Community Forestry in Nepal: The Efforts of Aid Projects and Their Involvement with NGOs

ネパールにおける Community Forestry：NGO 包含による援助プロジェクトの取り組み

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（受理： 2004年11月1日）

Chapter 1. General Introduction

1.1. World Deforestation and the Emergence of Participatory Forestry

Since the "Earth Summit" of 1992 held in Rio de Janeiro, global environmental issues have attracted people's attention. Deforestation is one of the representatives of such issues. According to the Global Forest Resources Assessment 2000, forests cover about 3,870 million hectares or 30% of the earth's land mass FAO (2001a). During 1990 – 2000, the annual rate of change was -0.2%, in other words, about 9.4 million of forest had cleared annually (FAO 2001b).

Deforestation has been recognized as one of the significant global environmental issues that contributes to the other global environmental issues such as global warming, desertification, and loss of biodiversity. In addition, the significance of deforestation derives from its complex causes and effects. It is almost impossible to apply single approach for a solution for deforestation since many different causes and effects are interrelated. In the case of developing countries, deforestation has been threatening not only environment but also livelihood of local people. In general, most people in developing countries are still heavily dependent on their livelihood for forest products. Therefore, a decrease in forest products will definitely influence their lives, at the same time, impacts on environment such as soil erosion, floods, and landslides also directly affect the livelihood of local people. Therefore, appropriate uses of the forest resources, in other words, sustainable forest management is necessary from both local and global point of views.

Since the post-independence period, the central government of many developing countries have been attempted to protect or control their forests (FAO 1983). However, attempts to protect forests by preventing local people from using them have proven unsuccessful, due to local people's dependence on forest products. "The countries that pioneered the changes tended to be ones where governments had acknowledge that centralized management of forests had failed in its primary purpose of conserving the essential productive values of forest resources." (Arnold 2001) This led to the recognition that deterioration, deforestation, and the degradation of forests can only be halted if action were taken to fulfill local needs (Mather 1990).

At the same time, development strategies based on industrialization also have become apparent that the strategies were not succeeding in supporting rural development and importance of local people involvement (Arnold 1991; Gilmour and Fisher 1991). The late 1970s saw the evolution for new concept of forestry as well as development strategy. International attention began to focus on rural development to meet the basic needs of the rural poor. At the same time, the concept of Participatory Forestry (PF) that recognizes local people as forest managers has emerged as an ideal approach towards both meeting basic need of rural people and sustainable resource utilization for rural development. Thus both development strategy and new forestry concepts focused on basic needs of rural poor who depend on their livelihood for forests and forest products.

These overlapping problems led to a number of international movements. The Eighth World Forestry Congress in Jakarta 1978, which was devoted to the theme "Forests for People," boosted rapid exposure of Community Forestry. In the same year, FAO's publication, "Forestry for Local Community Development" was published and "Community Forestry" was initially defined as "any situation which intimately involves local people in a forestry activities" (FAO 1978).[1] In addition, the World Bank (WB) forestry sector in 1978 mentioned a major shift from industrially oriented forestry to environmental protection in meeting community needs. By 1979, field projects and programs were already designed with the name of "Community Forestry." Since then, this approach in developing countries has been implemented mainly by aid agencies. Aid projects, therefore, are considered to have enormous influence on the expansion of PF. Despite more than 25 years of experiences, many projects are still struggling to be successful. Involvement of local communities is definitely essential for successful community forestry in natural resources management. However, difficulties of leading the active participation of local people, sustainability of local people's activities and self-reliance have been assayed in many reports as reasons for struggling projects.

1.2. Reviews of Studies on Participatory Forestry

One of the considerable reasons that have been disturbing people's participation and its sustainability is procedure in project designing or planning that could not address real local needs. Projects used to be designed or planned by project staff members who were generally outsiders and could not figure out real needs of the local people and communities. Arnold stated:

> "even projects which have sought to identify local needs, aspirations and possibility have in practice done so more on the basis of the views of planners and others from outside than on the local people themselves. Dialogue to achieve local participation has all too often started only after the project design has been finalized and is in place." (Arnold 1991, Broadening the Knowledge base, paragraph 4)

Under these procedures of projects, the problem was externally defined as a lack of firewood, therefore, initiative of

[1] Currently, the PF has been referred to as community forestry, social forestry, joint forestry, farm forestry and village forestry etc. Definitions of these terms vary from country to country, and sometimes a single country uses several terms for PF such as joint forest management and community forest management of India.

early participatory forestry was afforestation projects focusing on planting trees specifically for fuel, rather than meeting the local needs for trees and tree products. However, local people were not interested in planting trees only for firewood, and the project could not lead participation of local people. The problems, needs and solutions of local people that were defined by outsiders were not valid.

Thus, even an ideal approach for both sustainable forest management and rural development, whether it will work appropriately depends upon the project's approach. In other words, as long as the projects cannot address the real needs of local people, the project will not lead the "participation" of the local people. Therefore, a projects' approach is very important to implement participatory forestry. In order to understand real local needs, some insist that local people or communities should be involved not only in implementation of project activities but also in planning procedure such as defining problems and needs and in setting the project or program's priorities (Hunt *et al.* 1996, citing Jackson and Ingles 1995; SDI 1997). Warner, Senior Forestry Officer and coordinator of the Community Forestry Unit in FAO, defined;

> "Participatory forest management and development means projects or activities that are designed, implemented, monitored, evaluated and revised through collaboration between the local people who will be affected and the agency that is supporting and promoting the activities."

In order to lead the situation mentioned above, several approaches and tools to recognize a way to give poor people a voice, enabling them to express and analyses their problems and priorities have been developed such as Rapid Rural Appraisal and Participatory Rural Appraisal.

On the other hand, many studies on PF have been focused on meeting important conditions for participation. Topics of recent study on PF are diverse such as income generation, awareness improvement, equitable distribution of forest products, right of participants, decision making process and conflict management. Most of these topics have been focused and studied because these are considered as important condition or incentive to lead active participation, sustainability of local population's activities, and their self-reliance. In short, most of these previous studies have focused on regarding incentives or factors of participation, sustainability, and self-reliance.

Thomson and Freudenberger stated "An incentive is something that makes a person want to do something" (1997). According to previous studies, one of the important incentives for participation of local people is benefit, in other words, economic incentives (Warner 1997). Property right is another important incentives (Warner 1997; Arnold 1991; Meizen-Dick *et al.* 1997). However, interest and incentive for participation, sustainability, and self-reliance will differ from region to region because mainly local needs as well as social, cultural, and economic aspects influence interests and incentives (Alan 1994; Thomson and Freudenberger 1997; Warner 1997; Maskey *et al.* 2003). Even the results of case studies have accumulated; it will be almost impossible to find out incentives of particular region from the results of previous case studies. There will be no region where exactly the same incentives exist with another region. Therefore, it is considered that focusing more on a projects' approach to address local needs will be beneficial more than to figure out local needs and incentives based on the previous case study.

As mentioned previously, even though the approach of participatory forestry is ideal, whether it will work appropriately depends upon the project's approach. Despite this dependence on aid projects, little studies have discussed about aid projects' approach to lead participation, sustainability, and self-reliance.

1.3. Objectives of This Study

The main goal of this paper is to identify necessary efforts for CF aid projects to provide local people's participation toward sustainable forest management. More specific purposes of this study are:

To clarify policies and systems of CF in Nepal;

To examine overall status of aid projects for CF in Nepal;

To identify efforts of aid projects for CF toward participation of local people and sustainability of it;

To analyze how the efforts are functioning, working currently; and

To discuss about issues, considerable solutions, and potential efforts

This study focuses on Nepal where the following features on Community Forestry exist:

1) Many aid agencies have been supporting CF projects and programs, and this is one of the typical examples of developing countries that introduced CF;
2) A CF has been introduced in the late 1970s, right after emergence of CF concept, and the county has been recognized as one of the succeeding countries on CF (Sinha *et al.* 1996; Hausler 1993; Hobley 1996; World Bank 1996); and
3) A CF has become institutionalized under the Forest Act of 1993, and CF has clear definition and common procedure for formation throughout the country.

By achieving this purpose, the results will contribute to other countries that have similar conditions with Nepal. Implementing this research in country with the features mentioned above will be beneficial for the following countries and institutions:

1) All countries that will attempt to introduce CF;
2) All institutions such as aid agencies and NGOs that will or have been supporting CF projects or programs;
3) All countries that have been struggling with CF extension;

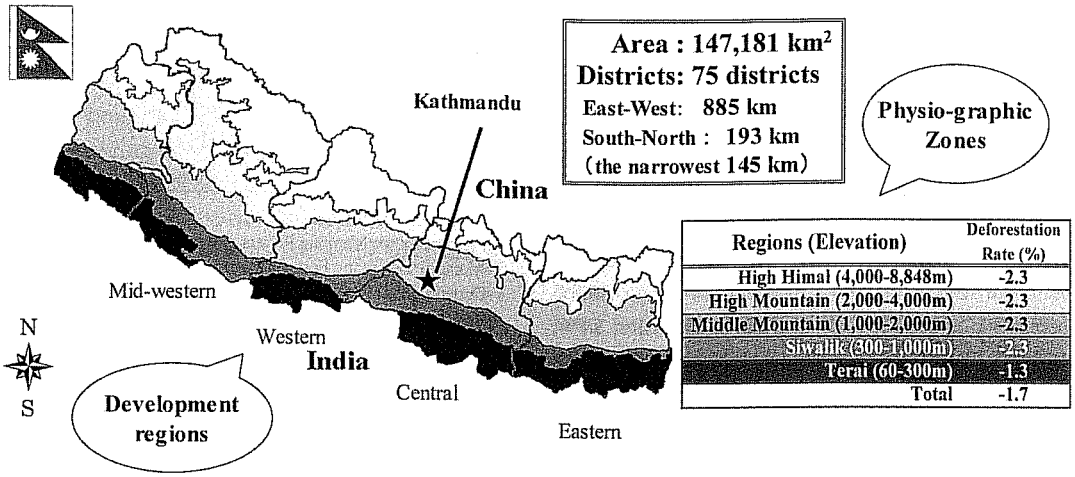


Figure 2-1. Geographic Features of Nepal

and

4) All institutions that have been supporting CF in the struggling countries.

1.4. Methodology and Structure of This Paper

The structure of this paper and methodology of each Chapter are explained as follows. In Chapter 1, the origin of the Community Forestry at the international level, research importance and methodology were discussed, while Chapter 2 was devoted to the shift in forest policy and management including history of aid projects for forestry sector in Nepal. The data used in these two chapters were primarily from publications of International Organizations such as United Nations, His Majesty's Government of Nepal (HMGN) and foreign aid agencies. Interviews with government officials in the Department of Forests also contribute to these chapters.

Chapter 3 dealt with the status of CF through aid projects and issues. Structured interviews were conducted to officials of bilateral aid projects for CF currently in place in Nepal. In addition, project reports of bilateral aid projects published by each aid agency and publications of HMGN were also used.

Chapter 4 examined efforts toward issues mentioned in the Chapter 3. Simple questionnaires and structured interviews were employed to officials of all the bilateral aid projects for CF currently in place in Nepal. Staffs of the NGOs involved in the bilateral CF aid projects were also interviewed. Project reports of bilateral aid projects published by each aid agency and publications of HMGN were also used to complete the study.

Chapter 5 analyzed effectiveness of the efforts presented in the Chapter 4. In addition, this chapter discussed issues and the potentiality of the efforts. Structured interviews based on the questionnaire were conducted on selected households. The result of the interviews was used to consider effectiveness, issues, potentiality and recommendations.

Chapter 6 examined features of three FUGs, and analyzed relationships between features (socio-cultural, economic and others) and attitude scores. Results of the interviews based on questionnaires mentioned in Chapter 5 were used in this chapter also. Chapter 7 mainly covered the general conclusion of the whole work.

Chapter 2. Forests and Policy in Nepal

2.1. Introduction

On the occasion when studies are done on Community Forestry in Nepal, it is necessary to understand both the history and current status of people, geography, forests, and forest policies because these will influence forest conditions. Therefore, this chapter focuses on understanding the features of geography, people, and forests in Nepal. In addition, this chapter also deals with the relationship between aid projects or programs and forest policies in Nepal.

2.2. Country Background

Nepal covers 147,181 km² and is landlocked between the Tibetan region of China to the north and India to the west, south, and east. The country has seventy-five districts and is divided into five development regions for administrative purposes from east to west and these include: Eastern, Central, Western, Mid-western and Far-western development regions. It is also divided into five physio-graphic zones from south to north with the increasing order of altitude such as Terai in the south (60–300 m), Siwalik (300–1,000 m), Middle Mountain (1,000–2,000 m), High Mountain (2,000–4,000 m), and High Himal (4,000–8,848 m) (Fig. 2-1). The distance between the southern and northern borders is only 145 km at its narrowest and 240 km at its broadest, and the

elevation ranges from 60–8,848 meters above sea-level. Because of this wide elevational gradient and undulating topography, the climate and vegetation are very diverse. The climate ranges from sub-tropical in the Terai to the arctic climate of the High Himal.

A survey by the Central Bureau of Statistics (CBS) estimated that the total population to be approximately 18 million in 1991 and over 22 million in 2000, with a population growth rate of approximately 2.3%. Over 85% of the total population lives in the rural areas. Nepal is a Hindu Kingdom and caste differentiation is a principal feature of Hindu societies. In terms of religion, 86.5% of the total population is Hindu, 7.8% is Buddhist, Muslim 3.8%, and others being 2.2% of the population. Although the caste system was abolished in 1949, it has been a strongly rooted force up to the present date. Influence in the caste system for society has been reported as a significant one. Nepal is one of the least developed countries of the world with GDP per capita of 1,310 (PPP: Purchasing Power Parity US$). The Human Development Index of Nepal is 0.499 against a maximum attainable value of 1 and the rank is 143 out of 173 countries in the world (UNEP 2000). Currently, more than 80% of Nepal's total economically active population depends on the primary sector, which includes forestry and fisheries (CBS 2001).

This population still depends on forest resources for its livelihood and for daily commodities, including fuel, fodder, wood for construction material and Non-timber Forest Products (NTFP) such as medicinal and aroma plants. Fuel wood production averages approximately 20 million cubic meters per year, accounting for 80% of total energy consumption (including commercial use) and 90% of rural household energy consumption (FAO 2001b; CBS 2001). On the other hand, the overexploitation of forest resources for household used by rural people is considered one cause of deforestation in Nepal today. The other considerable causes are taken up in the next section. Thus, sustainable forest management, which ensures that forest-derived goods and services will meet present-day needs while at the same time ensuring their continued availability and contribution to long-term needs, is necessary.

2.3. Forests in Nepal

Since 1950s, the Forest area of Nepal has been estimated by several different agencies with different methodologies. The first survey was implemented by FAO in 1954 (Table 2–1). Forest area at the time was estimated 6.48 million ha, in other words, forests covered 47.6% of the total land. The next survey was using aerial photographs taken. As a result, forests were shown to cover 45.5% (6.40 million ha) of the total area of Nepal in 1964. In 1986, the Land Resource Mapping Project of the Water and Energy Commission conducted more detailed survey. This estimated that forests covered 6.28 million ha in 1977, however the Master Plan for the Forestry Sector estimated 6.21 million ha (42.2%) was forests in 1977–78. Thus, changes in Nepal's forest area are uncertain because of these estimations with different methodologies. However, it is clear that forest resources have been decreasing rapidly since 1970s.

Table 2–1. Area Covered by Forests

Year	Area (ha)	Percent	Source
1954	6,478,000	47.6	FAO 1954
1964	6,402,000	45.5	HMGN/USAID 1976&1973
1977	6,284,629	42.7	LRMP[1] 1986
1977/78	6,211,038	42.2	MPFS[2] 1988
1985/86	5,828,368	39.6	DFRS[3] 1999

Area of Shrub is including.
1=Land Resource Mapping Project of the Water and Energy Commission
2=Master Plan for the Forestry Sector
3=Department of Forest Research and Survey

According to the Forest Resources of Nepal (1987–1998), the most recent report, on total land area (147,181 km²) showed forests covering 29.0% (4.27 million ha) and shrub covering 10.6% (1.56 million ha) (DFRS 1999). The annual rate of forest depletion in the Terai was 1.3% from 1978 to 1990 while 2.3 % in the hilly area from 1978 to 1994. In the whole country, from 1978/ to 1994, the forest area has decreased at an annual rate of 1.7% (DFRS 1999).

The causes and period of deforestation have been widely discussed in some literature. In 1970's various environmental crises, especially deforestation was addressed for the first time in many developing countries. Deforestation in Nepal has became widely known to the people with the theory of "Himalayan Environmental Degradation," which reported overexploitation of forest resources that caused not only significant deforestation in Nepal but also environmental crisis in the whole Himalayan region (Eckholm 1975, 1976). World Bank endorsed this theory and predicted in 1978 that no accessible forests will remain in Nepal (World Bank 1978, as cited by Ives and Messerli 1989). On the other hand, many other scholars were opposed to the theory. For instance, Ives and Messerli strongly opposed the theory presented earlier regarding deforestation as the Himalayan crisis, and as stated it had a many of problems associated with uncertainty.

It was widely believed that deforestation occurred during the years following the nationalization of forests, while villagers felt that the government taken away their forest (Bajracharya 1983). As mentioned previously, the overexploitation of forest resources for household used by rural people is considered one cause of deforestation in Nepal today. Gilmour and Fisher, however, insist that they never heard of a crisis in forest management following nationalization during their interviews with villagers (Gilmour and Fisher 1991). Although deforestation period and causes were uncertain, appropriate forest management was obviously essential.

In order to manage forests appropriately, the Forest Act of

1993 has categorized forests into two groups: the national and private forests. Toward sustainable management of the forests, the National Forests are classified into five categories: community forests, leasehold forests, government-managed forests, religious forests and protected forest (HMGN and USAID 1993). Nepal has three types of protected areas. There are nine National Parks (10,288 km^2), three Wildlife Reserves (979 km^2), one Hunting Reserve (1,325 km^2), and three Conservation areas (11,327 km^2), and these areas that cover 16% (23,919 km^2) of the total land or 41.0% of the total forests of Nepal.

