Institute of Social Studies

GRADUATE SCHOOL OF DEVELOPMENT STUDIES

Common Property Resource Management and the Livelihood of the Rural Poor: A Case of Community Forestry in Nepal

A RESEARCH PAPER PRESENTED BY

Lava Kumar Thapa

(Nepal)

In partial fulfillment of the requirements for obtaining the degree of

MASTER OF ARTS IN DEVELOPMENT STUDIES
SPECIALIZATION: AGRICULTURAL AND RURAL DEVELOPMENT

MEMBERS OF THE EXAMINING COMMITTEE

Dr. Ngoc Luu Nguyen
Dr. David Dunham

THE HAGUE, NOVEMBER 2001

This document represents part of the author's study programme while at the Institute of Social Studies; the views stated therein are those of the authors and not necessarily those of the Institute.

Research papers and theses are not made available for outside circulation by the Institute.

Enquires:

Postal Address:
Institute of Social Studies
P.O. Box 29776
2502 LT, The Hague
The Netherlands

Telephone : -31-70-4260460
Telefax: -31-70-4260799
e-mail: postmaster@iss.nl

Location:
Kortenaerkade 12
2518 AX, The Hague
The Netherlands

DEDICATION

This research paper is dedicated to Shreya, Astha and Nirmala for their continued family love and contestation.

ACKNOWLEDGEMENTS

During my stay for last 15.5 months in ISS, I got the privilege to acquaint to the varieties of people and their culture from the various part of the globe. I am grateful to the Dutch government for offering me a fellowship. As a development worker from the east, it was not easy to study in a totally different setting. However, the friendly academic environment of ISS made it easy to adapt. In this regard, I must acknowledge the support extended by all the staff of ARD programme in general and the Programme Administrators in particular.

Even though this research paper has been prepared as a part of my academic study, it can concern with some issues of community forestry of Nepal; mainly policy makers, donors and forest department. I owe the responsibility of omissions and errors.

Over the entire period in ISS, I got inspiration and support from all of my friends and colleagues and I obtained very important informal learning from them wherever we were in classes, the hostel, the computer room, the library or the coffee lounge. I would like to express my sincere thanks to all of them in general and to my discussant friend Mr. Estaban Tapalia in particular.

Preparation of this paper would not be difficult for a student trained for one year. However, making at this form within a limited period was definitely challenging. My especial thanks go to my supervisor Dr Ngyen Luu for his dedicated comments and professional backstopping offered to me continuously throughout the research period. Though not perfect yet, at least I got the opportunity to be familiar with different nuts and bolts of social science research from him. Of course my thanks also goes to Dr. David Dunham being a convenor of the programme and my second supervisor who inspired me to learn.

Beyond the ISS, Dutch colleagues namely Hedwig and Dirk of Gouda, Thom and Karen of Amsterdam, Rene and Pieternel of Utrecht always encouraged me to study. Their hospitality expressed in terms of their home visits, dinners and site seeing encouraged me to feel homely. Similarly, linking with the environmental concerns, motivation received from Ms. Alice Quayle, Isle of Man and Mr. Simon Ferrongo, IIED, UK are heartily acknowledged. My thanks go to Ph.D. participants of ISS mainly Ms. Bimala Rai for sharing literatures, Ms. Sharada Srinivasan and Dr. Ranjit Diwedi for their valuable comments. Despite their hectic hour of ISS, Ms. Annie Wong, Catherine Lee and Nicole helped in editing the language of the text. I heartily acknowledge their cooperation.

My very thanks go to NARMSAP/Danida family mainly to former Co-ordinator of NARMSAP Mr. Laurits Hansen for his encouragement to apply to this institute, and to his successor Mr. Bo Schultz, granted leave for the study and encouraged to study on forestry sector. Mr. Michael Ollgaard shared my happiness to study here in this institute and provided information. Similarly, as a subject matter specialist, Programme Officer Dr. Rabindra Shrestha provided important information and web-sites of community forestry and commented on the final draft. I would like to extend sincere thanks to all of them. For the completion of this paper, librarians of ISS helped me a lot. I would like to thanks them.

Last, but not least, my sincere word of gratitude to my parents, wife and daughters; who waited peacefully for 16 months for me from Nepal.

Lava Thapa

TABLE OF CONTENTS

1 INTRODUCTION **1**

1.1 STATEMENT OF PROBLEM 1
1.2. OBJECTIVES: 3
1.3 FOCUS AND SCOPE 3
1.4 RESEARCH QUESTIONS 4
1.5 METHODOLOGY 4
1.6 LIMITATION OF THE STUDY 5
1.7 STRUCTURE OF THE PAPER 5

2 THEORETICAL FRAMEWORK **6**

2.1 GENERAL CONCEPTS 6
2.2 THEORIES OF COMMON PROPERTY RESOURCE MANAGEMENT 7
2.2.1 The Debate over Tragedy of the Commons 8
2.2.2 Institutional Governing Theory 11
2. 3 SUSTAINABLE DEVELOPMENT 12

3 INSTITUTIONALISATION OF COMMUNITY FORESTRY POLICY **13**

3.1 THE STUDY SETTING, SIGNIFICANCE OF FOREST RESOURCES AND ENVIRONMENTAL ISSUES 13
3.1.1 The Study Setting 13
3.1.3 Significance of Forest Resources 15
3.1.4 Existing Forest Situation 16
3.1.5 Deforestation, Environmental Crises and Population 17
3.2 POLITICAL ECONOMY AND HISTORICAL PERSPECTIVE OF FOREST MANAGEMENT 18
3.2.1 Rana Regime (1846-1951) 19
3.2.2 Nationalization Period (1951-1987) 20
3.2.3 Populist Period (1989-2001) 21
3.3 POLICY AND REGULATORY ENVIRONMENT OF COMMUNITY FORESTRY 22
3.3.1 The Forestry Sector Master Plan 1989 22
3.3.2 The 1993 Forest Act and 1995 Forest Regulation 23
3.4 SUMMARY 25

4 IMPLEMENTATION: PROCESS, STAKEHOLDERS, PROBLEMS AND CONFLICTS **27**

4.1 OVERVIEW OF COMMUNITY FORESTRY DEVELOPMENT TREND IN NEPAL 27
4.1.1 FUG Formation Rate 27
4.1.2 Participation of Women and Lower Castes 29
4.2 COMMUNITY FORESTRY DEVELOPMENT PROCESS 29
4.2.1 Investigation Phase 30
4.2.2 Negotiation Phase 30
4.2.3 Implementation Phase 31
4.2.4 Review Phase 31
4.3 STAKEHOLDERS IN COMMUNITY FORESTRY 33
4.4 PROBLEMS OF COMMUNITY FORESTRY 36

4.5 Conflicts its Sources and Management 38
4.6 Conflict Management Practices 41
4.7 Summary 42

5 ENVIRONMENTAL CONSERVATION AND THE LIVELIHOOD OF THE POOR 43

5.1 Impact on Environmental Conservation 43
5.1.1 Change in Forest Area 43
5.1.2 Status of Land Slide and Soil Erosion 44
5.1.3 Impact on Bio-diversity 45
5.2 Contribution to the Livelihoods of the Poor 45
5.3.1 Access to and Use of Forest Resources 46
5.2.2 Income from Community Forests and its Use 47
5.2.3 Community Development Activities 48
5.2.4 Quantification of Benefits 49
5.3 Summary 51

6 CONCLUSIONS 52

LIST OF REFERENCES 56-62

List of Tables and Figures

A. List of Tables

Table 3.1 General overview of Forest Policy Issues for the three Periods of Nepal 22
Table 3.2 Overview of Community Forestry Regulations 25
Table 4.1 Overview of Community Forestrs Supported by Different Donors 35
Table 4.2 Community Forestry Stakeholders and their Role and Relationship 36
Table 5.1 Benefit Cost Analysis from Community Forestry in three Different Income Groups 50

B. List of Figures

Figure 3.1 Map Showing the Hills of Nepal 14
Figure 3.2 Forest Area Over the years, Nepal 16
Figure 4.1 FUG Formation and Female Participation Trend 28
Figure 4.2 Average Forest Size and Average Forest Area per Household 29
Figure 4.3 Phases of Community Forestry Development Process 32
Figure 4.4 Stakeholders in Community Forestry 33
Figure 4.5 Problems of Communioty Forestry in Implementation 37
Figure 4.6 Major Areas of Conflicts in Community Forestry 39

List of Acronyms

AAN	Action Aid Nepal
CBNRM	Community Based Natural Resource Management
CBS	Central Bureau of Statistics
CF	Community Forest
CM	Conflict management
CPR.	Common Property Resources
DFO	District Forest Office/Officer
DOF	Department of Forest
EFEAP	Environment and Forest Enterprise Activity Programme
FAO	Food and Agricultural Organization, United Nations
FECOFUN	Federation of Community Forestry of Nepal
FSMP	Forestry Sector Master Plan
FUC	Forest User Committee
FUG	Forest User Group
GDP	Gross Domestic Products
GTZ	German Technical Cooperation
ha	hectare
HMG	His Majesty's Government of Nepal
ICIMOD	International Center for Integrated Mountain Development
INFC	International Network for Forests and Communities
Kg	Kilograms
m	Million
MOFSC	Ministry of Forest and Soil Conservation
msl	Mean sea level
NACRMP	Nepal Australia Community Resource Management Project
NARMSAP	Natural resource Management Sector Assistance Programme
NGO	Non-Governmental Organization.
NLSS	National Living Standard Survey
NPC	National Planning Commission
NSCFP	Nepal Swiss Community Forestry Project
NUKCFP	Nepal UK Community Forestry project
OP	Operational Plan/Management paln
PF	Panchayat Forest
PPF	Panchayat Protected Forest
RDF	Regional Directorate of Forest
UNFPA	United Nations Fund for Population Activities
USAID	United States Agency for International Development
VDC	Village Development Committee
Wb	World Bank

CHAPTER ONE:
INTRODUCTION

This paper attempts to analyse the various aspects and issues of community forestry policy and implementation at grassroots level, and determine its contribution to the livelihoods of the poor in rural Hills of Nepal.

1.1 Statement of Problem

Since forestry is the main source of livelihoods of the rural people, interdependent relationships between human beings and forest in the world has been in existence since prehistoric culture. History of land-use patterns shows that the traditional communities managed most forests in the world until it was commercialized. Increasing human pressure on the limited agricultural land as a push-factor, as well as fertile soil and open area as a pull-factor accelerated deforestation for the purpose of the expansion of agricultural land and human settlements (Caplan, 1970). From the beginning of 20th century, states in the developing world, started to monopolize forest resources. They kept them under their control in a situation of increasing land scarcity due to increasing population and increasing demand for forest products outside the country. Consequently, forest became an important source of national revenue and its management was influenced by political economy (Gauld, 2000).

The 1960s drew attention to the sustainable use of common property resources in general and forest in particular. Conventional theoretical arguments justified the state control (or privatization) of forest resources (Hardin, 1968). However, the outcome was disappointing as globally, top down approach of forest management under the state control failed to prevent deforestation. In the past few decades substantial investments and efforts have been directed to the environmental concerns to reduce deforestation in the developing world. The lesson from state managed forest was that the people cannot be organized to protect the forest if they cannot use its resources. In response to the increased scarcity of forest products resulting from forest degradation, conservation awareness was put in action at the grassroots level through the shift from state-managed technical forestry to what we now call community forestry (Shrestha and Britt, 1997).

The concept of community forestry emerged in a political environment where social justice, equity and environmental sustainability were questioned in the context of traditional state's centralized forestry management programmes (Gauld, 2000). Emerging emphasis on civil society and non-governmental organisations, past history of indigenous resource management, changing development pattern from top down to bottom up, wide emergence of decentralization concept emphasizing local participation, all helped to re-discover the concept of social forestry in 1970s (Foley and Barnard, 1984). After 1978, FAO[1] and World Bank pressed for the community forestry as a poverty programme on their aid package. Due to the adoption of this concept, the decade of 1980 became known as 'forestry renaissance'. Even though community forestry has been implemented in many countries, its stages varied from country to country. In Uganda and Thailand community forestry is popular but did not yet received legislative support. Whereas, Nepal had extensive practice at grassroots level fully backed by legislation (UNFPA/FAO, 1998a). Analyzing the contribution of community forestry in halting and reversing the deforestation, Varughese argues, "Nowhere has this shift to a people-centered approach to forestry been more visible than in Nepal, where both in government policy as well as in practice" (1999:1).

Later in the 1990s, theory of institutional governance emerged with a critic to conventional theory of commons which looks at the prospect of collective actions from local cooperation (Oestrom, 1990). This concept gained popularity for increasing group-responsibility and ownership development among the rural people.

However, in few cases, emerging neo-liberal reform is raising the issue of efficiency and pushing in a reverse of the institutional management responsibilities of forest from local communities to private sectors. In Quintane Roo of Mexico, where community forestry was successful in sustainable resource management, forest was recently being privatized and consequently deforestation started (Taylor and Zabin, 2000).

Community forestry in Nepal started from 1978. Until 2000 July, 814178 ha of government forest land has been handed over to more than 10593 Forest User Groups with the total membership of 1.158 million households (DOF, 2001). Though expansion of community forestry programme gained an increasing emphasis in the government and donor's priority, it is still not clear how far

1 FAO, 1978 stated; Forestry for local community development ... to raise the standard of living of the rural dweller, to involve him in the decision making process... he will be the direct beneficiary. Forestry for the local community development is therefore about the rural people and for rural people (Cited in Hobley, 1996: 6).

this process of development has given importance to operationalise the policy at field level. Moreover, community forestry programme aims to improve the availability of forest resources in meeting forest related basic needs of local people by granting equal access and use of the resources through proper distribution. However, in the society of Nepal where caste, class, gender and ethnicity dominance is common, to what extent the programme is contributing to the livelihoods of the poor or not is a matter of study.

1.2. Objectives:

The Objectives of the study are as follows:

- to analyze the policy objectives and institutional framework of community forestry,
- to analyze legal aspects of community forestry policy as implemented,
- to analyze the implementation process of community forestry,
- to assess the impact of community forestry in terms of resource conservation and livelihood of the poor.

1.3 Focus and Scope

Community forestry adopts the institutional development approach by involving local people into a forest user group for the protection, management and utilization of forest resources. It has been implemented since 1978 and is a part of the growing global concern for natural resource management. This early transition from technical management of forestry to community forestry was not impressive due to a scope of problems confronted in translating technical issues into the governance and management issues associated with rural communities and local governments (Varughese (1999). However, bridging the transition gap associated with receptiveness to the need of the local communities, local knowledge, and traditional practices was attempted to incorporate after 1989 (HMG, 1989). From the historical context, the programme attained maturity in the mid 1990s and gaining momentum for the expansion of its coverage throughout the country. However, some issues related to policy and implementation are still not clear to the stakeholders. Focusing the institutional aspects of community forestry policy, the present research attempts to assess the linkages between policy, implementation and preliminary impact of community forestry programme, which aimed to improve forest resource management and rural development of Nepal.

Besides government's and donor's studies, there have been some limited policy analysis conducted by the independent institutions on the community forestry in Nepal. This study can raise an issue of debate on the performance of community forestry of Nepal. Moreover, being a newly growing community forestry professional, the present study can help this researcher in his future involvement.

1.4 Research Questions

The central research question of the study is:
Is community forestry contributing to the environmental conservation and livelihood of the poor in Nepal?

In order to address this question, the following specific research questions are set:

1. What are the policy measures of community forestry?
2. To what extent has community management been institutionalized in the common property right regimes?
3. What are the problems and conflicts that emerged from community forestry policy?
4. To what extent has community forestry contributed to the environmental conservation?
5. Is community forestry contributing to the improvement of the livelihood of the poor?

1.5 Methodology

The research is primarily based on the secondary data available in the various forms of literature, such as government's documents, books, research papers, study reports, journals, articles, newspapers etc. In addition, discussion with the Team Leader of Nepal Swiss Community Forestry Development Project and an e-mail interview with the Programme Officer of Denmark-supported NARMSAP/Nepal, are the primary sources of information. In order to access this information, libraries of the Institute of Social Studies and Wageningen Agricultural University and web-sites of various organizations were consulted.

1.6 Limitation of the Study

Nepal has been divided into three ecological regions of Mountain, Hills and Tarai covering 35, 42 and 23 percent of total area of the country, respectively (CBS, 1999). The study is limited to the Hills where various forms of indigenous forest management systems were prevailing before and community forestry started 23 years ago. The study may not represent the recently introduced other two regions, Tarai where emphasis has been given to commercial forestry, and the Mountain region where population is scattered (7 percent) and covering large areas, with hard physical proximity (see Figure-3.1).

1.7 Structure of the Paper

This study is organized into six chapters. Following the introduction in chapter one, chapter two will explain the theoretical framework with critical analysis of conventional theories of commons, institutional governing theory and their linkage to sustainable development. Analysis of institutionalization of community forestry policy in terms of study settings and political economy of natural resource management, followed by community forestry in historical perspectives and its policy and regulatory environment will be dealt in chapter three. Chapter four will analyze the implementation of community forestry policy with critical assessment of process of community forestry development, problems, stakeholder analysis, conflicts and its management procedures. Analysis of impacts of community forestry to environmental conservation and livelihood of the poor will be attempted in chapter five. Chapter six will include conclusions.

CHAPTER TWO:
THEORETICAL FRAMEWORK

There are different theories evolved about the management of Common Property Resources (CPR)[2] in a sustainable way. An attempt will be made here to introduce general concepts related to CPR management. It will be followed by a critical analysis of conventional and institutional governing theories related to CPR, its linkage to sustainable resource management in general and community forestry of Nepal in particular.

2.1 General Concepts

Different scholars and researchers define the general terms like, resources, property rights and property regimes in different ways which led to different interpretations of resource management systems. Clarification of the concepts used in this paper is presented in the following section.

