bavanpurwa CF was not good in comparison with the other two groups, the ecological output was higher than their level of

participation, because Bavanpurwa CFUG had hired a local forest guard to protect the forest. Agrawal and Chhatre, (2006) point out that by paying a local hired forest guard protects the forest more effectively. My study argues that a locally hired forest guard is not sufficient to protect the forest effectively, while regular patrolling and monitoring of the forest results in a better ecological condition of the forest. Figure 6.15 below also shows that, there was a high level of participation of users from Gijara and Shreejana CFUGs that resulted in a better ecological condition of the forest when compared to the case of Bavanpurwa CFUG.

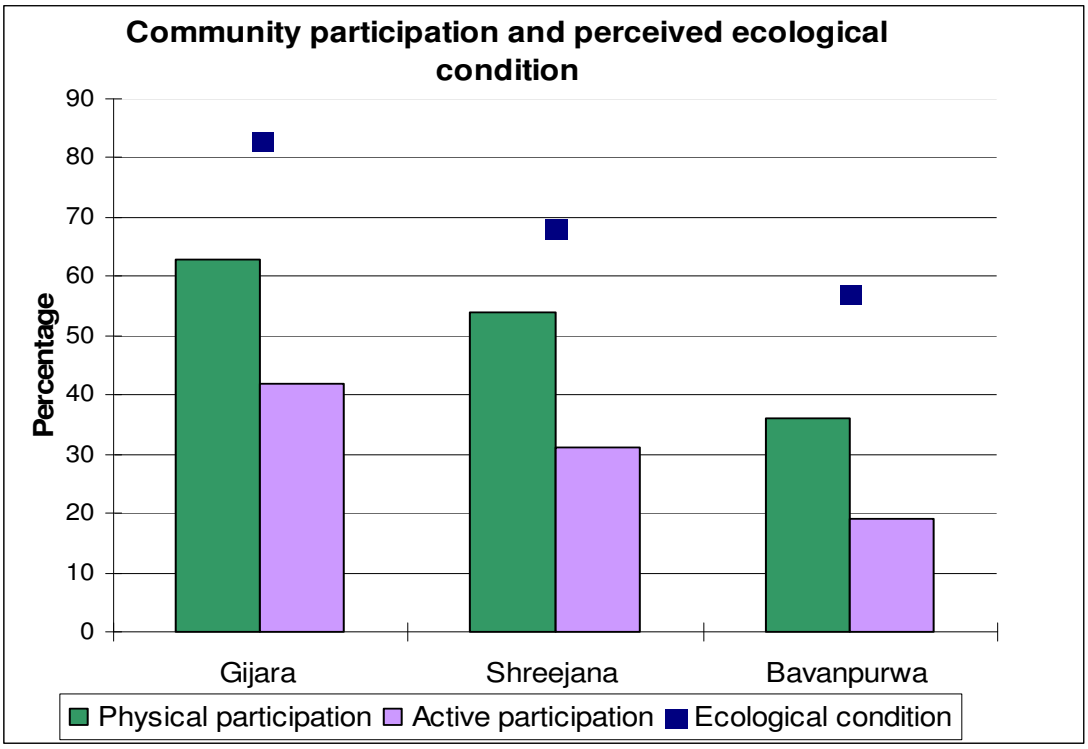


Figure 6.15: Community participation and perceived ecological conditions

In the following sections, detailed discussion has been made on perceived ecological conditions.

Impact on forest production: In the study area, it was found that the stocking of community forests, i.e., saplings, poles and trees increased after handing over the forests to CFUGs. These findings are similar to the findings of the study made by Uprety, (2001); Springate-Baginski *et al.,* (2003); and Adhikari *et al.,* (2007). Two factors were found responsible for the positive impact on forest production. Firstly, the CFUGs were able to protect the community forests effectively by means of night and daytime patrolling, and by

forest guard security. Secondly, open access to the community forest was controlled after the forest was handed over to local communities.

It was found that there was a positive impact on forest production through increased stocking when users were not allowed to collect forest products freely. Before handing over the forest to the CFUGs, the government was the only responsible agency for protecting the forests. Due to weak protection measures adopted by the government and due to the insufficient staff in the forest department, forests were illegally harvested which resulted in forest degradation. Branney and Yadav (1998) also reinforce the fact that a significant and positive change in forest condition occurred after the forests were handed over to CFUGs.

Impact on biodiversity: It was found that there was a positive impact on bio-diversity after handing over of the forests to the communities. Various studies made on community forestry in Nepal found that there was a positive impact on biodiversity in the community forests. The increase in natural regeneration, crown cover and species composition indicate that bio-diversity has increased in the community forests after the hand-over (Springate-Baginski *et al*., 2001). Such a success is due to the effective protection measures taken by the CFUGs (Yadav *et al*., 2003).

A study made in the Kavre and Sindhupalchowk districts of Nepal, via aerial photography, found that the quality and bio-diversity of community forests were improving. Likewise, Tachibana and Adhikari (2009) report that the regeneration, tree growth and wildlife habitat improved after the community forests were handed over. Studies made on the eastern hills of Nepal also show the similar results on forest condition. Other researchers, viz., Branney and Yadav (1998) also found that the area of forest regeneration, mean tree height as well as crown density, increased in community forestry due to the effective protection measures adopted by the CFUGs.

Due to positive environmental impact of community forestry, wildlife population has also increased (Fisher *et al*., 2002). Similar findings made by Bird Conservation Nepal (1997), cited in Dhakal NP (1998), at Bagmara CF in the lowland of Nepal, reported that the population of birds, tigers, rhinos, ungulates and crocodiles had increased due to the

improved habitat within the forests which are managed by local communities. It was reported that of the 170 species of birds found, 37 were listed as threatened species by the Bird Life Society.

Impact on the health of the forest ecosystem: In line with my findings (Gijara and Shreejana CFs), the studies made by Dev *et al.,* (2003); Springate-Baginski *et al.,* (2003) and Adhikari *et al.,* (2007) found that the health of the forest had improved after handing over the forest to the community. But in case of Bavanpurwa community forest, forest health was badly affected due to increased insect population and disease. This was due to the fact that the CFUG had not implemented the prescribed silvicultural operations such as weeding, cleaning, thinning, climber cutting, controlled burning and other silvicultural operations.

Impact on the protection of forest resources: This study reveals that community forestry is successful in protecting the forest resources by controlling deforestation, encroachment and illegal activities inside the community forest. A study made by Shrestha *et al.,* (2010) and Quincey *et al.,* (2007) in the mid hills of Nepal found that the condition of the community forests were much improved than before the hand over to the CFUGs. Before the hand-over of the forests to the communities, local people thought that the forests near to their villages were not for them, but were the property of the government. Therefore, due to lack of ownership, they cleared the forests into agricultural lands before the hand-over took place. But after the hand-over of the forests, the sense of ownership increased, which resulted more control over forest encroachment and forest fires (Gautam *et al.,* 2002). Similarly the survey from the DoF (2005) states that the rate of deforestation in 20 Terai districts was significantly reduced between 1991 and 2001, from 1.3% to 0.06% per year. These data indicate that the decrease in the rate of deforestation was due to the extension of community forestry in Terai districts. Similar results were obtained from a study made by Karna *et al*., (2004) in seven community forests in five districts.

These results indicate that effective protection measures were adopted in community forestry such that a less amount of forest products was extracted than grown. Due to these reasons the degraded hills are now recovered with forests (Nurse *et al*., 2004). To find out the differences in forest conditions between community forests and nearby national forests,

a comparative study was made by Karna *et al*., (2004). In their study, they found that the level of extraction of national forests was very high due to a lack of effective protection. Their study concluded that forest condition significantly improved in community forests than the national forests. These discussions revealed that the condition of the forest is strongly associated with the activities of the local people (Varughese and Ostrom, 2001).

Impact on environmental services: The findings of this research indicate that environmental services offered by the community forests are increasing after the hand-over. These findings are similar with the previous studies made by Quincey *et al*., (2007) and Jackson *et al*., (1998) through the interpretation of satellite imagery. Other studies also indicate that environmental services from community forests are increasing due to a reduction in forest deforestation (Upreti, 2001). Likewise, Shrestha *et al*., (2010) and Quincey *et al*., (2007) also found a positive change in the watershed area in the Dhading district of Nepal, which could be a contributory factor in the hydrological cycle. Gilmour *et al*., (2004) also found an improvement of watershed in those areas where community forestry has been implemented.

Similarly, Fisher *et al.,* (2002) mentions that there was a positive contribution to various environmental services at the local level after the implementation of community forestry. Previously denuded patches of the community forests are now covered with regeneration, with a lower rate of soil erosion and flooding (Tachibana and Adhikari, 2009). The overall impact of community forests on environmental services are indicated by increased regeneration, species diversity, water springs and duration of their discharge (Pokharel, 2004).

Impact on forest soil condition and farming system: It was found that forest soil condition and farming systems have improved after the implementation of community forestry. As the grazing has been controlled in the community forests, herbs, grasses and leaf litter are increasing in the forests. Such materials improve the soil fertility of the forests as well as agricultural production in the private lands, as the users collect leaf litter from the forest to make compost. On the other hand, user also collect grasses and leaf litter so that livestock farming systems have also been improved (Gilmour *et al.,* 2004). However, a study made by Dougill *et al.,* (2001) in the mid-hills of Nepal, revealed that major impact from

community forestry has not yet been noticed (both positive and negative) on the farming system.

From overall discussion, it can be inferred that higher participation leads to more transparency. When there is a higher level of participation of the users, there is a higher level of accountability, resulting in the equitable distribution of benefits accrued from the forest. Also, when there is a higher level of participation of the users in forest management, there is an increased income to the groups from the sale of forest products, and the investment of funds for poor livelihoods also increased. This shows that participation is a dependent variable for the success of community forestry in terms of good governance. However, good governance is not a goal in itself. Good governance leads to improved forest ecology, which in turn leads to higher income and higher benefit by means of a higher level of participation by user households. Here, the impact of good governance, i.e., the increase in household level income and the increase in forest ecology can be regarded as the twin goals of community forestry. Thus the success of community forestry governance depends on the collective action of institutional, economic and ecological environment of the community forest user groups. Practicing good forest governance ensures that users have rights over their forest resources and the benefits they accumulate from the forest, which ultimately contributes to sustaining the forest ecosystem.