The forest type ranges from sub-tropical in the Terai (plain) to arctic in the High Himal. In the Terai, Sal (*Shorea robusta*), *Acaciea catechu*, and *Dalbergia sissoo* are the primary species, while oaks (*Quercus* spp.), *Schima wallichiana* and Chir pine (*Pinus roxburghii*) are common in the Hill region. Mexican weeping pine (*Pinus patula*) is also observed in the Hill region because many aid projects had planted in the 1960s. Nepal has very rich floral and faunal diversity due to its topological, climatic and edaphic variation. Stainton classified vegetation into 35 types, and Dobremez has further elaborated into 75 types (Stainton 1972 and Dobremez 1972, citing Ojha *et al.* 2000). In terms of NTFP, due to the wide ranges of climatic and topographic conditions, a large variety of NTFP are available including medicinal plants, aromatic plants, Sabai grass, Lokta (*Daphne* spp.), Argeli (*Edgewortha gardeneri*) and others. The NTFP in Nepal is one of the important resources for both local and national economies. About 100 NTFPs are harvested for trade and more than 800 NTFPs are used as foods, spices, herbal medicines, incenses, oils, fibers and construction materials (Edwards 1996). Many of these are exporting as important materials, and some are used to make handcrafts for souvenir. For instance, white skin of Argeli is extracted from steamed stem barks and exported to Japan, where it is converted to a high quality paper that is also used for currency making. Lokta is also one of the commercial items. It is one of the main sources of Nepali traditional handmade paper (Ojha *et al.* 2000).

2.4. History of Forest Policy and Forest Management

2.4.1. Emergence of Community Forestry in Nepal

Nepal has a long history of forest management by rural communities as an indigenous system (Gilmour and Fisher 1991). During the Rana regime of 1846–1950, Rana families used forest resources as their own property, while the local people implemented their own forest management practices. However, in 1957, the Private Forest Nationalization Act was passed, following the democratic revolution that overthrew the Rana regime in 1950. This act placed all forests under the control of the Forestry Department to prevent destruction of the forests. As a result, traditional or indigenous forest management systems was destroyed. Gilmour and Fisher noted that CF was mentioned by E. J. Rana, an officer in the Forest Department, in a draft of the first policy statement in 1952/53 (1991). The definition of CF at the time was "to serve the needs of the surrounding villages in respect of timbers--firewood, leaves for manure and fodder, fencing thorns, grazing and edible forest products." (E.J.B. Rana, as cited by Gilmour and Fisher 1991)[2] However, the policy was never implemented.

In 1961, the Forest Act was enacted to regulate the use of forests and forest products. Despite this act, it is believed that forests have been heavily utilized because of insufficient and ineffective forest management by the government. Generally, it is also believed that significant deforestation occurred at this time because local people lost their right to access the forests. They also felt their forest had been taken away by their government. However, arguments are still going on about this uncertainly as mentioned in the previous section. Chapter 5 of this Forest Act discussed the Panchayat forest and the idea of handing over national forest.[3] In addition, the National Forest Plan of 1976 also addressed community involvement in forest protection as essential. Even though the government realized the necessity for the involvement of local people in forest management, participatory forestry was not enacted into law until the Panchayat Forest Rule and the Panchayat Protected Forest Rule of 1978.

The 1978 Panchayat Forest Rule decentralized responsibility for forest management by shifting this responsibility from the central government to a local elected body called the Panchayat, and was considered the starting point for Participatory Forestry (currently called Community Forestry) in Nepal. This legislation authorized the government to hand over forestlands that were nationalized under the Private Forest Nationalization Act of 1957 to the village Panchayats. The villagers of Panchayats obtained the formal right to plant and use forests as long as they protected and managed degraded forests. However, Panchayat officials, rather than actual forest users, made most of the management decisions. In addition, 50% of the income from Panchayat Forests had to be shared with the government; the rest of the income was used for forest development, leaving no direct economic benefit to the participants. This top-down system did not motivate actual forest users to participate in forest management (Shrestha 2000a). Therefore, very little forestland was handed over to the village of Panchayats. According to Karmacharya, only 36,276 ha forestland was handed over even though the Forestry Development Training

[2] E.J.B. Rana, Unpublished policy manuscript, as cited by Gilmour and Fisher (1991)

[3] The Panchayat system was a non-party political system set up by the King of Nepal in 1960. It was based on three tiers of elected officials, at the village, district, and national levels. The system was abandoned in 1990 in favor of a political democracy (Gerrand 1994).

Table 2-2. Objectives of Master Plan for Forestry Sector

Long-term objectives
1. To meet the people's basic needs for fuelwood, timber, fodder, and other forest products on a sustained basis, and to contribute to food production through an effective interaction between forestry and farmimg practices.
2. To protect the land against degradation by soil erosion, floods, landslides desertification and other effects of ecological imbalance.
3. To conserve the ecosystems and natural resources
4. To contribute to the growth of local and national economies by managing the forest and creating opportunities for income generation and employment
Mid-term objectives
1. To promote people's participation in forest resources development, management, and conservation
2. To develop the legal framework needed to enhance the contribution of individuals, and institutions to forest resource development, management, and conservation
3. To strengthen the organizational framework and develop the institutions of the forestry to enable to carry out their missions.

Source: HMGN(1988)

Table 2-3. Forests Development Programs and Cost Allocations in MPFS

Primary Development Programs	% of Total Cost
1. Community and private forestry	46.6
2. National and leasehold forestry	20.2
3. Wood-based industries development	4.7
4. Medical plants and minor forest products developmemt	4.6
5. Conservation of ecosystems and genetic resources	6.7
6. Soil conservation and watershed management	9.0
Supportrive Development Programs	
a) Policy and legal reform	0.2
b) Institutional reform	-
c) Human resources development	4.7
d) Forestry research and extension	2.1
e) Resources information and planning	0.9
f) Monitoring and evaluation	0.3

Source: HMGN(1988)

Project, which was funded by the WB and FAO has implemented in 29 districts (Karmacharya 1987). The extension of the participatory forestry had occurred subsequent to the implementation of the Master Plan for Forestry Sector (MPFS) of 1988.

2.4.2. The Master Plan for the Forestry Sector

The Master Plan for the Forestry Sector of 1988 is an overall twenty-five year forest policy that includes strategies to manage forest resources in the appropriate way. The Master Plan was prepared by the Ministry of Forest and Soil Conservation with the main financial support of the Asian Development Bank (ADB), Department for International Development, Ministry for Foreign Affair of the Finland (FINNDA), FAO, Overseas Development Administration of the United Kingdom (ODA), United States Agency for International Development (USAID) and UNDP (United Nations Development Programme). The plan provided four long-term and three mid-term objectives by analyzing forest resources, potentials and issues in Nepal. The long-term objectives are: to meet people's basic needs, to protect land degradation, to conserve the ecosystems, and to contribute the growth of local and national economies while the mid-term objectives included promotion of people's participation, development of legal framework, strengthening of the organizational framework democratizing the regulation forests (Table 2-2). In order to achieve the long and mid term objectives, the plan has six primary development programs and six supportive development programs. Table 2-3 shows titles of the development programs

and cost allocations in MPFS, and the primary focus of this plan was the community and private forestry with 46.6% of the total budget. Within this plan, many aid agencies began to support the plan especially community forestry activities that will cover in the next section. The Master Plan defined community forests as "forested or degraded forestland owned by the government but formally handed over to a Forest Users Group for protection, management and utilization" (1988). This paper also uses this definition for Nepal's community forests. Any forest management carried out by local people without formal registration is therefore not considered CF.

2.4.3. Clauses of CF under the Forest Act of 1993 and the Forest Regulation of 1995

The Forest Act of 1961 was amended in 1993 as "an Act made for proper management and conservation of forests" (HMGN and USAID 1993). The preamble emphasized the purposes as:

> "to meet the basic of the public in general in order to attain social and economic development and to promote a healthy environment and to ensure the development and conservation of forest and the proper utilization of forest products."

Among the 13 Chapters of this Act, Chapter 5 (section 25–30) and Chapter 9 (section 41–45) provided for: "Provisions Relating to the Community Forest" and "Provisions Relating to the Constitution of Users' Group." Under the 1993 Forest Act, the right to manage forests was transferred from the village Panchayat to a group of forest users called the Forest Users Group (FUG). Each FUG consists of households that have been using a particular forest and would like to manage it as a group with regal authority to use their traditional forest in a sustainable way. The 1993 Forest Act has recognized the FUGs as a legal entity and autonomous institution. District Forest Office (DFO) officers were authorized to hand over national forests to the FUG.

In the 1993, the Second National Community Forestry Workshop that focused on institutional development of the FUGs and the forest resources management contributed to formation of the Forest Regulation of 1995 (Acharya *et al.* 1998). The Forest Regulation of 1995 contained the other statutory provisions on CF such as constitution and registration of the FUG, preparation for the operational plan, procedures of handing over the Community Forestry, maintenance of records, prohibited functions, collection, sale and distribution of the forest products, receipts and records of the forest products, stamp to be registered, transportation of the forest products, operation of FUG's fund, resumption of community forest, and potential for assistance.

Figure 2–2 showed procedures of CF formation. The CF formation process starts with the establishment of a FUG, which is set up by identifying all those people who have been using the forest area for a long time and by submitting an application to the DFO. The next step is the preparation of an operational plan that includes such information as the name of the forest, a list of local FUG members, the forest boundaries and area, the forest condition and type, a map, and a list of the main species and useful species. It also includes the objectives and the proposed method of forest management, as well as a planting and cultivating schedule and an outline of graduated sanctions against rule breakers. This operational plan should be prepared based on the results of a forest inventory, usually implemented with the support of the DFO or NGO. The FUG then submits a CF application and the completed operational plan to the DFO. If approved, the forest is formally registered as a community forest, and the FUG members are authorized to manage their community forest. Operational plans, however, must be revised every five years.

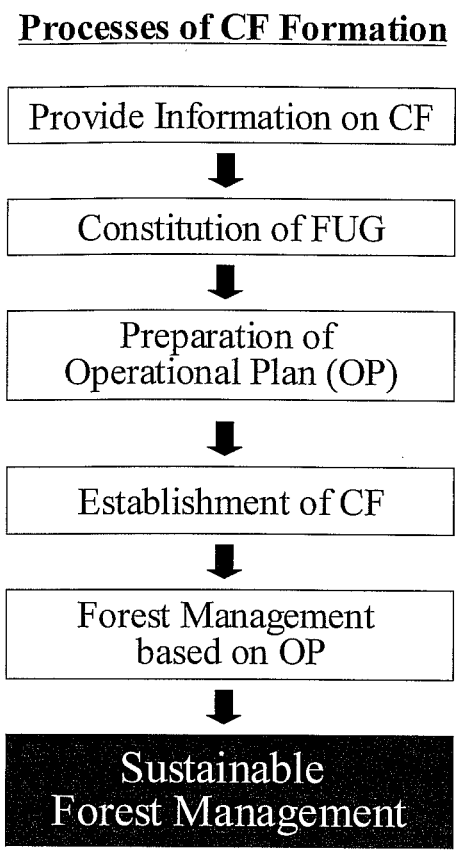


Figure 2–2. Processes of CF Formation
Sources: HMGN (1988), HMGN/USAID (1993), HMGN/USAID (1995), unpublished project reports and results of interviews.

Forest Act of 1993 and the Forest Regulation of 1995 have been considered as the beginning of the bottom-up approach because FUG members were authorized to decide most things on their own CF (Table 2–4). Although ownership remains in government, the FUG members have the authority to device their

own forest management plan based on their needs and the forest condition after a survey by the staff of DFO, to implement forest management activities following the plan, to make rules, and to punish any of their members who break the rules. The basic procedure leading to CF formation in Nepal requires the participation of all the involved organizations, including the FUG members as beneficiaries and the staff of the DFO or NGO as supporters, during the implementation process (HMGN and USAID 1993). With this procedure, during the formation process, FUG members can share their ideas; device goals, methods, and rules for CF management; and band together as a group. Moreover, during the CF formation procedure, FUG members learn from supporters the importance and purpose of forest management. However, because of the insufficient number of DFO staff, simplification of this important procedure has been suspected. Interviews with several NGOs, FUG members, and local people indicated that CF formation with a DFO's support was generally a very quick and simple process. Often, the procedure was abbreviated, especially the steps involving the participation of FUG members, because developing a consensus among all the members was frequently difficult and time consuming.

2.5. Community Forestry and Development Assistance Projects

It is impossible to discuss the forestry sector in Nepal without aid projects or programs. Since democratization in 1950, many donors including the WB, FAO, Australia, the United States, the United Kingdom, Denmark, Finland and Switzerland have been continually represented in Nepal. During the 1960s and 1970s, most forestry projects consisted primarily of intensive plantation activities on bare land (Table 2-5). Examples are the Nepal-Australia Forestry Project of 1962, the Koshi Hills Rural Development Project of 1977 by the United Kingdom, and the Integral Hill Development Project of 1975 by Switzerland. Australia's project was forestry project. On the other hand, the other two projects have forestry components as part of the integrated project. However, all of these assistances for forestry were concentrated on planting of adapted or fast growing trees such as eucalypts and Mexican weeping pine.

The first CF project in Nepal was the Community Forestry Development Training Project, which was funded by the WB and gained technical support from the FAO in 1980 after adopting the Panchayat Forest Rule of 1978. This project was implemented in twenty-nine hill districts to solve the "Himalayan degradation" and "Rural energy crises." Therefore, the target of aid was to establish forests plantations to satisfy estimated growing needs of fuel. The support was also justified under the criteria on how many hectares of forests were established.

In the late 1980's, Community Forestry with the concept of people's participation was raised as key elements for forestry development. For instance, the Nepal-Australia Forestry Project phase III (1986-1991), the Koshi Hills Community Forestry Project (1987-1992) by the United Kingdom, Dolakha-Ramechhap Community Forestry Project I & II (1990-1995) by Switzerland, Forestry Development Project (1989-95) by the United States, the Community Forestry Training Program (1989-1996) by Denmark, and the Churia Forest Development Project (1992-94) by Germany focused on local people's involvement. Many of these projects were encouraged to design an MPFS. These six countries became the important backbone of CF in Nepal. Currently all of these six countires have been implementing their CF projects with new phases or under different names. The current status of

Table 2-4. Main Features of Current Community Forestry in Nepal

1	The District Forest Office (DFO) officers were authorized to hand over national forests to the FUG, and their role is to mobilize users and provide technical assistance required to CF.
2	Any amount and any part of National Forest can be handed over to FUG as long as they are capable to manage properly. However, land ownership remains with the state.
3	CF boundaries can be cross over administrative boundaries such as district boundaries. In that case, FUG can apply for DFO in eigher district.
4	As a difference from previous Panchayat Forest Rule and Panchayat Protected Forest Rule, FUGs are not required to share their benefit from forest management with government. FUG can use surplus funds in any kinds of activities for community development.
5	FUGs are autonomous and corporate institutions.
6	FUGs can punish any menbers who break their rules in the operational plan, but they cannot punish anyone who is not a member of their FUG.
7	Operational Plan can be amended by informing the DFO. In this case, approval of DFO is not necessary.
8	DFO can take CF back from FUGs if they operate against their operational Plan. However, once the problem is solved, CF gives back to FUG.

Source: HMGN and USAID (1993, 1995)

Table 2-5. History of Aid Projects for CF-related Forestry Sector in Nepal

Bilateral Donors	
Australia	Nepal-Australia Forestry Project Phase I (1962-1977) Nepal-Australia Forestry Project Phase II (1978-1986) Nepal-Australia Forestry Project Phase III (1986-1991) Nepal-Australia Forestry Project Phase IV (1991-1996) Nepal Australia Community Resources Management Project (1997-2002)
United Kingdom	Koshi Hills Rural Development Project (1977-1985) Koshi Hills Rural Development Project III (1987-1992) Koshi Hills Community Forestry Project (as a part of the integral project) Nepal-UK Community Forestry Project (1993-2001) Livelihoods and Forestry Program (2001-2011)
Switzerland	Integral Hill Development Project (1975-1990) Dolakha Ramechhap Community Forestry Development Project I (1990-1991) Dolakha Ramechhap Community Forestry Development Project II (1991-1995) Nepal-Swiss Community Forestry Project III (1996-2000) Nepal-Swiss Community Forestry Project IV (2001-)
United States	Assistance in Forestry Sector (1955-) Two Resource Conservation and Utilization Project (1980-89) Rapti Integrated Rural Development Project (1980-95) Nepal Coppice Reforestation Project (1986-1992) Nepal Resource Management Project (1989-1992) Institute of Forestry Project (1987-1995) Forestry Development Project (1989-95) Two PVO co-financing Projects (1982-1988) Two PVO co-financing Projects (1987-97) Environment and Forest Enterprise Activity (1996-2001)
Denmark	Community Forestry Training Program with WB & FAO (1989-1996) Tree Improvement Program with WB & FAO (1991-1995) Natural Resource Management Sector Assistance Program (1998-)
Germany	Churia Forest Development Project Orientation Phase (1992-1994) Churia Forest Development Project Phase I (1995-1998) Churia Forest Development Project Phase II (1999-2001) Churia Forest Development Project Phase III (2002-)
Finland	Hill Forest Development Project (1983-1990) Watershed Management Project (1987-1993) Master Plan for the Forestry Sector in Nepal with ADB (1986-1988) Forestry Sector Institutional Strengthening Program
Multilateral Donors	
World Bank / FAO	Community Forestry Development and Training Project (1980-)
World Bank / FAO/ UNDP	Hill Community Forestry Project (1989-)

Source: The results of interviews with projects' officers

these projects will be taken up in Chapter 3 of this thesis.

International assistance for the forestry sector in Nepal is not only part of the extension projects such as mentioned above. As mentioned in the previous section, the Master Plan for the Forestry Sector that became a turning point for the approach for forestry to people's participation was also supported by aid agencies, such as FINNDA and the ADB.