Common Property Resources

Natural resources (like forests) are the components of an ecosystem providing goods and services useful to man as a means of sustenance of mankind (Grima and Berkes, 1989). CPRs refer to the resources held in commons where user's right is attached to the specific group of people. All CPR share two important characteristics; (1) excludability (or control of access) of user to these resources is difficult and costly and (2) substractibility which creates rivalry between the user as each user is capable of subtracting from the welfare of other users (Willams, 1998). Thus, CPR belongs to a class of resources for which exclusion is difficult and joint use involves substractibility.

Property and Property Rights

Property can be defined in terms of the result of secured claim to resources or the services that resource provides (Gibbs and Bromley, 1989). Property is linked to social relationship and defines property holders possessing value or benefit from the resources. A property right is an enforceable authority to undertake particular actions in specific domains like right to access, withdrawal, management, exclusion and alienation which can be separately assigned to different

[2] Ostrom (1986), advocates the use of the term common pool resources for the natural resources used by many individuals in common like forest, pasture fishery etc. (McKean & Ostrom, 1995).

individuals (Ostrom, 2000). Thus property rights vary from minimal right of access to full ownership rights. Any natural resource can be under either one of the property rights of state, private or common property (Gibs and Bromley, 1989). Common property rights assure individual access to resources over which they have collective claims. For a resource to be managed as a common property, each individual confidently relies on every other group member's contribution to management. An individual can present himself as altruistically, feeling responsibilities in management of commons or as free riders, not contributing oneself and expecting others to contribute. Free riders respond to incentives to shirk responsibilities to the groups to which they belong.

Common Property Regimes

Common property regimes are forms of management grounded in a set of accepted social norms and rules for the sustainable and interdependent use of common resources (Gibs & Bromley, 1989). These are the decision-making arrangements that define the access to, control over and allocation of benefits of the common resources. CPR may be held within one or more of the following property right regimes: (1) Open Access, (2) Communal property, (3) State property and (4) Private property (Fenny *et. al.*, 1990). Well functioning common property regimes meet four conditions of efficiency, stability, resilience and equity (Gibs & Bromley, 1989). Thus, common property regime addresses the issue of efficiency, equity and sustainability.

Community Forest and Forest User Groups

Community forest refers to forested or degraded forest land owned by the government but formally handed over to a Forest User Group for protection, management and utilisation (CPFD, 1997:11). The FUGs are the groups of people residing in the vicinity of the forest that they are entrusted to manage, conserve the forest resources and utilize the forest products (CPFD, 1997).

Livelihoods

The livelihood of the poor can be defined as an activity that makes their life living (Chambers, 1997). The livelihood of the rural poor is forest-based and it is an integral part of subsistence farming.

2.2 Theories of Common Property Resource Management

In the context of increasing population pressure over the resources held in commons, after 1960

various theories about the management of resources held in commons evolved. In general, these theories can be categorized into two different schools of thoughts. Conventional theory[3] believed that local control for land and forest resources is a recipe for environmental destruction, where as modern theories[4] based on the institutional governance provoked active participation of people for the sustainable management of the resource.

2.2.1 The Debate over Tragedy of the Commons

Following the arguments of Gordon (1954) and Scott (1995), Hardin (1968) publishes a challenging article 'the tragedy of the commons' which explains the degradation of environmental resources to be expected whenever many individuals use a scarce resource in commons (cited in Fenny *et al*, 1990). According to Hardin, carrying capacity of the resources (like forest) is fixed and increasing population will increase the pressure on the common resources that are open to all. "A finite world can support only a finite population therefore population growth must eventually equal zero." (1968:1243).

Hardin's analysis is based upon the individual rationality which encourages overuse of the resources held on commons. The short-term benefit derived by an individual from resource extraction is greater than the short term cost to be bear even though the sum of those costs subsequently would exceed total benefits. "Excessive use would sabotage the renewability of resources, and lead to its cessation" (Uphoff, 1998:3). Similarly, Hardin cited an hypothetical example of pasture lands in commons where each herder receives a direct benefit from his own animal and suffers delayed costs from the deterioration of the commons when his and other, cattle overgraze (Ostrom, 1990). This tendency of rational individuals to over utilize common resources to pursue their self-interest remorselessly generates tragedy.

> "Each man is locked into a system that compels him to increase his herd without limit-in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons ruins to all." (Hardin 1968:1244).

Hardin makes two major assumptions. First, CPRs are open access where access and user rights

[3] Logic of Collective Action, Tragedy of Commons and Prisoner's Dilemma Game Theory.
[4] Modern theories of CPR include Institutional Governing Theory (Ostrom, 1990), and Community Based Natural Resource Management Approach (Uphoff, 1998).

are not defined. Second, resource users are individualistic and unable to cooperate towards the greater community interest. Thus they eventually become villain and victims of resource depletion (Arnold, 1998b). Hardin's arguments can be analyzed from exclusion of other potential users and the regulation of use and user to ameliorate the problems associated with substractibility (Fenny *et al*, 1990). Protection and preservation of such resources makes it possible to avoid free riders through the enforcement of regimes of the private property, or state control (Hardin, 1968).

Resource Privatization

Hardin proposes privatization of the commons where individuals can see and bear the costs of their extraction so that resources will be conserved. Under the private property, free riders can be excluded and over exploitation will be controlled. The privatization of resources is based upon the neoclassical economics where individual sees direct relation between input and output, whereas in the commonly held resources, the same individual sees loose connection between his personal contribution and benefit. For resource held on commons, due to this loose connection to the benefit of an individual, free riding becomes pervasive resulting in lower economic productivity of commons (Ostrom, 2000). Supporting Hardin's argument, Smith suggests the end of common property system by creating a system of private property rights (Smith, 1981).

There are several criticisms regarding the privatization of commons. Many scholars believe that this market oriented approach cannot solve the problem of resource conservation and it brings 'tragedy of commoners' where there will be inequity and losses from the privatization (McCay, 1984). Bromley (1991) argues that in the privatization of resources, environmental degradation attributes to the common regime under the influence of global regimes where enclosure can mine, log, degrade and abandon the resources for selling in the global markets. Thus, "It is generally enclosures rather than commoners who benefit from bringing ruin to the commons." (The Ecologist, 1993:15). Even though privatization provides incentive for the rational use of the resources, the owner can gain the pecuniary incentive to refrain from the destructive use of the resources which are not economical (Fenny *et. al*, 1990). Similarly, recent experience from Mexico reveals that where locally managed forest by Ijedo communities was privatized, forest degradation aggravated (Taylor and Zabin, 2000).

Increase the State's Control

Hardin proposes second solution for the tragedy of commons is the "mutually coercion and mutually agreed upon" which emphasizes the enforcement of strong rules by the government (1968:1247). Supporters of state's control argued that environmental mis-management or degradation is linked to the breakdown of traditional CPR Management system. Goodlands, *et. al.* (1989) argued national decision can determine the nature and economic optimality of property rights governing resources. State (*res publica*) or communally (*res communes*) owned land can be privatized through land titling programmes; or privately or communally owned land can be nationalized. However, there are numerous examples of commons where difficulty for exclusion and regulation of use right are not solved by state control. Citing a vivid example from Nepal, Fenny *et al* argue;

> "Alarmed by deforestation, the government nationalized forest in 1957, converting what were communal forests into de jure state property. But the result more closely approximated the creation of de facto open access. ... Deforestation accelerated instead of decelerated." (1990:8).

For the distinction between state and communal property, Repetto's (1986) illustration is useful. 'Villagers who ruthlessly cut trees for firewood and fodder in government forests will zealously nurture and protect groves that belong to them' (cited in Fenny *et al*,1990:12).

General criticisms

Hardin's argument became controversial where severe criticisms appeared in the literature of CPR management from the practical ground. Critics of 'tragedies of the commons' blame that Hardin's thesis suffers from ecologist's bias, which emphasizes competition, and underestimate cooperation in resource management. In communal management, users cooperate with one another rather than compete (McCay and Acheson, 1987). "Valuable natural resources are almost never open -access but are managed under traditional rules governing use." (Berkes and Farver, 1989: 8).

Hardin's argument is influenced by the Western view where property right is vested either to an individual or to the state. Thus resources which are not amenable to private appropriation are all called 'common property'. Such resources are 'unregulated open access' owned by no one and belonging to anyone and subject to degradation due to overuse by free riders (Arnold, 1998b). However, in rural Asia and Africa people are managing forest resources under communal control where user group define exclusion to non user/owners, and local people as co-owners define the

regulation and user rights of resource (Fenny *et.al*, 1990; Arnold, 1998b). In reality, there is an interface in the user between over exploitation and sustainable use of the natural resources. Thus neither 'tragedy of the commons' nor sound management is inevitable.

Applicability of conventional theoretical models is condition specific to open access commons, where due to free riders problems, individual rationality works against the collective interest. It is inadequate to explain the community forestry management system of Nepal where community people play an altruistic role defining use right and exclusion of non owners (Ostrom, 1990).

2.2.2 Institutional Governing Theory

Even though Hardin could not see the prospect of CPR held under communal property right regime, there are evidences where resources are successfully managed by the local communities through excluding the outsiders and involving the user in the management and exploitation of resources (Fenny *et. al*,1990). These evidences lead to the evolution of collective action theories, which focus on participation of user in the resource management and utilization.

Gibs and Bromley (1989) emphasize for the institutional arrangements, which can be defined as the rules and the conventions which establish people's relationship to resources, translating interests into claims, and claims into property rights. On her study on the Iriaichi land of Japan, McKean (1987) was unable to find a single example of common "that suffers ecological destruction while it was still a common" (cited in The Ecologist, 1993:18). It is increasingly argued that community institutions, formal or informal, can achieve better results than with state or private management (Berkes 1995). Pointing to the need of addressing the complex issues of common property resource management, Fenny *et. al.* emphasize the institutional arrangement which can revive the interest in grassroots democracy, public participation and local level planning (1990). Institutional governing theory attempts to resolve the problems of the commons through the voluntary organisation of the resource users (Ostrom, 1990). Various research show that many successfully governed CPR have survived for centuries relying on self monitoring and self enforcing patterns of human interactions (Kaohene and Ostrom, 1995).

However, successful local management systems are usually not operating in isolation from other institutions and organizations, governmental or non-governmental like in Nepal the Forest User

Groups who are working in co-operation with the government office (Uphoff, 1998). When local institutions are able to design, operate, monitor, and enforce the rules, there will be increased people's participation not only in design, but also in the implementation, decision making, monitoring and benefit distribution of the resource management system (Ostrom, 1990). This can build ownership over the commons and avoid the social cost associated with open access.

2. 3 Sustainable Development

Focusing on the people as core of the programme, community based natural resource management concept emerged with two objectives: Ecological sustainability and development (Uphoff, 1998). Functioning of the management institutions is essential for the sustainability of the resources as the off take rate should not exceed carrying capacity of the resources. Thus, for sustainable use, resources should be in limited access condition.

Sustainable development is related to the handling of tradeoffs between conservation and human welfare through equitable participation of rural poor and marginalised people in resource management (Grima and Berkes, 1989). Brundtland Commission defines sustainable development as meeting an objective of reviving economic growth and meeting basic needs of poor people "without compromising future generations' ability to meet their needs." (WCED, 1987:8). Thus sustainable development should take into account resource conservation and human welfare through the use of the natural resource based products like fodder, fuel wood, timber essential for the livelihood of the people (Colchester, 1994).

Sustainability is linked to the social justice and equity which advocates not to degrade the goods and services received from natural resources (WCED, 1987). There are four basic conditions for sustainable development: basic needs of the community must be met, resources should be subject to local control, local community must have decisive voice in planning and they should represent themselves through their own institutions (Colchester, 1994).

Thus in community-based natural resource management, access to and control over the resources are vested in local institutions. The concept explains organization of groups of people to define exclusion of free riders and derive benefit from it for the promotion of institutional strengthening. This concept will be applicable to study the community forestry of Nepal.

CHAPTER THREE:
INSTITUTIONALISATION OF COMMUNITY FORESTRY POLICY

The community based natural resource management (CBNRM) concept which incorporated institutional governing theory, deals political environment of group cohesiveness and collective actions. For the assessment of community forestry policy, it is necessary to examine a myriad of factors like forest resource and their significance in subsistence agriculture, political economy of forest resource management into different historical contexts and policy and regulatory measures of community forestry in Nepal.

3.1 The Study Setting, Significance of Forest Resources and Environmental issues

3.1.1 The Study Setting

Based on the altitude and climate which largely govern vegetation, the rugged geographical terrain covering 147181 square kilometers of Nepal can be divided into three agro-ecological regions- the Mountain, the Hills and the Tarai (CBS, 1999). The Hills covering 42 percent of the total area of the country covers diverse climatic condition with an altitude range of 300 to 4,000 meters from the mean sea level. Community forestry started in 1978 from the Hills where indigenous forest management system existed before 1957. Coinciding with the ecological differences, small patches of forests are unevenly distributed all over the Hills (Hobley, 1996). The region consists of mixed hard wood forest of Shorea Robusta, Schima, Alnas and pine species.

The Hills contain 32.6 percent (1.8 million hectares) of the total forest area of the country (Varughese, 1999). Of the 22.9 million population of the country, 46 percent live in the Hills and 90 percent are living in the rural areas (CBS; 1999, 2000). The rural peoples in the Hills are mainly distributed in small villages or hamlets which are scattered. Due to rugged terrain, slopes, lower value of forest products than the Tarai, outsider's interest to commercial logging is less problematic. With these features, conservation and degradation of forest is directly related to the livelihoods of the local people in meeting forest related basic needs (see Figure-3.1).

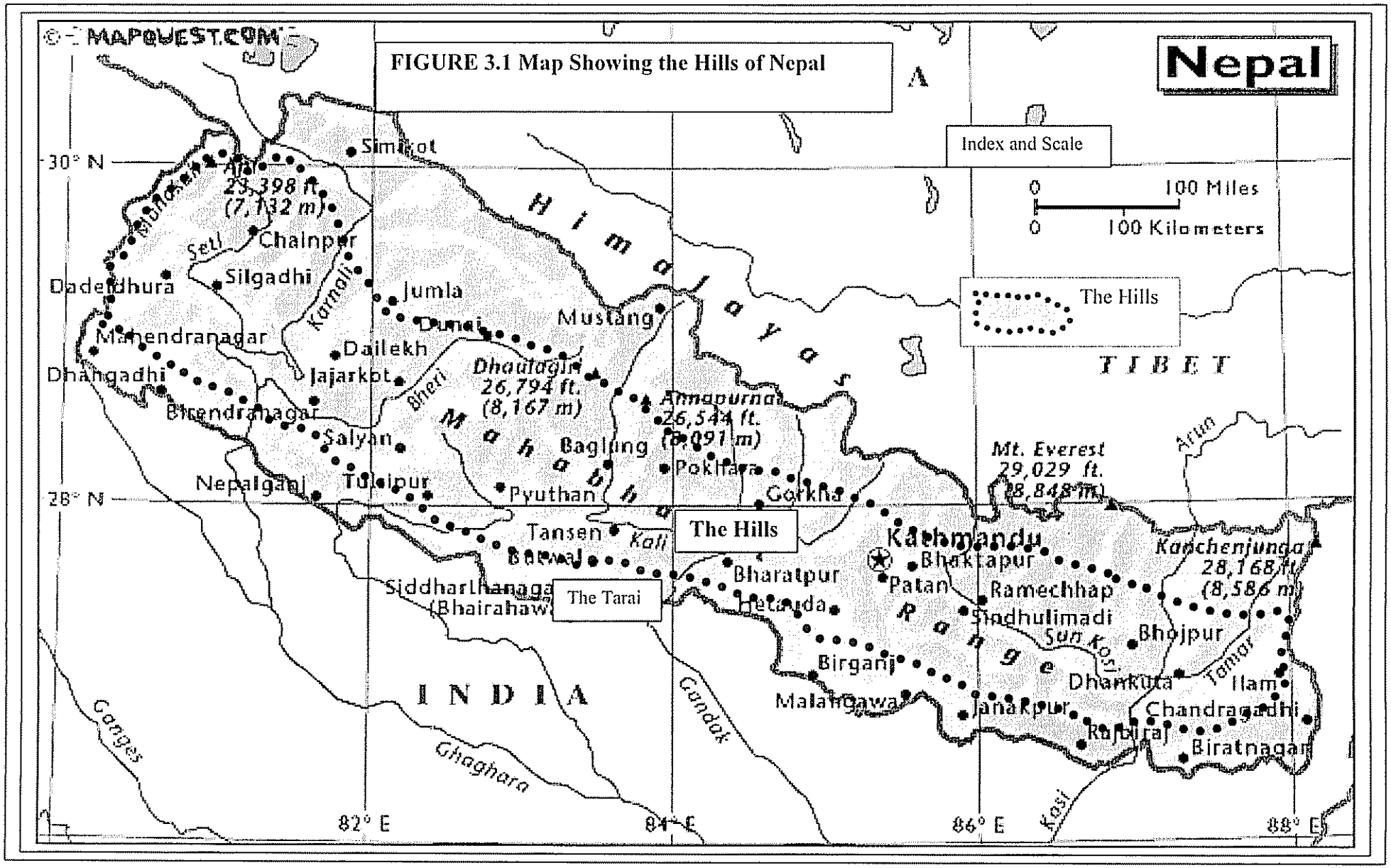


FIGURE 3.1 Map Showing the Hills of Nepal

3.1.2 Agrarian Structure

The agricultural sector contributes about 40 percent of the gross domestic products (GDP) and absorbs more than 80 percent of the total labor force as more than 90 percent of the rural people are involved in farming in general and subsistence in particular (CBS, 2000). Subsistence farming is integrated to the livestock keeping and the use of forest resources.

Nepal Human Development Report 1998 mentioned that the bottom 40 percent of the agricultural households use only 9 percent of the total agricultural lands owning less than 0.5 ha, while the top 6 percent occupies more than 33 percent of the total land (NESAC, 1998). Such high inequality of land distribution indicates a source of poverty. Realizing that high inequality of land is the fundamental cause of poverty, the present government submitted Land Reform Bill 2001, which is under debate in the parliament.