7. Findings from interviews with higher level stakeholders

Informal interviews were carried out with different categories of higher level stakeholders (service providers) who were working in various governmental and non-governmental organizations. The results of the interviews are grouped into a) Findings from the interviews with government stakeholders and b) Findings from the interviews with non-government stakeholders. At the higher stakeholders' level five major criteria of institutional governance i.e., transparency, participation, inclusion, accountability and rule of law as well as their views on livelihood programme, were also analyzed.

7.1. Findings from the interviews with government stakeholders

Informal interviews were carried out with 10 government officials from the Ministry of Forest and Soil Conservation (MoFSC), the Department of Forest (DoF), the Regional Director of Forest (RDF), the District Forest Office (DFO) and staff from a government driving programme: BISEP-ST.

Transparency

Respondents were asked about their organization's governance status on the criteria of transparency, participation, inclusion, accountability and rule of law in four different categories i.e. (1) excellent (2) moderate (3) satisfactory and (4) poor. Transparency mainly focused on the information dissemination systems of organizations and transparency on forest policy. Out of 10 respondents, 50% said that transparency within government organization was excellent, while the other 50% said that it was at a moderate level. The reasons given are as follows:

An effort has been made by the government to promote transparency through several means, such as regular visits and monitoring at the field level, awareness programmes, training, radio broadcasts (FM), audio visual aids, publications and different interaction workshops at district and regional level. These efforts are successful for conveying messages to transfer technical know-how. Some forestry sector programmes have been implemented jointly by the government with the collaboration of stakeholders in government in the driving seat, viz., BISEP-ST, which is heading towards maintaining transparency, and have initiated public auditing and public hearing by formulating guidelines and implementing them. Monitoring at field level is carried out regularly, such

as with participatory monitoring, which is effective to contribute to the quality of outcomes.

Approximately 50% of the respondents said that the transparency maintained within government organizations was limited, while the government should not completely transparent. For example, the Department of Forest and District Forest offices had to perform several investigations, and produce information when made public before the information was completed and hampered the investigation. According to respondents from the MoFSC, about 15% of the decisions were made available to the public domain. For the reporting, MoFSC has a spokesperson that is responsible for providing timely report to news media. Important news is broadcasted on TV, FM Radio and daily national newspapers. Other general issues are discussed on the fifth day every month, when a spokesperson from each department participates.

They also said that all district offices were regularly conducting public hearings and public auditing which is a key activity for maintaining transparency. The Ministry of Forest and Soil Conservation has developed Management Information System (MIS) that through Regional Forest Directorates all DFO offices, District Soil Conservation Offices, District Plant Resource Offices and National Parks and Wildlife Reserves received information very quickly from the ministry.

Participation

Participation was mainly directed towards organizations and other stakeholders' involvement in the policy-making process. Out of 10 respondents, 50% said that the participation of stakeholders and service providers in community forestry was at an excellent level, while the other 50% respondents said that it was at a moderate level. The reasons behind it were given as follows:

- Stakeholders from the centre, regional and local level, participated actively in regional level planning and review workshops. Although participation of all users from the districts, in this case, were not possible, all representatives of stakeholders participated in the workshops.
- During the formulation of rules, regulations and guidelines, a bottom-up process was adopted, which started from the district level, up to regional level and national level.

Every year MoFSC organizes an interaction programme about 2-3 months with different stakeholders, including donors, NGOs/INGOs, such as DFID, SDC, CARE, WWF, ANSAB, WATCH, federations of forest user groups such as FECOFUN, NEFUG, HIMAWANTI (which focus on female issues regarding natural resources management). So the interaction is made with different government and non-governmental organizations, and thus the level of participation is high amongst stakeholders.

- During the formulation of the district level strategy and plan, consultation workshops at village and ilaka level were organized. The feedback was collected and then the district level workshop was organized where mainly the members of District Forest Coordination Committee (DFCC) participated. The district level forestry sector stakeholders represented in DFCC play a leading role in forestry sector planning and monitoring. It endorses the plan and strategy and forwards their findings to the district council (DDC). After the endorsement by the DDC, the plan is brought to regional level workshops and finally to the ministry for approval. MoFSC also organizes meeting with the National Planning Commission, donors and the Ministry of Finance for finalizing the yearly plan. MoFSC has formulated various guidelines after the interaction with stakeholders at regional level workshops. Some of the guidelines are: Non-Government Service Provider (NGSP) guidelines, PHPA guidelines, CFM directives, joint monitoring guidelines and DFCC directives.
- They said that in order to make local level consensus, MoFSC concentrates on the local level. According to them, participation at grass roots level is now high; for example, 26% of women are now involved in the CFUG executive committee.

Inclusion/Equity

Inclusion focuses on organizational staffing and their inclusion in the policy. Some 30% said that inclusion/equity in community forestry was excellent, 20% said that it was moderate; 20% stated that it was at a satisfactory level; while the rest (30%) stated that it was poor.

They said that they were following the ILO 169, which Nepal had already signed. The ILO action plan is implemented by the department one year later. In each department a gender focal point had been appointed. Although the inclusion policy was excellent, they also said

that they had not yet been able to study its impact. Gender and social inclusion are mentioned in forest guidelines and interim plan. The study related to gender sensitivity and social inclusion is on-going. INGOs also adopted government policy documents and tried to analyze a gender-sensitive budget. They said that they are trying to encourage women and *dalit* in order to claim their seats, but they expected that it will take between five and 10 years before the policy comes into fruition.

During interviews with BISEP-ST staff, regarding inclusion/equity in their organization, they responded that it was at a moderate level. The reasons given were as follows:
There were only two female personnel available, out of 12 at central level, while there is only 3% of female staff under the Ministry of Forest and Soil Conservation. In order to make the organization inclusive, they said that they had provided scholarships each year for 16 students to study forestry, out of which eight should be from female, *dalit* and marginalized people. Within the past two years 14 females, out of 26 students, were studying under the auspices of the Institute of Forestry from BISEP-ST. They said that priority had been given to women, *dalit* and marginalized people, but in reality they faced difficulties in getting suitable candidates from such a group. Further, they said that they had inclusive guidelines for the user level, but it was difficult to make it inclusive within their organization, because there was a provision that staff should be from the government and must pass public service commission (PSC) exams before entering into government work; and that was the reason why they had less women and lower caste staff in their organizations.

Some 30% of respondents said that inclusion/equity were at a poor level within government, yet claimed that they had a good inclusion policy. There are low numbers of women and *dalit* staff at the time of the study, and it takes some time to have women and *dalit* proportionally represented within government organizations to become inclusive, as they must pass the PSC examination. Recently, there is a provision in the PSC that women, *dalit*, disadvantaged groups and people from remote areas should be reserved a quota in the PSC; but at present the inclusion of women, *dalit*, and disadvantaged people in government is at a poor level.

According to respondents, at the CFUG level, the voice of poor people is represented, so it is at a good level. To promote inclusion, governance training, constitution building, PHPA, various interaction programmes have been organized at the user level.

Accountability

Organization accountability towards community forestry programme has been analyzed in this research. Out of 10 respondents, 50% said that the accountability of stakeholders and service providers in community forestry was at an excellent level, while 25% of respondents said that it was at a moderate level. The remaining 25% stated that it was at a satisfactory level. They all said that the government was accountable for protecting all types of forests, with CF being a priority programme, and that the government was spending more time for community forestry management. The respondents also said that they were fully accountable, but believed that all stakeholders should be equally accountable, such as the CFUGs, the Federation of Forest User Groups, contractors involved in the extraction of forest products, in order to purchase it, such as timber, firewood and NTFPs. They also said that when all stakeholders became equally accountable, CF management would be sustainable.

The community forestry policy, rules and regulations are such that they give authority to the district in order to make the DFO accountable. They said that they were 100% accountable to the users and government, and were formulating user-friendly programmes as per the needs of the people and that they were flexible in setting programmes for the benefit of the people (forest users). They were also practicing a two ways reporting system, one for donor and another for ministry. They said that they were 100% accountable to users and the department and NPC, and added that the forest rules and policies were good and flexible according to the needs of the people, revised in time and implemented successfully.

They mentioned that annual programmes and audit reports from CFUGs did not arrive on time. According to the Community Forestry Guidelines the audit report should be submitted within two months after the completion of a fiscal year, but due to the peak cultivation period of users, they are mostly delayed. Most of the CFUGs wanted to expend more money on community development activities and less than 25% of total income to

CF management. This shows that, from their perspective, CFUGs are not able to manage forests effectively.

Rule of Law

The rule of law is analyzed in two ways: policy guidelines, to established rule of law and the implementation aspect of the rule of law. Among the respondents interviewed, 20% said that the implementation of rules is at an excellent level and 50% of the respondents said it was good. Another 20% of respondents said that it was at a moderate level while the rest, 10%, stated that the rule of law was very poor.

The first 20% said that they strictly adopted government policy and procedures and that they could not go beyond the rules. Thus, on their terms, the implementation of the rule of law was at an excellent level; but 50% of the respondents stated that the status of follow-up rules and regulations was merely good. They said that in every district the DFCC was working for the resolution of forestry sector conflicts, planning and monitoring, since the people were becoming more aware of the rules and regulations. Some respondents said that forestry rules and regulations were old and impractical in the present context, so the rules and regulations needed to be revised. Therefore, present rules and regulations, according to them, were not practical and, hence, the implementations of rules were at a moderate level.

Lastly, 10% held the opinion that the status of implementation of the rules and regulations was very poor. They gave an example that present forestry rules and regulations provided that forest-based enterprises must not be established within three km from the forest (as in the case of Terai). This rule was formulated to protect the forest from illegal trading, but so many enterprises had been established with three km from the forest, that the DFO could not control it. Another example given was when illicit fellers had been caught and brought to trial; the political parties interfered and applied pressure to release them without punishment. Hence, the status of the implementation of the rule of law was very poor.

Government stakeholder's view on the livelihood programme

During informal interviews with government staff as service providers to the CF programme, they were asked whether the CF programme had contributed to the livelihood of poor people. Some 50% of respondents held the opinion that the CF programme had contributed positively to the livelihoods of the poor in a moderate way, while 50% said that the CF programme had contributed to the livelihoods of poor people at a meager level, while most of the benefits had been captured by elites. They stated that the CF programme had definitely contributed positively to rural livelihood but they did not have exact records, but were trying to explore it. For improving livelihoods of the rural poor, there is a livelihood strategy which recommends various income generation activities for the poor, women and disadvantaged groups.