2.6. Conclusion

This chapter discussed the main features of Nepal, the emergence of CF along shift in forest policy, the history and current status of forests, and its utilization. There were several key forest policies that led to the emergence and development of CFs such as the Panchayat Forest Rule of 1978, the Master Plan of the Forestry Sector of 1988, the Forest Act of 1993 and the Forest Regulation of 1995. Most of these shifts in policies have been influenced by external powers such as bi-multilateral aid agencies. In the case of the forestry sector in Nepal, many bi-multilateral aid have been implementing their projects since 1950s. Therefore, this chapter indicated the importance of the external aid on forestry sector, "Community Forestry", in this country. This chapter showed the importance of the international aid for the

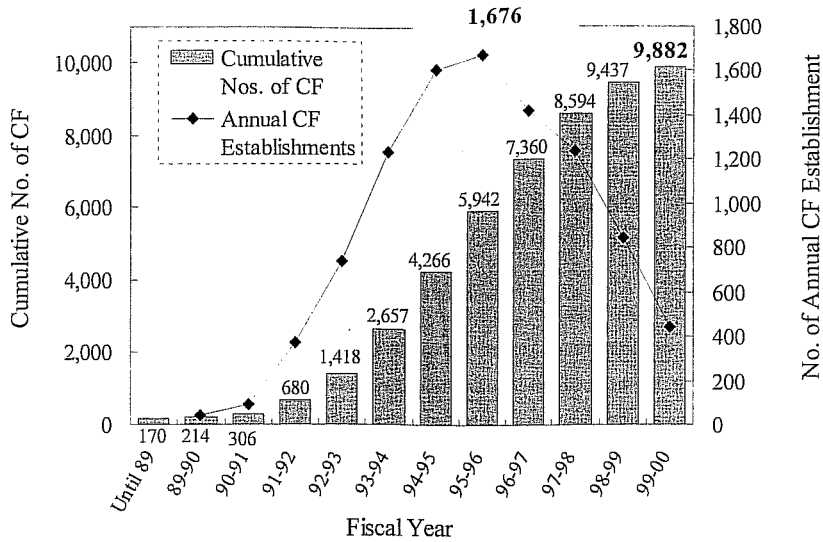


Figure 3-1. CF Establishments since 1988
Source: Department of Forests (2001)

forestry sector in Nepal and the great influence, and meaning of the research on approaches of aid project for CF was fully-realized.

Chapter 3. Status of CF through Aid Projects and Issues

3.1. Introduction

As section 2.5 in Chapter 2 clarified, CF in Nepal has been motivated and supported by various bilateral and multilateral aid agencies. Aid projects, therefore, are considered to have an enormous influence on the expansion of CF in Nepal. Over the past few decades, a considerable number of case studies have examined individual CF projects supported, or implemented, by particular aid agencies. These studies have focused on CF issues and experiences such as the participatory process, management systems, inequitable forest resources distribution, income generation, and local initiatives (Gilmour and Fisher 1991; Maharjan 1998; Bhattarai 1999; Paudel 1999). The project reports for aid agencies concentrate on activities, outputs, and issues in the agency's project area. However, little attention has been paid to the overall status of CFs supported by various aid projects in any one country. This chapter firstly aims to examine the overall state of CF currently being conducted with the support of various aid agencies. Then discusses on factors that might contribute to the nationwide expansion of CF. The final part of this chapter devotes to identify current issues and potential countermeasure against it.

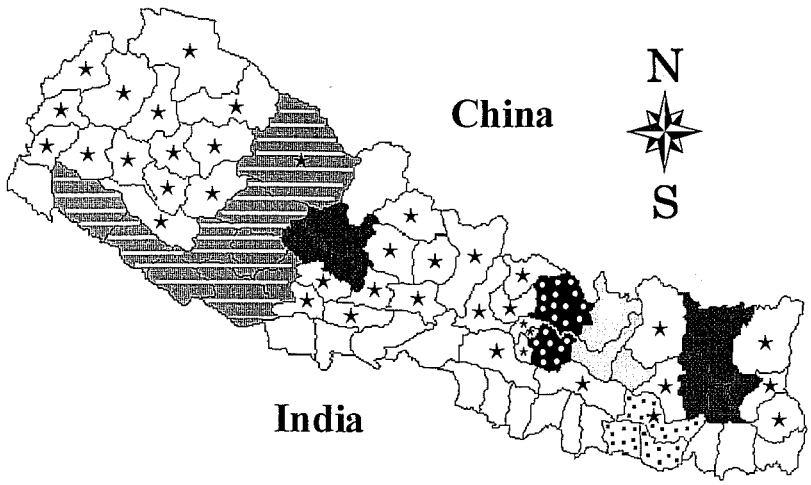
3.2. Methodology

The data used in this study were obtained primarily from publications of His Majesty's Government of Nepal (HMGN) and foreign aid agencies. Structured interviews with government officials in the Department of Forests including the District Forest Office and Forest Rangers, NGO staff members, and the staffs of bilateral aid projects also contributed to the study and were conducted between February and March 2001 by author.

3.3. Current Status of CF Expansion and Aid Projects

Some large-scale aid projects under the Panchayat Forests Rule have been implemented with technical assistance from the FAO, such as the 1980 Community Forestry Development and Training Project funded by the World Bank. This specific project covered twenty-nine districts though only 36,376 hectares of forests were handed over to the Panchayat (Karmacharya 1987).

Following the MPFS in 1988, the amendment to the 1993 Forest Act, and the start of the intensive CF project (implemented by bilateral aid in the early 1990s,) Nepal's community forests have increased dramatically (Fig. 3-1). Since the adoption of the MPFS, six countries-the United States, the United Kingdom, Denmark, Germany, Switzerland, and Australia have provided bilateral aid for community forest implementation projects (Fig. 3-2). The projects from these six countries currently involve fifty-nine of Nepal's seventy-five districts. In addition to these aid projects, there are a number of aid projects and programs involving CF-related activities under the Department of Soil Conservation and Watershed Management, and the Department of National Parks and Wildlife Reserves, among others. However, CF is a process carried out under the Community and Private Forestry Division of the Department of Forests. Therefore, this paper includes aid projects that focus on the CF under the Department of Forests, while integrated projects that have CF-related activities under other departments are excluded.



Donor Countries	Established FUG	CF area (ha)	Number of Household	Number of District
United States*	1,025	89,785	96,155	7
Swiss	421	32,375	50,248	3
Australia	627	30,192	63,723	2
★ Denmark	5,770	444,015	613,401	37
United Kingdom	1,689	109,092	167,624	7
Germany*	169	27,521	26,044	3
Project Districts Total**	**9,648**	**712,277**	**1,000,555**	**59**
Nepal Government Only	226	35,540	80,601	16
Nepal Total	9,874	747,817	1,081,156	75
Project Area Total / Nepal Total	97.7%	95.2%		

* One district each from the United States and German projects have also been supported by Denmark.The Number of FUGs' is inclusive Denmark's contribution.
** Denmark and other projects are overlapping in two districts

Figure 3-2. CF Established since 1988
Source: Department of Forests (2001)

International donors presently provide substantial bilateral and multilateral support in the form of funds and technical assistance. Donors supply about a half of the total budget necessary for countrywide CF programs. About 30% of the total cost ($1.74 billion U.S.) of proposed programs in the Master Plan will also be provided by foreign assistance. Moreover, various NGOs funded by bilateral, multilateral, and private foundations also actively support Nepal's CF in Nepal.

Figure 3-1 shows the cumulative number of CFs and the number of annual CFs that have been established since the MPFS. In the last ten years almost 10,000 new community forests (involving 747,817 ha) have been established, and 1,081,156 households are members of FUG (Department of Forests 2001). As seen in Figure 3-2, more community forests have been formed in aid project regions. In districts covered by the projects, community forests cover more than 12,000 ha on average while 47% of the households become FUG member in CF. In addition, about 97.7% of the total number of CFs was formed in these districts. By contrast, in the sixteen districts not covered by assistance projects, community forests covered less than 2,000 ha and only 6.6% of households that become FUG member.

3.4. Rapid Expansion Factors

By focusing on expansion causes and numbers, this section attempts to clarify factors necessary for smooth community forest expansion.

3.4.1. Clear Definition of CFs in Nepal.

It is generally believed that having increased authority in their local forests heightens the user's sense of empowerment over the

forest (Shrestha 2000a). While local empowerment has played a role in CF's expansion, there are also other significant causes to consider. As mentioned earlier, PF has been referred to as social forestry, community forestry, joint forestry, farm forestry, and village forestry. Adding to this complexity, definitions of these terms vary from country to country, and sometimes a single country uses several terms for a PF. For instance, two types of PF, joint forest management and community forest management, have been expanding in India. The difference between these two PF relates to the degree to which the devolution of rights and powers of the state takes place, together with the transfer of responsibility (Conroy *et al.* 2002). India's joint forest management came into effect in June 1990 as a national program.

On the other hand, community forest management formed through self-initiated forest protection groups and does not have legal status. Some aid agencies are supporting joint forest management while others are supporting community forest management. Arnold noted that,

> "Community forestry has suffered from considerable confusion and lack of clarity as to its nature and purpose. The use of an umbrella term, community forestry, seems on occasion to have obscured the fact that the objectives set for projects to support community forestry have varied considerably. Project design and performance have frequently suffered from a lack of clarity" (Arnold 1991)

In the case of Nepal, however, the CF is the only formal term for a PF. All institutions, including the aid agencies that have been involved in CF-related activities, use the definition mentioned in the previous section. This clear definition helps all CF-related workers form a common vision that leads to more intensive support for CF started following the Master Plan.

3.4.2. CF Formation Procedure

Each donor agency generally has a different strategy or method achieving its goal. Figure 3-3 illustrates the flow of budgets and assistance activities from bilateral and multilateral aid agencies and foundations to FUGs. Financial aid from foundations generally flows to FUGs through international and local NGOs and community-based organizations. Bilateral and multilateral aid is provided through both HMGN and NGOs. Bilateral aid projects for CF provide two types of assistance approach (Table 3-1). Type I is implemented through both NGOs and HMGN, on the other hand, type II is through only HMGN. Ratios provided by HMGN and NGOs differ for each Type I aid project. Of the six bilateral assistance aid projects in Nepal, those involving Australia, Switzerland, Germany, and the United States consist of Type I assistance, while those involving Denmark and the United Kingdom consist of Type II assistance. Despite these differences among aid agencies, all the CF-related donor agencies follow the systematized CF formation procedure mentioned in Section 2.4. Systematization has led to common strategies of CF formation among many aid agencies.

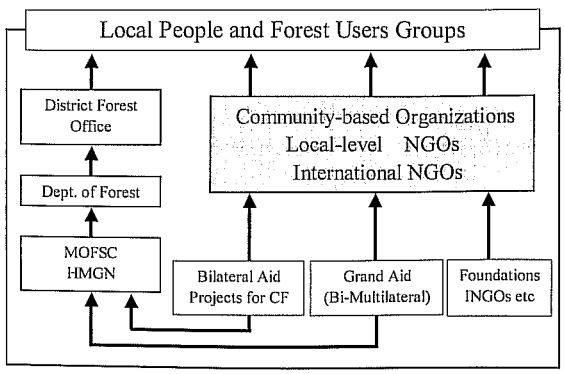


Figure 3-3. Flow of Budgets and Assistance Activities for CF
Sources: Results from interviews with Bilateral Aid Project staff, NGO staff and DOF officers
Notes: MOFSC is Ministry of Forests and Soil Conservation

3.4.3. Inter-Project Collaboration for Mutual Learning

Each country or donor agency has its own strategy and approach to CF implementation, leading to diverse program implementation as well as confusion about the future direction of CF (Acharya *et al.* 1998). However, all donor agencies that support CF in Nepal must design projects fundamentally in line with the prevailing government framework. Whatever the goals, objectives, missions, visions, or strategies, all CF projects in Nepal are based on a common definition of CF that includes a common formation process, common policy, and operational guidelines.

Additionally, a Forestry Sector Coordination Committee was established to increase coherence and synergy among all forestry sector donors, officials of HMGN, and NGOs. Some districts have started to form a network of NGOs and community-based organizations. For instance, in 1995 FUGs formed the Federation of Community Forestry Users Groups of Nepal, network, which

Table 3-1. Types of Donor Agencies and Approaches

Aid agency	Partners of Project	Types of Approach
Australia	HMGN/NGOs	Type I
Germany	HMGN/NGOs	Type I
Swizerland	HMGN/NGOs	Type I
United States	HMGN/NGOs	Type I
Denmark	HMGN	Type II
United Kingdom	HMGN	Type II

Sources: Results of interviews with Bilateral Aid Project's staff and unpublished project reports
Notes : Type I is the combination of financial support and technical assistance provided to both the government line agency and NGOs. Type II completely or mainly supports to government line agencies only.

operates at both the district and national levels. Through the network, FUGs can share issues at the district level, while at the same time network representatives can bring up issues to aid agencies and DFOs via the Forestry Sector Coordination Committee.

Moreover, to facilitate and share inter-project or agency mutual learning, some aid projects invite staff from other projects to seminars to discuss and compare approaches, outcomes, and issues. For example, the Forest-Based Micro-Enterprises Development Projects, part of a United States-supported CF project, held an "Enterprise Day" to allow members to share their experiences. Participants visited the project field and discussed issues directly with local members. Staff from Australia, Switzerland, and U.K. funded projects, among others, attended. Sharing information helps organizations learn from other's successes and failures.

In all, increased authority for forest uses, clear and common CF definitions and formation procedure, and collaboration among forestry sectors have all considered as factors of rapid and smooth CF expansion in Nepal.

3.5. Issues of CF and Potential Action

As previously mentioned, Nepal succeeded in forming community forests following the Master Plan for the Forestry Sector. However, the rapid expansion in the number of community forests has led to unexpected issues. This section focuses on issues of CF and countermeasure.

3.5.1. Limited Number and Capability of DFO Staff

As the number of people or communities aware of CF increases, the demand for both FUG formation and the hand-over of forestland has also increased. Community forest formation and establishment are only the beginning aspects of the overall CF mission. Therefore, supports are consistently needed for the rising number of FUGs to manage their forests. Under Nepal's original system, the responsibility for handing over forestland to a FUG and monitoring and supervising established community forests fell solely upon the DFO staff (HMGN and USAID 1993, 1995). However, the number of DFO staff has been decreasing because of downsizing.

As a result of interviews, shortage of DFO staff was obvious. When seven persons involved in Nepal's CF were asked to mention the most significant issue in CF, most cited the insufficient number of DFO staff in key CF establishment and management roles. In addition, according to interviews with officials from the Department of Forests, in some districts, many FUGs await land handovers. Although many groups are waiting, the number of CFs having established community forests has decreased since the late 1990s (Fig. 3-1). Interviewees and some publications also indicated that many FUGs have lost DFO support. One case study of the U.K. project area clearly showed that virtually all sampled FUGs consider post-formation support very unsatisfactory, and almost all the FUG committee members urgently wanted to obtain support from the DFO or other entities (Baginski *et al.* 1999).

Insufficient skills among DFO staff were also considered a issue. The FUG's activities and needs differ according to the condition of their community forest and their operational plan. Some case studies showed that FUGs have needed support for social issues such as institutional development and gender awareness, as well as training in assembly regularization, accounting, banking, fund management, reporting, auditing, equitable resource distribution, and conflict resolution. Further, FUGs require forestry-oriented technical support for such skills as thinning, pruning, harvesting, simple measuring techniques, nursery operation, and plantation management (Nirmal Kumar 2000; Chhetri and Sigdel 1999; WATCH 1995). Since community forest management involves not only forestry, but also social issues, the staff of the Department of Forests cannot satisfy all the needs of the FUGs.

Several field research based reports have indicated that FUGs lack necessary post-formation support (Jackson *et al.* 1995; Lamsal 1999; Chhetri and Sigdel 1999; Nirmal Kumar 2000). Several other researchers have also found that insufficient support has contributed to CF problems such as inequitable resource distribution, lack of equal involvement of men and women, and the failure of FUGs to manage community forests in a sustainable manner (Bhattarai 1999; Baginski *et al.* 1999; Shrestha 2000a,b). Insufficient FUG support also raises doubts regarding the sustainable management of established community forests. The CFs in Nepal have stagnated with regards to achieving the goal of sustainable local user-based forest management. In addition, the Department of Forests mentioned that "the DFO does not always have the manpower and skills within their office to manage the increasing and varied support tasks to CF development" (HMGN 2001, p.1). In order to improve the current situation, other institutions must become involved.

3.5.2. Involvement of Other Agencies in Support of FUGs

In order to alleviate insufficient DFO support, both aid agencies and the Government of Nepal have started to look to other institutions such as NGOs and consultancy firms as partners or intermediary organizations. Interviews with DFO officers, aid agency staff, NGO staff, and FUG members revealed that each process of community forest formation and forest management tends to involve different service providers (Fig. 3-4). Aid projects tend to provide budgets and train DFO and NGO staff. The rest of the procedure tends to be supported by both the DFO and NGOs, with the exception of CF approval which is authorized

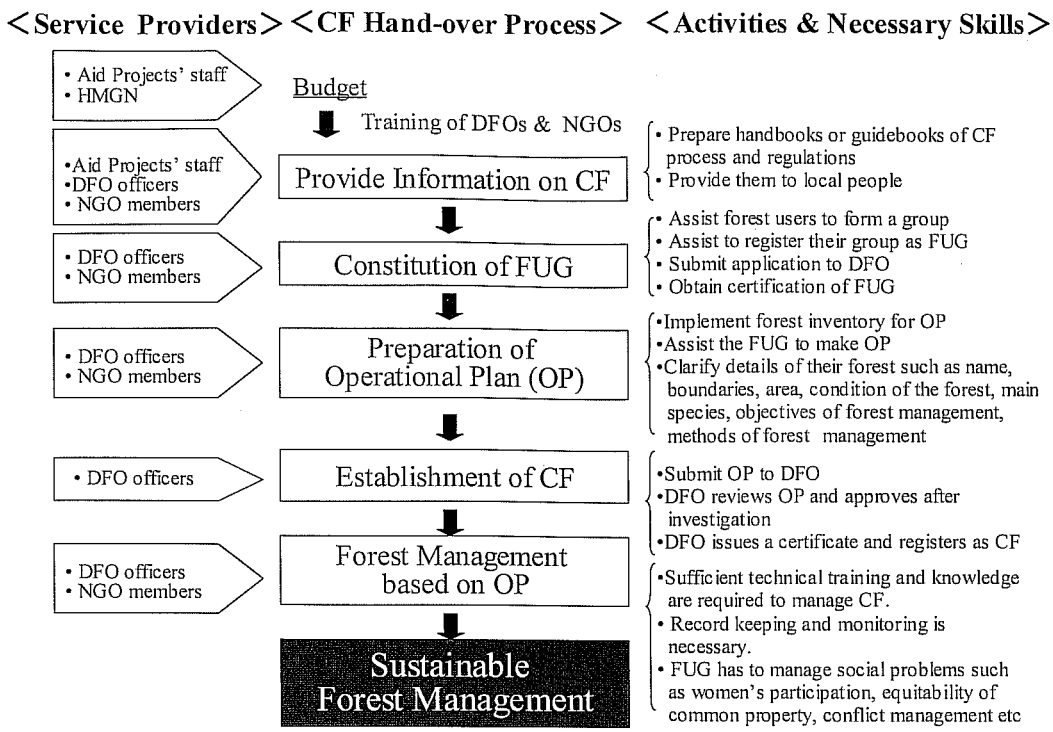


Figure 3-4. Processes of CF Formation and Activities
Sources: HMGN (1988), HMGN/USAID (1993), HMGN/USAID (1995), Department of Forests (1995, 2000), unpublished project reports and results of interviews

only by the DFO. The organization of service provision for each process depends on the availability of service providers or sometimes on the general strategy of aid projects. For instance, a FUG supported by an aid project that encourages NGO involvement tends to have more service support from NGOs than from the DFO. Likewise, aid projects that support government administration rather than NGOs' technical assistance receive more DFO service. According to interviews, the amount of service support provided by NGOs is currently increasing. On the other hand, many interviewees mentioned tensions between the NGOs and DFOs.