3.1.3 Significance of Forest Resources

Though degrading in the last five decades, the forestry sector is still playing a crucial role by contributing 15 percent of the GDP to the national economy and at micro level it is the base of daily livelihood of the rural poor (Shrestha, 1998). Due to subsistence nature of household economy, livelihood of the rural poor is linked to farming, livestock keeping and employment in agriculture. Forestry complements to subsistence agriculture as it contributes to reduce soil erosion and bio-diversity conservation.

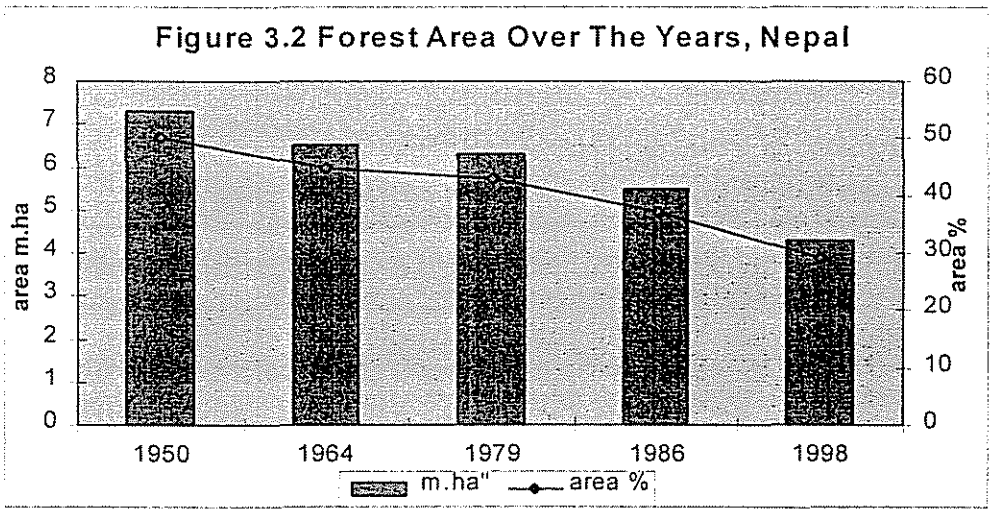
Various forest products are used for different purposes like timber for construction and furniture, firewood for fuel, fodder for animal feed, litters for the bedding materials of animals/composting, wild fruits and vegetables for human consumption and herbs as a source of medicinal plants. The forestry sector supplies about 75 percent of the energy of the country, mainly in the form of fuel wood (Shrestha, 1998). About 42 percent of total digestible nutrients to cattle is obtained from the forest in the form of fodder and grass (INFC, 2000). The Nepal Living Standard Survey 1996 found that 93.7 percent of rural households collected firewood and 86.8 percent used firewood as cooking fuel. Of all the households collecting firewood, 23.5 percent collected from own land, 12.5 percent collected from community forests, 59.7 percent used government forest and 2.6 percent from other sources (CBS, 1997). The reason for the reduced use of community forest and private forest for firewood collection can be explained by restriction on use of these regimes

and due to large parts of the forest still under state control. Though some rich families are able to buy forest products from the market, there is no alternative for the poor families except relying on the forest. Depleting forest resources due to overuse and illegal supply is creating a threat for the livelihood of the poor.

Though Nepal covers 0.1 percent of the world's total area, it contains 2 percent of the flowering species of plants, 8 percent species of birds, and 4 percent species of world's mammals (World Bank, 1998). Thus, significance of development of forest resources can also be seen in reducing biotic pressures and maintaining bio-diversity which have global significance.

3.1.4 Existing Forest Situation

Conservation and utilization of forest in Nepal has been heavily affected by the political environment of the country. During the political movements of the 1980s and 1990s, local elite and illegal loggers exported timber to India and commercial logging was done on a massive scale. Moreover, forest encroachment was committed by illegal settlers (Shrestha, 1998). Available data shows that the condition of Nepal's forest is deteriorating. Gone are the days when 'Green Forest-Nepal's Wealth' slogan was widely popular in the middle of the 20th century. The forest sector which covered about 50 percent of the land in 1950[5], decreased to 45 percent in 1964 and 43 percent in 1979 (NPC, 1998). (See figure-3.2).



Source: Adapted from NPC, 1998 Ninth Plan (1997-2002), Shrestha, 1996

[5] Forest experts roughly assumed more than 50 % of forest cover before 1950.

Similarly, forest cover has decreased from 37 percent in 1986 to 29 percent in 1998. Within the period of 1978 to 1994, forest area has decreased by 1.7 percent annually (INFC, 2000).

3.1.5 Deforestation, Environmental Crises and Population

Twenty years after the nationalization of forest, massive deforestation resulting into social, ecological and institutional crises drew worldwide attention to Nepal. International studies on 'Loosing Ground' of Echolm in 1976, and Nepal Forestry Sector Review 1978 by the World Bank, clearly reflected the doom and gloom scenario which has been dubbed into Himalayan Environmental Degradation Theory[6] (Hobley, 1996; Kuchli, 1999). According to this theory, the main causes of environmental crises in Nepal are due to increased fuel wood consumption with rapid population growth, increased cattle population, agricultural practices and commercial logging. The theory points out that deforestation in the Mid-Hills is universal and of recent origin.

However, actual rate of deforestation, its cause and consequences remains in question as different studies have different findings. Mahat *et al* (1986) clearly demonstrate that deforestation in the Hills is not a recent phenomenon, and most clearance for agriculture was completed 80-100 years ago. Aerial photograph of two districts between 1964 and 1978, showed that densities of trees of some categories of farmland in the Mid-Hills have increased substantially (Arnold, 1995). During this period forest area in the Hills increased by 1.3 percent where as in the Tarai, forest area decreased by 24.5 percent (Acharya, 1993). This increase in tree coverage is in stark contrast to the scenario painted by Eckholm and others in the late 1970s (Gilmour, 1995). Thus, studies showed that deforestation in the Mid-Hills was neither wide spread nor of recent origin. However, the concern of environment is still valid but not to the extent as described in the 1970s.

The environmental crises had a powerful influence, which pushed aid donors and Nepal's bureaucrats alike towards the identification of problems and the reviewed delivery of the development aid. In response to Himalayan environmental degradation, the government started large-scale reforestation programmes to rectify the technical problems (Varughese, 1999).

[6] The theory stated that "...after 1950, the Nepalese population began to grow rapidly. The consumption of forest products correspondingly increased ...and much forest was converted to agricultural land. Excessive pressure resulted in massive deforestation. ...agriculture on to ever steeper slopes resulted in catastrophic erosion. Increased runoffs and siltation cause severe flooding at lower levels. ..." (cited in Hobley, 1996:77).

However, the wide spread failure of these plantation schemes became instrumental to develop awareness about peasants and their farming environment, and about the institutional and social framework within which a peasantry operates. The government realized its technical and structural weaknesses both to stop the destruction of forest and to manage remaining forest. The concept of community forestry was introduced in the eco–doom era under the pressure of aid communities.

Both, 'Tragedy of Commons' and 'Environmental Degradation Theory' showed linear relation between the increasing population pressure with the degradation of resources. However, studies show the relation is not simple causality, but rather complex. A study conducted in two villages of Nepal by UNFPA/FAO, concludes that over 65 percent of improving forests are seen at the village where population growth rate is higher than the average. In the next village, where population growth rate is lower than the average, 55 percent of forests are at a worsening stage (UNFPA/FAO, 1998b:1). Similarly, an empirical study of 18 different locations of community forests in Nepal, indicated that " in locations with above-average population growth rate, 67 percent of forests are at improving or stable condition, whereas in locations with below average population growth rate, 55 percent of forests are improving or stable, while 45 percent are worsening." (Varughese,1999:69). These studies clearly demonstrate that a simple negative relationship between population growth and forest condition does not hold true. Rather forest status is associated with the socio-economic and management factors.

3.2 Political Economy and Historical Perspective of Forest Management

Political economy, which deals with the public power or decision making over access to and control over the natural resources, can be used to explain how politics functions in a particular social setting of natural resources management.

Introduction of community forestry is a response to failure of government's centralized control and management system and a recognition of limited access and use rights maintained in traditional forest management system. Though community forestry was widely popular after the 1980s, its historical roots go back to a century where local communities were managing forest with their indigenous techniques (Bartlet, and Malla, 1992). History of forest management in Nepal can be presented in three different political contexts.

3.2.1 Rana Regime (1846-1951)

The Rana[7] family ruled Nepal for 104 years and they perceived the dense forest of Tarai as private property and some parts of it were granted under Birta[8] tenure. Moreover, they were encouraging the clearance of Tarai forest for generating increased revenue from expanding agricultural land. Massive deforestation has been reported during the period of 1925-30, as timbers were exported to British India for the construction of railways (Hobley and Malla, 1996).

On Mid-Hills, the oldest settlement area of the country where population was dense, both traditional and indigenous forest management systems were prevalent under the responsibility of local headman called Talukdari[9] and Mukhiyas.[10] These Talukdars and Mukhiyas were responsible to maintain law and order at the local level. These traditional elite used to protect the forest either through their own family members or through hiring a Chitidar (watchman) under the *Mana Pathi system.*[11] Local communities were tied up with the local village headmen for collecting fodder, firewood and timbers. Even-though leadership was taken by the local elite, every household got forest products like firewood and timber on actual need basis and these systems protected forest land from clearing and converting into agricultural land (Devkota, 2000). Another popular traditional forest management system is the Kipat[12] land tenure system. Forest under this system was controlled and managed by the local communities. This management system operated independent of the government. Communities selected their watchman who looked after the forest from their own norms (Shrestha, 1998). Thus, these indigenous institutions involved in controlling forest and providing daily necessary forest products for the local people explain that Nepal has been experiencing community forestry for many years.

Though national forest coverage was decreasing due to deforestation in the Tarai region, forest in the Mid-hills was protected with the involvement of local institutions where local people received access and use right over the forest. Even though no formal awareness is noticed on

---

[7] Rana took power of the prime minister's position from the king and it was transferring within their own family on seniority basis.
[8] State forest land given by the Rana rulers to their relatives, priests, military personnel and nobilities.
[9] Talukdars are the local functionaries of states (local headman), responsible to collect state's land tax from the local people and distribution of forest products (Hobley, 1996). Talukdari is a system of forest resources management under the control of local headmen (Talukdars).

[10] Mukhiyas are the traditional village leaders who were given power to control the forest resources during the Rana regime.
[11] The system of payment by beneficiary households to watchman in kind (food grain).
[12] Kipat land/forest was granted by king to the Budhist origin people of Eastern Nepal in recognizing they as a the first settlers. On Kipat land, community leaders were responsible to manage land and forest resources (Caplan, 1970).

environmental protection, forest area seems conserved except in the Birta system where benefits was taken by the elite.

3.2.2 Nationalization Period (1951-1987)

After the overthrow of the Rana regime by the democratic movement of 1951, the new government enacted Private Forest Nationalization Act in 1957, which abolished communal and feudal forest management systems (Kipat, Talukdari, Mukhiya and Birta) *and put* all types of forest under state jurisdiction (Shrestha, 1996). Though the act aimed 'to protect, mange and conserve the forest for the benefit of the entire communities', it misperceived the problems and yielded negative effects on forest conservation (Varughese, 1999). This state appropriation curtailed the customary use and access rights of people over the forest and controlling and policing responsibilities transferred to the Department of Forest (DOF). From nationalization of forest, local people who were managing forest were deprived of use right became apathetic towards the government. They were disenfranchised and unable to follow traditional conservation processes. After the political change in 1961, the government enacted the 1961 Forest Law, which made strong provisions for the forest offenders, and roles and responsibilities of DOF were further centralized to control the forest resources (Foley and Barnard, 1984). However, due to weak state machinery, infrastructure and rugged terrain geography of the country, the government was unable to implement the law in controlling deforestation. Consequently, national forest illegally converted into open access.. This alienation of people from local forest resources led to wanton destruction of forest in the 1960s (Shrestha, 1996). Later in the 1970s, the government came to realize that local people can manage and protect the forest in a better way than the government as one trial of forest protection with local people's involvement in Sindhupalchok district was successful (Gajurel, 1997). Next, from the emerging environmental crises from degradation of forest, donors communities pressed for the reforestation with local people's participation.

The year 1978 became the milestone in the history of forestry development in Nepal as the government promulgated the 1978 Forest Law, which made provisions to hand over government's forest to the local political units (Panchayat) in the form of *Panchayat* Forest[13] and

[13] Panchayat forest is the new plantation established on government owned land and handed over to local Panchayat for reforestation and protection

Panchayat Protected Forest[14] (AAN, 1999). The government aimed to increase forest coverage through the reforestation and for this involvement of local people and local political body was highlighted. However, management responsibilities were taken by the local political units which were too large and too complicated for supervising and managing the local forest.

3.2.3 Populist Period (1989-2001)

The transition gap associated with the protection oriented forest policy through the political units, attempted to narrow down from the government's formulation of forestry sector master plan 1989 with 20 years horizon, which emphasized handing over national forest to the Forest User Groups (FUG) as community forestry.

The political movement of 1990 restored democracy in Nepal. Constitution of the Kingdom of Nepal 1990, emphasized protection of the natural environment through people's participation (INFC, 2000). Similarly, the 1992 Decentralization Act, the 1993 Forest Act and the 1995 Forest Regulation and Community Forestry Operational Guidelines 1995, gradually elaborated and defined the process of community forestry and attempted to remove obstacles in involving people in the forest management. Thus, community forestry in Nepal succeeded a series of steps and Forest User Groups gained the independent identity by the laws. The forestry sector master plan and Forest Acts were incorporated into successive national five years plans. During the Eighth Five Year Plan (1992-1997) progress in community forestry remained remarkable as there were 5316 FUGs formed irrespective of its target of 5004 (NPC, 1998). Reaching beyond the target was rarely seen in the history of government programmes.

Community forestry in Nepal evolved through an interaction of multiple factors. This stems from a sense of collective spirit embodied in Nepalese society through generations. Earlier experiences with different political turmoil, population growth, regulatory enforcement and adjustments, excessive dependence of the people over forest resources, and a paradigmatic shift in global development thinking are some of the other factors that contributed to evolve to the present scenario of decentralization and devolution (see table 3.1).

[14] Panchayat protected forest is the government forest entrusted to the local village Panchayat for the purpose of protection and management.

Table 3. 1 General Overview of Forest Policy Issues for the three Periods of Nepal

Issues	Rana Period 1846-1951	Nationalization Period (1951-87)	Populist Period (1989-2001)
Forest coverage	More than 50 percent	45 to 35 percent	35 to 29 percent
Availability	Abundant	Limited	Scarce
Objective of Forest Policy	Resettlement in Tarai, Increase revenues	Protect forest, avoid private ownership	Basic needs and forest conservation
Forest Management System	Indigenous/ Private Birta	Technical forestry and state control	Community management
Conservation Priority	Not existed	reforestation/ State protection	Natural regeneration Protection by people
Focus of Forest Use	Subsistence, Agriculture expansion	Subsistence + Industrialization	Forest related basic needs
Rational for the change in Policy		Resource conservation, Avoid Birta	Environmental concern Pressure from donors
Strategies of operation	Income, Export	Plantation	Extension, community mobilisation
Tools used	Birta/ communal and private management	State machinery political Unit	Local FUGs
Out come	Degradation	Both Hill and Tarai regions degraded	Hill –conserved Tarai- degrading.
Feature of ownership	Local communities in Hills	State and political body.	Local communities (FUG)
Management Philosophy used	Hill Not focused, Expand agriculture land	DOF's role: Policing and control	Users involvement, State's facilitation.
Institutional arrangements	Taluldari/Kipat & Mukhiya system,	District Forest Offices and their control	Forest User Groups
Main actors	Local Institutions.	Government/donors	Government/user/donors
Operation role Environment concern	Local headman Not aware	Government Controlling deforestation	Local communities Aware on conservation
Impact of forest management	Not noticeable change in the Hills	Heavy deforestation	Community forest positive
Access and use right	Traditional local institutions	Open access, Elite	Forest user groups

Source: Adapted from various documents.

3.3 Policy and Regulatory Environment of Community Forestry

The main basis of community forestry policy are the Forestry Sector Master plan, FSMP (1989), Forest Act (1993) and Forest Regulation (1995) and other decisions at the DOF level.

3.3.1 The Forestry Sector Master Plan 1989

The FSMP 1989, linked community forestry to meeting the basic needs of the people for fuel

wood, timber, fodder and other forest products in a sustained way. The Master Plan emphasized for the community forest as 'any national forests suitable to be converted into community forest would not be used for other purposes like leasehold forest (cited in INFC, 2000). The plan stipulated that all the benefits from the forest should remain with the local user groups. The main feature of forest policy as mentioned in the master plan include:

1. Handing over all accessible forest of the Hills to local communities provided that they are able and willing to manage forest.
2. Entrusting users with the task of protecting and managing forest and Forest User Groups (FUG) receive all the incomes from the community forest.
3. Emphasis on the extension approach aimed at gaining the confidence of the dependent groups of people, particularly women.
4. Enforce necessary regulatory measures for the operationalisation of the plan.
5. Train the DOF's staff for their new role as extension worker (INFC, 2000).

3.3.2 The 1993 Forest Act and 1995 Forest Regulation

In order to operationalise the master plan in a effective way, The 1993 Forest Act and 1995 Forest Regulation were brought into effect which emphasized the institutionalization of community forestry and Forest User Groups (FUG). The 1993 Forest Act defined community forestry and mentioned key issues of forest management about he roles and responsibilities of FUGs. 1995 Forest Regulation further clarified the policies and processes of community forestry. These new laws and regulations have repealed conventional forestry laws of 1978 and 1987 paved way for liberalizing forestry policy from central control to the decentralized self-governing contexts.