They said that there were two factors for the success of CFs, i.e., pull (by self-awareness) factor and the push factor (driven from different actors). The important actor of the push factor is that the government initiated the CF programme which the community accepted. They said that many drivers are now taking credit from CF programmes but the combination of push and pull factors is the main reason why CF programme are succeeding in Nepal and, hence, towards the contribution towards livelihoods. They further added that these two factors are driven by a third factor: forest policy and legislation, such as the Master Plan for the Forestry Sector Nepal (1998) which is a unique example of people-centered forest policy. Because of this combination, the CF programme was flourishing.

They said that they had started a livelihood programme in 2002, which at that time had little or no livelihood programmes available to the poor. Presently, livelihood is a major component in CF programmes and about 40% of the budget is targeted towards livelihood related activities. At present there are different micro-enterprises: leaf plate making, bio-briquette (a kind of coal from forest weed), different NTFP and medicinal plants processing of plants. In a community forest user group, households are categorized by well-being ranking. The least well-off (the poorest of the poor) first get the support for livelihood programme benefits. Sometimes they are supported with seed money and later they have to return to the group fund. After that, the group regularly mobilizes the seed money for the benefit of other members of the group.

They said that the status of the livelihood of poor households in CFUGs, before and after handing over of the community forest, had been studied in certain districts. Results from that study show that the CF is contribute towards the livelihood of the poor. The remaining 50% of the respondents held the opinion that the CF programme had contributed towards livelihoods, not for the poor but for the elite, as most of the benefits had been captured by elites. Most poor people within CFUGs were so poor that they hesitated to attend the CFUG meetings to ask questions in an open forum – so they received very little benefit from the CF.

7.2 Findings from the interviews with non-government stakeholders

Informal interviews were carried out with 15 experts from various non-governmental organizations (NGOs/INGOs and donors) who worked in the community forestry sector in Nepal. These organizations were Livelihoods and Forestry Programme (LFP), CARE International in Nepal, MEDEP (a UNDP funded programme supporting local groups for micro-enterprises development), Netherlands Development Cooperation (SNV), World Wildlife Fund (WWF), Swiss Development Cooperation (SDC), USAID, UNDP, Forest Action Nepal (a national level NGO doing research in Community Forestry), FECOFUN (Federation of community forest User Group in Nepal), ANSAB (Asia Network for Sustainable Agriculture and Bioresources). The findings from the interview are presented in the following sections. Here, there are also five major criteria of institutional governance: transparency, participation, inclusion, accountability and rule of law as well as their views on livelihood programme, which are analyzed.

Transparency

Out of 15 experts (respondents) interviewed, 60% of them said that their organization's transparency level was excellent for delivering the message within the organizations, stakeholders and partners. Some 20% said that the transparency within the organization was at a moderate level, while 20% of the experts said that their organization was adopting transparent mechanisms which were not at a satisfactory level. The reason given was as follows:

Excellent to moderate level of transparency

- Some organizations, such as SDC, adopted annual planning and M&E with log frame. They also had separate projects for promoting transparency, which supported the activities, such as public auditing and public hearing that is facilitated by pro-public at VDC, CFUGs and district level. Pro-public is a civil society organization, working for transparency in Nepal. In their view, transparency is not only about money, but also for about what sorts of resources have been used, why they are working for the target groups, and what their expectations are.
- Published periodic reports and also submitted to the donors, partners and other stakeholders. They also share reports during the workshops and meetings. Most of the organizations also submit their reports to the government. Researchers and media can get information from them whenever they want.
- They also support the advocates, media and women advocacy forums during implementing their advocacy programmes at district level. Sometimes they support members of parliament and journalists to observe the field level activities which are supported by them.
- They added that government organizations at district level like DFOs had started public auditing. They also called meetings with journalists to share the information.
- They also facilitated joint monitoring; provided input for drafting gender and social inclusion strategies which ultimately contributed towards transparency.
- Most of them said that they prepared reports in the Nepali language so that users and the stakeholders could understand them easily.
- Some organizations like the WWF transfer money to the WWF supported projects through the DFCC. They provide technical manpower to DFCC which deals with planning, implementation and monitoring. The DFCC submits reports to them which are written both in Nepali and English.
- Some organizations like USAID have transparency policies so that they have to submit reports to the congress. They said that USAID needs the budget to be endorsed by congress every year. In an example of a SAGUN programme, after completion of activities like training and workshops, they submit details about the estimate and expenditure which are approved by the participants by clapping. Most of them also said that budget and programmes are placed on the website.

Poor level of transparency

- One respondent claimed that some NGOs tend to hide the information from people. Some organizations have NGO partners for implementing field level activities. They further added that sometimes there were public complaints on NGOs that they were not very transparent even when the organizations provide NGOs feedback many times.
- In their policy documents, provision on transparency had been incorporated but the implementation part is very weak due to a lack of an implementation strategy.

Their views, regarding transparency on CFUG, was such that CFUGs conduct general assembly and public hearings and public auditing (PHPA), where they explain income and expenditure, activities planned and achievements, lessons learnt, etc. Some INGOs had made public auditing mandatory in their working area so that they financially supported CFUGs and local NGOs towards increasing the level of transparency.

Participation

About 60% of the respondents said that the level of participation within their organizations was excellent. Some 27% claimed that the level of participation of their organization was just moderate, while 13% stated that the level of participation of their organization was at a satisfactory level. The reasons given were as follows:

Excellent to moderate level of participation

- They participated in a different policy level discussion forum, mostly at ministry level. They were representing as members of a task force for formulating various policy documents like democratization of the forestry sector of Nepal (proceeding), gender and social inclusion strategies. Human Resource Development (HRD) strategy, Community Forestry Guideline, CF inventory guidelines, Local Resource Persons' guidelines, REDD process and climate change.
- They said that those policy documents were coming out after wide consultative processes at different levels (from grass-roots level to top level). They were working with communities from the beginning and therefore they knew the voice of the community to address issues at policy level.
- They were saying that they also actively participate in PCC (programme coordination committee), Forestry Sector Coordination Committee (FSCC), NRM parliamentary committee, community forestry interaction group and different taskforce group

including gender and equity working group. These are forums at central or national level for the deliberation, discussion, resources sharing and policy contribution.

- In a formal mandatory forum, they also participated and facilitated as experts. At the district level, there is a District Forest Coordination Committee (DFCC) and at village level there was a VFCC (village forest coordination committee). These governance mechanisms bring different actors together for the discussion, which helps them to increase their participation.
- They further added that in 2000, forest policy was formulated by the ministry without consultation with the public or stakeholders, but now all stakeholders were involved in policy formulation.

Satisfactory level of participation

- Although they had participated during the formulation of various policy documents, involved in forestry sector coordination committees, and supported organizing the national workshop, they still thought that their participation was not as effective as expected.
- Some of them said that the national network of CFUGs, viz., FECOFUN still do not participate in all central level forums with the government. During the discussion of different interaction forums, they felt that donors and INGOs were given high priority. That is why they still believed that the level of participation among the stakeholders is at a satisfactory level.
- They further added that participation at grass-roots level was higher than that at the national level, but during the past few years the national level policy process was also becoming more participatory.

Inclusion

About 60% of the respondents said that inclusion within their organization was at an excellent level, while the other 40% stated that it was at moderate level. The reasons given were as follows:

Excellent /moderate level of inclusion

- Respondents from all organization mentioned that they have a highly inclusive policy and strategy. During the hiring of staff, they adopt inclusion policies, i.e., women, *dalit* and marginalized groups get higher marks than others when they meet basic criteria.
- Some organizations like LFP have very inclusive policies due to which at present there are about 25% women, 48% *janajati* (ethnic groups), 10% *madhesi*, 50% local staff, 5 % *dalit* and other 37% from higher caste (Bramin / Chettri) in their working areas. Still the major positions are occupied by Bramin, Chhetri and Newar.
- Respondents from the organizations such as USAID, MEDEP, SNV and SDC were said that for the intervention of their programme they require an average 30% representation from *dalit*, 40% form ethnic groups (*janajati*) and more than 60% from female groups, otherwise the groups are not illegible to get support.
- At Janakpur cluster of CARE Nepal's working area, there were more number of women, *madeshi* and Muslim staff than others but still they were fewer in the higher positions.
- Some also claimed that inclusion is important but their organization is based on scientific research and study so that they require quality manpower. Up to now, it has not been possible to find qualified manpower in the required field from every sector of society (women, *dalit*, the poor, *janajati, madhesi* etc.). They were also claimed that in their constitution and operational plans, funds are targeted to pro-poor programmes, from a social inclusion and governance perspective.
- Another reason given by them was that most of the organizations are male dominated, and it is impossible to make it immediately inclusive, which takes time. Some external factors like socio-economic, culture, politics were also obstacles.
- In regard to the CFUGs, they also said that in the case of the Terai area, that indigenous people were not included in community forestry while the limited and close users managed the forest.

Accountability

Out of 15 respondents, 53% said that their organization was fully accountable towards the target groups as per their goals while the other 47% claimed that their accountability towards the target group was at a moderate level. The reasons given were as follows:

Excellent level of accountability

- Some organizations working on bio-diversity conservation facilitate forming youth groups, eco-groups for the conservation of endangered species like rhino and tigers. If a rhino dies due to poaching or natural causes, they have face to the public or media. Further, they said that government of Nepal, public and international media also ask them for the reasons behind the declining trend of the rhinos. Thus they said they are fully accountable to their role and responsibilities.
- They said that they were fully accountable with donors and partners. They supported them during all phases of programme planning. They also supported them in solving CF level problems.
- Some of them said that the USAID were using tax fare money from the US government to meet the expectations of U.S. tax fare and the poor people of Nepal. They want the best use of money for the Nepalese people.