In general, such tension between NGOs and governmental departments, such as DFOs, arises from the perception that the NGOs pursue goals that conflict with government interests (Arnold 1998). For instance, in some interviews, DFO officials contended that NGOs focus only on local beneficiaries, while NGO staff stated that DFO officials do not recognize local issues and needs. In addition, many DFO officers insisted that current NGOs do not have sufficient experience or capability in CF-related activities to support participatory-based FUGs. Though not officially acknowledged, the credibility gap between DFOs and NGOs is widely known. Even though the number of DFO staff is limited and the DFOs cannot support all the needs of FUG's, CF approval is authorized by only DFO. In additiou, both DFO and NGOs that have different point of view attempt to support the remainder of community forest formation. As a result, tensions between DFO and NGOs may arise and disrupt FUG members seeking to achieve sustainable forest management. Although several approaches have sought to improve coordination, further mediation between DFOs and NGOs is necessary.

3.6. Conclusion

This study clarified several factors for smooth CF expansion. The description of the overall situation regarding aid projects in Nepal confirmed the country's clear and consistent CF application process and definition. Consistency has allowed implementation of various CF aid projects based on the same policy, legislation, and operational guidelines that have encouraged collaboration in preventing fragmentation among aid projects. These factors have contributed to smooth and rapid community forest expansion. This research however examined current issues of CF. Nepal successfully formed a number of community forests in the years following the Master Plan. Recently, however, the balance between pre-formation and post-formation support has collapsed. As the number of people or communities aware of CF has increased, the demand for both FUG formation and the hand-over

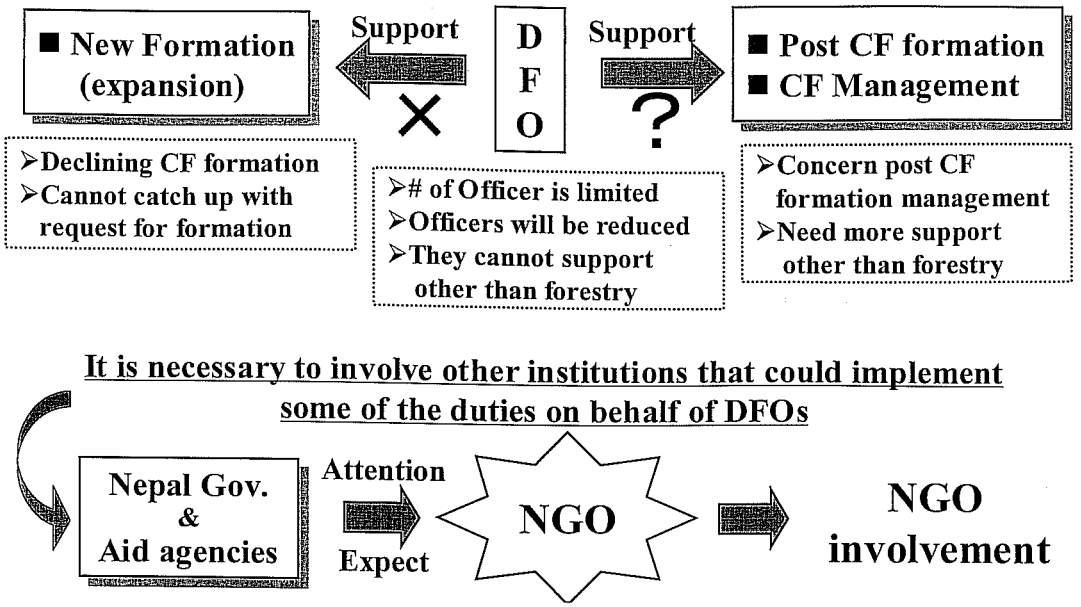


Figure 3–5. Current Status and Issues of Community Forestry in Nepal
Sources: Interviews with DFO officers, staffs of bilateral aid projects

of forestland has also increased (Fig. 3–5). The sustainable management of established community forests also remains in doubt due to insufficient support for FUGs, signifying that Nepal's CF movement has stagnated. This insufficient support seems to be hindering some community forestry projects. The annual number of new community forest has also been decreasing, despite the fact that many FUGs are waiting for land handovers. A lack of formal institutional support might account for the lower rate of community forest development. So long as DFOs cannot support FUG's various needs, other institutional involvement is urgently required to fulfill FUGs' need. Currently, some aid agencies have formed partnerships with NGOs. However, tensions between NGOs and DFOs have arisen and the tensions seem to be disrupting support from other institutions. In order to improve current situation that was described as Figure 3–5, a formal system to involve other institutions effectively and efficiently is recommended.

Chapter 4. Changes in Aid Project System

4.1. Introduction

The number of community forest in Nepal has been increasing rapidly, following a shift in policy and legislation and with the commencement of intensive CF projects sponsored by bilateral sources of aid in the early 1990s. Since the CF issues are social as well as forestry-oriented, technical and other types of support are consistently needed for the rising number of user groups to be able to manage their forests (Ito *et al.* 2003a). However, Chapter 3 clarified that DFO staff members have been too few and their services too sparse to satisfy FUG's various needs. This situation has been noted as one cause for the failure of FUGs to sustainably manage CF. Since a District Forest Office cannot support all of the needs of FUGs for CF, some institutions have to be involved. Under these situations, both aid agencies and the Government of Nepal have started to pay attention to NGOs as a partner or intermediary organization to mitigate current CF issues (Fig. 3–5). Some thesis and project reports, including publications of Government of Nepal, have recently emphasized the importance and necessity of involving NGOs in CF (Baral 1999; HMGN and SDC 2000; Shrestha 2000b). Some bilateral aid projects for CF have already started to involve NGOs, which are expected to provide services that DFOs cannot provide. Efficient methods of NGO involvement for mitigation of current CF issues and further CF extension must be developed in the near future on the basis of studies of the influence and effectiveness of organizations in rural areas. First, however, the current status of NGO involvement must be clarified.

This chapter focuses on bilateral aid projects because they are the backbone of the CFs in Nepal. More specific aims are to:

1. Examine the brief history and the current status of NGOs in Nepal;
2. Examine the current status of NGO involvement in bilateral aid projects for CF in Nepal;
3. Examine differences in the method of NGO involvement among aid agencies; and
4. Identify factors that influence different types of NGO involvement.

4.2. Methodology

Structured interviews were conducted with officials of all the bilateral aid projects for the CFs currently in place in Nepal. The one exception was the officers of the German Churia Forest Development Project, who were all in a remote area and therefore difficult to reach; project reports were used instead. Staffs in the NGOs involved in the bilateral CF aid projects were also interviewed. These interviews were conducted in March and April 2002. Project reports of bilateral aid projects published by the Government of Nepal were also consulted.

4.3. NGOs in Nepal

4.3.1. History of NGO in Nepal

Many Nepali communities and ethnic groups have a long tradition of Guthi (Trust), which is basically a Civil Society Organization (Swar *et al.* 2000). The purpose of a traditional Guthi is charity or welfare of clan or community. Traditional Nepalese non-governmental organizations (NGOs) have their roots in the traditional Guthis and are an outcome of the 20th century social movements of transformation in South Asia. Unlike traditional Guthis the modern NGOs have their purpose on development activities, global interaction and assistance. There were only ten NGOs in 1960 and thirty-seven in 1977 when Social Service National Coordination Council was formed. Their number has increased rapidly. In 1991, there were 393 NGOs that increased to 7,964 in 1998. One reason of this rapid increase in the early 1990s was the restoration of democracy in 1990. After the restoration, there were no restrictions placed on the associations. Another reason may have been the amount of money from the official agencies channeled through NGOs that increased following the New Policy Agenda in 1989. This gives renewed prominence to the role of non-governmental organization. For example, the proportion of total aid from the member countries of the Organization for Economic Cooperation and Development (OECD) channeled through NGOs rose from 0.7% in 1975 to 3.6% in 1985, and at least 5% in 1993–94. In addition, the World Bank, U.S., U.K., and countries in Northern Europe also increased amount of money channeled through NGOs.

4.3.2. Types of NGO

There are several ways to categorize NGOs according to source of funds, activity sectors, and scale of activities. However, it is difficult to classify NGOs only by one of these aspects because most NGOs implement cross-sectional activities depending on rural needs. This study classifies NGOs according to scale of their activities, such as International NGO (INGO), National level NGO (NNGO), and Local level NGO (LNGO). INGOs have headquarters in the developing countries and intermediary NGOs in the developing countries such as Save the Children, Care International, and the WWF (World Wide Fund for Nature). There is no clear definition for NNGOs, however, in most cases, NNGOs are Nepalese NGOs that work in several districts in Nepal. If they registered as a NNGO, they are recognized at the national level. However, there are NGOs that are working in several districts but they call themselves local NGOs. Although the definition of a NNGO is dependent on their insistence, NNGO is simply defined as a Nepalese NGO working in several districts in this paper. On the other hand, LNGOs work in their own communities or districts and no other activities in a different area.

4.3.3. Registration System for NGOs

In Nepal, there are several ways to register NGOs. Under the Social Welfare Council (SWC) Act in 1992, INGOs have two ways to work in Nepal. One method is to affiliate with the SWC, and then they can work with NNGOs and LNGOs in Nepal. Another method is to affiliate with the concerned Ministry or Department of the Government of Nepal. On the other hand, all NNGOs and LNGOs require registering Chief District Office in each district where they will do their projects or activities. Every fiscal year, they must renew their registration, simultaneously, they have to submit progress and audit reports. No NNGOs and LNGOs can implement their activities without this registration, while it is not necessary for INGOs. In addition, if they are obtaining any funds from foreign agencies or institutions, such as bi-multilateral agencies, they have to affiliate also with the SWC. They have to submit project proposals, a commitment letter, remittance and other evidence. After this process, NNGOs and LNGOs can obtain approval from the SWC to do projects or activities. They must submit the project approval letter to the Chief District Office and they also have to report all their activities every year to both the Chief District Office and SWC. The NNGOs and LNGOs that have budgets dependent only on internal funds do not necessarily affiliate with the SWC. However, since most NNGOs and LNGOs in Nepal depend on international funds for their budgets, most of them affiliate with the SWC.

Besides these kinds of NGOs, there are numerous Community Based Organizations (CBOs) in working in the local area. Usually, they are less organized than the NGOs and they do not have to register; however some CBOs are registered as NGOs. Therefore, there are NGOs that are sometimes called CBOs, simultaneously; there are CBOs that are sometimes called NGOs. In this paper, therefore, LNGOs and CBOs are considered as the same group.

4.4. Status of NGO Involvement in Bilateral Aid Projects

This section attempts to clarify status of NGO involvement in bilateral aid projects for CF through structured interviews. Contents of the interviews focused mainly on the number and the types of NGOs currently involved in CF aid projects, the approaches of NGO involvement, when and why the project involved NGOs, and current issues or constraints on NGO

Donor Countries	Number of NGOs	When started	Reasons of NGOs involvement 1)												Issues 2)					
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
United States	3 (mainly)	1996	○	○	○	○	○	○	○			○		○		●		●		
Swiss	about 60	1996	○	○	○	○	○	○					○		●	●	●			
Australia	about 7	1992	○	○	○	○	○			○	○				●	●	●			●
★ Denmark	Several	1996-97	○	○	○										●		●	●		
United Kingdom	a few	N.A.	○	○											●				●	
Germany*	about 8	N.A.					○	○	○				○	○	N.A.					

N.A.= Data is Not Available

* Reasons of NGOs involvement in German project totally depend on project report. Therefore, information in this table is very limited.

1) Reasons of NGOs involvement
1. Insufficient number of DFO staff
2. DFO staff cannot fulfill FUG's diversified needs beside forestry
3. Concerning sustainability of FUGs in project area
4. To promote bottom-up approach
5. To strengthen the capacity of civil society
6. Concerning self-reliance of FUGs in project area
7. NGOs are more effective to the locals
8. NGOs are available at the local level
9. NGOs have special expertise than the GO in some sectors
10. NGOs are quick to do their activities
11. To make the development process transparent, efficient and accountable to the local people
12. To provide technical support

2) Issues of NGOs involvement
1. Insufficient capabilities of NGOs
2. Tension between NGOs and DFO
3. Difficult to find suitable or appropriate NGOs as a partner
4. There is no policy of NGOs on CF sector
5. Lack of sustainability
6. Lack of NGO's knowledge about CF

Figure 4-1. Current Status of Bilateral Aid Projects for CF and NGOs Involvement
Sources: Department of Forests (2001), Field data obtained from interviews with officials of bilateral aid projects and Guntz (1998)
Notes: The data of German depends on their project report

involvement.

4.4.1. Overall View of Current NGO Involvement

Figure 4-1 shows the overall status of NGO involvement in each aid project based on interviews and projects' reports. All six bilateral aid projects advocated NGO involvement as an important aspect of CF development. The Australian project has the longest history of NGO involvement among the current six projects. Other projects have begun to work with NGOs since 1996, when many issues of CF started to report [4]. The number of NGOs given in Table 4-1 consists of the NGOs that have been directly working with aid agencies. In terms of NGO type, only the United States has been working with INGOs. According to the interviews with the NGO staff working under the United States' project, they have frequently work with smaller NGOs, in other words, NNGOs and LNGOs. On the other hand, the Swiss project has engaged the largest number of NGOs (about sixty). This project mainly has involved LNGOs including FUGs that have been acting as NGO to assist other FUGs. The Forest Regulation of 1995 stated that an FUG that is given forestland to manage becomes legally recognized as an autonomous and corporate institution. Therefore, if a FUG has sufficient knowledge and experience to assist other FUGs, it may act as an NGO without registration to the SWC. On the other hand, with other projects, Australia, Germany, and Denmark, have been involved in mainly as partners with NNGOs. In the case of the Australian project, the NNGOs have been working with LNGOs (Australian Agency for International Development 1997). Also, some INGOs and NNGOs have worked not only with one bilateral aid project but several. The 1998 report for the German project showed eight NGOs as project partners. The report stated that the project "does not implement programs itself and involves intermediary institutions" (Guntz 1998) and that the NGO partners had the largest budgets. Thus, the report clearly identified that NGOs were important partners in the German project. Officials of the Danish program did not identify exactly how many NGOs were involved, because the program had many components that covered districts, but they did say that only a small number of NGOs have been involved due to the initiation of NGO involvement recently. The project of the United Kingdom has not worked directly with NGOs, although it has started collaborating with NGOs and other partners in the project area to support the FUG effectively and efficiently. Figure 4-1 also shows the reasons and issues of NGO involvement. Characteristics of reasons and issues of the three types this will be discussed in Section 4.4.3.

4.4.2. Characteristics of the Three Types of NGO Involvement

The interviews also asked about each project's method of

[4] However, in the case of the United States, a different project for forestry had been implemented before the current project. Since the NGO involvement is one of the USAID's strategies, the previous project might had involved NGO also.

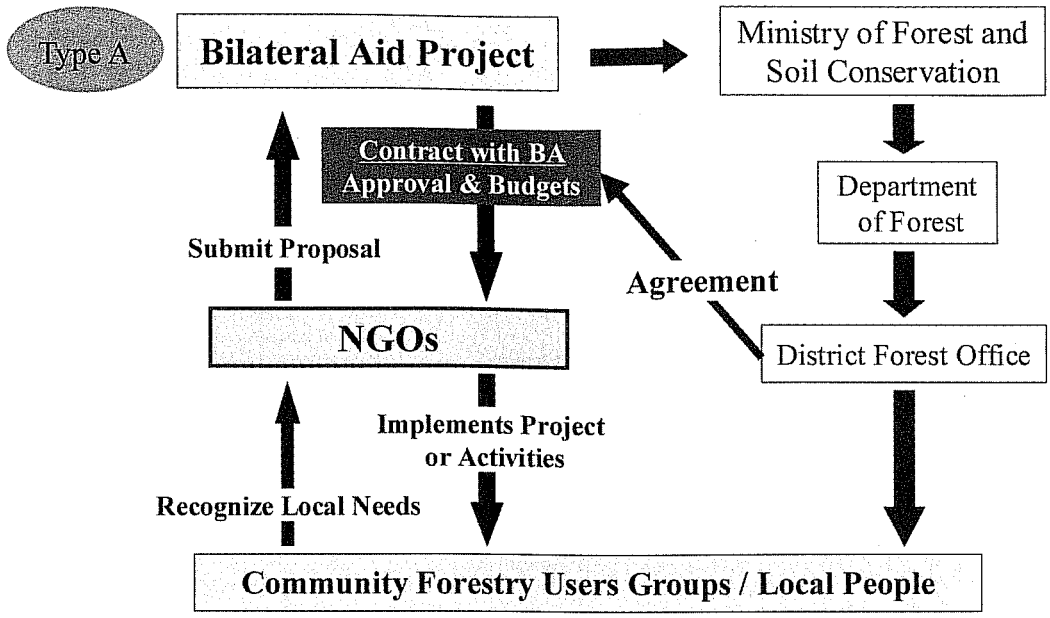


Figure 4-2. Flow of Budgets and Assistance Activities by Type A projects
Sources: Created by authors based on unpublished project reports and interviews with officials of bilateral aid projects. BA=Bilateral Aid Project

NGO involvement. As a result of this, three types of NGO involvement were identified among the six bilateral aid projects as follows: Type A as a contract with a bilateral aid project; Type B contract with local government line agency; and Type C as a no contractual coordination and collaboration. The followings are the characteristics of three types.