Status of FUG: The 1993 Forest Act recognized the FUG as an autonomous and corporate body with perpetual succession. FUG prepare their own operational plan in consultation with DFO staff and they can amend the operation plan by simply informing to DFO, if DFO do not object within 30 days. Based on the operational plan FUGs can make independent distribution mechanisms for forest products.

Decentralisation

Authority to hand over part of a national forest to a user group in the form of a community forest was delegated from the Regional Director to the District Forest Officers (DFO) which made

the process easy and fast. FUG's chairperson selection process changed from appointment by political leader to the selection by the user assembly.

Management Unit

Community forest management unit changed from local Panchayat to FUG. Similarly the boundary of community forest changed from political boundary to convenient geographical boundary. The size of the community forests of 125 ha for Panchayat Forest (PF) and 250 ha for Panchayat Protected Forest (PPF) had liberalized into no limit, provided the group is willing to and capable of managing the forest.

Group Fund and Use

The FUG can have its own fund which can be generated from the government's grant, donations, fines for illegal doers and from the sale and distribution of forest products. However the law is silent about the transparency of such funds within the group. The act provided rooms to involve FUG in a number of income generating activities like cultivation of cash crops. However, there is no supporting body or person other than the DFO who has not any experience in the income generation activities. The mandatory provision of fixing the price of forest products above government's royalty rates for selling forest products was abolished and the FUG can freely distribute or sell forest products at prices they fix independently. Though this provision has relaxed the sale of forest products, there are still chances to be taken by the elite at lower price. The income generated from the forest can be independently spent by FUGs on any kind of community development activity like establishment of drinking water systems.

The legal status of community forestry indicated that the concept is dynamic in Nepal as it is driving towards the local level institutional capacity building process of FUG. This dynamism towards the independent recognition of FUG has been considered as the most conductive legal arrangement for the development and promotion of community forestry over the history of Nepal. Despite these positive features of liberal and decentralized forest policy from the legal provisions, the new act and regulation, have several limitations creating dependency of FUGs to the DFO.

DFO collects the progress report from the FUG and it has the authority to check the FUG's account and records. The 1993 Forest Act stated that ownership of the forestland remains with the government whereas FUG receives only usufruct right. The activities prohibited in the community forest are; transfer of land ownership, clearing forest, building huts and structures, killing wild life, and transporting soil, rocks and pebbles etc. These provisions are limiting the

power given to FUGs by the Forest Act and contradictory to the principles of decentralization and delegation of authorities (seeTable-3.2)

Table 3.2 Overview of Community Forestry Regulations

Issues	1978 Forest Law	1987 Amendment	Forest Act 1993 and Regulation 1995
Area (in ha) that is allowed for community forest	Upto 125 as P.F. 500 as PPF	No limit No limit	No limit No limit
Benefit sharing to community	40 percent	100 percent	100 percent
Income from CF. To be spent on forest	50 percent	100 percent	Any community development activities
Pricing of forest products	Not less than royalty	Not less than royalty	As per FUG's Decision.
Plan preparation	By DFO	Community	By community
Plan approved by	Conservator	Regional Director	District Forest officer
Boundary	Political	Political	No political boundary
Management unit	Local Panchayat	User committee	User Group (assembly)
Chaired by	Elected leader	Selected by political body	Selected by user assembly

Source: Adapted from AAN, 1999;Shrestha, 1996;Joshi;1997 and INFC, 2000.

Similarly the new Forest Act mentioned that the DFO has the authority to take back the community forests if FUGs are not able to follow or implement the operational plan. If FUGs are not satisfied from the cancellation of registration, they can appeal to Regional Directorate of Forest (RDF) against DFO's decision. However, the decision of RDF will be final and FUGs are abstained to enjoy from the judiciary system of the country. Similarly, the law and regulation is silence about the issue of gender balance in the community forest participation from the community.

3.4 Summary

Through out the history of Nepal, management of forest resource is influenced by the political decisions. The Hills where about 90 percent of population are engaged in agriculture, forest resources are the source of livelihoods for the subsistence farmers of the rural households.
Community forestry concept emerged in response to a wide spread view of environmental concern of 1970s where poor farmers were blamed as destroyer of forest through increased consumption of firewood, fodder and land use patters resulting in land slides in the low belts.

community forestry policy of Nepal seems to have reverse back into a well defined property right regime where state and community both meet at a juncture for the achievement of the stated policy objectives. Realizing the nexus between foresters, bureaucrats and contractors was responsible for the destruction of forest, Donors put priority for community forestry in Nepal (Shrestha and Shrestha, 1998).

The Forest Law 1978 which emphasized the new plantation and protection of the existing forest was amended in 1987 in line with the liberalization where forest resource control by political body was diluted. Forestry Sector Master Plan of 1989 put emphasis on the joint responsibilities of the local people in the management of the forest. Subsequent the 1993 Forest Act and 1995 Forest Regulation attempted to make the ground for the functioning of FUG as an independent institution. Protection, management and utilization responsibilities of the forest are vested on the interest of the local people.

Community forestry policy was changing and more oriented towards the democratic institutional governance. Role of community forestry had been expected to improve the forest resource and contribute on the livelihoods of the poor. Even though the policy had allowed for the equal access of all regardless of gender, caste and ethnic groups, there were no any provisions to retain and include deprived people like women, the lower caste and the poor. This indicates possibilities of elite dominance. Some legal provisions like 'authority to take back community forest' is vested in the DFO', 'follow up and monitoring will be done by DFO', and 'forest is handed over for usufruct right only and not ownership right of the forestland' etc were weakening the ownership of the FUGs.

CHAPTER FOUR:
IMPLEMENTATION: PROCESS, STAKEHOLDERS, PROBLEMS AND CONFLICTS

Community forestry policy can be seen as the shift in the forest management approach harmonizing technical knowledge of the foresters and local people's experiences (Malla, 1994). This move toward decentralization and local governance context is important for addressing the core principles of common property resource management where different stakeholders are interacting. Here, an attempt is made to gauge the effectiveness of policy implementation through a number of implementation parameters including process, stakeholders' interaction, problems and conflicts.

4.1 Overview of Community Forestry Development Trend in Nepal

Community Forestry Programme is one of the most prioritized policy which is widely spread throughout the Hills. The number of FUG is increasing each year. Out of 6.5 million hectares (m ha) of forest area of the country, 61 percent (3.355 m ha) has been identified as potential community forests. Upto 2000, 24.26 percent (814,178 ha) of the potential community forest area had already been handed over to 10,593 FUGs of 1,157,988 households (DOF, 2001).

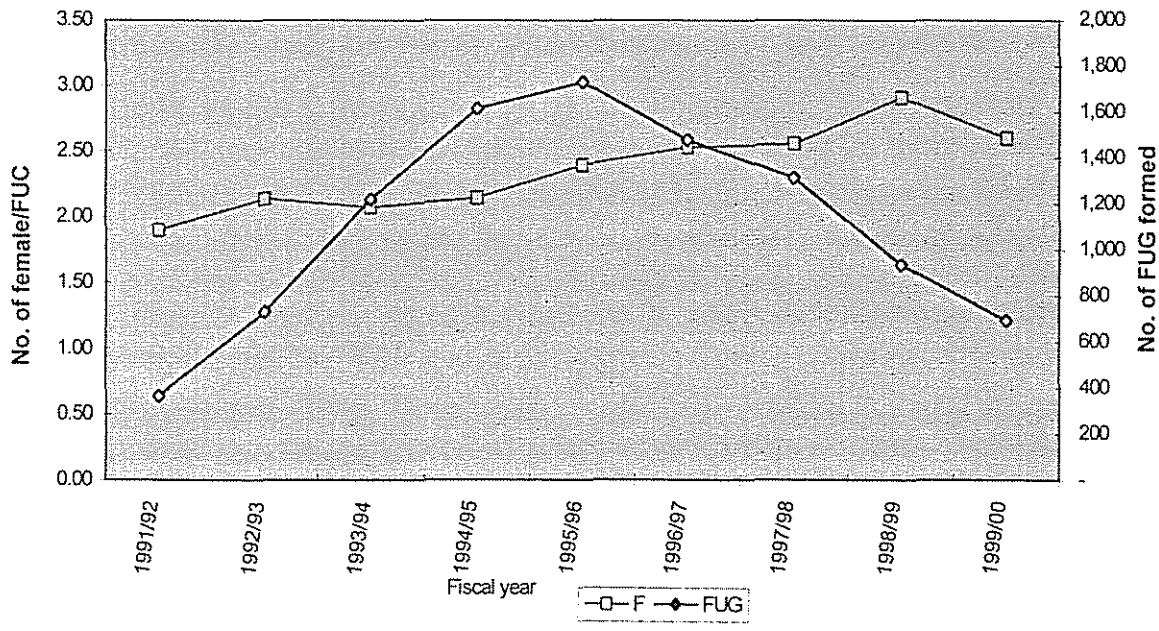
4.1.1 FUG Formation Rate

The Department of Forest's data shows that the rate of FUG formation after 1991/92 increased sharply and reached 1477 FUGs in 1995/96. The FUG formation rate was accelerated by the increasing demand in areas where community people initiated the process of FUG formation themselves and were supported by the government's target oriented approach. However, due to a transition gap, the DOF's staff were not able to perceive their own role and lacked skills for the mobilization of communities. It can be argued that such a high rate of FUG formation could have jeopardized the process and lowered the quality of the operational plan by mismatching and outstripping the facilitation process of the DFO.

After 1995/96, the FUG formation rate steadily decreased due to multiple factors. First, the easily accessible forests in relatively aware areas had already been handed over. Second, there was a lack of extension service in the remote parts of the country where people hardly saw foresters,

and they were not aware of community forestry-related laws. And third, the DOF could have paid more attention to the old FUGs. A few districts like Manang, Bhaktapur and Kathmandu have already finished the handing over process, and they do not have any further potential forest area to hand over (Shrestha, 2001). FUGs completing a five year period required the technical involvement of DFO staff for the revision of their operational plans. Consequently, DFOs were paying less attention to the formation of new ones (Shrestha, 2001). The declining rate of FUG formation can also be argued that DFO staff were paying better attention to the process than before. However, there was rare documentation proving that the process was well carried out following the guidelines of the DOF. The present trend of FUG formation clearly indicated that the government will not be able to meet its target of forming 7510 new FUGs for the ninth five year period of 1997-2002 (NPC1998). Similarly, the master plan's target to finish the handing over of the potential forest area by the year 2010[15] seems unreachable (see Figure 4.1).

Figure- 4.1 FUG Formation and Female Participation Trend



Source: Adapted from FUG data base, DOF, 2001.

The average area of community forest per FUG has been steadily increasing from 50.3 ha (1991/1992) to 96.1 (1999/2000). The trend indicated thast there was a tendency among

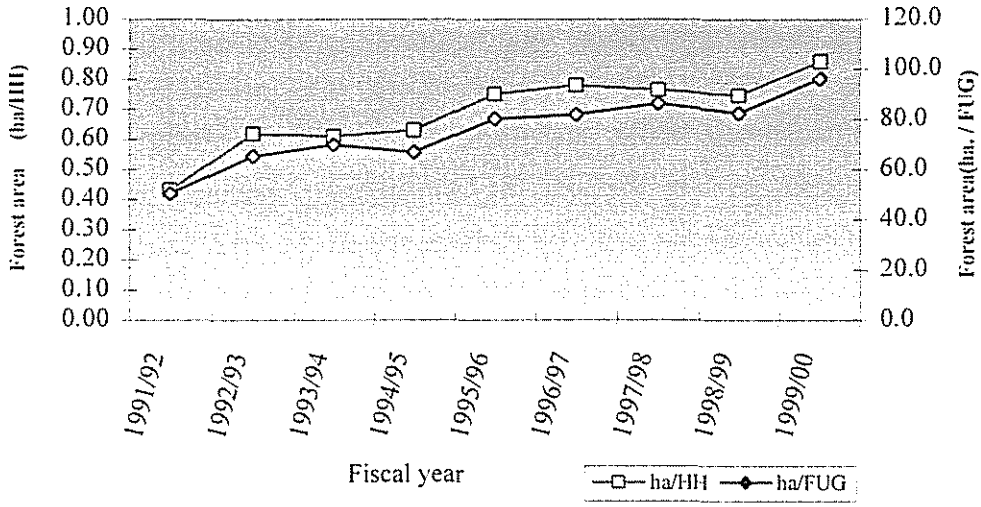
[15] End of Master Plan period.

technicians to hand over bigger plots of forestland to a single group. Similarly, forest area allocated per household has also increased two fold from 0.43 ha (1991/1992) to 0.86 ha (1999/2000). This tendency of handing over bigger areas of community forest indicates that there is less attention to analysing user's capacity and only ambition to increase the coverage of community forest (see figure-4.2).

4.1.2 Participation of Women and Lower Castes

The average size of the Forest User Committee[16] (FUC) is 11.2 persons, including about 2.4 women members (DOF, 2001). From the Fiscal Year 1991/1992 to 1998/1999, the number of female representatives in the FUC increased except in the year 1999/2000 (See figure-4.1). However, the qualitative aspect of women's participation in access, use, and control over the decision making process is questionable as FUCs are dominated by males (UNFPA/FAO, 1998). Similarly, the participation of poor and lower caste people was minimal.

Figure-4.2 Average Forest Size and Average Forest Area per Household



Source: Adapted from FUG database, DOF, 2001.

4.2 Community Forestry Development Process

In order to facilitate the participatory process of forest management, which involves the organizational aspect of people and the management aspect of forest resources, the process of

[16] FUC is an executive committee to represent the FUG for day to day administration.

community forestry development has been categorized into four different phases of investigation, negotiation, Implementation and review (DOF, 1995). The 1995 Community Forestry Operational Guideline of DOF explicitly mentioned the steps to be carried out in these phases.

4.2.1 Investigation Phase

The investigation phase focuses on the technical and social aspects of the proposed forest such as forest conditions, identification of users, settlement patterns, present uses and needs and problems of local people (DOF, 1995). In many cases, the survey of social and technical aspects was rushed and skipped, and the steps defined in the guidelines were not followed by the DFO staff (Malla, 1994). Individual household visits by DFO staff were replaced by a group meeting where poor people were missed. Due to poor assessment by the DFO staff, the investigative phase did not raise awareness of the government's policy on forest management and it was difficult to prepare effective operational plans.

4.2.2 Negotiation Phase

The negotiation phase starts with ascertaining the user's requirements, finding problems and their solutions, preparing an operational plan[17] and registration of the Forest User Group (DOF, 1995). Due to poor motivation and extension, normally only elite and households in clusters attended an assembly meeting to select the Forest User Committee (FUC). The assembly meetings were hardly participated in by the poor, the low castes and women. Consequently, such a process favored the selection of elite and high caste people in the FUG. In many cases time given to general assembly meetings was often too short to reach consensus. In case of not reaching consensus, the loudest voice of the elite are passed (Hobley, 1996). The 1993 Forest Act has made the provision that each FUG can have its own constitution defining its own functions, rules, duties and management functions. But, in reality, constitution preparation appeared symbolic as all groups prepared similar constitutions irrespective of location and climate, indicating local situations were not addressed. Moreover, local people's participation and interests were not well reflected.

The operation plan which was the main legal base of forest management explains the details of

[17] The operational (mangement) plan mentioned what, where and when to do forest protection activities and how much to harvest, sell/utilise forest products for the five year periods. It is the basis of contract between the Government and the FUG.

activities to be done in the forest for the five year period (DOF, 1995). However, most of the operational plans were dictated by the DFO's technicians where forest protection was stressed and other aspects like income generation, harvesting and distribution, including selling to the markets were lacking. Due to the poor extension work of DFO, there was a low level of awareness about the rights and duties of rural people. This resulted in a weak operational plan, which prohibited further development.

The operational guidelines issued by the DOF were hardly followed and in many cases, forests were handed over to the FUGs without detailed investigation and negotiation (Malla, 1994). The negotiation process which was supposed to take place between DFO staff and the community people on the terms and conditions of the constitution and preparation of operational plans through meetings and discussions were not taking place to the extent envisaged by the operational guideline.