Moderate level of accountability

- Some of the respondents claimed that they had more upward accountability than that of downwards. They said that they did not have any mechanism to ensure accountability and they never practiced public auditing within their organization. But they developed periodic reports, sent a copy to the community and also share their progress to them. They said that they are accountable to the people who are beneficiaries of the programme.
- Some of them said that it was difficult to rate the degree of accountability while all of their staff were not fully accountable to the group. Regarding their opinion on the groups, some groups were more accountable than others. To make them more accountable, they had adopted strategies to strengthen the local institutions such as FECOFUN, NEFUG and government agencies like District Forest Office.
- They informed that to increase accountability, they are support by the developing local resource people through capacity building. They were also conducting training, field visits to make the people aware about the correct approach.

- Some of them stated that they have the provisions that at least 60% of the beneficiaries should be from disadvantaged groups (DAGs) and 50% should be from women, although this is their bottom line which they have not achieved yet.

Rule of law

Almost 40% of the respondents said that the establishment of rule of law is at excellent level, while 60% claimed that the implementation status of the rules of law is at a moderate level. The reasons behind the excellent to moderate level of rule of law were given as follows:

Excellent/moderate level of rule of law

- They support the government to promote rule of law by saying that they have provided feedback to the government to make people-friendly rules and regulations. They also participated in the CF national workshop where all stakeholders had made a commitment and given policy feedback to the government. Some donors like USAID are supporting the Nepal government to establish rule of law.
- To manage the conflict, they have supported establishing a forum for dialogue which brings all parties and stakeholders together to achieve a common understanding. In the past they also facilitated the stakeholders who were for and against the different community based forest management models, such as community forestry and collaborative forest management (CFM) that created confusion between hill and Terai people. But now they have a common understanding that all the models are for the benefit of the people and they hold that their contribution in this case is high in determining understanding. In their opinion, it also contributed establishing of the rule of law.
- Some organizations supported establishing the rule of by law playing a pro-active role. In Terai, there are a lot of problems of encroachment. They said that they raised this issue at the public level, which encroachment is against rules of law. After that the government had made a legal step to stop encroachment.
- At the CFUG level, they said that they support CFUGs in order to establish the rule of law. They support them for the preparation of operational planning and constitution. They were also stated that they suggested that CFUGs should fulfill their duties and responsibilities before talking on their demand and rights. They suggested that

communities should follow the government rules and regulations and not go beyond that.

- Some organizations have advocacy programme to support establishing the rule of law, and are working for the advocacy to the users, but they were added that the laws, rules and regulations and policy guidelines made by the government were always not perfect and sometime brought confusion at the grassroots level.
- They also said that they were strengthening user's federation and network for influencing policy in order to establish the rule of law. .

View of non- government stakeholders on livelihood programmes

During interviews, all respondents said that all of them had livelihood support programmed for the poor but with different provisions and processes.

- Most of the organizations conduct well-being ranking before implementing the programme to identity poor and excluded groups. Then they prepared a pro-poor supportive plan. They have provision that on average 35%-40% of the budget should be targeted to the pro-poor programme and sustainable livelihood programme.
- Some other organizations provided seed money to the group with the provision that they had to submit their plan at first, after which matching fund was provided to the group. They calculated each and every beneficiary's monthly income and expenditure before and after their programme intervention. They have data in the database system.
- Some projects make financial fund analysis (FFA) to track the resource flow (where resources are invested) by showing resources in livelihood and other components. FFA also helps to know what proportion of budget goes to the poor, non-poor and women. It also shows a disaggregate budget allocation according to caste, ethnicity and gender.
- Some organizations working in the natural resource sector have all the programmes which contribute to livelihoods for the benefit of the poor, such as the Livelihoods and Forestry Programme (LFP) funded by DFID which is working for livelihood programmes. These include agriculture, home gardening cultivation, CF land allocation and various incomes generating training to the disadvantaged people in a package.
- Finally, they said that they do not have exact data as to how much contribution had been made to poverty reduction at the local level. Further, added that forestry sector

contributed about 36% to the gross domestic product (GDP) in which their programmes has also contributed a significant role.

7.3 Stakeholders interviews and outcomes: Discussion

In this section, discussion has been made on governance of the higher level stakeholders (service providers) working on community forestry using the criteria participation, transparency, inclusion, accountability, rule of law and finally on their views regarding the status of livelihood programmes.

Transparency

It was found that government stakeholders have different mechanisms to make information transparent. At the national level, MFSC organizes press conference where ministers and the secretary are invited. Important news is broadcasted on TV, FM radio and daily national news papers and other issues are discussed on the fifth day of every moth, where a spoke person from each department participates. Similarly at the regional and district level, it was found that several workshops were organized to disseminate the information, where senior officials from the ministry take part in these workshops. All regional and district level stakeholders like DFO, rangers, forest users take part in the workshop. Additionally, at the district level they conduct public hearings and public auditing for promoting transparency. It was also found that MFSC had developed management information system (MIS) such that all departments and district offices receive quick information from the Ministry. On the other hand, non-government stakeholders i.e., donors, I/NGOs and civil society have different mechanisms in this case. Some of the donor organizations have to follow transparency policy and submit reports to the congress such as USAID. In some programmes such as SAGUN programme, they display the details on estimate and expenditure of budget to the participants after the completion of activities like training and workshops.

This study shows that both government and non-government stakeholders have made various efforts for maintaining transparency. For this, they have made various publications, used several media such as radio, television, local and national newspapers, for increasing the level of transparency. But, some organizations feel that their NGOs partners are not

transparent to the level as expected. Similarly NGOs and civil society feel that they are more transparent than INGOs and their donors. During interviews, criticisms where funding organizations, especially donors and INGOs, hesitated to make financial information transparent to their partners as well as to the public. They carry out auditing, but it is limited internally within their staff members or sometimes they share it with their development partners/donors because they provide them financial, management and technical supports (Pokharel *et al*., 2008). Also, it was found that the present communication system of the service providers, both government and none/government, is more inclined towards upward communication so that the service providers, mostly the government at the central levels, provide limited feedback at the local level (e.g., at CFUG level). In this line, Devkota (2006) mentions that due to the lack of an appropriate common platform, information sharing system of the service providers both government and non-government are inadequate.

Public hearings and public auditing are the key instruments to make CFUGs transparent. Most of the non-government service providers adopt such instruments for the community level but they themselves are not practicing it. The exchange of ideas, knowledge and experiences among the stakeholders on a regular basis is very important for effective community forestry governance. But due to the limited sharing of information and limited upward-downward or horizontal communication among different layers of stakeholders, it has resulted in limited options for learning, coordination and the development of mutual trust (Devkota, 2006).

Most organizations said that they prepared reports in the Nepali language, but in the field it was observed that all donor funded organizations had reports in English except the government organizations and FECOFUN. The NGOs working at the grassroots level, i.e., at CFUGs level and the federation members, divulged that they did not understand the report of donors and INGOs which were written in English. Additionally, it was found at the research district that a team leader of a reputed organization, working in forest governance field, hesitated to share their progress report. These are all indications that a lack of adequate level of transparency among the stakeholders was on-going.

Participation

In my study, it was found that various stakeholders working as service providers in community forestry were adopting the process of participatory and inclusive governance. Government service providers, especially from Ministry of Forest and Soil Conservation and Department of Forest, have realized that without the active participation of other stakeholders, viz., NGOs, INGOs, donor and networks; forestry sector governance, a satisfactory outcome will not be reached. In their view, policy process is more participatory as compared with the past few years. Also, it was found that the key stakeholders were discussing on governance issues of community forestry at the multi-stakeholders' forum. In this line Schiffer *et al*. (2010) also mentioned that multi-stakeholders' discussion in a forum is a place where decision could be made by collecting different ideas. Very recently, multi-stakeholders at different levels have started participated in a common forum for a bottom-up planning process and participatory monitoring and evaluation.

As mentioned in the results, there are several interaction groups formed in the policy level in Nepal, and different stakeholders have participated in such policy space. The Ministry of Forest and Soil Conservation and Department of Forests organized several formal and informal policy interaction forums where they reviewed, identified the problems and issues and provided feedback, so that their recommendations could contribute towards improving policy and practice. Such policy forums are (1) forestry sector coordination committee (FSCC) (2) NRM parliamentary committee (3) programme coordination committee (4) community forestry interaction groups, (5) Different task force groups for formulating various policy documents (see details of result, Chapter 6), gender and equity working groups.

There is also an interaction forum at the district level, called District Forest Coordination Committee (DFCC), where representatives from district level NGOs, Federation of CFUGs, civil society representatives, representatives from local and central level government organizations participate. In DFCC, district level forestry issues are discussed and the main decisions are carried out in a consultative way. It also plays a major role in district level forestry sector planning and monitoring. During interview in this thesis, they

mentioned that the participation of stakeholders at local level had been more effective as compared with that of central level because they are more familiar with local situations.

Besides these positive outcomes, there are some weaknesses found in the policy making process. Mostly NGOs and civil society feel that their participation was not effective. They said that the government sector, donors and INGOs had been dominating them as they exercise more power on the decision-making process than the NGOs. Khadka (2009) also points out that higher level government officials, donors, civil society representatives and INGOs were selected in FSCC without balancing power relations. Therefore, people from all levels or categories have no access in the decision-making process which resulted in an inadequate level of interaction among governmental and non-governmental organizations, civil society and private sector (Pokharel *et al*., 2008). Devkota (2010) also points out that there exists different levels of power relations and influence among the forestry stakeholders which affects the decision-making processes in such a way that more powerful stakeholder tend to influence the weaker ones. In order to make comprehensive decision by incorporating the voices of all stakeholders, power balance and a clear division of roles and responsibilities among the stakeholders is necessary.

It was pointed out by stakeholders during the interview that there was a weakness by the government to implement policy documents in time as formulated through the consultative process such as gender and social inclusion strategy, Human Resources Development (HRD) strategy and the Local Resources Person (LRP) strategy. It was due to the fact that after implementing policy, the government did little to implement it. Even though policy documents were formulated to implementation, some government stakeholders said that the slow rate of implementation of the policies was due to a lack of budget. Unless multiple stakeholders are effectively participated in such policy forums and their concerns are given due consideration, the governance process will be incomplete.

Inclusion

It was found that the government and non-government stakeholders had the inclusive gender sensitive policy and were following ILO 169 which Nepal had already signed it. All service providers, including government and non-government staff member, are becoming increasingly aware of gender sensitive issues. There is a provision of gender balance and

inclusion in the CF guideline and interim plan of Nepal, which makes for the provision that both government and non-government organizations must analyze the gender sensitive budget. It found that the Ministry and Department of forests was increasingly becoming more gender sensitive. Consequently a gender and social inclusion strategy has been formulated and a gender focal point appointed.