Type A: Contract with a Bilateral Aid Project

Three of the projects studied, --- the United States, Swiss, and Australian projects---have involved NGOs based on contracts with the bilateral aid projects. Then, contracts must be agreed upon by the DFO (Fig. 4-2). As a common tendency, this type of NGO involvement delegates NGOs to small-scale project or a component of a single project. However, these three projects have different methods and the criteria for NGO selection. In the case of Swiss project, the NGOs prepare a proposal of a small-scale project, called "Micro-Project", based on needs of user groups, or local groups to be FUGs, and submit it to the Swiss project. Then, the NGOs assist FUGs only if the proposal is approved. The budget for the Micro-Projects comes both from beneficial FUGs and Swiss aid agency sometimes compensating for lack of funds. The main criteria for NGO are: a) the NGOs must be officially registered as per HMGN rules and preference is given to local based organization; b) NGOs must have the required capacity in technical and socio-economic aspects; c) the working strategy must follow a bottom-up approach; d) NGOs should have gender balanced working team; e) NGOs should be experienced with the proposed activities; f) NGOs should have a positive attitude and proven success in their past; g) NGOs must have transparent financial dealings and record keeping systems; h) NGOs must have a democratic decision making system; and i) NGOs must be politically, religiously, and ethnically unbiased.

In the case of the U.S. project, NGO involvement is a part of the aid strategy. New Partnership Initiative mentioned "missions of the United States should, whenever possible, provide the resources and institutional structures that allow for the participation of local NGOs in projects and programs in a variety of development sectors" (USAID 1995). Usually, the project unit establishes components of projects that depend on local needs, and appropriate NGOs will be recruited through public offering. Therefore, NGOs are not involved in project planning. The NGOs apply for the designated project and activities, however NGOs may change or add several activities based on local needs and situations by consulting with the project staff. Criteria for NGOs that take part into are: a) especially, "transparency" of financial system, b) NGOs' working style such as partnership, and c) ownership availability.

The Australian project also has a different system to find NGOs as a partner. The project has conducted surveys for NGOs that are working in the project area; they then analyze them to find out their constraints and opportunities (Australian Agency for International Development 1997). Criteria for NGO selection are: a) NGOs must be officially registered as per HMGN rules, b) at least two years after registration, and c) NGOs that have objectives of working in technical as well as social support. The project decides partners along with the results of inventory,

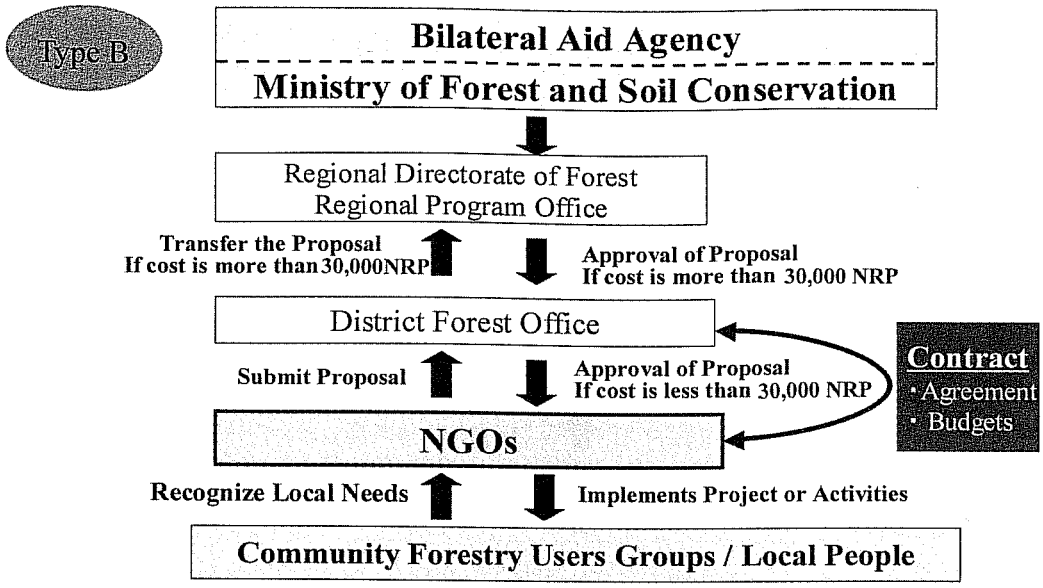


Figure 4-3. Flow of Budgets and Assistance Activities by Type B Projects
Sources: Created by authors based on unpublished project reports and interviews with officials bilateral aid projects
Notes: Since this program has been implementing through government line agencies, Bilateral Aid Agency and Ministry of Forest and Soil Conservation in this chart were considered as one institution.

criteria, workshop, and unofficial discussion with NGOs.

Thus, three projects can be seen to have quite different NGO selection even though they have a common method of involving NGOs. Project reports indicate that NGO involvement in the German aid project is also considered type A because the project has a certain amount of its budget allocated to assistance activities by the NGOs (Guntz 1998; Chhetri 2000).

Type B: Contract with a District Forest Office

Type A and type B NGO involvement differ in the institution with which NGOs contract. Denmark's CF aid program is characterized by NGO involvement, which is based on contract with district line agencies such as the DFO, Regional Directorate of Forest, and the Regional Program Office of Natural Resource Management Sector Program. Denmark's aid program, which funds nearly 60% of the land transferred to FUGs and CFs in Nepal, has been implemented not as a project but as a Natural Resource Management Sector Program component. Therefore, most activities of this CF component have been implemented through district line agencies of Nepal Government rather than the staff of the Danish International Development Agency (Fig. 4-3). If the cost of the proposed project is less than or equal to 30,000 Nepal rupee (NRP), the DFOs alone are responsible for its approval. If the cost is more than 30,000 NRP, DFOs forward the proposals with their funding recommendations to Regional Directorate of Forest and Regional Program Office of Natural Resource Management Sector Program for the approval. In December of 2001, Danish International Development Agency and Government of Nepal created a guideline for NGO involvement under which NGOs involved in the project area may submit proposals of small-scale projects based on certain FUG needs. The guideline stated that priority would be given to the local NGOs and CBOs; the project has 11 criteria for ideal NGOs and CBOs (Table 4-1).

Type C: Non-contractual Coordination and Collaboration

The Community Forestry aid project implemented by the United Kingdom advocates the importance of coordination and collaboration with NGOs that work in project area, although there is no contract with the NGOs (Fig. 4-4). According to the interviews and project reports, the project has recognized that forestry officers do not have the resources to support the large number of forest user groups nor do they have the mandate to provide community development services besides forestry (Department for International Institutional Development 1999/2000). The project therefore attempts to create an environment or framework and network where various organizations can work together to support user groups under the project's strategy of "Partnership, Collaboration and Network." However, the project's work plan for 2001 through 2004 states that the project

---works with other agencies where there is complementarily in activities. NGOs and Community-based Organizations

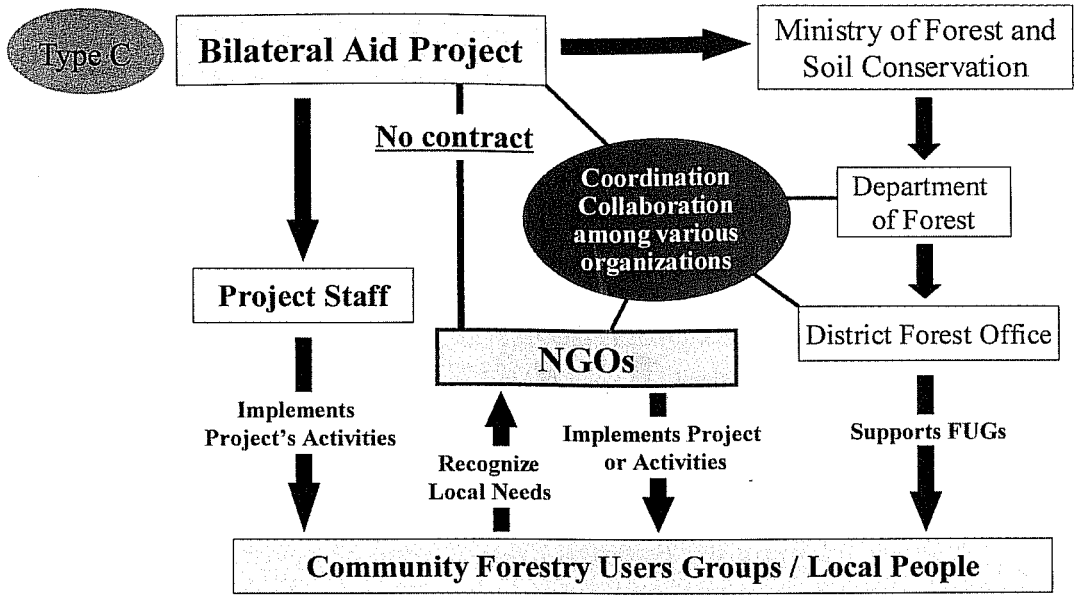


Figure 4-4. Flow of Budgets Assistance Activities by Type C Projects
Sources: Created by authors based on unpublished project reports and interviews with officials of bilateral aid projects

Table 4-1. The Ideal NGOs and CBOs (Denmark's Project)

"The ideal NGOs and CBOs":
a) should have clear vision, mission and goal.
b) should have good leadership and not rely on one individual or family.
c) should have adequately qualified manpower and reasonable relevant technical experience and be able to work without much technical assistance from DFO staff.
d) should be able to demonstrate competent and transparent financial management.
e) should have good involvement of women in the organization.
f) should be motivated to provide voluntary social services and operate with modest overheads.
g) should have good reputation (trust) and good contract with local people and authorities (VDC) and have demonstrated capability to raise people's participation.
h) should have demonstrated ability to supervise and monitor local programs.
I) should be prepared to work in remote areas.
j) should not rely solely on donor programs
k) should not be politically or religiously based.

Source: HMGN (2001)

cannot be expected to become long term sustainable sources of support for the majority of FUGs although possibilities exist to pursue further the idea of supporting the supply of the demand for, local expertise (Department for International Institutional Development 2001).

This statement shows that the project in the United Kingdom does not consider NGOs direct project partners but important stakeholders that work directly with district officers and user groups in activities in the project area. Therefore, this project area supports NGO involvement less active than the others.

4.4.3. Reasons and Issues of NGO Involvement

As mentioned earlier, one of the main focuses of the interviews was to clarify each project's reason of NGO involvement as well as methods differed among six bilateral aid projects. Although reasons and issues of NGO involvement differ according to CF condition, contents of operational plan, and local needs, the tendency was that the larger the number of reasons for being

involved, increased expectation. Figure 4-1 shows that two reasons, the "Insufficient number of DFO staff" and the "DFO staff cannot fulfill FUG's diversified needs beside forestry," are common reasons except in the German project.[5] Therefore, providing FUGs with sufficient support seems to be a common issue and a priority for bilateral aid projects today. Since these two reasons are common in most projects, these might be a trigger in recognizing NGO involvement as an important aspect for CF development.

There are some more common reasons among type A projects such as "Concerning sustainability of FUGs," "To promote bottom-up approach," and "To strengthen the capacity of civil society." "Concerning self-reliance of FUGs in project area" was also common reason among two projects. Therefore, it is clear that the Type A projects expect NGOs to lead initiatives of local people on CF management. As a result of interviews, the projects that mentioned many reasons of NGO involvement, in other words, projects with high expectation to NGOs, such as the US, Swiss, and Australian, tend to adopt direct contract with NGOs. On the other hand, the projects that mentioned few reasons of NGO involvement, in other words, the projects with less expectation to NGOs, such as type B and C projects, tend to adopt indirect or no contracts with NGOs. Needless to add, the level of expectation cannot be the single factor that influences the type of NGO involvement. The strategy and policy of aid agencies or donor countries will also influence different types of NGO involvement. For instance, NGO involvement for the United States is one of the strategies in their aid agency programs, and for Denmark's the program's indirect contracts with NGOs seems to be influenced by the project's aid strategy for Nepal.

Issues of NGO involvement also differ among six projects. Despite the high expectations for NGOs, most of the six projects mentioned lack adequate NGO support in terms of number and quality, and this is a significant issue related to NGO involvement. As another characteristic, tension between NGOs and DFOs was common issue of the Type A projects. In general, tensions between NGOs and DFOs occurred because of the perceptions that NGOs are pursuing goals that conflict with the interests of government (Arnold 1998). According to the interviews, DFO officials mentioned that some NGOs are concerned only about local beneficiaries, and NGO staff have mentioned that DFO officers are not familiar with local issues and needs. On the other hand, many DFO officers insist that current NGOs do not have sufficient experience or capability in CF-related activities to support FUGs based on the participatory approach.

However, bilateral aid projects can promote NGO involvement by developing strategies to ease the tension. For instance, Swiss project were facilitated to establish NGOs association under the Swiss project. According to an interview with the staff of the Swiss project, the purpose of the association is to lead to a more smooth NGO involvement by strengthening NGOs capability to insist, argue, or discuss with DFOs. As a result of such actions, DFOs in the Swiss project area cooperate in working for with NGOs. According to an interview in the Australian project, the project recently clearly indicated the responsibilities of the NGOs' and the DFOs'. The DFOs are more likely to be responsible for forestry-oriented issues and technical assistance; on the other hand, the NGOs are responsible for many social issues and community development activities such as income generation and gender issues. Thus, the NGOs in type A situations seem to take on more critical responsibility because these highly involved NGOs have been required to be more knowledgeable and capable than others, more issues and constraints have emerged such as the tension between the NGOs and DFOs.

In the case of Type B project, tensions between NGOs and DFOs have been reported by the NGOs, while the two often differ in interpretation of the problems and in the approaches and methods toward solutions, so agreement between them seems difficult to attain. However, officials of the Denmark program have stated that no tension between the NGOs and DFOs has been reported. This absence may be because officials of a Natural Resource Management Sector Program Component represent the Department of Forests in Nepal, which is the institution that approves proposals submitted by NGOs. Therefore, it is considered that the NGOs' proposals that address DFO priorities are likely to be approved under the type B system.

4.5. Conclusion

In this chapter, all six bilateral aid projects for the Community Forestry have been recognized and have begun to be integrated in the NGOs as an important aspect of CF development. The six aid agencies have already involved NGOs in three different ways (Fig. 4-5). Type A NGO involvement is based on contracts with bilateral aid projects, such as the United States, Swiss, Australian and German projects. Type B NGO involvement is based on contracts with local government line agencies, such as DFOs, as exemplified by the Danish aid project. Type C NGO involvement consists of an aid project's coordination and collaboration with NGOs that are working in the project area, rather than a contractual arrangement between the two, such as in the aid project of United Kingdom. In terms of NGO types, national NGOs and local NGOs are common to involve.

The three types of NGO involvement seem to depend on the level of expectations in the NGOs, policy and strategy of the aid agencies, and the donor country that funds CFs in Nepal. The project that shows many reasons or high expectation to NGOs

[5] Since interview could not conduct with officials of German project, it is not clear whether or not the German project has this common tendency.

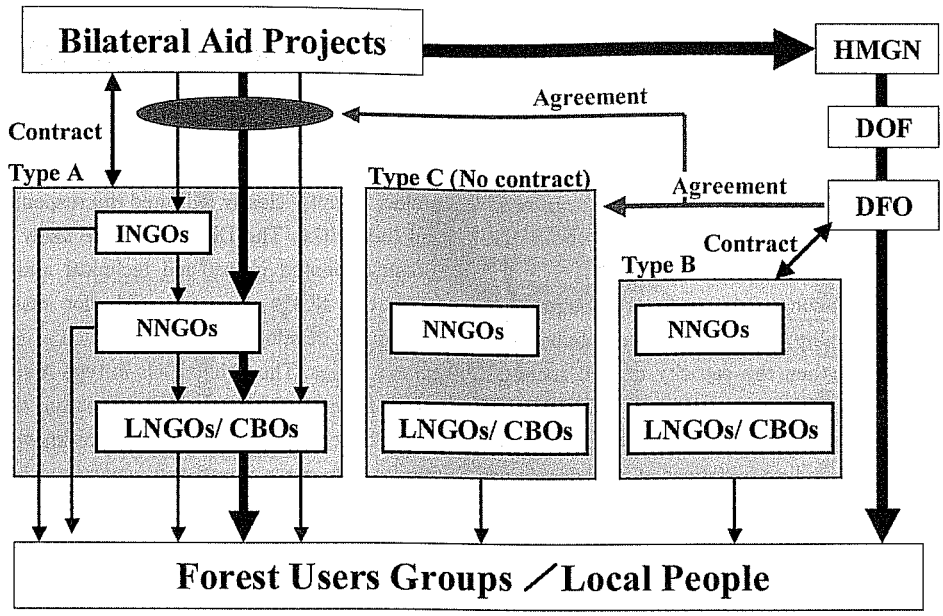


Figure 4-5. Three Methods of NGO Involvement
LNGO=Local-level NGO, NNGO=National-level NGO, INGO=International NGO, DOF=Department of Forests, DFO=District Forest Office, CBO=Community-based Organization, HMGN=His Majesty's Government of Nepal

tends to have a direct contract with NGOs such as in type A, and smaller number of reasons or less expectations to NGOs tend to be indirect NGO involvement such as type B and C. In the case of United Kingdom's project, less expectation was mentioned to NGOs, and seems to involve NGOs the least. In addition, in the case of United States and Denmark projects, the types of NGO involvement were influenced by their aid strategy.

In addition, this chapter clarified that the type A projects has been involving NGOs to improve participation of FUG members, sustainability of FUGs' activities and self-reliance of FUG members. Arnold stated that in the Philippines, Thailand and India, NGOs have constituted an important part of institutional support groups that have played a key role in identifying and negotiating mutually agreeable strategies. Therefore, it was clarified that NGO involvement in Nepal was following international tendency.