4.2.3 Implementation Phase

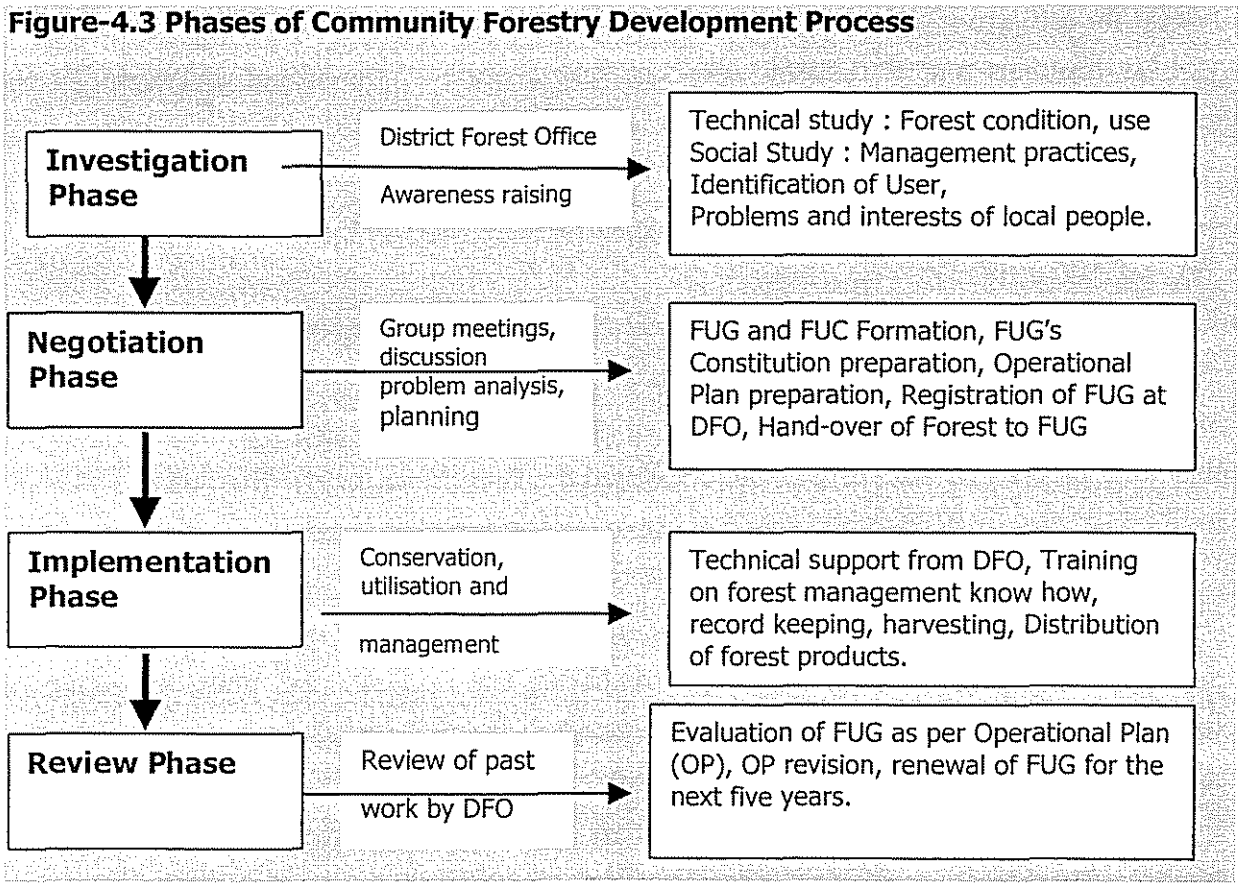
The handing over of the forest is an indicator of success in the government whereas actual management starts in the implementation phase. In order to implement the operational plan, DFO had to provide technical and management skills to FUGs. However, FUGs were less supported by the DFO staff as they seldom visited the field (Malla, 1994). The operational plans were more protection-oriented, and harvesting and distribution were less emphasized. This neglected the distribution of benefits to the FUGs and negatively affected the productivity of the forest. This arrangement was detrimental to the poor people who were dependent on the forest products to a greater extent than the people having large private land. Thus, a sustainable system of production and harvesting was not properly followed. Even though there was provision to revise the operational plan if deemed necessary, only in a few cases, support from DFO was extended to the FUGs but that support was limited to the elite, high castes and men. Despite this provision, in reality many FUGs were out of contact with the technicians of the DFO except in a few trainings or workshops. Despite the poor quality of trainings/workshops organised by the DFOs, in many cases local knowledge of management was effective and sufficient.

4.2.4 Review Phase

The review phase starts after the completion of five year period of the operational plan. DFO

conducts an evaluation study of FUG to ensure whether the activities implemented were carried out as per the operational plan or not. Only after satisfactory condition of the study, DFO staff facilitated discussions on the revision of the existing plan and upon approval of the revised plan, the legal status of FUGs was renewed for the following five year. However, due to the large number of FUG's whose operational plans were expiring annually, this was becoming a major workload for the DFO. However, in many cases, the review process was symbolic as DFO staff spent less time and effort in this phase. Moreover, it had become a condition to please the DFO staff to renew the already protected forest. Review of what FUG would like to do for the next five year period was missing as FUGs were not consulted.

Figure-4.3 Phases of Community Forestry Development Process



The above mentioned process clearly reflects that the role of DFO is crucial in making community forests successful. However, since DFO staff were target oriented and their awareness raising work involves organizing meetings, discussion, identification of users, walking around the forest etc, the quick and dirty process followed by DFO excluded the involvement of the poor and

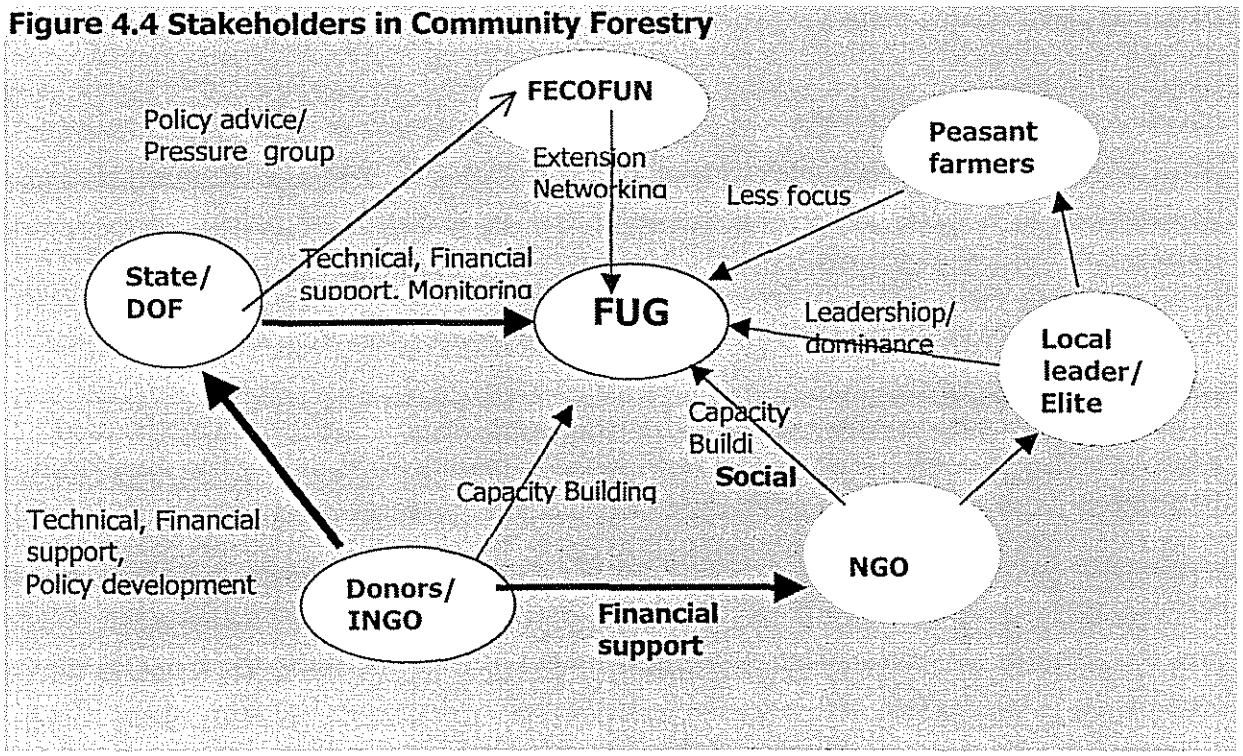
marginalised people living at the nooks and corners of the villages. Thus, chances for confidence building processes were limited to the elite and people living in clusters.

There were higher possibilities to skip many steps in remote areas due to lack of commitment of the DFO staff and poor monitoring of the government's administration. Moreover, as more FUGs are formed each year, demanding additional supportive from the DFO, qualitative work in the community forestry management can not be expected from the present limited staffing of DFO.

4.3 Stakeholders in Community Forestry

The term stakeholders in community forestry refers to the actors involved in the organization, management and development of community forestry programme. Stakeholder analysis describes the nature of the stake of different actors and can be done to understand a system by identifying the key actors interacting with each other and to assess their respective roles and interests (Grimbel *et al*, 1994; Hobley 1996).

Figure 4.4 Stakeholders in Community Forestry



The FUGs are the key stakeholders as their role is decisive in the forest management process, distribution of forest products and utilization of funds for community development. However, the dominance of elite, male and higher caste existed, and representation of poor and minorities were always discouraged. Next, independent identity of FUGs has not materialized at the field level as most of the FUGs had a high degree of dependency on DFO staff for forest management.

The government was motivated to formulate community forestry policy for the conservation of forest resources due to the degradation of forests. This sector was no longer the major revenue earner for the government rather donor's aid was greater than the revenue from forest (Malla, 1999a). Central level coordination with different donors was done by the DOF. However, at the implementation level, the historical legacy of DFO staff to control forests, had not completely eroded as many DFO staff were reluctant to hand over responsibilities to FUGs (Malla, 1994). There was no single case where DOF staff expressed to the state that they were incapable of managing the forest resources and they always pretended that everything was fine (Malla, 1999a). For the changing role of extension, field staff lacked the skills and knowledge and tended to spend less time in the village. This was possible because of the lack of proper performance monitoring system within the government, and of no extra incentive system. Thus, capacity building at FUG level was very weak as most of the FUGs were not aware of their rights and duties under the forest laws. The present trend of handing over large area of forest to a group shows less initiative and analysis done on the capacities of the users. The DFO staff paid less attention to following the process as they lacked the skills and knowledge (Malla, 1994). Monitoring and evaluation of the FUG's activities by the DFO to ensure FUG funds were not embezzled, created informal power for the DFO staff.

The Federation of Community Forest Users of Nepal (FECOFUN) is an autonomous and non-governmental organization representing all FUGs of the country (DOF, 1995). The main function of FECOFUN is to co-ordinate all FUGs and support government in community forestry policy related issues, policy lobbying at central level and sometimes it works as a pressure group against government. In 1999, DOF issued a controversial circular to the DFOs asking the FUG to stop the commercialization of timber. Interpreting this circular, all the DFOs issued a notice asking FUGs to stop all their forest related activities (Mahapatra, 2000). All FUGs of the country got confused and there was national level dissatisfaction with the government's circular. FECOFUN protested against this decision and later the government was compelled to withdraw its decision.

From the beginning of its introduction community forestry was a donor funded programme. Except in 15 Tarai districts which were government funded, international donor communities including multilateral and bilateral agencies and non-government organizations were involved in one way or another from policy decisions pertaining to community forestry to implementation at the grass roots level (INFC, 2000). Considering the failure of past development efforts and continued environmental deterioration, donors funded with the objective of ensuring the livelihoods of the poor people were linked to the availability of the forest resources (Hobley, 1996). Donors encouraged people's participation in forest resource conservation (Malla, 1999a). This new development philosophy, which aimed to assist in the socio-economic development of the country, was tested through the Master Plan (HMG, 1989). These agencies and organizations were supporting the programme in two ways. First, by technical assistance and funding as a part of institutional strengthening of DOF like the assistance of Denmark in 38 districts, and second, by involvement at the grass roots level for the formation of FUG and providing necessary training to the both FUGs and DOF staff (Germany, United Kingdom and Australian support) (See table-4.1).

Table 4.1 Overview of Community Forests Supported by Different Donors

Project	Donor	No of Districts	No. of FUG	Area (ha)	No of HH	ha/FUG
HMG	Nepal	15	226	35,540	80,601	157.3
EFEAP	USA	6	1,173	19,356	123,753	101.8
NSCFP	Switzerland	3	421	32,375	50,248	76.9
NACRMP	Australia	2	629	30,892	64,232	49.1
N/UKCFP	United Kingdom	7	1,689	109,091	167,624	64.6
NARMSAP	Denmark	38	6,375	478,557	660,723	75.1
GTZ	Germany	2	80	8,367	10,807	104.6
Total		73	10,593	814,178	1,157,988	76.9

Source: Adapted from FUG Data Base, Kathmandu Department of Forest, 2001

However, the modality of support and co-operation varied and different stakeholders were reported to have implemented community forestry in their own ways. This has caused diversity in programme implementation and confusion in the future direction of community forestry (INFC, 2000). Furthermore, there was always friction between DFO and the donor organizations at district level about the implementation process. Donors expected process oriented outcome and DOF staff were blamed for mismatching the process and funds there by being target oriented.

Local leaders and elite supported the community forestry programme with their own involvement in leadership and management. These elite and local leaders played dominant roles in the FUG's decisions especially in the benefit distribution and use of the FUG funds for community development activities. They had credibility in the villages and went on many study tours, exposure visits and seminars while poor and low caste people rarely got chances.

Unlike local leaders and elite, peasants had mixed feelings about the idea of handing over the forests. Even though the conservation of the forests helped the poor, low castes and peasants with a regular supply of forest products for their daily needs, many of them were unsure whether giving control of the forests to village elite would put them into a disadvantaged position (Malla, 1999a).

Table 4.2 Community Forestry Stakeholders and their Role and Relationship

Issue	FUG	State/DOF	FECOFUN	Donor/NGOs	Elite/Local leader	Peasant farmer
Support	Self organization	Technical support	Coordination, lobby policy development	Financial and technical support	To DFO	To FUG
Activities	CF Manage ment and utilisation	Supervision, mobilization	Pressure group/ Extension	Human resource development	Participate actively in FUG	Particiaption in FUG's activity
Role	Decisive within group	Extension and monitoring	Coordination, organization	Supportive	Dominant	supportive
Weakness	Elite, male dominance	Poor Extension & supervision	Limited fund Commercial interest	Low coverage, No decisive role	Own interest Political issue	Left out from decision making
Conclusion	Elite dominance, Poor left out	Target oriented	Growing, coordination	Influenced at policy level	Much benefited	Poor's issue not addressed

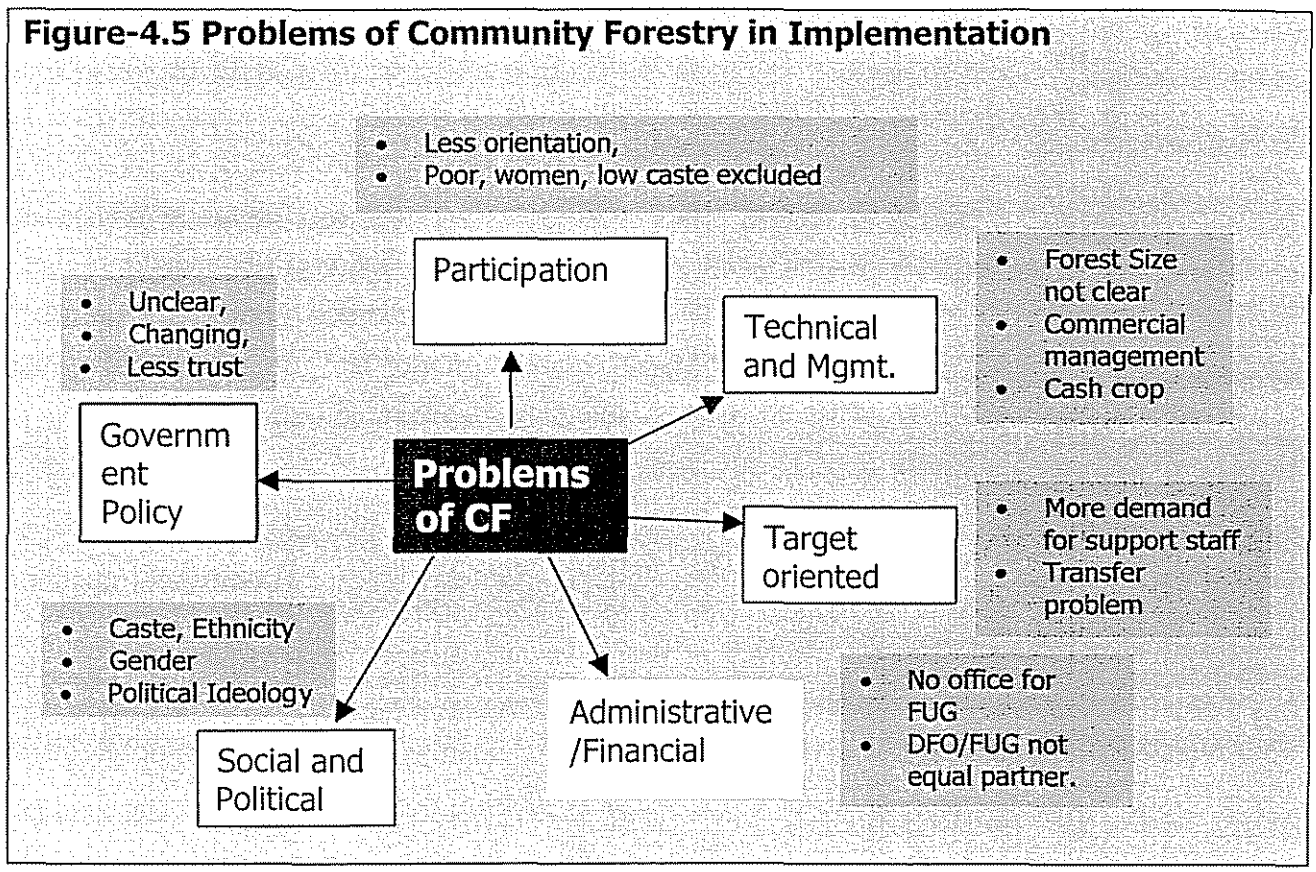
The above discussions reflect that different stakeholders have conflicting interests causing problems in implementation. Since community forestry is a donor supported programme, its institutionalization on the ground was influenced by both global and local political environments.

4.4 Problems of Community Forestry

The Implementation of community forestry policy at the grassroots level was in many cases hampered by technical, social, political, financial and administrative problems. The trend indicated that the size of the forest being handed over increased over the years. In many cases, user interest and capacity to manage the forest had not been analyzed resulting in

unmanageable situations for the silvicultural practices like training, pruning and management (see Figure 4.5).

Figure-4.5 Problems of Community Forestry in Implementation



In many cases, protection was successfully accomplished. The older community forests where timber trees had reached harvesting age, no commercial enterprise development took place and such 'blanket protection and hands-off management' was not effective (Regmi and Vickers, 1999). FUGs were receiving less technical support for the income generating activities like the cultivation of non-timber forest products. The number of FUGs increased over the years but manpower at DFO remained the same. In many cases, FUCs were not facilitated and technical support and follow up with the FUG was not regularly done by the DFO. This has resulted in a lack of management strategies in community forestry. Even though the role of DFO was facilitative, its past legacy of controlling and exercising hierarchical power was still dominant.

Administrative support from DFO to FUG was always directive as DFO staff behaved as if FUGs were under them. Though some FUGs which had funds could have an office as a meeting point

for its executive members, many newly formed FUGs were not able to establish an office. Most of the dealings were handled by the chairman and secretary from their own homes without communications with other members.