During the interviews, majorities from donor-funded organizations stated that female, *janajati*, *madhesi* and *dalit* had been given high priority during the recruitment process, but it was difficult to find qualified manpower in the required fields. From the inclusive point of view, it was found that non-governmental organizations were more inclusive than government organizations. In government organizations, there are a very few number of women, *janajati*, and *dalit* employees than that of the former (Shrestha, 2004 and Pokharel, 2004). The reason behind this is that the female, *janajati* and *dalit* must pass the Public Service Commission (PSC) exam. Recently, there is a provision in PSC rules that women, *janajati*, *dalit* and people from remote areas have a reserved quota in PSC.

Although, non-government organizations were found to be more inclusive than government, the higher positions of donors and INGOs have been occupied by the higher caste: Bramin, Chhetri and Newar (the privileged ethnic group). Khadka (2009) reports that the forestry sector has been dominated by men in higher positions. There is only about one percent of female staff and no *dalit* staff from secretary to under-secretary level (also called 2nd class officers). Due to these reasons, poor, women, *dalit*s, ethnic minorities, have very low access in the high-level decision-making process (Pokharel *et al*., 2008).

The majorities of organizations have been given high priority in inclusion and grass root-level organizations and are more inclusive than those at the service-provider level. During my interviews, carried out with 25 individuals from various service providers, I found only one female staff member who worked in a senior position in the forestry sector, who worked in a donor organization where the rest were experts from the higher caste and Newar. From this analysis, it became clear that the formulation of gender and inclusion policy was inefficient and requires a more effective implementation with inclusion within organization and in policy level decision.

Accountability

In this study, it was found that government organizations are accountable to their level and spend more time for the improvement of community forestry programmes. They believe that when all stakeholders like CFUGs, FECOFUN, forest contractors, NGO/INGOs are equally accountable, and then CF management will be sustainable. As mentioned in the results, government has been formulating user-friendly programmes as per the needs of the people and is flexible to set programme for the benefit of forest users. They mentioned that policy and rules are good and flexible according to the needs of the people. They are accountable to the people, donors and the NPC.

Similarly, it was found that non-government service providers are also accountable to the donors, partners and beneficiaries of the programme, but, they have more upward accountability. Non- government service providers are found to be more accountable to the users' capacity building for the sustainability of the programme. In the same way, both the government and non-governmental service providers are more accountable at the upward level, such as towards their seniors or towards the donors, than local level offices, CFUGs or local NGOs (Pokharel *et al*., 2008). This is also due to the fact that they depend more on donors' financial and technical supports.

Rule of law

The rule of law is the major component of democracy and governance. Both government and non-government sectors support the CFUGs in order to establish the rule of law. In this respect they recommend that CFUGs follow government rules and regulations. It was found that INGOs strengthened the user's federation and network for influencing policy in order to establish the rule of law. Non-governmental organizations provided policy feedback to the government to make people-friendly rules and regulations. Additionally, some of the non-government organizations supported manage conflict between community forestry and collaborative forest management in order to establish a rule of law. Likewise, in the Terai, some organizations supported the government in controlling encroachment which is against the rule of law. During interviews with stakeholders (service providers), it was found that stakeholders organizations have their own strategic vision and policy guideline and to ensure the rule of law.

Respondents from government service providers said that they cannot go beyond government policy and procedure, which they have to follow strictly. Due to political pressure government organizations are facing problems to enforce rules and regulations when illicit fellers have been caught and brought to prosecution. In this line, Ostrom (2008) points out that when there is a system which has been controlled by a single central authority in order to govern the management and use of natural resources over a whole country, it is almost impossible that the policy will be successful. It is necessary that all stakeholders's such as government and non-governmental organizations, private sectors and civil societies should have clear distribution of roles and authorities in order to implement successful forest governance. But, most of the decision-making processes including the process of formulation of policy, rules and regulations are dominated by higher authorities so that stakeholders at local level, such as local government, CFUGs and local NGOs, have low decision making power. At present, there is no proper mechanism which ensures the access over the forest acts, laws and regulation to educate and empower illiterate people, marginalized communities and rural places (Pokharel *et al*., 2008).

Stakeholders' perception of the livelihood programme

Contribution to livelihood is an important component of the community forestry governance. It was found that all government and non-government organizations have livelihood focus programmes. All stakeholders, including government organization, have practiced well-being ranking before targeting livelihood programmes for the poor. Government authorities said that approximately 40% of the CF budget is targeted on livelihood programmes. However, in the field, users said that they were not getting direct /livelihood support programme funding, but they had been provided with some capacity building training. For example, after bee-keeping training, the beehive boxes and some tools were provided to the participants so that they could start livelihoods programmes independently. Respondents from INGOs and donor organizations revealed that about 35% - 40% of the CF budget is targeted for the pro-poor programme. They are providing seed money and match funding to the CFUGs after when the CFUGs submit their plans. Thus, both the government and non-government service providers have provided various income generating programmes, livelihood and capacity building training for disadvantaged groups. Some organizations such as DFID funded LFP (Livelihood and Forestry Programme) have focused livelihood programmes in community forestry management. In

such cases 100% of the CF budget goes to the livelihood programme. Although, these organizations have been working for the livelihood improvement programme for the poor, they do not have exact data as to how much contribution has been made to poverty reduction. There is lack of baseline data and evaluation reporting to compare the change in peoples' livelihood after implementing the programme. Most of the INGOs and donor-funded organizations have the baseline data in their whole working area, but they do not have data in the specific CFUG which makes it difficult to evaluate the contribution of poverty reduction from community forestry. Respondents believe that the forestry sector has contributed about 36% to the gross domestic product (GDP) in which their programmes have a significant role. Some forestry experts claim that the official statistics of forestry sector's contribution to GDP is far lower in reality because it was calculated only on tangible benefits.

The revised community forestry guideline (2009) put great emphasis on livelihood and governance programmes in community forestry, which sets out priorities for the poor, *dalit*, women and the marginalized on the basis of community income and expected expenditure. In addition, CFUGs need capacity building and institutional development programmes to enhance the livelihood status of marginalized users. There is a provision in the guideline that if there is an empty place inside the forest, poor households should be allowed to cultivate non-timber forest products, such as cash crops or medicinal plants for certain periods without damaging forest crops following the agreement made between CFUG and pro-poor groups. It was found that the majority of stakeholders at the national level are aware about new revised CF guidelines but at the grassroots level stakeholders and staff members, working with the CFUG, are not still familiar to it.

7.4 Conclusion

In this study, analysis has been made on the governance practice of higher-level stakeholders, by using five different criteria, namely: participation, transparency, accountability, inclusion and the rule of law. The assessment of the five different criteria demonstrates that there were some positive changes on governance within the studied stakeholders. Stakeholders, who are providing various direct-indirect services to the forest users groups, apparently realize that their participation and mutual interaction in forest

governance is vital. The following discussion during the research study will focus on the overall reflection of the internal governance of higher-level stakeholders.

There is now an increased level of participation of non-government stakeholders, such as donors, NGOs, INGOs and FECOFUN during the formulation of policies, programme planning, and the monitoring and evaluation when compared to past experience of community forestry in Nepal. Various interaction forums were formed from policy level to local level to identify problems and issues in the community forestry process (see refer to previous sections). Furthermore, various strategy papers and implementation guidelines, such as District Forest Coordination Committee (DFCC) directives, Joint Monitoring Guidelines, Collaborative Forest Managemnet (CFM) guidelines, Public Hearing and Public Auditing (PHPA) guidelines, gender and social inclusion strategy, Human Resources Development (HRD) strategy, community forestry guideline, community forestry Inventory guideline, Local Resources Person (LRP) development guideline have been formulated with the participation of such stakeholders and government, in order to improve community forestry governance. However, although the level of participation of non-government stakeholders in such activities has been increasing, it has not ensured that the level of decision-making power has been shared or distributed among the participant stakeholders, because field evidence shows that government forest bureaucracy still plays a dominating and influencing role in the decision-making process throughout community forestry. It is mainly due to the hangover of the classical top-down approach in government bureaucracy; therefore we can conclude that there is still a limited devolution of power and authority in community forestry processes. For effective community forestry governance, it is important to ensure the meaningful participation of the stakeholders, so as to incorporate their meaningful views and roles in the decision-making processes.

This study also observed that both government and non-governmental stakeholders had developed various mechanism for maintaining transparency and accountability, but there was no proper common platform for stakeholders to discuss downward accountability and transparency to improve the first level, instead of improving local governance structures. It is equally true that poor accountability and transparency at the stakeholders' level have a detrimental affect on community forestry outcomes.

Implementation of policy is another weakness in community forestry governance, observed in this study, because they are either not implemented properly or are only partially implemented. Once the policies are approved, resources and commitments are needed for its effective implementation on the ground. However, in reality the rate of implementation of such policies was very slow such as: gender and social inclusion strategy, Human Resources Development (HRD) strategy, Local Resources Person (LRP) development strategy. Furthermore, government stakeholders, especially at the central-level, do not give due consideration to the feedbacks that are given by non-governmental and local-level stakeholders. The institutional structure of governmental and non-governmental stakeholders, their power relationship, mutual coordination and common understanding, contribute to maintaining good governance in community forestry practice. Therefore, one approach towards the analysis of community forestry governance is not sufficient in the context of Nepal. Analysis on stakeholders' power relationships in the decision-making process and their internal governance structure is also equally important, because it directly affects the governance and the livelihood improvement of users in the CFUGs.

8. Conclusions

Introduction

In this research, critical analysis has been made on the performance of community forestry governance using a set of socio-economic and livelihood, governance and ecological criteria. In general, positive outcomes were found on governance, livelihood and forest ecological conditions after handing over the forests to CFUGs. But, the outcomes and quality of community forestry governance vary in each CFUG, depending on the socio-political framework conditions that foster or hinder good governance in each of these groups. In this chapter, I am presenting some of the final reflections of my study, in an attempt to address the research questions, mentioned in the first chapter.