Each type of NGO involvement has issues for further NGO involvement for CF development. Type A, which contracts with NGOs directly, has yielded many reports of tension between NGOs and DFOs stemming from different views of problems and their solution, so whether NGOs involvement can be promoted smoothly under this system remains in doubt. However, bilateral aid projects could develop strategies to ease this tension, such as the establishment of a NGOs association under the Swiss project, or as with the divided responsibility of NGOs and DFOs under Australian project. In type B involvement, on the other hand, NGOs may need to go along with DFOs' priorities in order to be approved for funding and involvement in CF activities. Since CF issues are not only forestry-oriented, whether the NGOs go along with DFO's priorities to identify and support varieties of local needs under this system remain doubt.

This survey also clarified that activities in the grassroots to support community forestry extension in Nepal have been implemented by NGOs, and they are becoming a fundamental organization for CFs. Since future CF extension will be influenced by methods of NGO involvement, it is necessary to discuss the system of NGO involvement that will make NGOs more effective for the CF extension and sustainable CF management. However, because the activities of the NGOs are implemented as a part of bilateral aid projects, evaluation and discussion have not been completed. Additional investigation of the influence and impact of NGOs' involvement to develop efficient methods of such involvement in community forestry aid projects is essential.

Chapter 5. Influence of NGO Involvement to Local People

5.1. Introduction

Previous chapter has clarified the importance of all six bilateral aid projects to CF and the integration of NGOs as an important aspect of CF development. NGO involvement is expected to meet the demands of FUGs and to promote active participation, self-reliance, sustainability etc. Despite the high expectation for NGOs, it is still not clear whether the NGO involvement favored by donors make FUGs more efficient. The purpose of this Chapter

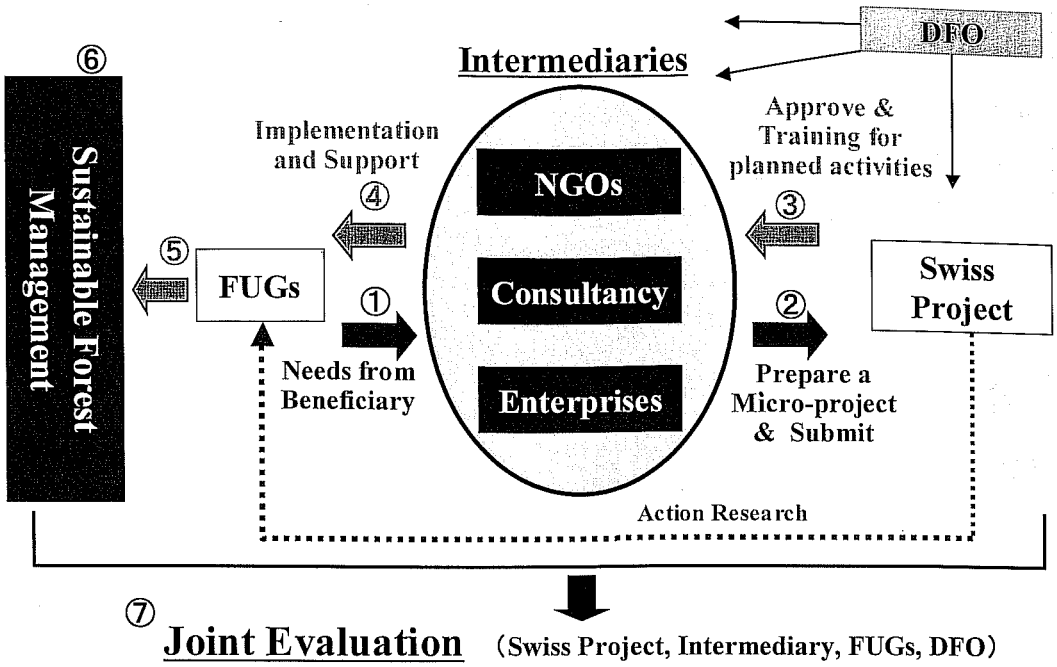


Figure 5-1. System of Micro-project
Sources: SDC (2000a) and interview with project staff

5 is to clarify the influence of NGO involvement on the FUG members' perception of CF management by using a quantitative analysis based on a questionnaire survey.

5.2. Study Area

5.2.1. Characteristics of the Selected Project

In order to clarify influence of NGO involvement, this study examined a Swiss-sponsored CF project that has actively involved NGOs. Assistance of the Swiss Agency for Development and Cooperation (SDC) to the Dolakha district through various projects has a long history, which includes the Integrated Hill Development Project from 1975 to 1990. The SDC has supported the Community Forestry Program in the Dolakha and Ramechhap districts of Nepal since 1990, through the Nepal Swiss Community Forestry Project. From July 1998 onward, the Okhaldhunga district has been included in the project area. Since the beginning of phase III of the CF project (1996), the Swiss project has involved NGOs as partners under "Micro-project" system. This is a system to involve intermediary organizations such as NGOs and consultancy firms based on a bottom-up approach. Under this "Micro-project" system, intermediary organizations will collate the demands of the FUG or local people and prepare a proposal. If the proposal is approved, the Swiss project and intermediary organizations will form a contract between themselves (Fig. 5-1).

As previous chapter clarified, the reasons for NGO involvement with Swiss project include "insufficient DFO staff", "DFO staff cannot fulfill the diverse needs of FUGs beside forestry", "concern over the sustainability of FUGs in the project area," "to promote a bottom-up approach," and "concern over the self-reliance of FUGs" (Fig. 4-1). In short, NGO involvement is expected to meet the demands of FUGs and to promote participation and self-reliance. Nevertheless, Swiss project mentioned lack adequate NGO support in terms of numbers and quality, and this is a significant issue related to NGO involvement (Ito *et al.* 2003b).

This "Micro-project" system concerns the self-reliance of the FUGs. For instance, budget of the approved "Micro-project" have recommended beneficiaries to support themselves as much as possible. However, if the beneficiaries are not in a position to pay, the Swiss project or other support from the local government will be applied. In addition, this project mainly involves Local-level NGOs (LNGO) that will not disperse after the contract of the "Micro-project" such as the National-level NGOs (NNGO) and International NGOs (INGO). Furthermore, the LNGOs are closer to and more familiar with the local people (beneficiaries) than the NNGOs or INGOs. Thus, the system and policies of this project show the project's concern towards sustainability and self-reliance.

Currently, about 60 NGOs are participating, the largest number of NGOs among the six CF bilateral aid projects, and these NGOs include other FUGs. In Nepal, an FUG is a legal, autonomous, corporate body. If an FUG has sufficient knowledge and capability to assist other FUGs, it may act as an NGO. However, this was the only project that has made contracts

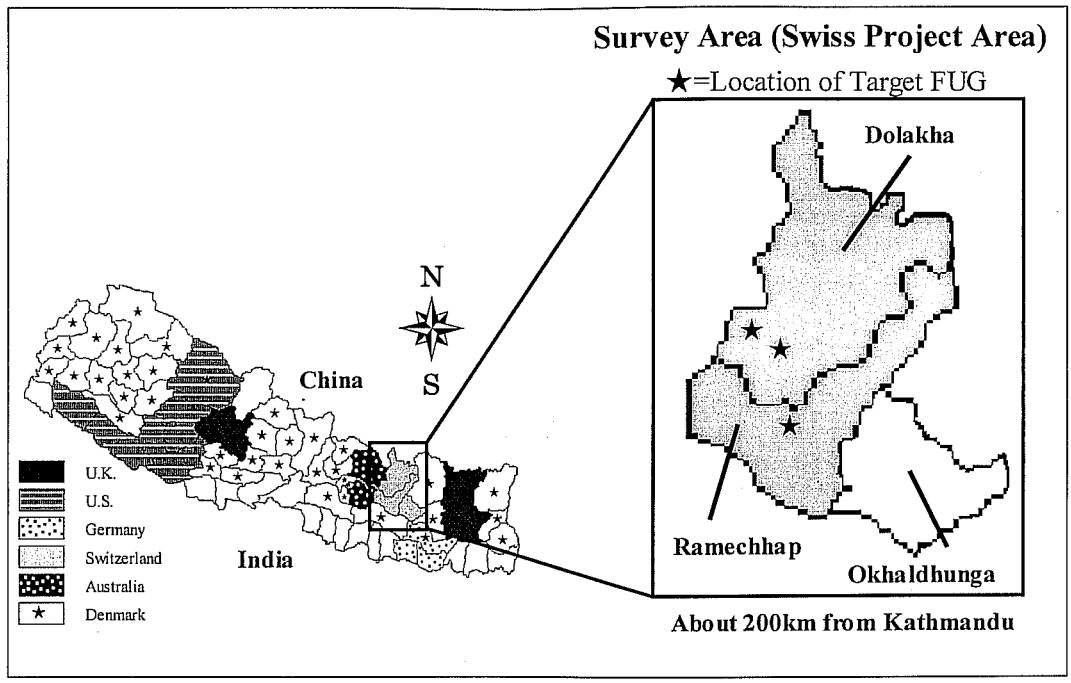


Figure 5-2. Current Status of Bilateral Aid Projects in CF and Study Site
Source: Department of Forests (2001), Field data obtained through interviews from officials of bilateral aid projects and Guntz (1998)

directly with FUGs as NGOs (Ito *et al.* 2003b). In the case of NGO involvement under the "Micro-project", there are no limitations in terms of FUGs/NGOs supporting FUGs; however, most LNGOs and FUGs are still developing groups, such as community-based organizations, and 85% of the support provided by FUGs/NGOs was for CF formation (SDC 2000b). Since the Micro-project began, the number of FUGs established though support from NGOs has been increasing. In 1999/2000, 68.2% of all the newly formed FUGs in Dolakha district were supported by FUG or NGO (Table 5-1). Therefore, it is presumed that NGO involvement in this project has been contributing to mitigate insufficient number of DFO staff to support CF formation.

During the formation process, FUG members can share their ideas; devise goals, methods, and rules for CF management; and band together as a group. Moreover, during the CF formation procedure, FUG members learn from others the importance and purpose of forest management. However, because of the insufficient number of DFO staff, simplification of this important procedure has been suspected according to interviews from local people in this project area. Interviews with several NGOs in the same district indicated that CF formation with a DFO officer was generally a very quick and simple process. Often, the procedure was abbreviated, especially the steps involving the participation of FUG members, because developing a consensus among all the members was frequently very difficult and time consuming.

Table 5-1. Current Status of Micro-project and Number Annual CF formation

Fiscal Year	Total hand-over	Through Micro-Project	Percent
1996/97	11	2	18.2%
97/98	26	16	61.5%
98/99	35	27	77.1%
99/00	38	30	78.9%
Total	110	75	68.2%

Source: Unpublished report of Swiss project

This study was conducted in the Ramechhap and Dolakha districts, which are adjacent districts in the Central Region of Nepal, as seen in Figure 5-2. The elevations of these districts range from less than 450 m above sea level at the lowest points along the major rivers to over 7,000 m along the Himalayan crest at the border of Nepal and Tibet. Several deep river canyons cut the districts. The principle river is the Tamakoshi, which runs through the central part of both districts. The bulk of the mid hill area of these two districts is under agriculture. Along the rivers at lower elevations chiefly rice and wheat is grown predominantly under irrigation. On dry land, maize, millet, mustard and wheat are grown. At high elevations potatoes are the primary crop. Poverty can be observed everywhere in these area. Approximately 50% of the households own less than one hectare of land and about 5% of the families are landless (SDI 1997).

5.2.2. Features of the Target Groups

As the Swiss project involves both general NGOs and FUGs as NGOs, each one of the following three types of FUGs were selected as target groups for a comparison of the perceptions of CF management: a FUG supported by District Forest Office (DFO) and another FUG (FUG-support), a FUG supported by DFO and a NGO that specialized in CF (NGO-support), and an FUG with no support except that from the DFO (No-support). These three groups were selected with the utmost caution. Any special group was avoided such as model groups, ethnically skewed groups, or extremely active. In addition, geography, accessibility and security were also a concern because of the country's unstable political condition. Among the selected FUGs, two groups are in Dolakha district and one is in Ramechhap. The following different groups supported the CF formation processes of these three selected FUGs. In this survey, both the FUG-support and NGO support groups had no support other than for CF formation process.

The FUG-support, Thumkadanda Forest Users Group, was established with support from Tharlange FUG. The Tharlange FUG was established in 1994 with 364 households. This FUG had three times the experience in supporting the formation process of other FUG as a Micro Project between 1998 and 2002. Since 1998, this FUG has been constantly supporting other FUGs almost every year, therefore, this FUG is considered a very active FUG in supporting other FUGs Backing the Thunkadanda FUG was their first experience as supporter. The location of these two FUGs is very close, and physical conditions are also similar (Thalange FUG 1993; Thumkadanda FUG 1996). For example, their main agricultural products are potatoes and maize because of the cool climate, and most members in both FUG cannot sustain their food; therefore, they have to depend on income from seasonal workers to buy foods.

The CF area of FUG-support group is 36.4 hectares located at an elevation of 2,530–2,800 meters above sea level. The average slope of this forest is 15–25 degrees and faces southeast. This natural forest has bushy and thorny vegetation due to the cool climatic conditions with dominant species of *Rhododendron kesamgiae*, and *Edgeworthia gardeneri*. The plantation area contains only the Mexican weeping pine (*Pinus patula*) and the Chir pine (*Pinus roxburghii*).

The NGO-support group, Kuthurku Gorkhinichaur Forest Users Group, was formed with backing from the Federation of Community Forestry Users in Nepal (FECOFUN). The FECOFUN is a national organization representing user groups in different parts of Nepal and has been formally operational since March 1996. In the beginning, 638 FUGs from districts were member of the FECOFUN. By the year 2001, more than 7,000 out of the 9,500 FUGs from districts have become members (FECOFUN 2001). The mission of FECOFUN is "to support self-reliance and increase the independent decision-making capacity of forest user groups" (FECOFUN 1996). Activities of the FECOFUN vary from the local level to the national level including: mediation, advocacy, awareness raising, training, legal advice and support, and research and support for new user group formation. They are holding many training programs by themselves, while participating in a Micro Project system to support new formation in the Swiss project area. Therefore, activities of this organization specialized for the CF. The CF of NGO-support consists of two blocks; one is 18.63 hectares, another is 9.38 hectares, while the total area is 28.01 hectares. These are located at 650–700 meters above sea level and the average slope of their CF is 20–50 degrees, facing the southwest direction. The dominant species are *Schima wallichii* (90%) (Kuthruke Gorkhinichaur Forest User Group 1997).

The No-support, Budhabhimsem Forest User Group, did not have any support from a NGO or intermediary organizations except District Forest Office officers. However, since the Forest Act of 1993 has designated the procedure of CF formation, all groups in Nepal follow the same procedure. This group is no exception. The CF of No-support has been divided into four blocks to assist in management, and the total area is 68.27 hectares and is located at 1,400 meter above sea level. The average slope of the forest ranges from 15–20 degrees that faces in a southwest direction. The dominant species in this CF is Chir pine (*Pinus roxburghii*), which covers 80% of the forest area. Other major species are Mexican weeping pine, *Schima wallichii*, and *Pieris formosa* (Budhabhimsen Forest User Group 1995).

Although feature of the three FUGs were different, these groups were not something special. Purposes of CF management were almost the same among the three FUGs. The main and common purpose for the three FUGs were to produce and obtain forest products like wood for fuel, grass, timber litter in a sustainable basis, to improve the conditions of the forest, the economic condition of the members through effective protection, and to conserve the endangered species of flora and fauna available in the forest. In terms of income, the FUG-support group had the highest average income within the three FUG's. In this FUG, more people were dependent on the income from seasonal workers because of the limited agricultural production due to sever climatic conditions. They were spending more money for food and therefore the living standard of this group was not much different than the other two FUGs. The literacy rate of all the respondents was between 60–70%, the highest was No-support (70%) and the lowest was NGO-support (60.3%). The majority of the people in the three FUGs were dependent on agriculture for their livelihood. A total of 81% of all the respondents answered that their household's main occupation was in agriculture, while 17.2% were agriculturally based with jobs on the side, and 1.5% were employed or had their own business.

5.3. Data Collection and Analysis

5.3.1. Sampling

As the Swiss project involves both general NGOs and FUGs as NGO, each one of the three types of FUG, a FUG-support, a NGO-support, and a No-support, were selected as target groups for a comparison of the perceptions of CF management.

Stratified sampling was used to ensure a representative proportion from each ethnic group. Lists of household names in the CF Operational Plan of each FUG obtained from the DFO were used. The lists for each FUG were sorted according to ethnicity, and 50% of the households were selected as samples, with at least 20-30% of the respondents from each caste group being women. One adult (>18 years old) in each selected household was interviewed. In addition, in order to reduce biased answers, our survey did not force all the respondents to answer all of the questions, especially when the respondent did not understand the meaning of the question or did not want to answer. For the attitude scale, it is impossible to sum the answers with missing responses. Therefore, this study eliminated those responders from the analysis.

A field survey was conducted during January-April 2003. Two local research assistants with experience conducting social surveys for CF in the project area were hired and trained. The survey questions were written in Nepali without using complicated or technical words, and the research assistants conducted interviews based on the questions. In addition, project reports and related publications were used. The data were analyzed using the Statistical Package for Social Sciences (SPSS) ver. 11.5.1J.

As a result of stratified sampling, for the FUG-support group, 95 of 180 members (52.8%) were interviewed, and 80 of the responses (84.2%) were valid. Similarly, 74 of 137 NGO-support households (54.0%) were selected for interviews, with 63 valid responses (85.1%), and 75 of 151 No-support households (49.7%) were surveyed, with 60 valid responses (80.0%). The caste structure of each FUG was tested using Pearson's chi-squared test (the goodness-of-fit test), and the caste structure of the respondents matched that of each FUG population.