As community comprised from different castes, ethnicity, genders, economic status and political ideologies, each parameter of heterogeneity formed specific interest groups within the FUG. In many cases these interests were conflicting. Local values and cultural elements discouraged the involvement of women and low castes. Politics within the group severely affected the functioning of the FUG as political conflicts emerged in the utilization and distribution of resources.
Due to skipping and rushing tendency of government staff, extension work was poor which deprived villagers from awareness of management responsibility and use right of the forest (Shrestha, 1998). Poor, low castes and women were prevented from participation.

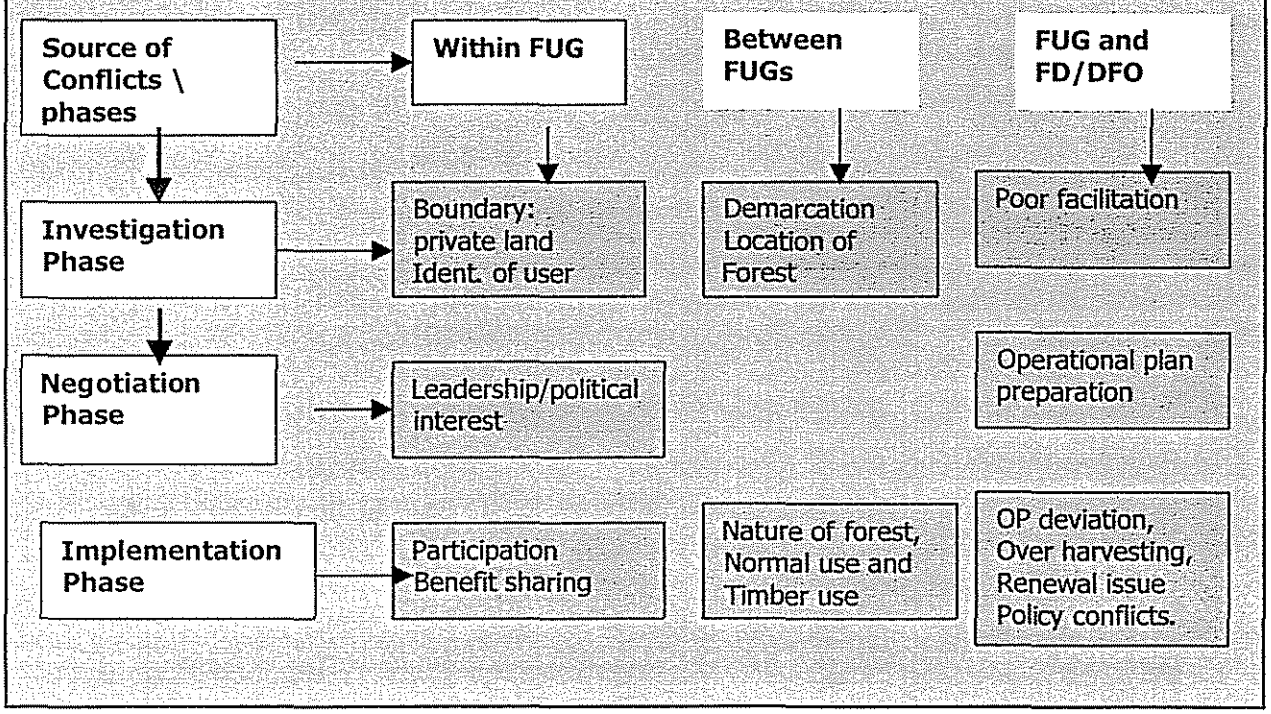
4.5 Conflicts its Sources and Management

Discussions on processes, stakeholders and problems revealed that there were a number of actors with different interests involved in the community forestry process. Disagreement or disputes over the access to, control over and use of the resources was inherent as the use of the community forestry was linked to the livelihood of the rural people (Matiru, 2000). Conflicts emerged due to the very nature of forest resources which were embedded in an environment where one actor's action generated effects on others (Buckles and Rusnak, 1999). Such complex processes of community organization and resource conservation are not free from conflicts, although, the form and intensity of conflicts varied from one FUG to another. In some cases, conflicts were not visible, as some actors preferred to avoid public confrontation. Conflict started from the beginning of the investigation phase over the identification of users. In many cases, poor and low caste[18] people living on the outskirts of the villages were excluded from the so-called detailed study (Upreti, 2001). However, these people could not survive without using the forest resources and became a source of conflicts. Individuals having land adjoining the community forest intended to expand their land by encroaching on the forest. In many cases, there was no clear boundary (Shrestha, 2001). While drawing boundaries, conflicts emerged between an individual and a group as the individual wanted to expand his land by encroaching on the forest and group members wanted to control it. Such disputes delayed the forest hand over

[18] Here low caste refers to blacksmiths who use charcoal for their professional job of making farm implements like sickles and spades making.

process. Conflict in benefit sharing was most prominent in community forestry management. Due to large land size, large numbers of animals and bigger family size[19], rich/powerful people tended to take more forest products than the poor people as they had higher demand. Unequal distribution of forest products lead to conflicts (Shrestha, 1996). In some cases, poor people's survival was linked to wage earning, they hardly participated in the forest protection activities like watching the forest. Due to unequal contribution, conflicts emerged when all households claimed equal amount (Shrestha, 1996).

FIGURE 4.6 MAJOR AREAS OF CONFLICTS IN COMMUNITY



Households living near the forest were vigilantly involved in forest protection as they could see potential forest offences by outsiders. Meanwhile, informally they were taking more benefits like litters/fodder collection than the others due to locational advantages. However, conflicts emerged when they claimed more forest products than others (Upreti, 2001). Many FUGs did surveillance work on a rotational basis involving all members in turn. However, due to caste and wealth consciousness the elite were not present to the desired extent at the odd hours, yet

[19] In the rural area family size differs from well being status of a household. Looking for employment, poor families separate early. However, in rich families, extended family system is common (Thapa, 1998).

wished to enjoy equal benefits. Due to the higher social status of elite, other members could not complain openly leading to resentment, conflicts and injustice (Upreti, 2001).

Leadership was the main source of conflict in community forestry. The positions of chairperson and secretary of a community forest were prestigious in a village setting. Many people preferred to take these positions as they felt such leadership could uplift their social status. These positions were further exacerbated by the political interest of different political parties. The conflicts converted into dangerous situations when there was contestation among the politically motivated persons.

Conflicts between FUGs was not much except when the forest spread over two Village Development Committees (VDC)[20] with no clear boundary line. In such cases, both FUGs tended to claim the better part of the forest (Shrestha, 1996). In a few cases, conflict emerged due to ownership by one group of a specific forest like hardwood which had been shared for building construction by other FUGs. The second group claimed that they were barred from their long-standing right to timber.

Conflicts between User Groups and the Forest Department occurs in the implementation stage where operational plans could not define the detailed activities. The operation plan and constitution of FUG are the guiding tools for the overall management activities to be undertaken by the FUG. However, due to poor facilitation from the DFO staff, activities were not well defined and utilization not clear. Deviations frequently occurred, because of lapses of or laxity of the forest staff or the zealous pursuit of group members to get more income from the forest, which led to several conflicts (Shrestha; 1996, Upreti; 2001). Conflicts occurred when FUG harvested more than the operational plan, and in such cases DFO seized the harvested timbers.

Often conflicts are arising from unclear law and policy. Due to the low literacy level of the population (41 percent) the majority of the FUG members were not aware of the forest legal provisions. Elite and political workers in collaboration with the forestry staff were able to manipulate the rules for their personal benefit (Upreti, 2001). The Forest Regulation of 1995 allowed for logging. However, in 1999, DOF's circular prohibited commercial logging. Against this

[20] VDC is a political unit at village level.

decision, FECOFUN filed a case which is now under court's jurisdiction. If FUG is not able to solve the problem of illegal felling by non members, legal provision remains ineffective.

4.6 Conflict Management Practices

Since forest resources were linked to the livelihood of the rural poor, and due to the involvement of various actors in the process, conflict was ubiquitous with varying dimensions and intensity (Buckles and Rusnak, 1999). Though the constitution and operational plan mentioned possible conflicts and their management mechanisms, it was insufficient. Formal practices of conflict management (CM) involved official procedure guided by the state's rules and laws and handled by state's authorities like court and DOF. In a few cases, conflict occurred between members of the elite class who had land near the forest and wanted to encroach and a group of many people protested against them. Such conflicts were handled by the court which delayed the process of handing over the forest. Conflicts within FUG at community level were handled by the FUG whereas, conflicts between FUGs were normally dealt with DFO. Conflicts related to FUG and DFO were handle by the court.

Most of the conflicts between and within FUGs and its members were handled by the informal processes which were locally developed, practiced and enforced by the FUG and the communities. Informal practices of CM may not follow the state's rule and regulatory procedures and decisions were often not legally endorsable (Upreti, 2001). The nature of conflict guides its management process. In the case of severe conflicts about the violation of FUG's operational plan and constitution (like cutting the trees without approval), such conflicts were resolved following public apology process where the guilty party begged for pardon. Similarly fines and compensations were were made for quantifiable losses caused by violating FUG's rule. The wrong doer paid a fine or made compensation in kind for the misuse of assets.

In actual settings, the principle of legal pluralism was followed where both legal provisions and social and cultural norms were applied at the grassroots level. FUG is the leading institution to resolve the conflicts among the members. However, there is always risk on whose interest would be accountable as FUGs are elite dominance. The nature of conflicts, their causes and conflict management practices revealed that community forestry was being built on a people centered approach where active participation of FUG members were inherent.

4.7 Summary

Even though FUGs have an independent identity by law, in many cases, dependency on DFO was still there. The management process was dominated by elite and high caste males as FUGs represented the elite of the poor community. Poor, low castes and women were left out from the beginning of the investigation phase. Facilitation and support from DFO's technician limited the process and it seemed the operational plan was from DFO rather than FUGs as consultations with FUGs were brief. Such operational plans followed government's rule and the interests of the elite class.

The provision of monitoring and evaluation in many cases translated into inherent power for DFO who could threaten to take back the community forest. Consequently, support from DFO was not operationalised as DFOs were target oriented and tended to skip the process of group activation and mobilization. FUGs were not capable to enjoy the freedom to prepare their own constitution and operational plan independently.

Most of the supportive activities done by DFO such as knowledge and skills upgrading training were attended by the elite which gave little room to participate for the poor and low caste. The forest management system attempted to ensure that increased greenery would increasingly help the poor people. To some extent it was true that the poor were also getting benefit. However, in many cases, the tendency to divert benefits to the poor lagged behind. Most of the conflicts and their management process favoured DFO and elite class rather than the poor who were isolated from the process.

CHAPTER FIVE:
ENVIRONMENTAL CONSERVATION AND THE LIVELIHOOD OF THE POOR

Community forestry policy and its attributes in the implementation show that community forestry is steadily expanding through out the Hills. Is the increase in number of FUGs and coverage of the community forestry contributing to increasing green coverage and improving the livelihoods of the poor people? The following sections attempt to answer these two questions;

5.1 Impact on Environmental Conservation

Although environmental degradation is dependent on many ecological factors (like vegetation, forest areas, farming practices, soil erosion etc), changes in the forest condition, land slide and erosion status, and changes in Bio-diversity indicate general environmental conservation status.

5.1.1 Change in Forest Area

The actual impact of community forestry alone in the conservation of the forest is not clear as there is no single empirical study available so far indicating the magnitude of change in the overall community forest area of the Hills. So far, community forests total to about 24.26 percent of the total potential areas. Still a large part of the government's forest area has yet to be handed over to the FUGs.

Many official documents of DOF reveal that community forestry has contributed to resource conservation. Government statistics show that during the period of 1978 to 1994, forest area[21] in the Hills and in the country decreased by 0.2 and 0.5 percent annually, respectively (INFC, 2000). The lower rate of deforestation in the Hills than the country's average indicates that forest coverage under community forestry was increasing in the Hills and was supported by the protection oriented strategies followed by most of the FUGs (Varughese, 1999;Gilmour, 1995).

Some local level studies have reported that greenery increased from the conversion of shrub lands and grass lands in community forests. One district level study covering the period of 1978

[21] Government's definition of forest area includes, fallow land, rocks, shrub lands etc (CPFD, 1997).

to 1990 in Dhankuta district showed forest area increased by 2.3 percent (Mahapatra, 2000). Foresters and villagers observed that a large part of the barren area had been forested and similarly, a large proportion of degraded forest area had developed into a good forest. For example, most of the accessible Sal forests from lower Mid-Hills were degraded during the political movement of 1979-80 and now most of them have been reconverted into a good pole size Sal forest (Shrestha, 2001). Thus it can be concluded that community forestry was successful contributing to the re- greening of the Hills. There was some evidence that FUG members were involved in protection of forest of own community forests and cutting timber in the government's forest. Thus, there were possibilities that government's forest area was still decreasing while community forest was improving. Forest coverage in the private land was also increasing.

The changing context of agrarian structure and restriction of open grazing in the community forests, changed the livestock keeping system into stall feeding system which demanded more fodder for the livestock. Increased tree cover in the Hills was attributed to the increased forest coverage in the private lands where farmers had planted trees on the stream beds and banks, and on the wall of the uncultivated or dry lands (Gilmour,1995). Such private planting was attributed to many factors like increased access to market, decreasing availability of labour and change in fodder needs after the restriction of grazing in community forests.

5.1.2 Status of Land Slide and Soil Erosion

Due to increasing forest area under community forestry, the deforestation rate of the Hills is low. But, land slides and soil erosion are not decreasing over the years. Studies show that continued land slides and soil erosion in the Hills were attributed to both ecological and geological factors. Laban (1979) concludes that in the context of Hills, 75 percent of land slides were of geological origin, caused by the evolving slopes and young mountains which were out of human control (cited in Acharya, 1993).

The landslides could not be avoided by just planting trees and foresters believed that in a few cases even dense forest could cause landslide (Shrestha, 2001). This indicated the need for management of community forests maintaining optimum tree density rather than protection only. In a few cases, local level management efforts initiated from both communal and private management contributed to check land slide and soil erosion maintaining forest ecosystem. Thus

early demand for new plantation in community forestry envisaged by environmental crises seemed doubtful. Similarly, many areas with degraded forests suffering landslides were seen before, but were not becoming big problem (Shrestha, 2001). Thus, in some community forests, landslides were controlled but not in all cases where they were of geological origin.

5.1.3 Impact on Bio-diversity

The impact of community forest can be seen from the significant increment in bio-diversity. Many old pine plantations in the community forest area had naturally converted into Sal to Schima - Castanopsis forest and many such forests could be seen in the process of conversion like in Kebrepalanchowk and Sindupalchowak districts (Shrestha, 2001). Similarly, the Mid-Hill was largely dominated by Schima-Castanopsis (Katus-Chaulenae) but due to heavy human pressure they were on the verge of loosing the major original species to useless species or many had already been converted into less useful species dominated forest. But with the establishment of FUGs, large numbers of such forests had returned back to their normal or original composition with many other associate species (Shrestha, 2001). Similarly, in the higher altitude area, the oak species which were dominant before but lost due to deforestation, now were coming back with various other associates. Some examples of reappearance of wildlife (leopard, monkeys, bear etc) in the community forest had been reported by DFOs and FUGs.

The above discussions leading to decreasing deforestation rate, increasing forest cover both in private land and community forests, and positive impact on bio-diversity, can be concluded as community forestry in Nepal is contributing to environmental conservation in the Hills of Nepal.

5.2 Contribution to the Livelihoods of the Poor

Although community forestry has contributed to the improvement of the physical situation of forests thereby contributing to environmental conservation, its contribution to rural development process in terms of improving the livelihoods of the rural poor is a matter of debate. Here an attempt will be made to see the changes in the livelihood of the poor both in terms of tangible assets like forest resources and intangible assets like access and claims to resources.
Here an attempt is made to analyze the impact of community forestry in terms of access to and use of the resources and distributional impacts in terms of cost and benefit analysis.

5.3.1 Access to and Use of Forest Resources

Due to the subsistence nature of farming, rural people's livelihoods require the use of various forest products. The government's assessment criteria for FUGs performance were increased greenery and the amount collected in the FUG's account. However, the distribution of benefits to the poorer section of society was neglected. In a heterogeneous society where caste, class and gender differences play a crucial role in the overall status, the issue of distribution of benefit can be assessed through the following issues.

Impact on Women

Community forestry aimed to improve the social position of women. As stated in chapter 4, women's participation in the FUG representation over the years was increasing. But, this could not tell about their roles in decision making and the change in the quality of life. Increased greenery in the community forest helped to save time for women in collecting leaf litters and fuel woods. As distribution of fuel wood was limited and seasonal, even men were supporting to collect it (Collett *et al*, 1996). Thus, gender roles changed to some extent. In many cases community forestry changed the livestock keeping system from free grazing to stall feeding system due to restriction by FUG on grazing. But collection of fodder and grass for the animal has become an arduous job for women which increased their workload. In a few cases, women attended workshops/meetings and were represented in User Groups. However, Women from lower castes and poor class could not take part in these activities.

Distribution of Forest Products

During the state forestry period, forests were open access and fodder, fuel wood, litters and timbers were exploited from the forest. In this period, rich households possessing bigger land size, were collecting fuel woods from their private land whereas, poor households relied on public forest through out the year (Malla, 2000). For the distribution of forest products, the majority of FUGs built a mechanism of equal distribution as per its operational plan. However, equal distribution did not address the difference in household economies.

In a case study of Western Nepal, Timila (1999) estimates the fuel wood requirement for the rich, medium and poor households from the community forest as 5, 28 and 45 head loads[22],

[22] One head load is approximately equal to 50 Kg.

respectively. Thus, equal distribution of fuel wood of 10 head loads caused a loss to poor households while rich households benefited (Timila, 1999). The poor had to meet the deficit from the private arrangements like buying from richer people.