From the outset, in order to address the main goal of this research, I analyzed the contribution and achievements of community forestry, focusing on the sustainability aspect of community forest in terms of improved livelihood, governance and forest ecological conditions. Thereafter, I presented some issues in community forestry institutions or governance process in order to address such issues which might result in the success of community forestry**.**

Achievement of community forestry

In the Gijara and Shreejana CFUGs, positive outcomes have been co-related to better governance and people participation. The overall participation of both the CFUGs was high when compared with the Bavanpurwa CFUG. Such high level of participation is leading to a higher level of transparency, accountability and an inclusive executive committee, comprising *dalit*, women and low income people in recently-formed executive committees and key positions. Such representation has resulted in the equitable sharing of benefits among CF users. All users have been treated equally in terms of sharing resources and benefits and penalties imposed against the violators of the rules.

Another outcome was that of the livelihood improvement of poor people, by means of: a) increasing livelihood opportunities directly from the forest resources, and b) having opportunities for various capacity building, empowerment and livelihoods programme from the service providers. There was an equitable benefit distribution among high,

medium and low income people in two cases. In the case of the Gijara CFUG, poor households obtained timber at a subsidized rate. In the Gijara and Shreejana CFUGs, low income households received seed money and loans without interest for implementing livelihood programme projects. Likewise, the trend of investment for the pro-poor livelihood programme increased in two cases, where the livelihood condition of low income households improved.

Similarly, in the Gijara and Shreejana CFUGs, these groups have developed their own local resource person (LRPs), who have been trained through various capacity building programmes with support of the government and international organizations. These LRPs are now able to facilitate community forestry governance, advocacy training, leadership development training, livelihood promotion and forest management training. Additionally, some poor households are employed as forest guards in order to protect their community forests. The CFUGs have developed infrastructures, such as schools, access bridges, road improvements, and community building from community forest income. Therefore, the reasons behind the success of the two groups were positive pro-poor livelihood programmes, equitable benefit distribution, effective enforcement of rules and regulations, inclusive executive committee, trust among the group members, a feeling of ownership and concomitant duties and responsibilities. In this way, the Gijara and Shreejana CFUGs are heading towards a strengthening of good governance.

As far as forest ecological condition is concerned, two comparative inventory data (objective) and subjective (perceived ecological condition) presented in this paper clearly show that forest ecological condition has improved after the handing over of community forests to CFUGs. However, not all community forests have improved equally in terms of ecological conditions, which vary according to the governance condition of the CFUGs. Those community forests, where patrolling has been carried out by the users themselves, and the level of participation of users on forest management is high, the ecological conditions in these CFs are much improved. In my study, the perceived ecological condition of Gijara CF was found to be very high, while it was medium and low in Shreejana and Bavanpurwa community forests respectively. The reasons behind the improved environmental condition of the community forests are the active participation of users in forest management, the effective enforcement of rules as stated in the forest

operational plan, the active participation of local users in 24-hour forest patrolling, and the hiring of forest guards.

Issues in community forestry

As argued previously, there has been a reasonable achievement of community forestry, but there is a variability of governance quality and outcomes which undermine its full potential. When the outcome of institutional governance is positive, it contributes to the equitable distribution of benefits and improved forest ecological conditions. Conversely, weak governance quality creates disparity between the elite and general users, so that the poor, women and marginalized users are negatively affected. In my study, some major issues on community forestry have been observed and presented herein.

It was observed that some weaknesses exist in the process of governance. The overall participation of women and low income people in the decision-making process was significantly lower than the wealthy and male users in all three cases, but in the Bavanpurwa CFUG, the level of participation of women and low income people in all important activities was much lower than in the other two cases. The main reasons for this were seen to be poor information flow; fewer benefits from the forest and less availability of time to participate in group activities. Such low level of participation resulted in a low level of transparency in information sharing and fund management. Also, the Bavanpurwa CFUG did not conduct the Public Hearing and Public Auditing (PHPA) regularly, nor was the group fund properly managed; rather it was mobilized in order to benefit the committee members and local elites. Therefore, strong pressure from group members is necessary in this CFUG to improve the present level of transparency. This is possible when the poor, women and marginalized groups are empowered.

Likewise, the committee members of the Bavanpurwa CFUG were not accountable in their roles and responsibilities. Due to a low level of representation of the poor, marginalized groups and women in the committee, their voices were not reflected in the decision-making process, so that the decisions always benefited the elites. Although the Forest Act 1993 recognizes the general assembly of a CFUG as the supreme body for decision making, and that the committee is responsible for implementing decisions, in truth the executive committee was making most of the decisions. Therefore, the inclusion of weak groups in

the executive committee and increasing their access to the decision-making process was another issue in this CFUG.

Another concern was related to the transformation of power. The key positions of executive committee, such as chairman, vice-chairman and treasurer, have been generally occupied by upper class or the elite of the CFUGs, and they usually do not want to relinquish their power or position to the poor, women or marginalized users. In all three cases, it was found that even when the poor, women or marginalized users had been given such positions, the elites still dominated the decision-making process, and because of their superiority other members felt intimidated in advancing their opinions.

Although one of the main objectives of community forestry programme is to improve the livelihood of the forest-dependent people, there remains discrimination in resources distribution in Bavanpurwa CFUG, because weak governance allows elites to have an opportunity to control both decisions and resources. One of the main reasons for weak governance in this group was due to several conflicts. The majority members of this executive committee were Muslim representatives, meaning that Hindus were discriminated in all aspects. Also, there were several political armed groups in the Terai area, who were also involved in the executive committee. Consequently, there was also a conflict between the Terai, from the southern plain area of the country, and migrants from the hills. Therefore, maintaining equity in the distribution of forest resources, due to weak governance structures and conflict, was another serious issue in community forestry development.

In summing up, based on these two cases, the programme of community forestry has certainly contributed to improving the livelihood of the poor when groups are following good governance practices. Yet community forestry will only be sustainable when the basic needs of the forest users are fulfilled and benefit are distributed equitably. This is possible when there is a balance between forest productivity (with sound forest ecological conditions) and good governance in the respective CFUGs. Therefore, more intervention is necessary to make aware and empower the weak CFUGs so that they are able to maintain such a balance and meet the basic needs of forest-dependent users.

Among the three dimensions: socio-economic and livelihood, governance and ecological aspects, governance is the determining factor for the success of community forestry. Socio-political framework condition is the key for the success of community forestry governance and participation. When this factor is positive, users are motivated to be actively engaged in the community forestry process. They will follow rules and regulations, implement forest management plans, which will all contribute towards improving the forest condition and contribute to social well-being.

The findings from higher-level stakeholders reveal that there are several interaction forums which are formed from central to local level and various strategy papers and guidelines have been formulated with the participation of different stakeholders, who are working for the advancement of community forestry governance. In practice, different mechanisms have been adopted for better transparency and accountability, but still there are still several weaknesses in process of governance. Dense forest bureaucracy in the decision-making processes, a lack of downward accountability and transparency, weak inclusive organizational structures are the other major factors which trigger poor governance. From the evidence presented in this study we can conclude that governance is the essential factor for the success of a community forestry programme, which includes not only the micro-level stakeholders, such as forest users, user groups and their committees, but also meso and macro-levels stakeholders, directly or indirectly, influence the whole forest community programme. Thus, this study concluded that to understand a better insight of community forestry governance in Nepal, it is necessary to analyze governance at both the higher and CFUG level.

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Annex

Annex 1: Questionnaires and check list

Questionnaires for semi structure interview (at CFUG level)

Respondent No: Date: Name of the interviewer:

2. Respondent introduction

Name of household head:	Respondent's name:
Position in CF	1. Position in executive committee 2. General member
Gender	1. Male 2. Female
Education	(1) Illiterate (2) Primary (3) Secondary (4)Higher secondary (5) University
Occupation	(1) Agriculture, (2)Business (3) Service (4) Labor
Wealth status:	(1) Rich , (2) Medium (3),Poor
Caste/Religion	(1) *Dalit*, (2) Ethnic group, (3) Muslim (4) Other
Age	
Income (per year)	(1) Direct cash , NRs: (2) Income from agriculture product, NRs:

2. Transparency

Are you informed about CF management from your CFUGC?

If yes, in which aspects of the CF management were you informed? Please describe

Activities	**yes**	**No**
Transparency on Funds		
Management of income		
Management of expenditure		
Conduct regular auditing		
Transparency on information dissemination		
By conducting regular general assemblies		
By conducting regular public hearings and public auditing programme		
Information dissemination to users on an annual programme		
Information sharing to general users on major provision of constitution and operational plan		
Information on forest product distribution system		

2.1In your opinion, what are the main obstacles are you facing for having better transparency to your CFUG?
2.2 What is your suggestion to improve transparency in your CFUG?

3. Participation

3.1 Please mention your participation in the following activities
1= Always 2 =Mostly 3 =Rarely 4= Never

Activities	**1**	**2**	**3**	**4**	**comments**
Participation in cluster meetings					
Participation in general assemblies					
Participation in public hearings and public auditing					
Participation in executive committee meeting					
Forest operational plan and constitution preparation					
Monitoring and evaluation					
Forest management activities					

3.2 What do you do during meetings, general assemblies, public hearings and auditing?

Listen and speak rarely	
Mostly listen, speak actively and contribute towards the agenda	

3.3 In your opinion, what is the main obstacle are you facing for having better participation to your CFUG?

3.4 What is your suggestion for improving participation in your CFUG?

4. Accountability

4.1. Do you think you are aware and accountable about the rules and responsibilities mentioned on OP and the constitution?
a. Yes, I know well b. I know well and am fully accountable
c. I do not know
4.2 Please tell your CFUG about the accountability of implementation governance, the livelihood and rights of women, *dalit*, and ethnic and marginalized groups?