5.3.2. Contents of Questionnaire and Analytical Method

The questionnaire was organized into four sections. Section 1 asked about personal information, including age, education, occupation, income, and expenses. Section 2 covered the attitudes of FUG members toward CF. Questions covering attitudes on three attitude scales, *Satisfaction*, *Activeness*, and *Self-reliance*, were created based on the reasons the Swiss project gave for introducing NGO involvement (Fig. 4-1). Each attitude scale consisted of 5 to 10 related questions using a 5-point Likert scale to measure attitude. *Satisfaction* measured how satisfied the respondents were with the system and the products obtained from CF activities. The nine questions were combined to give a single *Satisfaction* score. To calculate the score, "strongly satisfied," "satisfied," "50/50," "unsatisfied," and "strongly unsatisfied" were assigned scores of 5 to 1, respectively. *Activeness* measured how active the respondents were in current CF activities using ten questions; the *Activeness* score was calculated similarly, rating the responses from "always" to "never" as 5 to 1, respectively. *Self-reliance* measured how much the respondents tended to think of themselves as leading characters in future CF development. To calculate the score, "strongly agree", "agree", "about 50/50", "disagree", "strongly disagree" were assigned score of 5 to 1, respectively. On all three scales, a higher score represented greater satisfaction, involvement, or self-reliance for CF. The internal consistency of the scales was measured using Cronbach's alpha, which ranges from 0 to 1; the greater the value, the greater the reliability of the scale. The questions used for each scale were pre-tested to create suitable scales. The scores on each scale were compared using Analysis of Variance (ANOVA), with Scheffé's test for multiple analyses as necessary.

Section 3 asked about knowledge as a measure of basic knowledge with regard to CF. For knowledge scores, the numbers of respondents answering "do not know" or giving wrong answers were counted, and the proportion giving such responses was calculated and compared across the three FUGs. In addition, Ryan's method was used to identify which pairs of conditions differed significantly. Section 4 covered other questions including nine questions about general opinion on their CF such as purposes, issues, major changes, importance of CFs were presented. Many of these questions have also measured by 5-point scale and have tested by ANOVA to compare among the members of the three FUGs.

5.4. Results

5.4.1. Personal Information --Characteristics of the Three Groups

Table 5-2 shows the characteristics of three selected FUGs. Of the households in the three FUG's (468), 244 (52.1%) were selected and a member was interviewed. There were 203 valid respondents (83.2%), and the average age of the respondents was 45.1 years. According to the survey, the structure of the caste groups in each FUG differed. The majority of members in the FUG-support group were Baisya (90%), and there were no Brahmins (the highest group) or Sudras (the lowest). The NGO-support FUG had the highest percentage of Brahmins (4.8%) of the three FUGs, and the majority of this group was Baisya (49.2%) and Chhetri (38.1%). The No-support FUG had the highest percentages of Chhetri (the second highest group) and Sudra (the lowest) among the three FUGs. Therefore, FUG-support had the smallest within-group gap between poor and rich, while No-support had the greatest gap. The literacy rates and occupations

Table 5-2. Details of the Three FUGs

	Thumkadanda FUG (FUG-support)	Kuthurke Gorkhinichaur FUG (NGO-support)	Budhabhimsen FUG (No-support)	3 FUGs (Total)
Established Year	1995/96	1997/98	1994/95	
Address	Dolakha	Ramechhap	Dolakha	
Total HH	180 HH	137 HH	151 HH	468 HH
Selected HH	95 HH (52.8%)	74 HH (54.0%)	75 HH (49.7%)	244 HH (52.1%)
Valid respondents	80 HH	63 HH (85.1%)	60 HH (80.0%)	203 HH (83.2%)
Average age	44	47.5	44.5	45.1
Women respondents	35.00%	33.30%	29.50%	33.0%
Occupation of HH head: agri	81.3%	92.1%	70.0%	81.3%
: agri+job	16.3%	7.9%	28.3%	17.2%
Average income	Rs. 50,269	Rs. 27,697	Rs. 38,723	Rs. 38,562
Education: Illiterate	32.5%	39.7%	30.0%	34.0%
Literate	67.5%	60.3%	70.0%	65.5%
No school	74.1%	73.7%	52.4%	67.7%
Primary	1.9%	7.9%	4.8%	4.5%
Lower Secondary	11.1%	2.6%	9.5%	8.3%
Secondary	9.3%	15.8%	14.3%	5.3%
Higher	0.0%	0.0%	4.8%	1.5%
Others	3.7%	0.0%	14.3%	5.3%
Caste				
Brhamin (highest)	0.0%	4.8%	3.3%	2.5%
Chhetri (medium)	10.0%	38.1%	68.3%	36.1%
Baisya (low)	90.0%	49.2%	10.0%	54.0%
Sudra (untouchable)	0.0%	7.9%	16.7%	7.4%
CF Area	36.4 ha	28.01 ha	67.27 ha	
Altitude from msl	2530-2800m	650-700m	1,400m	
Average slope	15 – 25°	20 – 50°	15-20°	
Facing direction	Southeast	Southwest	Southwest	
Soil type	Black-brown, sandy	Brown-red, boulder-rock	Clay	
Age of tree	70 – 150	20 – 25	N.A.	
Dominant Species	*Rhododendron kesamgiae*	*Schima wallichii*	Chir pine	
	Edgeworthia gardeneri	Mexican weeping pine	Mexican weeping pine	
	Mexican weeping pine		*Schima wallichii*	
	Chir pine		*Piers formosa*	

Sources: Budhabhimsen Forest User Group (1995), Kuthruke Gorkhinichaur Forest User Group (1997), Thumkadanda Forest User Group (1996)

Table 5-3. Questions to Measure Satisfaction of FUG Members

To what extent are you satisfied with the following things provided to you through CF?
1. Fuelwood
2. Trainings and knowledge necessary for CF
3. System of decision making in your FUG
4. Functions of FUG
5. Income from CF
6. Consideration of your view in the group meetings
7. Use of the fund of FUG
8. Tranparancy of the FUG fund
9. Process to elect and take over from the Leaders of FUG

Note: "Strongly satisfied" was assigned a score of 5, "satisfied"... 4, "about 50/50"... 3, "unsatisfied"... 2 and "strongly unsatisfied".. 1.

were similar across the groups.

5.4.2. Section 2: Attitude for CF Management

5.4.2.1. Satisfaction

Satisfaction measured how satisfied the respondents were with the system and the products obtained from CF activities. The nice questions in Table 5-3 were combined to give a single satisfaction score. To calculate the score, "strongly satisfied", "satisfied", "about 50/50", "unsatisfied", and "strongly unsatisfied" were assigned scores of 5 to 1, respectively. Cronbach's alpha for this scale was 0.82. No-support had the highest score (33.07) and therefore the greatest satisfaction with CF; FUG-support had the

Table 5-4. Questions to Measure Satisfaction of FUG Members

Groups	*N*	Mean	*F*	Sig.
FUG support	80	31.93		
NGO support	63	32.59		
NO support	60	33.07		
Total	203	32.47	1.235	0.293

* The mean difference is significant at the 0.05 level
** The mean difference is significant at the 0.01 level

Table 5-5. Questions to Measure Activeness of FUG Members

1. How often do you participate in CF activities?
2. How often do you usually air your opinions at the FUG meetings?
3. How often do you talk about CF to your family, especially children?
4. How often do you participate in training or seminars on CF?
5. How often do you visit the CF area?
6. Have you ever provided advice to people other than FUG members, regarding the plantation of trees or CF related activities?
7. When your FUG decides something, how often do you or your family members participate?
8. How often do you interact with other local organizations about your CF management?
9. How often do you interact with district level forest related organizations such as FECOFUN, DFO, SDC?
10. How often do you think that women should participate in the CF activities?

Note: "Always" was assigned a score of 5, "often"... 4, "about 50/50"... 3, "seldom"... 2 and "never".. 1.

Table 5-6. Scores of Activeness and Result of ANOVA

Groups	*N*	Mean	*F*	Sig.
FUG support	80	22.85		
NGO support	63	23.10		
NO support	60	24.52		
Total	203	23.42	2.252	0.108

* The mean difference is significant at the 0.05 level
** The mean difference is significant at the 0.01 level

lowest satisfaction score (31.94), as seenin Table 5-4. However, the differences among the average scores of the three FUGs were not statistically significant by ANOVA ($F_{(2, 200)}=1.235$, $p=0.293$). In other words, neither FUG nor NGO support influenced the members' satisfaction with CF management.

5.4.2.2. Activeness

Activeness measured how active the respondents were in current CF activities using ten questions; the Activeness score was calculated by rating the responses from "always" to "never" as 5 to 1, respectively (Table 5-5). Cronbach's alpha for this scale was 0.73. Of the three FUGs, No-support had the highest average score (24.52), and FUG-support had the lowest (22.85) as seen in Table 5-6, although the differences were not significant (ANOVA, $F_{(2, 200)}=2.252$, $p=0.108$).

5.4.2.3. Self-reliance

The self-reliance of FUG members measured how much the respondents tended to think of themselves as leading characters in future CF development (Table 5-7). To calculate the score, "strongly agree", "agree", "about 50/50", "disagree", and "strongly disagree" were assigned score of 5 to 1, respectively. Cronbach's alpha for this scale was 0.68. FUG-support had the highest average score (16.68), while No-support had the lowest (15.72), as seen in Table 5-8. The differences among the three FUGs were significant (ANOVA, $F_{(2, 200)}=10.864$, $p<0.01$). Using Scheffé's test (Table 5-9), significant differences were found between FUG-support and NGO-support ($p=0.01$) and between FUG-support and No-support ($p=0.00$). Therefore, the perception of an FUG member toward CF management was significantly higher in the FUG-support group than in the other two groups.

5.4.3. Section 3: Basic Knowledge on CF

Eight questions were used to measure FUG members' knowledge of their own CF (Table 5-10). Compared with the two FUGs that received support from another FUG or an NGO, No-support had the highest ratio of "do not know" for all the questions. The members of No-support had the least knowledge

Table 5-7. Questions to Measure Self-reliance of FUG Members

To what extent do you agree or diagree with the following statement?
1. Appropriate CF management will improve your livelihood
2. Appropriate CF management will improve your community
3. When there is trouble or conflict within your FUG in the near future, you have to make an effort to solve it.
4. It will be impossible to improve your CF without support from outsiders
5. CF will contribute to community development

Note: "Strongly agree" was assigned a score of 5, "agree"... 4, "about 50/50"... 3, "disagree"... 2 and "strongly disagree".. 1.

Table 5-8. Scores of Self-reliance Result of ANOVA

Groups	*N*	Mean	*F*	Sig.
FUG support	80	16.68		
NGO support	63	15.95		
NO support	60	15.72		
Total	203	16.17	10.86	0.000**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 5-9. Result of Multiple Comparisons on Self-reliance

Multiple Comparison on Self-reliance (Scheffe)		Mean Differences	Sig.
FUG-support	NGO-support	0.865	0.010*
	No-support	1.292	0.000**
NGO-support	No-support	0.426	0.374

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 5-10. Result of Multiple Comparisons on "Knowledge" I

	% of respondents whose answer was " do not know"					
Questions of knowledge	FUG-support (80)[1]	NGO-support (63)[1]	No-support (60)[1]	Pearson Chi-Square Value[2]	df	Asymp.sig (2-sided)
1. CF area	62.50	44.44	83.33	19.968[a]	2	0.000**
2. CF boundaries	20.00	15.87	80.00	69.985[b]	2	0.000**
3. CF membership fee	15.00	38.10	86.67	72.734[c]	2	0.000**
4. No. of CF block	22.50	39.68	76.67	41.500[d]	2	0.000**
5. No. of member HH	42.50	28.57	58.33	11.122[e]	2	0.004**
6. CF formation process	26.25	23.81	85.00	61.855[f]	2	0.000**
7. No. of committee members	30.00	17.46	40.00	7.629[g]	2	0.022*
8. Organizations that helped you	25.00	25.40	78.33	49.419[h]	2	0.000**

1. the number of respondents
2. a-h:0 cells (.0%) have expected count less than 5.
* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

of their CF. More than 80% of the No-support members did not know about their CF area, CF boundaries, membership fee, or process of CF formation. There was a significant relationship between knowledge of CF and the three different types of FUGs at the 5 or 1% levels, using the chi-squared test. To identify which pairs of conditions differed significantly, we performed multiple analyses using Ryan's method. There were significant differences between many pairs at the 5 or 1% level (Table 5-11). For most of the questions about CF knowledge, there was a significant difference between No-support and the other two FUGs, except for knowledge of the number of member households and the number of committee members. In other words, No-support was the least knowledgeable of the three FUGs and the difference was significant.

5.4.4. Section 4: Others

Nine questions about general opinion on their CF, such as purposes, issues, major changes, importance of CFs were presented. The followings are the results

5.4.4.1. Purposes of the Participating CFs

For the purposes for the CF, about 90% of each of the FUGs' respondents answered that they were "For availability of forest products" (Table 5-12). As to specific forest products, more than 80% of these respondents answered "Grass" and "Fuelwood," and about 50% answered for "Timber" (Table 5-13). There was no difference in the ratio of the three FUGs for the question of defining the purpose for CFs. On the other hand, an additional question to understand more about their purposes for

Table 5-11. Result of Multiple Comparisons on "Knowledge" II

Questions of knowledge	Multiple Comparisons[1] No-support × FUG-support	No-support × NGO-support	FUG-support × NGO-support
1. CF area	*	**	*
2. CF boundaries	**	**	ns
3. CF membership fee	**	**	**
4. No. of CF block	**	**	*
5. No. of member HH	ns	**	ns
6. CF formation process	**	**	ns
7. No. of committee members	ns	**	ns
8. Organizations that helped yo	**	**	ns

1. Ryan's method for multiple comparisons was employed
* Significant at 5% level
** Significant at 1% level
ns: not significant

Table 5-12. Purposes of the Participating Community Forestry

	For availability Forest Products	To protect Forest Products	To improve Forest Products	To control Forest Products	Others	*N*
FUG-Support	91.25%	15.00%	6.25%	1.25%	0.00%	80
NGO-support	90.48%	9.52%	11.11%	4.76%	3.17%	63
No-support	88.33%	1.67%	13.33%	3.33%	1.67%	60
Total	90.15%	9.36%	9.85%	2.96%	1.48%	203

Note: Result of open-ended question

Table 5-13. Contents of the Specific Forest Products

	Grass		Fuelwood		Timber		*N*
FUG-support	80.00%	(64)	83.75%	(67)	45.00%	(36)	80
NGO-support	93.65%	(59)	93.65%	(59)	53.97%	(34)	63
No-support	91.67%	(55)	90.00%	(54)	40.00%	(24)	60
Total	87.68%	(178)	88.67%	(180)	46.31%	(94)	203

Note: Result of open-ended question

participating in CFs, the respondents were asked to what extent do you agree or disagree with the question of "If you can not obtain sufficient amount of forest products, you will quit from FUG." This question was asked with 5 point scale, and "strongly agree" was assigned a score of 1, "agree"... 2, "about 50/50"... 3, "disagree"... 4 and "strongly disagree".. 5. As a result, The NGO-support group had the highest mean score of 4.49, while the No-support group had the lowest of 3.98. Results of the ANOVA indicated that there was significant difference among the mean score of the three FUGs ($F_{(2,200)}=10.194$, $p<0.01$) (Table 5-14). In short, more members in the NGO-support group tend to have purposes of participating CF other than that "For availability of forest products" when compared to FUGs' members (Table 5-15).

5.4.4.2. Degree of Dependence

Another important question was to measure respondents' degree of dependence on outsiders. The question was asked: "To improve your CF, outsiders such as aid agencies and NGOs should make more effort" "strongly agree" was assigned a score of 1, "agree"... 2, "about 50/50"... 3, "disagree"... 4 and "strongly disagree".. 5. As a result, the NGO-support group had the highest score of 2.75, the FUG-support was 2.19, and No-support was the lowest with a score of 2.00 (Table 5-16). According to the results of ANOVA, the difference in the mean score of the three FUGs was statistically significant at 1% level ($F_{(2,200)}=20.120$, $p<0.01$). This result indicated that more respondents in the NGO-support group tend not to depend on outsiders, and their degree of dependence was the lowest (Table 5-17). On the other hand, the No-support group had the lowest score and the highest degree of dependency on outsiders. However, since no outsider has supported the No-support group, it might be one of the reasons why they tended to think that more things should be done by aid agencies.

Table 5-14. Contents of the Specific Forest Products

Groups	*N*	Mean	*F*	Sig.
FUG support	80	4.18		
NGO support	63	4.49		
NO support	60	3.98		
Total	203	4.21	10.194	0.00**

* The mean difference is significant at the 0.05 level
** The mean difference is significant at the 0.01 level
Note: To what extent do you agree or disagree with the question of "If you can not obtain sufficient amount of forest products, you will quit from FUG" "Strongly agree" was assigned a score of 1, "agree"... 2, "about 50/50" ... 3, "disagree"... 4 and "strongly disagree".. 5.

Table 5-15. Result of Multiple Comparisons on Purposes of CF

(I) 3 FUGs	(J) 3 FUGs	Mean Difference (I-J)	Std. Error	Sig.
FUG-support	NGO-support	0.865*	0.2832	0.010
	No-support	1.2917**	0.2872	0.000
NGO-support	FUG-support	-0.865*	0.2832	0.010
	No-support	0.426	0.3033	0.374
No-support	FUG-support	-1.291**	0.2872	0.000
	NGO-support	-0.4262	0.3033	0.374

* The mean difference is significant at the 0.05 level
** The mean difference is significant at the 0.01 level

Table 5-16. Degree of Dependence

Groups	*N*	Mean	*F*	Sig.
FUG support	80	2.19		
NGO support	63	2.75		
NO support	60	2.00		
Total	203	2.31	20.120	0.00**

Note: To what extend do you agree or disagree with the question of "To improve your CF, outsiders such as aid agencies and NGOs should make more effort." "Strongly agree" was assigned a score of 1, "agree"... 2, "about 50/50"... 3, "disagree"... 4 and "strongly disagree".. 5.
* The mean difference is significant at the 0.05 level
** The mean difference is significant at the 0.01 level

Table 5-17. Result of Multiple Comparison on Degree of Dependence

(I) 3 FUGs	(J) 3 FUGs	Mean Difference (I-J)	Std. Error	Sig.
FUG-support	NGO-support	0.865*	0.2832	0.010
	No-support	1.2917**	0.2872	0.000
NGO-support	FUG-support	-0.865*	0.2832	0.010
	No-support	0.426	0.3033	0.374
No-support	FUG-support	-1.291**	0.2872	0.000
	NGO-support	-0.4262	0.3033	0.374

* The mean difference is significant at the 0.05 level
** The mean difference is significant at the 0.01 level

Table 5-18. Perspective of Respondents for Community Forestry

	More	5 years	3 years	1 years	Already	Total
	46	1	30	1	2	80
FUG-Suppor	57.5%	1.3%	37.5%	1.3%	2.5%	100.0%
	36	1	16	7	3	63
NGO-suppor	57.1%	1.6%	25.4%	11.1%	4.8%	100.0%
	14	0	38	1	7	60
No-support	23.3%	0.0%	63.3%	1.7%	11.7%	100.0%
	96	2	84	9	12	203
Total	47.3%	1.0%	41.4%	4.4%	5.9%	100.0%

Note: Question was "when do you think your CF will be managed by yourself without any assistance from outsiders?" "Already managing" was assigned as choice 5, "1 year" choice 4, "3 years"... 3, "5 years" 2 and "more than 5 years".. 1.