Due to protection strategy of community forestry (limited distribution), regeneration rate of forest was higher than the harvesting rate. Unlike green fuel wood, minor forest products like fodder and litters were normally open for all and collection by the individual households depended upon the physical proximity of the forest from the settlement, the herd size and farm size. Due to transportation difficulties in the Hills, application of inorganic fertilizer was still small and households were dependent upon compost and farmyard manure (Malla, 1995). Thus, poor households having small farm size and a small number of livestock consumed less quantities of leaf litters from the forests while richer households collected more for their greater demands. Estimating the fodder consumption of small holders (8690 Mege Joule) and large farm sized households (12570 MJ), Malla (2000) concluded that even though small holders collected a greater proportion of their fodder, in absolute terms, richer were taking more benefits

In general FUGs were not practicing commercial logging. However, while thinning and pruning trees, they collected pole size trees and timbers for sale (Malla, 2000). The general existing trend was that FUG sold timbers and pole size woods to the FUG members at lower prices than the market rates. But the rate was fixed on the auction or tender (Bhattarai and Ojha, 2000). Those having capacity to afford were the richer and they bid higher than the capacity of the poor households. Consequently, richer households were benefiting from such provisions.

Non-Timber Forest Products

Non timber forest products (NTFPs which had market values like herbs, wild vegetables were collected by women and children and sold to the market (Subedi, 1999). Donors were putting emphasis on the NTFPs which could be a major source of income. However, DOF staff were not taking it seriously. NTFps were implemented only in the FUGs supported by the donors and NGOs at grass root level. In few cases, medicinal herbs, cardamom, broom grass, bamboo production, ginger and resin trapping were recently introduced as income generating activities and their impact has yet to be seen.

5.2.2 Income from Community Forests and its Use

There were various sources of income for FUGs like sale of forest products, membership fees

from the users, fines, contributions from members, donations, rewards and financial support from District Forest Office for plantation and protection activities (Hunt *et. al*, 1996). However, not all FUGs had good income and it depended upon the size and conditions of forest, level of forest utilization, proximity to markets and kinds of income generating activities (Malla, 2000). A study of 369 FUGs from 17 Mid-Hills districts revealed that the average annual income for the year 1994-95 was US$ 340 which was lower than the national average household income of US $600 (Hunt *et al*, 1996). The average income estimated by the same study indicated that 97.7 percent of FUGs earned less than US$ 650, 86 percent FUGs below US$ 370 and 54 percent of FUGs had an average income of less than US$ 140 (Hunt *et. al*, 1996).

The average cash expenditures of 87 percent FUGs was US$ 130 while for 44 percent FUGs it was US$ 50 (Hunt *et al*, 1996). FUGs were spending incomes in a variety of activities like salaries of the nursery staff, watchman, weeding labors and administrative costs. Simple analysis of income and expenditure indicates that the FUGs fund was increasing where expenditure was less than the income.

5.2.3 Community Development Activities

Apart from day to day expenditures, FUGs were utilizing their funds for community development activities such as drinking water systems, irrigation canal repair, support for local school construction, walking trail improvement, extending electricity, construction of village temples, own office building construction and distribution of cooking stoves for the group members etc (Hunt *et. al*,1996; Upreti, 2000). However, the construction of drinking water supply and irrigation canal, which was run under the gravity flow system, most likely benefited the elite living below the catchment and having fertile lands in the valleys while poor were normally located at the upper part of Hills with less possibility of irrigation (Hunt *et al.* 1996). Similarly, these activities could not benefit all households in the mid-Hills due to scattered household distribution patterns. Since the elite were dominant in the FUG, the decision over the selection of community development activities was influenced by their favor and the voices of the poor members were not heard (Malla, 2000). Building schools could not directly benefit the poor households unless further support was provided to help them to send their children to school. Similarly, walking trail improvement and construction of temples were lower priorities for the poor as they were suffering from the problems of hand to mouth situation. In a study of Australian supported community forestry project area, one FUG spent US$ 200 for the extension of electricity line to a

Hindu temple (Malla, 2000). All FUG members used this temple only occasionally. Although this decision was mutually acceptable to all members, it was likely to benefit the people living near by the temples rather than those living at a distance.

Furthermore, for the completion of community development activities, richer people contributed in cash and poor people contributed labor. Since wage rate at village level is lower than in the markets, while contributing labour, poor people sacrificed their laboring opportunity at the near by markets which was relatively higher price. Their labor contribution made them more vulnerable in comparison to the rich who contributed cash. In many cases, households not able to contribute in such activities like village level electrification were not allowed to take benefit until they paid for it.

5.2.4 Quantification of Benefits

Quantification of benefits and assessment of their distribution pattern is a complex area and very few studies have been done so far. The benefits of community forestry can be understood by virtue of their utilities and all material values of the forest products actually consumed at household level. Similarly, the costs include the costs of forest management as forestry operations costs and transaction costs like decision-making (Bhattarai and Ojha, (2000).

Categorizing the households into three groups of poor, middle and rich, Kanel and Varughese, (2000) conducted empirical study of five FUGs in Eastern Nepal. The analysis of gross margin per household/person showed that poor group had the least gross margin indicating least received benefit in comparison to middle and rich household groups. Similarly, return to family labor as a gross margin to the earning per person per day including the transaction cost showed lower return to poor group than the rich and middle groups. Benefit/cost ratio for the poor group was 0.94 indicating that they experienced a net loss from the community forest whereas middle income group (1.17) followed by rich (1.10) were benefiting from community forestry (see table 5.1).

Table-5.1 Benefit Cost Analysis From Community Forest in three Income Groups

Parameter	Poor Households	Middle households	Rich households
Gross Margin per household	5.35	7.65	7.25
Gross margin per person day	63.5	81.5	75.25
Benefit cost ration (B:C)	0.88	1.07	1.0
Opportunity cost of return	5.95	9.15	10.1

Source: Adapted from Table No. 4.2, 4.3, 4.4 and 4.5 (Kanel and Varughese , 2000:6-8).

In another separate study of two FUGs in Eastern Nepal, Bhattarai and Ojha, (2000) found similar results of the benefit/cost ratio for the poor, medium and rich households as 0.94, 1.17 and 1.10, respectively.

As poor households had smaller numbers of animals and small farms, they collected little forest products like fodder and litters which had lower values. The negative benefit cost/ratio to the poor group was attributed to the higher labour cost due to high opportunity cost of their labor. Poorer households, especially those without land, could not use more fodder, leaf litter, and other agricultural inputs as they had limited land size and small herd.

Highest net benefit for the middle income groups was attributed to the possibility for collection of greater number of products, including high value timbers, and fodder and animal grazing which gave higher return to labor. Timber sold to FUG members at below-market prices was mostly purchased and used by better-off households, since they had greater demand for it and had the ability to pay. Poor households, on the other hand, did not have the need or ability to pay for timber (Bhattarai and Ojha, 2000).

Even though there was improvement in the conservation of forest resources, the analysis of distribution of forest products and benefit/cost analysis clearly indicated that government's rural development goal through the improvement of the livelihood of the poor, could not be achieved from present implementation process as the issue of equity had not been addressed. Since community activities were elite dominated and decided by the elite dominated FUGs, they benefited the elite to a higher extent than the poor. Thus, it is hard to achieve rural development through community forestry unless benefit distribution practice is changed.

5.3 Summary

Community forestry has played a significant role in the conservation of forest resources. Whether forest area has been increased or decreased is a controversial issue but improvement in the quality of forest has definitely been due to the community forests. The lower deforestation rate in the Hills than the national average, increased forest coverage in the community forestry in few studied districts, reduction of land slides in community forest area and re-appearance of lost bio-diversity can be taken as evidence of improved environmental conservation. Group funds were spent in community development activities prioritized by the elite where needs of the poor were not addressed.

However, from the analysis of distribution of forest products and benefit/cost analysis, it can be concluded that most of the benefits went to the middle class people, followed by the rich. In no case could poor households benefit from the present benefit distribution system. Thus, equity was not reached. Livelihoods of the poor remained unchanged or worsened from the community forestry.

CHAPTER SIX:
CONCLUSIONS

This paper attempted to analyse widely the government and donor sector supported so-called successful community forestry programme of Nepal. The paper aimed to link the community forestry and the livelihoods of the poor.

Forest resources in the context of Hills of Nepal are connected to the rural livelihoods and their management has been influenced by political decisions of the state. Evolution of community forestry has been attributed to three factors. First, the inability of the state to control the forest degradation process by its machinery. Second, pressure from the donors in response to wide spread environmental concerns of 1970s resulting from massive deforestation. And third, influence of changing development paradigms of decentralisation that recognized past experiences of traditional management systems where limited use rights were applied for the access and use of the forests and their products. On the theoretical ground, the institutional governing principle of common property resource management, supplemented by shared responsibility of state and community has been applied for the management of the forest resources.

Community forestry from its earlier stage of protection oriented strategies of 1978, shifted to management-oriented strategies after 1989, and it is now stepping towards local governance and decentralisation. Legal recognition of Forest Users Groups as independent institutions became a prime example in forest resource management. This change is an internalisation of the institutional governing principle of commons where FUGs were allowed to decide what they would like to do in their forests and also decide upon operational plan preparation, leadership selection and group fund utilisation.

However, some legal provisions created dependency on the DFO and the long lasting identity of the FUGs could be questioned. The provisions of only usufruct right of forest land to FUGs and renewal after the completion of five years subject to questions, are contradictory to the principles of local governance.

Community forestry policy delegated the responsibilities of protection management and utilisation of forest products to the local FUGs. Policy dictated that irrespective of gender, class and castes, all groups would take part in the management processes. But, in reality, mostly higher castes and their clans, the rich and the men were represented in FUGs. Instead of organising household visits, DFO staff were organizing meetings where poor were already missing from the beginning of the process. Even where the poor, oppressed and low castes were represented, they were mainly men. The elite dominance and representation in FUGs showed re- enforcement of already existing village elite where the realities of the poor were not reflected. Smaller interest groups further marginalised. During the meetings when consensus was not reached, loudest voice of the elite were decisive over the minority of the poor. Many poor people were silence in meetings and other activities as they were not aware of forestry law. DFO's facilitation and implementation support were always rushing/skipping which helped to involve the elite and avoided the poor.

Implementation of community forestry policy reflected a grim picture where most of the key decisions like silvicultural activities of forest management were taken by the DFO staff. Operational plans were stereotypes and mainly protection oriented, imposed by the DFO staff where local micro climatic differences, forest conditions and local needs were ignored. Operational plans were not prepared in favour of poor. The provisions closing the forest for longer period, emphasis for timbers, banning grazing and charcoal production all had a direct negative impact on poor group as their livelihoods were dependent on continuos access to forest.

Policy dictated that FUG decided what they wanted to do in their forest and they had freedom to use group funds. It also enjoyed the authority to spend FUG's income on community development activities, and state interference was absent. However, these arrangements allowed the rich and the elite to enjoy benefits while the poor and low caste people and women's interests were hardly addressed.

Even though the interaction between local people and the DFO was increasing, the changed role of government's staff on advisory and extension was challenging especially remote and less aware areas were less serviced. Thus, the institution building process of the FUG was limited to accessible and relatively aware areas.

Conflicts emerged from improper identification of user and boundary disputes between FUG and private holders. Due to poor facilitation from DFO, management plans were poorly formulated

and looked like stereotypes where only forest protection was stressed. Location specific potentialities of income generation like non-timber forest products and marketing of forest products were not facilitated by the DFOs. Consequently, private tree growers were getting benefits by selling their own trees at the local markets. This arrangement showed limited concern with equity within the FUG.

The rate of FUG formation has slowed down indicating DFO's manpower constraints and priority for the revision of the operational plans of old FUGs. So far, accessible and only 24.23 percent of potential forests have been handed over to FUGs. Government in no case could meet the ambitious target of forestry sector's master plan of handing over all the accessible forest by 2010.

Better educated, politically aware and better off high castes were able to benefit from the community forests whereas poor, occupational castes and women were poorly represented in FUGs (Collectt *et al*, 1996). Empowerment was limited to the executive committees of FUGs where the elite were well represented. Consequently, poor and marginalised groups were left out from the decision making and management.

Numerically, women's participation rate was increasing over the years but qualitative participation was still lacking. Women's workload in fire wood collection was reduced but, the workload for collecting fodder, and bedding materials for the stall fed animals created additional tasks for women. Group size was decreasing and forest area per household and per FUGs was increasing. That was attributed to the target oriented nature of DFO rather than indicating efficiency of FUGs.

To some extent, community forestry was strengthening the institutional environment of FUGs. The visible impact of community forest can be seen in the increased green cover in the Mid-Hills thereby conserving bio-diversity. However, government forest areas near community forests were deteriorating. This increased forest coverage was favored by the DFO's dominant role in preparing protection oriented operational plan.

Benefit distribution patterns of community forests show that there has been equal distribution of forest products like fuel wood and fodder among the all households. This equal distribution system could not benefit poor people as their farm structure and needs were different from the

elite. Thus, the equity (need based and capacity to afford) aspect was not been addressed. Cost benefit analysis showed that middle class people were benefiting to the highest extent, followed by rich people. Thus, the poverty alleviation goal of the government could not be reached by the present community forestry policy as there was no improvement in the livelihoods of the poor.

Despite these weaknesses, community forestry is still growing as a dynamic movement in the forest resource conservation of Nepal. The research concluded that community forestry is contributing to the environmental conservation through the improvement in the forest quality and by reducing deforestation. One of the prominent future research questions could be how to address livelihood issues in community forestry of Nepal.

List of References

Acharya, Harihar. 1993. 'Population, Agricultural Productivity and Environment' in Dahal, M and D., Dahal (eds) *Environment and Sustainable Development Issues in Nepalese Perspective*, Kathmandu, NEFAS: 26-48.

Acharya, K.P. 1998. 'Community Forestry in Nepal: A model of Common Property Resource Management.' *Nepalnet.* http://www.panasia.org.sg/nepalnet/forestry/comm_forestry.htm

Action Aid Nepal (AAN). 1999. *Advocacy Strategy of 1999-2002 Community Forestry Strategy Paper.* Kathmandu: Action Aid Nepal.

Agarwal, Chetan. 1999. 'Securing the Supply of Household, Local, National and Global Forest Values.' Fountain Forum, http.//www.mtnforum/resource/library/agarc99a.htm.

Arnold, J.E.M. 1995. 'Farming the Issues', in Arnold, J.E.M., and Peter A. Dewees. (Eds) *Tree management in farmers strategies: responses to agricultural intensification,* Oxford, Oxford University Press: 3-15

Arnold, J.E.M. 1998a. 'Managing Forest as a Common Property' *Community Forestry Paper No. 136.* http://www.fao.org/montes/don/forp/cfu/pub/en/fp/fp1363-e.htm

Arnold, J.E.M. 1998b. 'The Social Dimensions of Forestry 's Contribution to Sustainable Development.' Position Paper for the Eleventh World Forestry Congress. *Unasylva* No.190. http://www.fao.org/docrep/w6251E/w6251e09.htm

Baland, J.M., and J.P., Platteau 1996. *Halting Degradation of Natural resources. Is There a Role for Rural Communities?* Oxford, Clarendon Press.

Bartlet, A.G, and Y.B., Malla, 1992. 'Local Forest Management and Forest Policy in Nepal.' *Journal of World Forest Resource Management,* Vol. 6:99-116, A.B. Academic Publishers.

Berkes, F. 1985. 'The Common Property Resource Problems and the Creation of Limited Property Rights.' *Human Ecology* 13:187-208.

Berkes, F., and Farvar T., 1989. 'Introduction and Overview', in Berks, F. (ed) *Common Property Resources.* London, Belhavan press:1-5

Bhattarai B. and H. Ojha. 2000. *Distributional Impacts of Community Forestry: Who is Benefiting from Nepal's Community Forestry* ?' Kathmandu, Nepal Forest Resource Studies and Action Team.

Bromley, D. W. 1991. *Environment and Economy: Property Right and Public Policy.* Cambridge, Basil.

Buckles, D. and G. Rusnak, 1999. 'Introduction', in Buckles, D. (Ed) *Conflicts and Collaboration in Natural Resource Management.* Washington; International Development Research Centre/The World Bank.

Caplan L., 1970. *Land and Social Change in Eastrn Nepal.* London. Rouledge & Hegan Paul.

Central Bureau of Statistics (CBS) 1997. *Nepal Living Standard Survey 1996.* Kathmandu, Central Bureau of Statistics.

CBS. 1999. *Nepal in Figures.* Kathmandu, Central Bureau of Statistics.

CBS. 2000. *Statistical Pocket books of Nepal.* Kathmandu, Central Bureau of Statistics.

Chambers, Robert 1997. *Whose Reality Counts? Putting first last.* U.K.,Intermediate Technology Publications.

Clay, Jason W, Janis B. Alcorn and john R. Butler, 2000. *Indigenous Peoples, Forestry Management and Biodiversity Conservation: an Analytical Study for the World Bank's Forestry Policy Implementation review and Strategy Development Framework.* New York, World Bank.

Colchester, M., 1994. 'Salvaging Nature: Indigenous people, Protected Areas and Bio-diversity Conservation.' *UNRISD Discussion paper 55,* Geneva, UNRISD.

Collect, G., R. Chhetri, W.J. Jackson, and K.B. Shepherd 1996. *Nepal Australia Community Forestry project Socio economic Impact Study.* Canberra, Anutech Pvt. Ltd.

Community and Private Forestry Division (CPFD) 1997. *The Community and private Forestry Programme in Nepal,* Kathmandu, Department of Forest/Nepal.

Dawes, R.J. 1975. 'Formal Models of Dilemmas in Social Decision Making.' in Kaplan, M.F. and S. Sahwartz (eds), *Human Judgement and Decision process: Formal and mathematical Approaches.* New York, Academic Press, pp. 87-108

Department of Forest (DOF) 1995. *Operational Guideline for Community Forestry Development Program,* Kathmandu: HMG/DOF Community and Private Forestry Division.