Yes=0. No=1 Do not know=2

Activities	0	1	2
Implementation of OP & Constitution			
Governance and livelihood programmes mentioned in the constitution and OP			
Governance and livelihood programmes implemented			
Implementation of decisions made by GA/PHPA			

4.3. In your opinion, what is the main obstacle you are facing for having better accountability to your CFUG?

4.4. What is your suggestion to improve the accountability of your CFUG?

5. Rules of law

5.1 In your opinion, what is the main obstacle you are facing for having a better rule of law in your CFUG?

5.2 What is your suggestion to improve a better rule of law in your CFUG?

6. Inclusion

6.1 Is there any discrimination in the relation to gender, caste and race?	
Yes= 0	No=1

6.2 In your opinion, what is the main obstacle you are facing for having better inclusion in your CFUG?

6.3 What is your suggestion for improving better inclusion/equity in your CFUG?

7. Livelihood

7.1. Have you ever been provided with training, workshops and tours?
Yes = 0 No=1
If yes please mention following

Name of training/workshop/ tour	Institution	date	place	Duration

7.2 Are you getting jobs from CFUG?
Yes = 0 No=1

7.3 If yes, what kinds of job? How much are you earning?

7.4. Please mention your views on the following activities
1= agree 2= disagree 4= do not know

Activities	**1**	**2**	**3**
Increased good coordination with other CFUGs			
Increased trust/respect within the group			
Increased trust/respect outside the group with other stakeholders			
Increased quality of planning and decision making			

7.5. Do you need to contribute in forest management work? If yes, then in one year how many days do you need to work?

7.6 Are you paid for doing management work?
Yes=0 No=1

7.7 Have you received support for the livelihood programme from the CFUG? If yes, please mention what kind of support you were provided with?

7.8 In your opinion, what is the main obstacle you are facing for having a better livelihood from your CFUG?

7.9 What is your suggestion to improve a better livelihood from your CFUG?

8. Forest Ecological condition

Please mention your views on the following forest ecological condition after the introduction of community forestry.
(1=increased or yes, 2= decreased or no, 3= same as before

Impact on forest production	**1**	**2**	**3**	**Remarks**
Capacity of timber production				
Capacity of firewood production				
Capacity of grass and fodder production				
Capacity of NTFP production				
The stocking of timber, pole and saplings				
Impact on Biodiversity				
Natural regeneration				
Number of species (diversity)				
Composition of crown cover				
Number of wild fauna				
Pest, disease and insect				
Browsing/grazing affect				
Impact on forest resources protection				
Wild fire cessation				
Protection of environmentally sensitive zone				
Protection of endangered species				
Trend of deforestation reduction				
Illegal hunting and illegal trade reduction				
Encroachment on forest land reduction				
Removal of green biomass reduction				
Impact on environmental services				
Impact of flood and drought reduction				
Water level raised				
Positive changes in hydrological cycle				
Impact on forest soil condition and farming system				
Forest soil organic matter/soil layer increased				
Agriculture land's soil condition improved				
Crop production increased				
Livestock situation improved				

Check list: Focus group discussion (at CFUG level)

a. Participation

Cluster meetings

- Were you having cluster meetings or not?
- What are the purposes of cluster meetings (programme planning, operational plans and constitution preparation)?
- Who participated in cluster meetings (gender/caste/race/wealth)?

Executive committee (EC)

- How was the executive committee selected? What are the procedures of selection?
- Who are the members of EC ((gender/caste/race/wealth)?
- Who selects key position (chairman, vice chairman, secretary and treasure) member of EC?
- What is the status of an EC meeting (regular meeting or irregular)
- How receptive are the voices of women, the poor and lower caste during meetings?

General Assembly (GA)

- Who participated in the general assembly (gender/caste/race/wealth)?
- What do you do during the general assembly?(annual plan formulation, benefit sharing mechanism, punishment system, operational plan and constitution preparation, renewal and other rules regulation formulation, system of monitoring and evaluation, implementation of new programmes)
- Has the general assembly been conducted regularly or not? How often has it been conducted during a year?
- Do you put your agenda forward during the general assembly?
- Are the voices of women, lower caste and the poor listened to and implemented?

Public hearing and public auditing (PHPA) programmes

- Who participated in PHPA (gender/caste/race/wealth) programme?
- Was PHPA conducting regularly or not?
- What was the purpose of PHPA?

Forest management

- Who participated (gender/caste/race/wealth) in forest management activities? What was the ratio of participation (male/female)?
- How is the forest product distribution system implemented?
- Who decides the price of timber? (Executive committee, general assembly or others?)

b. Transparency

- Has a public hearing and public auditing programme been conducted regularly? If so, how often has it has been conducted during a year?
- Are you aware about your fund?
- Where was the fund invested /deposited?
- What is the mechanism to make information transparent? (Information board, audit system report, minute?)
- Do you have audit report/OP/ constitution/meeting minute/ report/annual reports/ publications?
- Who selects the external auditor? (EC, GA, or chairman?)

c. Inclusion and equity

- What is the composition of the executive committee?
- Who leads the decision-making?
- Are you adopting a democratic way of leadership selection?

- Who gets more support from the CFUG (elite/poor/all users)?
- Are women, lower caste and poor people's voice listen to and implemented?

d. Rule of law

- Do you know about forest operational plan (OP) and its constitution?
- Is there a need for different interest groups incorporated in FOP and the constitution?
- Are you aware about the rules and regulations of the CFUG?
- Does your CFUG have coordination and networking with other organizations?

e. Accountability

- Is your (CFUG/EC) aware about your role and responsibilities?
- Is your (CFUG/EC) taking your responsibilities seriously?
- How accountable is the EC in implementing governance and livelihood programmes?
- How accountable is the EC in implementing agreed GA programmes
- Did you submit an audit/progress report regularly to the DFO?

f. Livelihood

- Who were given priority for livelihood programmes?
- What kinds of livelihood programmes were conducted?
- Were there other organizations CFUGs which have provided you with support?
- What is the difference after having a livelihood programme?
- How much % of CF funding was invested for livelihood programmes?
- Who participated in training and tours?

Subsidy for the poor

- Do you receive subsidy provision for forest products? If yes, please mention what kind of subsidy you were provided with.
- Do you have subsidy for community forestry membership fee?
- What is the subsidy for poor focus livelihood programmes?

g. Forest ecological condition

- Please mention about the forest condition (history) before community forestry?
- What is the difference before and after community forestry**?**

Checklist: In-depth interview (at CFUG level)

Participation in meetings/general assemblies/forest management activities

- Have you participated meetings/general assemblies (GA)?
- What do you do during general assemblies?
- How often is GA conducted during a year?
- Do you put your agenda in GAs? Was your voice listened to?
- Have you participated in forest management activities? What was the ratio of participation (male/female)?
- How is the forest product distribution system managed? Who decides the price of timber? (Executive committee, general assembly or others?) Are you satisfied about the price and benefit distribution?

Transparency

- Do you know about public hearings and public auditing (PHPA) programmes? Have you participated?
- Are you aware about your fund, where the fund was invested and deposited?
- What is the mechanism to make information transparent? (Information board, audit system report, minute?)

- Do you think your CFUG is transparent about funding and information?

Accountability/ the rule of law

- Are you aware about the rules and regulation of CFUG?
- Do you know how accountable EC is to implement governance and livelihood programmes?
- According to your opinion how accountable is the EC to implement programmes decided by the GA
- Do you know about the forest operational plan (OP) and its constitution?
- Is there a need for different interest groups incorporated in the FOP and its constitution?

Inclusion and equity

- What is the composition of the executive committee?
- Who makes decisions during discussions?
- Who gets more support from CFUG (elite/poor/all users)?
- Was your voice listened to?
- Do you have any discrimination and conflict within group?
- Are you provided with subsidy for forest products?

Livelihood

- How is your economic status, which wealth statuses do you belong to?
- Do you have your own land, is income from that land sufficient for your family? If not, what do you do?
- Does your CFUG support livelihood programmes? Have you been getting any support from CFUG livelihood programmes? What kind of support are you getting?
- Who were given priority for the livelihood programme?(poor/rich/medium/caste)
- What kinds of livelihood programmes were conducted?
- Were other organizations also providing support for livelihood programmes, and were you getting support from them?
- What is the difference after having livelihood programmes? Is there any change?
- Who were given priority for training and tours? Have you participated in training and tours?

Check list for Expert Interview (at stakeholders/service providers' level)

1. What is your task in community forestry?
2. How do you evaluate CF governance? (its practices, level of satisfaction, or problematic?)
3 What are the strengths and weakness of CF governance?
4. What is your suggestion for any improvements?

Ministry of forest	**NGOs/INGOs**	**Donor**
Transparency		
-What kind of practice are you adopting to make information transparent? -Please rank the transparency level of your organization: a. excellent b. moderate c. satisfactory d poor - Does your organization have a PHPA programme?	-What kind of practice are you adopting to make information transparent? -Please rank the transparency level of your organization: a. excellent b. moderate c. satisfactory d. poor	What kind of practice are you adopting to make information transparent? -Please rank the transparency level of your organization: a. excellent b. moderate c. satisfactory

	-Does your organization have a PHPA programme?	d. poor -does your partner organization have a PHPA programme?3
Participation		
- Please mention the state and non-state stakeholders who participated in formulating the recent CF policy**:** a. Forestry Sector Policy 2000 b. Community Forestry Guideline 2000 c. …… -Do you have functional networks with non-state stakeholders to deal with CF issues? If yes, please mention their role in CF governance. - Do you think you are working in a participatory way, if so please rank your organization participation level a, excellent b, good c satisfactory c, poor	- Have you participated in forestry discussion forums? If yes, please mention the most recent programmes: -Do you think you are working in a participatory way, if so please rank your organization participation level a, excellent b, good c satisfactory c, poor	- please mention the names of the different forums where you have participated -Did you participate in any forest policy processes? If yes, please list them: -do you think you are working in a participatory way, if so please rank your organization's/your partner's participation level a, excellent b, good c satisfactory c, poor
Accountability		
-How accountable are you to implement the voice of non-state stakeholders in policy decisions? Please rank the level and accountability of your organization and mention the reasons a. excellent b. moderate c. satisfactory d poor -accountable to CFUGs -accountable to stakeholders	**-** Do you think your organization is accountable, if so please rank it and give the reasons a. excellent b. moderate c. satisfactory d poor -accountable to CFUGs -accountable to donors	**-** Do you think your organization/partner are accountable, if so please rank it and give reasons a. excellent b. moderate c. satisfactory d poor -accountable to partner -accountable to government
The rule of law		
- Do you think decentralized forest policy is working at grass roots level? - What is task to promote CFUGs as autonomous institutions?	-What is your support to promote the rule of law to CFUGs and government?	-What is your support to promote the rule of law at national and CFUG level?
Inclusion and equity		

-Please mention your organization's inclusion policy by rating them: a, excellent b, good c, satisfactory d, poor - What is your organization strategy to make CFUGs more inclusive	Please mention your organization's inclusion policy and rating them a, excellent b, good c, satisfactory d, poor -What is your organization strategy to make CFUGs more inclusive	Please mention your organization's/partners' inclusion policy and rating them a, excellent b, good c, satisfactory d, poor -What is your partner organization strategy to make CFUGs more inclusive
Livelihood		
-Do you think the CF programme is reducing poverty? Do you have such records? -Are the current policies pro-poor-oriented? Please give examples:	-What is your programme (focus on livelihood and none livelihood) status -budget allocation to livelihood programmes	- What is your programme (focus on livelihood and none livelihood) status -budget allocation to livelihood programmes -priority area, -objective

Annex 2: Expenditure of CFUG's in absolute figures and as a percentage of total expenditure

Five- year period) (Expenditure in Nepalese Rupees)

Total expenditure from 2004/05 to 2008/09	**Gijara**		**Shreejana**		**Bavanpurwa**	
	[NRs]	**[%]**	**[NRs]**	**[%]**	**[NRs]**	**[%]**
Administration costs	352,635	18	85,149	9	277,736	17.6
Institutional development	319,857	16	137,084	14	504,892	32
Forest development	553,160	27	350,611	36	554,540	35.2
Livelihood programmes for low income users	419,630	21	284,766	29	5,620	0.4
Community development	311,831	15	112,465	12	233,290	14.8
Others	66,960	3	818	0.1	0	0
Total expenditure	2,024,073	100	971,244	100	1,576,078	100

Source: Audit and financial reports of the studied CFUGs, field survey 2008 and 2009, Nepal

(One year average of exchange rate: NRs 100= € 1)

Annex 3. : Cash equivalent of forest product across user group and income level

Supply of forest products	Rate (NRs)	High income		Medium income		Low income		Total forest products	Total Financial Value in NRs
		Forest products	Financial Value in NRs	Forest products	Financial Value in NRs	Forest products	Financial Value in NRs		
Units	[NRs]	[Tons]	[NRs]	[Tons]	[NRs]	[Tons]	[NRs]	[Tons]	[NRs]
Gijara CFUG (N= 267 HH, High income=59, Medium income=75, Low income= 133)									
Fire wood	1,814.36	183	332,027.88	245	444,518.2	478	867,264.08	906	1,643,810.16
Average per household		3.1	5,627.59	3.3	5,926.91	3.6	6,520.78		
Grass	500	106	53,000	159	79,500	306	153,000	571	285,500
Fodder	500	86	43,000	141	70,500	240	120,000	467	233,500
Bedding materials	250	206	51,500	267	66,750	492	123,000	965	241,250
Sub- Total		398	147,500	567	216,750	1,038	396,000	2,003	760,250
Average per household		6.7	2,500	7.5	2,890	7.8	2977.44		
Timber	3,825	205.77	787,070.25	260	994,500	348.66	1,333,624.5	814.43	3,115,195
Average per household		3.5	13,340.2	3.5	13,260	2.6	10,027.25		
Shreejana CFUG (N= 61HH, High income= 17, Medium income=20, Low income =24)									
Fire wood	1,814.36	31	56,245.16	36	65,316.96	48	87,089.28	115	208651.4
Average per household		1.8	3,308.53	1.8	3,265.84	2	3,628.72		
Grass	500	55	27,500	69	34,500	86	43,000	210	105,000
Fodder	500	17	8,500	27	13,500	36	18,000	80	40,000
Bedding materials	250	121	30,250	144	36,000	195	48,750	460	115,000
Sub- Total		193	66,250	240	84,000	317	109,750	750	260,000
Average per household		11.4	3,897.05	12	4,200	13.21	4,572.91		
Timber	3,825	27.55	105,378.75	32	122,400	29.33	112,187.25	89	339,966
Average per household		1.6	6,198.75	1.6	6,120	1.2	4,675		
Bavanpurwa CFUG (N= 233 HH, High income =56, Medium income=83, Low income =94)									
Fire wood	1,814.36	252	457,218.72	357	647,726.52	266	482,619.76	875	1,587,565
Average per household		4.5	8,164.62	4.3	7,803,93	2,8	5,134.25		
Grass	500	106	53,000	114	57,000	150	75,000	370	74,000
Fodder	500	56	28,000	103	51,500	141	70,500	300	60,000
Bedding materials	250	146	36,500	253	63,250	301	75,250	700	105,000
Sub- Total		308	117,550	470	171,750	592	220,750	1,370	239,000
Average per household		5.5	2,099.1	5.7	2,069.27	6.3	2,348.4		
Timber	3,825	218.88	837,216	291.11	1,113,495.75	156.66	599,224.5	666.65	1,950,711.75

Annex 4: Physical and active participation in CFUG programme on the basis of gender and wealth

a. Physical participation	Always/moderate		Rarely/ never		P-value	Always/moderate			Rarely/ never			P-value
	Male	Female	Male	Female		HI	MI	LI	HI	MI	LI	
Gijara CFUG (N=81)	[%]	[%]	[%]	[%]		[%]	[%]	[%]	[%]	[%]	[%]	
Cluster meeting	71.7	45.7	28.3	54.3	0.018	72.2	78.3	45	27.8	21.7	55	0.017
GA and PHPA	84.8	57.1	15.2	42.9	0.006	72.2	82.6	72.5	27.8	17.4	27.5	0.631
Operational plan and constitution preparation	82.6	51.4	17.4	48.6	0.003	72.1	78.3	77.5	27.8	21.7	22.5	0.885
Programme Monitoring and evaluation	43.5	20	56.6	80	0.026	44.4	47.8	20	55.6	52.2	80	0.041
forest management activities	63	85.7	37	14.3	0.023	55.6	65.2	85	44.4	34.8	15	0.041
Executive committee meeting (N=13)	100	100	0	0	NA	100	100	100	0	0	0	NA
Shreejana CFUG (N=49)												
Cluster meeting	67.9	33.3	32.1	66.7	0.017	64.3	68.8	31.6	35.7	31.3	68.4	0.055
GA and PHPA	64.3	52.4	35.7	47.6	0.401	71.4	75	36.8	28.6	25	63.2	0.04
Operational plan and constitution preparation	60.7	57.1	39.3	42.9	0.801	64.3	81.3	36.8	35.7	18.8	63.2	0.026
Programme Monitoring and evaluation	46.4	14.3	53.6	85.7	0.018	50	31.3	21.1	50	68.8	78.9	0.213
forest management activities	57.1	85.7	42.9	14.3	0.032	64.3	68.8	73.7	35.7	31.3	26.3	0.844
Executive committee meeting (N=8)	100	100	0	0	NA	100	100	100	0	0	0	NA
Bavanpurwawa CFUG (N=70)												
Cluster meeting	50	15.6	50	84.4	0.003	58.8	48	21.4	41.2	52	78.6	0.027
GA and PHPA	52.6	15.6	47.4	84.4	0.001	39.4	46	15	60.6	54	85	0.026
Operational plan and constitution preparation	42.1	15.6	57.9	84.4	0.016	52.9	28	17.9	47.1	72	82.1	0.043
Programme Monitoring and evaluation	36.8	15.6	63.2	84.4	0.047	52.9	20	17.9	47.1	80	82.1	0.023
forest management activities	21.1	68.8	78.9	31.3	0	35.3	28	60.7	64.7	72	39.3	0.043

b. Active Participation	Male	Female	P-value	HI	MI	LI	P-value
Gijara CFUG (N=81)	[%]	[%]		[%]	[%]	[%]	
Only listen and speak rarely	23.9	57.1	0.002	27.8	21.7	52.5	0.031
Mostly listen, speak and put agenda	76.1	42.9		72.2	78.3	47.5	
Shreejana CFUG (N=49)							
Only listen and speak rarely	25	75	0.009	21.4	31.3	63.2	0.035
Mostly listen, speak and put agenda	61.9	38.1		78.6	68.8	36.8	
Bavanpurwawa CFUG (N=70)							
Only listen and speak rarely	31.6	68.4	0.01	29.4	36	64.3	0.036
Mostly listen, speak and put agenda	62.5	37.5		70.6	64	35.7	

Annex 5: Forest ecological condition from the users' perspective

(Scale 1-increased or yes, 2- decreased or No and 3-same as before)

	Gijara (%)			Shreejana (%)			Bavanpurwa (%)		
	N=81			N=49			N=70		
Impact on forest Production	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Capacity of timber production	90	4	6	69	10	21	56	21	23
Capacity of fire wood production	93	4	3	65	12	23	60	24	16
Capacity of grass and fodder production	91	6	3	78	4	18	67	17	16
Capacity of NTFP production	92	7	1	69	12	19	40	37	23
The stocking of timber, pole and saplings	94	3	3	69	9	22	46	13	41
Impact on Biodiversity									
Natural regeneration	85	9	6	65	14	21	44	19	37
No of species (diversity)	88	6	6	80	6	14	44	17	39
Composition of crown cover	84	4	12	61	18	21	56	13	31
No of wild fauna	83	10	7	61	16	23	13	13	74
Impact on Forest Ecosystem and health vitality									
Pest, disease and insect	7	86	7	16	74	10	56	27	17
Browsing/grazing affect	7	86	7	12	78	10	19	71	10
Impact on forest resources protection									
Wild fire decreased	88	6	6	78	10	12	62	14	24
Protection of environmentally sensitive zone	70	21	9	55	29	16	59	15	26
Protection of endangered species	82	9	9	63	25	12	64	26	10
Trend of deforestation decrease	94	3	3	78	8	14	64	23	13
Illegal hunting and illegal trade decrease	85	6	9	67	16	17	22	7	71
Encroachment on forest land decrease	86	6	8	75	12	13	79	12	9
Removal of green biomass decreased	73	7	20	59	14	27	50	14	36
Impact on environmental services									
Impact of flood and drought decreased	53	28	19	45	27	28	19	15	66
Water level raised	53	17	30	49	18	33	30	20	50
Positive change in hydrological cycle	75	7	18	86	4	10	27	13	60
Impact on forest soil condition and farming system									
Forest soil organic matter/soil layer	95	3	2	76	12	12	51	26	23
Agriculture land's soil condition improved	82	8	10	71	14	15	37	6	57
Crop production increased	80	10	10	63	8	29	23	18	59
Livestock situation improved	79	12	9	67	19	14	57	22	21

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