DOF, 2000. *Diary* (in Nepali) Kathmandu, Department of Forest/ Nepal

DOF. 2001. *Community Forest Users Group, Data Base Records* (unpublished). Kathmandu. Department of Forests/Nepal.

Doornbos, M., A., Saith and B. White, 2000. 'Forest Lives and Struggles:an Introduction'. *Development and Change* Vol.31. (1):1-10.

Down To Earth. 2000. 'Community Forest Management: The Nepalese Experience'. *Centre for Science and Environment Down to Earth* Vol.8 No.19
http://www.oneworld.org/cse/html/dte/dte20000229/dte_analy.htm

Eckholm, E.P., 1975. 'The Deterioration of Mountain Environment.' *Science* (189): 764-70

Eckholm, E.P., 1976. *Losing Ground: Environmental Stress and World Food prospects,* New York, WW. Norton and Co.

Sabban , M.V.M 1997. 'Community forestry and decentralisation practices: reflections and experiences from the Philippines', in Victor, M., C. Lang and J. Bornemeier (eds.) *Community Forestry at a Cross Road,* Bangkok, IUCN/SEADO/UNCRD:175-180.

Falconer, J. and J.E.M., Arnold 1989 'Household Food Security and Forestry; An Analysis of Socio-economic Issues.' *Community Forestry Note-1,* Rome, FAO.

Fenny, D., Berkes, F., McCay, B. J., 1990. 'The Tragedy of Commons: twenty two years later.' *Human Ecology,* 18(1):1-9

Foley, G., and G. Barnard, 1984. 'Farm and Community Forestry'. *Technical report* No. 3, London, IIED.

Gajurel, D. 1997. *Community Forestry at Work in Nepal.* Nepal. ENS.

Gauld, Richard, 2000. Maintaining Centralized Control in Community Based Forestry: Policy Construction in the Philippines.' *Development and Change*. Vol. 31 (1):229-254.

Gautam, K.H. 1996. *Approaches to Extension in Forestry: evolved from experiences of community forestry in Nepal*. kathmandu, http://iufro.boku.ac.at/iufronet/d6/wu60603/proc1996/gautam.htm

Gibbs, C. and Bromley, D.W., 1989. 'Institutional arrangement for management of rural resources: common property regimes', in Berks, F. (ed) *Common Property Resources*. London, Belhavan press.

Gill, G.J., 1991. *Seasonality and Agriculture in the Developing World: a problem of the poor and powerless*. Cambridge, Cambridge University press.

Gilmour, D.A. 1995. 'Rearranging trees in the landscape in the Middle Hills of Nepal', in Arnold, JEM and Peter A. Dewees (Eds) *Tree management in farmers strategies: responses to aricultural intensification,* Oxford, Oxford University Press.

Goodland, R., R., Ledec and M. Webb, 1989. ' Meeting Environmental Concerns caused by Common Property Mismanagement in Economic Development Projectss', in Berkes, F. (ed) *Common Property Resource: Ecology and community Based Sustainable Development*. London, Belhaven Press:148-164

Grima, A.P.L. & F., Berkes, 1989. 'Natural Resources: Access, Rights to use and Management', in Berkes, F. (ed) *Common Property Resource: Ecology and community based Sustainable Development*. London, Belhaven Press:22-32.

Grimble, R.,Aglionby,J.,Quan, J. 1994. 'Tree Resources and Environmental Policy: A Stakeholder approach', *Socio economic series No. 7*. London, Natural Resource Institute.

Gronow, Jane and Narayan Kaji Shrestha, 1991. 'From Mistrust to Participation: The Creation of a Participatory Environment for Community Forestry in Nepal.' *Social Forestry network*, ODI Network paper No. 12b.

Hardin, Garett, 1968. 'The Tragedy of the Commons.' *Science*, Vol. (162):1243-1248.

Hausler, Sabine 1990 *Community forestry - a critique, illustrated by a study of Nepal*. – M.A. Research Paper, The Hague: ISS.

HMG 1989. *Master Plan for the Forestry Sector Nepal: Main Report*, Kathmandu, HMG /ADB/FINNIDA.

Hobley, Mary, 1996. *Participatory Forestry: the process of Change in India and Nepal*. London, Overseas Development Institute.

Hobley, M, and Y.B. Malla 1996. 'Farm Forest to Forestry; The three Ages of Forestry in Nepal', in Hobley M., *Participatory Forestry: the process of Change in India and Nepal*. London, Overseas Development Institute: 65-93.

Hood, S., and G.S. Timila 1997. 'Community Forestry: A program or A process ? The Interface Between Users and Government' In Victor, M., C. Lang and J. Bornemeier (eds) *Community Forestry at a Cross Road,* Bangkok, IUCN/SEADO/UNCRD.

Humphreys, David 1996. *Forest Politics: The Evolution of International Cooperation*, London, Earthscan Publications Ltd.

Hunt, S.M., W.J. Jackson, and K.B. Shrestha, 1996. 'Income Generation Through Community Forestry in Nepal.' *Paper No. 11 Presented to Regional Seminar on Income Generation Through Community Forestry*, October 18-20, 1995 Bangkok.

International Network of Forest and Communities (INFC) 2000. *Community Forestry Country Profile Nepal.* Victoria, University of Victoria. http.//www.Forestandcommunities.org/ couintry profile/nepal.html 1999.

Ives, J.D. 1987. 'The Theory of Himalayan Environmental Degradation : It's Validity and Applications Challenged by recent Research.' *Mountain Research and Development* 7:189-199.

Ives, J.D. and B. Messerli, 1989. *The Himalayan Dilemma : Reconciling Development and Conservation.* London and Newyork, Routledge & United Nations University.

Joshi, A.L. 1997. *Community Forestry in Nepal.* Kathmandu, Ministry of Forest and Soil Conservation, Mountain Forum, http.//www.mtnforum/resource /library/josha97a.html

Kanel,K. and George Varughese, 2000. *Quantifying the benefits of community forestry in Nepal.* Paper prepared for the discussion at the 8th Biennial meetings of the international association for the study of common property at Indiana University, USA.

Keohane, R.O., and Ostrom, E. (Eds) 1995. *Local Commons and Global Interdependence: Heterogeneity and Cooperation Domains,* London, SAGE.

Khadka, M., 2000. *Are the Women and Poor better Off ? A study on their Access to resources and participation in decision making in community forestry management in Nepal.* Unpublished M.S. Thesis, Norway, Norwayy Agricultural University.

Kuchli, Christian 1999 *Nepal the Community is the Better Forester.* Mountain Forum http.//www.mtnforum.org/ resources /library/kuchc99b.htm.

Lipschutz, R. 1991. 'Was n't the Future Wonderful ? Resources, Environment, and the Emerging Myth of Global Sustainable Developemnt', *Colorado Journal of International Law and Policy,* 2:35-54

Mahapatra, Richard. 2001. 'Betread', *Down to Earth,* Vol.9 No.22. Centre for Science and Environment http://www.oneworld.org/cse/html/dte/dte200140415/dte_srep.htm

Maharjan, M.R. 1998. 'Yield regulation techniques for Community Forest,management in Nepal: Opportunities and Constraints'. *A paper presented for the international seminar on Cultivating Forests: Alternative Forests Management Practices and Techniques for Community Forestry* 23-25 Sept. 1998 Bangkok.

Mahat, T.B.S., D.M.,Griffin and K.R., Shepherd 1986 'Human Impact on Some Forests of the Middle Hills of Nepal:Forestry in the context of the traditional resource of the state', *Mountain Research and Development,* Vol. 6, pp. 223-32.

Malla, Y. B., 1994. *Sustainable use of Community Forestry in Nepal: Discussion Paper,* Kathmandu, Nepal Australia Community Forestry Project.

Malla, Yam, 1999a. *Stakeholders Response to Change in Forest Policies.* London, University of Reading. http.//www.mtnforum.org/resources/library/mally99a.htm.

Malla, Yam, 1999b. *Tree Management and Household Strategies in a Changing Rural Economy: Beyond the use of Direct Incentives.* United Kingdom, University of Reading. http.//www.mtnforum.org/resources /library/mally99b.htm.

Malla, Y. B., 2000. 'Impact of Community Forestry policy in Rural Livelihood and food security in Nepal', *Unasylva* No.202 Vol 51. http://www.fao.org/docrep/x7273E/x7273e07.htm

Matiru, Violet. 2000. *Conflicts and Natural Resource Management*, Rome, FAO.

McKean, Margaret A and E. Ostrom, 1995 'Common Property Regimes in the Forest: Just a Relics from the Past? *Unasylva*', vol 46:3-15. http://www.fao.org/docrep /v3960e/v3960e03.htm.

McCay, B.J., 1984. *Capturing the Commons: A Foray into Field.* Toronto, Annual Meeting of the Society For Applied Anthropology.

McCay, B.J., and J.M., Acheson, 1987 *The Question of the Commons: The Culture and Ecology of Common Resources*, Tueson. University of Arizona Press.

NESAC 1998. *Nepal Human development Report 1998.* Kathmandu, Nepal South Asia Centre.

Neupane, Madhu. 1992. 'Establishing Good Relationships with Villagers for Community Forestry', Rural Development Forestry Network. Network Paper No. 14d.

Norman Myres, 1989. *Deforestation rates in tropical Forests and their climatic implications*, London, Friends of Earth.

NPC., 1998. *The Ninth Plan (1997-2002)*, Kathmandu, National Planning Commission/Nepal.

Nugent, J.,B. 1993. 'Between State, Markets and Households: a Neo-institutional Analysis of Local Organisations and Institution', *World Development*, Vol 21 (4):623-632.

Ostrom, E. 1986. *How Inexorable is the Tragedy of Commons ? Institutional Arrangements for Changing the Social Structures of Social Dilemmas.* Presented as a Distinguish Faculty Research Lecture. Bloomington, Indiana University.

Ostrum, E., 1990. *Goverrning the Commons: The Evolution of Institutions for Collective Action.* New York, Cambridge University Press.

Ostrom, 2000. 'Private and Common Property Rights', in Bouckart, B. and de Geest, G. (eds) *Enclyopedia of Law and Economics Vol.II* http://allserv.rug.ac.be/~gdegeest/ tablebib.htm#

Poudel, Keshab 2001. 'Community Forestry under Threat', *Spotlight: The National News Magazine of Nepal*, Vol.20 No.34.

Prakash, Sanjeev 1997. 'Poverty and Environment Linkages in Mountains and Uplands, reflection on the 'Poverty Trap' thesis', *CEREED working Paper No. 12*, Mountain Forum, http.//www. mtnforum/resource/library/prak97a2.html

Ramrez, Ricardo. 2001. *Cultivating Peace: Stakeholder Analysis and Conflict Management.*, IDRC/CRDI, http://www.idrc.ca/boooks/899/205ramir.htm

Regmi, B.N. and Vickers, Ben, 1999. *An Assessment of the Current Problems and Opportunities in the Management of Natural Resources in Nepal.* Kathmandu, Nepal Agro-Forestry Foundation. http://www.nepalnet.org.np/forestry/assesmnt.htm

Regmi, M.C., 1976. *Land Ownership in Nepal.* Berkeley, University of California.

Richards, Michael 1997. 'Tragedy of the Commons for Community based Forest Management in Latin America' *ODI Natural Resource Perspective* No. 22. http://www.odi.org.uk/nrp/22htm

Sharma, A. R. 1999. *Glamour and Gripes of Community Forestry: Case Study the Impact of Income Distribution*, Badikhel, Nepal. Wageneingn, Unpublished M.Sc. Thesis Department of Tropical Forestry, Wageningen Agricultural University.

Shephard, Gill.. Mike, Arnold and Steve Bass, 1999. *Forest and Sustainable Livelihoods: Current Understandings, Emerging Issues and their Implications for World Bank Forest Policy and Funding Priorities*, Draft Issue Paper. New York, World Bank

Shrestha, Bharat. 1998. 'Changing Forest policies and institutional innovations: users group approach in Community forestry of Nepal', *International workshop on' Community based natural resource management*, Washington, D.C., May 10-14.http://www.worldbank.org /wbi/conatrem/nepal-paper.htm

Shrestha, K. B., 1996. 'Nepal Arbitration Group- Community Forestry in Nepal-an overview of Conflicts', *ICIMOD Discussion paper series No.MNR 96/2, Kathmandu, NepalNet.* http.//www. nepalnet.org.np/icimod/MNR96-2.htm.

Shrestha, N., 1999. *Forest Control, Development and State Formation in Nepal.* Ph.D. Thesis, Canada, Dalhouise University http.//www.mtnforum/resource/library/shren99a.html

Shrestha, N., K. and Charla Britt, 1998. *From pilot to policy: community Forestry comes of Age in Nepal.* The worlds Bank/ WBI's CBNRM Initiative. http://srdis.ciesin.org/cases/nepal-001.html

Shrestha, N.,K. and C. Britt, 1997. 'Crafting Community Forestry: Networking and federation Building', in Victor, M., C.Lang and J. Bornemeier (eds.) *Community Forestry at a Cross Road*, Bangkok, IUCN/SEADO/UNCRD:133-144.

Shrestha, N.,K. and S. Shrestha, 1998. *Community Forestry Users Group: Managerial Innovations with Roots*, The world Bank/WBI's CBNRM Initiative. http://srdis.ciesin. org/cases/nepal-012.htm.

Shrestha, R.K., 2001. *Some Ideas on Community Forestry of Nepal.* Kathmandu. NARMSAP/DANIDA (Unpublished E-mail information available on October 5, 2001).

Smith, R.J. 1981. 'Resolving the Tragedy of the Commons by Creating Private Property Rights in Wildlife' *CATO Journal*, 1:439-68

Subedi, B.P., C.L. Das and D.A. Messerschmidt 1993. *Tree and Land Tenure in the Eastern Terai Nepal*, FAO. , http://www.fao.org/forestry/fon/fonp/cfu/pub/en/cs09/cs0901-e,stm

Subedi, B. 1999. *Socio-economic and Institutional Impacts of Community based Ecosystem Management project in Humla, Nepal.* Kathmandu. ANSAB.

Taylar, P. and C. Zabin 2000. 'Neo-liberal reform and Sustainable Forest Management in Roo, Mexico: Rethinking Institutional framework of the Forestry Pilot Plan', *Agriculture and Human Value*, Vol.17 (2): 141-156.

Thapa, L. 1998. *An Analysis of Dimensions of Deprivation, Ilam Nepal.* M.A. Sociology Dissertation Paper, kathmandu, Tribhuvan University.

The Ecologist, 1993. *Whose Common Future? Reclaiming the Commons.* London, Earthscan.

Timila, G.S. 1999. *Community Forestry Policy, Practices and Benefits from whose Perspective ? an analysis of Nepal's Community Forestry Policy, Practice and Benefit Distribution with reference to fuel wood.* M.sc. Dissertation, Reading, University of Reading.

Timsina, Netra P. 2000. *Harmonizing Social Environment and Strengthening Local Economies: A case of Community Forestry programme in Nepal.* New Zealand, International community development Conference.

UNFPA/FAO, 1998a. '*Population and community forestry management: lessons from action research in Nepal. Forest and Population issues*, Http://www.fao.org.sd/wpdirect/wpre0079.htm

UNFPA/FAO, 1998b. *Sustainable Development: Community Forestry and Population Issues: Case study from Nepal*, http.// www.southasia. com/community forestry/main.html

Uphoff, Norman 1998. 'Community Based Natural Resource Management: Connecting Micro and Macro Processes, and People with Their Environments'. *International Workshop on CBNRM.* Washington. Cornell University. May, 10-14.

Upreti, B. 2000. *Social Transformation Through Community Forestry: Experiences and Lessons from Nepal.* http.//www.mtnforum/resource/library/uprb00a.html

Upreti, Bishnu. 2001, *Conflict management in Natural resource: Conflict in Land, Water and Forest.* Ph.D. Dissertation, Wagegneign, Wagegneign Agricultural University.

USAID./Nepal 2000. *Community Forestry in Nepal.* Kathmandu, USAID/Nepal www.southasia.com/usa/aid success

Varughese, G., 1999. *Villagers, Bureaucrates, and Forests in Nepal: Designing Governance for a Complex Resources.* USA, Ph.D. Thesis, Indiana University.

Varughese, G. and E. Ostrom, 2001. 'The Contested role of heterogeneity in collective actions; some evidences from community forestry in Nepal', *World Development*, Vol. 29 (5):747-765.

Pulhim, J.M., 1997. 'Community Forestry in the Philippines: trends, issues and challenges' in Victor, M., C. Lang and J. Bornemeier (eds.) *Community Forestry at a Cross Road*, Bangkok, IUCN/SEADO/UNCRD:201-215.

Wasi, P., 1997. *The community Forestry : the Great Integrative Force.* In Victor, M., C. Lang and J. Bornemeier (eds.) *Community Forestry at a Cross Road*, Bangkok, IUCN/SEADO/UNCRD.

Watson, D. J., 1989. ' The Evolution of Appropriate resource management Systems', in Berkes, F. (ed) *Common Property Resource: Ecology and community Based Sustainable Development.* London, Belhaven Press:55-69

WCED 1987. *Our Common Future: Report of the World Commission on Environment and Development,* London, Zed Books.

Willams, Timothy O. 1998. 'Multiple Use of Common Poor resources in Semi Arid West Africa: A Survey of Existing Practices and Options for Sustainable Resource Management'. *ODI Natural Resource Perspective* No. 38. http://www.odi.org.uk/nrp/22htm

World Bank, 1998. *Saving Nepal's Forest : The promise of Community Management.* Newyork, The World Bank Group, http://www.worldbank.org/html /extdr/offrep/sas/ruralbrf/nepalforest.htm

World Bank, 2001 *Natural Resource Management in Nepal.* NewYork, OED World Bank. http://www.worldbank. org/html/ extdr/offrep /sas/ruralbrf/nepalforest.htm