5.4.4.3. Perspective of Respondents for Community Forestry

In order to understand the respondents' perspective and evaluation for their own CF, the question: "When do you think your CF will be managed by yourself without any assistance from outsiders?" was applied with a 5-multiple-choice method. "Already managing" was assigned as choice 5, "1 year" choice 4, "3 years"... 3, "5 years" 2 and "more than 5 years".. 1. A higher number meant that the respondents had a more optimistic view for CF management while a lower number indicated pessimistic view. As a result, more than 50% of the FUG-support and NGO-support members answered it will take more than five years to manage their CF without any assistance from outsiders. On the other hand, only 23.3% of No-support members answered for this category, and majority of this group (63.3%) answered about three years. In addition, respondents who answered that they are already managing forests by themselves without any support from outsiders had the highest ratio (11.7%) in No-support, while 4.8% in NGO-support and 2.5% in FUG-support (Table 5-18). These results indicated that FUGs with support from the FUGs and NGOs tend to have more of a pessimistic view in their own capability to manage forest.

5.4.4.4. Importance of CF

The question: "Do you think CF is fundamental for you?" was used to find out importance of CF for respondents. This question had 5 point scale: 5 was "strongly agree", 4 was "agree", 3 was "about 50/50", 2... "disagree", and 1 was "strongly disagree." As a result, there was no respondent who answered "disagree" and "strongly disagree," and only one respondent in the FUG-support group answered "about 50/50." Between 66–69% of the three NGOs' respondents answered "strongly agree," and about 30% within each of the FUGs' members answered "agree" (Table 5–19). According to the results, there was no difference among the answer of the three FUGs, and all respondents felt that the CF is fundamental to them.

5.4.4.5. Issues and Significant Changes

In questioning the respondents on their feeling concerning the biggest issue related to CF management. 56.2% of all total respondents answered there was no such issues. From those who were supported by FUG, 57.5% respondents in the some manner, while NGO-support 80.9% agree and only 28.3% of the No-support members. The ratio was small but the following reasons were mentioned; Equal fees for all users (8.9%), Distribution of forest products (7.9%), all users are not awarded much (3.9%) (Table 5–20). The results showed that more respondents in the FUG-support and NGO-support groups thought that there were no major issues.

Answers to questions on significant change after CF formation did not showed any tendencies among the three FUGs; however, the answers included many positive views such as the forest increased, forest products increased, forest improved, wild life increased, forest is now well protected, do not need to have permission to use forest resources, and others (Table 5–21). There was not difference in tendency for activities of each of the three FUGs. All three FUGs had members that answered

Table 5–19. Importance of Community Forestry

	About 50/50	Agree	Strongly Agree	Total	N
FUG-Support	1.25% (1)	27.5% (22)	68.75% (55)	97.5% (78)	80
NGO-support	0% (0)	31.75% (20)	66.67% (42)	98.41% (62)	63
No-support	0% (0)	31.67% (19)	68.66% (41)	100% (60)	60
Total	0.49% (1)	30.05% (61)	67.98% (138)	98.52% (200)	203

Note: To what extend do you agree or disagree with the question of "Do you think CF is fundamental for you?" "Strongly agree" was assigned a score of 5, "agree"... 4, "about 50/50"... 3, "disagree" ... 2 and "strongly disagree".. 1.

Table 5–20. What is the Biggest Issue in Your Community Forestry?

	FUG-support	%	NGO-support	%	No-support	%	Total	%
No such issues	46	57.50%	51	80.95%	17	28.33%	114	56.16%
Equal fee for all users (regardless of poo or eich)	15	18.75%	0	0.00%	3	5.00%	18	8.87%
Distribution of forest products	3	3.75%	4	6.35%	9	15.00%	16	7.88%
Auctioning; poor cannot compete with the rich	0	0.00%	0	0.00%	11	18.33%	11	5.42%
All users are no much awared about CF	2	2.50%	2	3.17%	4	6.67%	8	3.94%
Insuffificento amount of forest products from CF	0	0.00%	0	0.00%	6	10.00%	6	2.96%
Discrimination against poor (rich have more advantage)	2	2.50%	0	0.00%	3	5.00%	5	2.46%
Difficult to improve less awarded users in CF activities	4	5.00%	0	0.00%	0	0.00%	4	1.97%
Illegal extraction of forst products	1	1.25%	2	3.17%	0	0.00%	3	1.48%
Lack of technical skill on forest managemen	0	0.00%	1	1.59%	2	3.33%	3	1.48%
Do not know	1	1.25%	3	4.76%	4	6.67%	8	3.94%
Others	6	7.50%	0	0.00%	1	1.67%	7	3.45%
Total	80	100%	63	100%	60	100%	203	100%

Note: Result of open-ended question

planting, protection, weeding, however, only the FUG-support's member answered management of non-timber forest products as their activity (Tables 5–22, 5–23).

5.5. Conclusion

The results of this study have showed that NGO involvement influences factors such as "Self-reliance," "Knowledge on CF," "Purposes of participating CF," "Degree of dependence," and "Perspective for CF," while it has less influence on "Satisfaction" and "Activeness." The factors influencing the perception of CF management will be discussed in here.

Support from an FUG or NGO during the CF formation procedure increased the score of an FUG in terms of *Self-reliance* and knowledge of CF. When a CF is formed via the appropriate process of participation and consensus, most members of the beneficiary FUG will gain basic knowledge of their CF, including its area, boundaries, member households, and formation process. However, our results showed that most members of the No-support FUG lacked much of this basic knowledge, even knowledge of their CF area. Most members of the No-support

Table 5–21. What were the Significant Changes after Community Forestry Formation?

	FUG-Support		NGO-support		No-support		Total	
Forests increased	46	57.5%	31	49.2%	20	33.3%	97	47.8%
Improved	16	20.0%	23	36.5%	19	31.7%	58	28.6%
Protected	9	11.3%	0	0.0%	5	8.3%	14	6.9%
Wildlife	2	2.5%	20	31.7%	17	28.3%	39	19.2%
Controled	7	8.8%	2	3.2%	5	8.3%	14	6.9%
No DFO	26	32.5%	24	38.1%	0	0.0%	50	24.6%
Greenery	4	5.0%	8	12.7%	4	6.7%	16	7.9%
Increased availability of forest products	12	15.0%	8	12.7%	21	35.0%	41	20.2%
forest products.	29	36.3%	14	22.2%	3	5.0%	46	22.7%
Income from forest product remains in FUG, not in DFO.	4	5.0%	0	0.0%	0	0.0%	4	2.0%
N	80		63		60		203	

Note: Result of open-ended question

Table 5–22. Current Activities: Planting Trees (Contents of Species)

Plantation	FUG-Support		NGO-support		No-support		Total	
no-mention	35	43.75%	41	65.08%	51	85.00%	127	62.56%
Pine	33	41.25%	0	0.00%	7	11.67%	40	19.70%
Mitsumata	35	43.75%	0	0.00%	0	0.00%	35	17.24%
different species	6	7.50%	7	11.11%	0	0.00%	13	6.40%
NTFP	11	13.75%	0	0.00%	0	0.00%	11	5.42%
alder	1	1.25%	0	0.00%	3	5.00%	4	1.97%
bamboo	0	0.00%	0	0.00%	6	10.00%	6	2.96%
grass	0	0.00%	0	0.00%	4	6.67%	4	1.97%
broom	0	0.00%	0	0.00%	4	6.67%	4	1.97%
Others	1	1.25%	0	0.00%	2	3.33%	3	1.48%
N	80		63		60		203	

Note: Result of open-ended question

Table 5–23. Current Activities: Other than Planting Trees

	FUG-Support		NGO-support		No-support		Total	
Protection by users in rotatio	0	0.00%	55	87.30%	0	0.00%	55	27.09%
Protection by watchman	1	1.25%	0	0.00%	7	11.67%	8	3.94%
Protection	5	0.00%	7	11.11%	2	3.33%	14	6.90%
	80		63		60		203	

Note: Result of open-ended question

FUG lacked knowledge of their CF, indicating that CF formation with the support of an FUG or NGO is more effective than with DFO support alone. The result of this study is supporting doubts for simplification of CF formation procedure done by DFO staff.

On the other hand, NGO involvement had less influence on *Satisfaction* and *Activeness*. This may be because the limited support from an FUG or NGO during the formation process was probably insufficient to motivate the FUG members to participate actively in CF activities; consequently, members were less likely to provide and derive satisfaction from the CF. If aid projects expect NGOs and FUGs to improve satisfaction and participation of members, these intermediary organization should support more CF activities other than CF formation procedure. In order to do this, aid projects may need to provide extensive support to improve capability of their partner NGOs or FUGs.

In conclusion, according to the previous study, despite the high expectations for NGO participation, most of the six CF project under bilateral aid mentioned lack of adequate NGO in terms of numbers and quality as a significant issue. However, as the results of this case study, not only Local level NGO but also experienced FUG can serve as an adequate partner and is better than the DFO in terms of support for the CF formation procedure. Therefore, it will be possible to consider existing FUGs as new supporter in near future. If FUGs could support other FUGs or new FUGs, both the issues of insufficient number of appropriate NGO, and the issues of insufficient pre-formation support will be mitigated.

Chapter 6. Relationship between the Feature of FUG and Attitude

6.1. Introduction

The previous chapter attempted to clarify the influences of NGO involvement on the local people's perceptions towards CF management. The results show there were no significant differences on attitude towards CF management among the three FUG members in terms of "Satisfaction" and "Activeness," while "Self-reliance" and "Knowledge on CF" showed significant differences. Limited support from an FUG or NGO during the formation process was probably insufficient to motivate the FUG members to participate actively in CF activities; consequently, members were less likely to provide and derive satisfaction from the CF. However, since many papers on CF or community-based natural resource management in Nepal have reported the influence of socio-economic conditions of the respondents such as caste, gender, income, further analysis by using the results of personal information and other questions are necessary (Lamichhane *et al.* 2000; Lamichhane *et al.* 2001; Collet *et al.* 1996: Agarwal 2001; Adhikari 2001). Therefore, this chapter focuses on the influence of socio-cultural, economic and other aspects to respondents'perception towards CF management.

More specific aims of this chapter are to:

1. Examine features of the three FUGs;
2. Attempts to identify relationships between attitude scores and social, cultural, and economic aspects of respondents; and
3. Discusses the influence of social, cultural, and economic aspects of the respondents' towards their perceptions for CF management.

6.2. Methodology

A cross-sectional analysis of the personal information and attitude of the FUG to identify factors influencing the attitude was conducted. In the analysis, personal information was divided into four categories: socio-cultural, economic, other features, and knowledge of their own CF. The correlations between these personal information categories and the three attitude scales were analyzed, as well as questions on the time spent collecting fuelwood, ability to save, and attitude items. A variable with two categories such as the gender differences in the responses to each question were compared using the *t*-test. ANOVA was used for the analysis when there were more than three categories such as three attitude scales. Finally, the influence of social, cultural, and economic aspects of respondents towards attitude scores were discussed.

6.3. Results

6.3.1. Influence of Socio-cultural Features towards Attitude

Regarding socio-cultural conditions, the following four variables had a correlation with attitude scores: sex, ethnic group, education levels, and occupation. The following section will apply two kinds of analysis. First analysis is to examine socio-cultural conditions of each three FUG's and the second one is to find out whether there are significant influences of the socio-cultural variable towards three attitude scales of "Satisfaction," "Activeness," and "Self-reliance." Then, figure out if variables have influenced to comparison mean scores of the three FUGs.

6.3.1.1. Sex

From the perspective of gender, at least 20–30% respondents of each caste group were set to be women in this survey. In actuality, 30.0–35.0% of each FUGs' interviewee were female, and it is considered that three FUGs had almost the same ratio of women interviewees (Table 6–1). As a result of chi-square test,

Table 6–1. Composition of Sex

	Male	Femal
FUG-Support	65.0%	35.0%
NGO-support	66.7%	33.3%
No-support	70.0%	30.0%
Total	67.0%	33.0%

Source: Author created based on the result of questionnaire

there was no significant difference on the percentage of sex in the three FUGs. In order to identify whether there were any significant influence of sex towards the attitude score, *t*-test was employed. Table 6-2 showed mean score of male and female groups. According to the results of *t*-test, the male respondents had higher mean score for all the three attitude scales, however, only "Activeness" showed a significant difference between scores of male group and female group. According to these results, significant influences of sex toward "Activeness" was clarified, however, since the three FUGs have almost the same ratio of males and females, sex might not significantly be influenced towards the attitude score of the three FUGs' in this case study.

6.3.1.2. Ethnic Groups

Answers by the respondents were categorized into four basic caste groups: Brahmins (the highest group), Chhetri, Baisya, and Sudra (the lowest group). This study applied stratified sampling to ensure a representative proportion of each ethnic group. As a result of the Pearson's chi-square test, the caste structure of the respondents followed that of each FUG's actual caste structure. However, the structure of caste groups in each FUG was different though every attempt was made to insure that groups with normal case structure were selected carefully. In both FUG-support and No-support groups, a majority of the members were Baisya (90% for FUG-support, 49.2% for No-support), which is the second lowest group in the caste system. Chhetri, the second highest caste group was the majority within the No-support group (68.3%) (Table 6-3). According to this structure, it is considered that FUG-support had the least gap between poor and rich within the group while No-support had the greatest gap. As a result of Pearson's chi-square test, caste structure of the three FUGs were significantly different at 1% level.

An ANOVA test was employed to identify influence of caste towards attitude score. According to the results, members of Sudra, the lowest group, had the lowest score for the three attitude scales. As a result of the ANOVA test, there was a significant difference among the mean scores of each caste group at 1% level in terms of "Satisfaction" and "Self-reliance" (Table 6-4). In other words, caste groups are influencing people's perception towards CF management significantly. The results of multiple comparisons indicated that Sudra is significantly different from the other three caste groups. These results showed that there were significant influences of caste towards attitude score of "Satisfaction" and "Self-reliance." Since the three FUGs had

Table 6-2. Influences of Sex for Attitude in CF Management

		Satisfaction			Activeness			Self-reliance		
	N	mean	*t*	sig.	mean	*t*	sig.	mean	*t*	sig.
Male	136	32.49			24.29			2.15		
Female	67	32.42			21.64			19.76		
Total	203		0.12	0.91		3.78	0.00**		1.5	0.14

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-3. Structure of Caste Group in the Three FUGs

	Caste Groups (%)			
	Brahmins	Chhetri	Baisya	Sudra
FUG-support	0.00%	10.00%	90.00%	0.00%
NGO-support	4.80%	38.10%	49.20%	7.90%
No-support	3.30%	68.30%	10.00%	16.70%
Total				

Source: Author created based on the result of questionnaire

Table 6-4. Influences of Ethnic Group in the Three FUGs

		Satisfaction			Activeness			Self-reliance		
	N	mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
Brahmins	5	33.4			25.8			20.6		
Chhetri	73	33.49			23.81			20.01		
Baisya	109	32.46			23.28			20.34		
Sudra (untouchable)	15	27			21.87			17.53		
Total	202	32.45	10.82	0.00**	23.43	1.09	0.353	20.02	13.46	0.00**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

significantly different caste structures, the comparison of three FUGs' attitude score might have influences from caste structure.

6.3.1.3. Occupation

Regarding occupation, the majority of the people in the three FUGs were dependent on agriculture for their livelihood. However, NGO-support had the highest ratio of people's occupation in "Agriculture" (92.6%) and No-support had the lowest ratio of 70.0% (Table 6-5). However, respondents who were "Agriculture" and "Agriculturally based, with jobs on the side" were together representing more than 97% of each of the three FUGs', while 1.5% were employed or had their own business. The chi-square test was employed to see if the structure of an occupation in the three FUGs were different. As a result, there was no significant difference among the three FUGs' structure of those in "Agriculture labor and those agriculturally based, with jobs on the side" and those "Business / Employed."

In order to identify the relationship between occupation and attitude score, an ANOVA test was employed. Table 6-6 showed that occupation in "Business / Employment " had the lowest mean score of all attitude scales: "Satisfaction"(28.33), "Activeness" (20.00), and "Self-reliance" (17.00). On the other hand, occupation in "Agriculture" had the highest mean score for "Satisfaction" (32.72) and "Self-reliance"(20.16), and occupation in "Agriculturally based with jobs on the side" had the highest for "Activeness"(24.22). However, the results of ANOVA showed significant differences among the mean scores of each occupation group only for "Self-reliance" ($F_{(2,200)}=6.12$, $p<0.01$). Therefore, occupation group has a significant influence to "Self-reliance;" however, since the structure of occupation in the three FUGs was not significantly different, influence of the occupation for mean scores of three FUGs can be considered as not serious.

Table 6-5. Composition of Occupation (Household Head)

	Occupation of HH head			
	Agriculture	Agri+job	Busi/Emp	
FUG-support	65	13	2	80
	81.25%	16.25%	2.50%	100.00
NGO-support	58	5	0	63
	92.06%	7.94%	0.00%	100.00
No-support	42	17	1	60
	70.00%	28.33%	1.67%	100.00
	165	35	3	203
Total	81.28%	17.24%	1.48%	100.00

Source: Author created based on the result of questionnaire

6.3.1.4. Education Levels

Table 6-7 shows the structure of literacy rates and education levels of each FUGs. The literacy rate of all the respondents was between 60-70%, the highest was No-support (70%) and the lowest was NGO-support (60.3%). The literate respondents can be divided into six groups depending on their education level: no-school (literate without schooling), primary school completed, Lower- Secondary, Secondary, Higher education including vocational education and university, and other forms of education such as adult education. However, structure seemed similar except for others in the No-support that had many members who have received adult education.

As a general tendency, illiterate respondents had the lowest or lower score of three attitude scales: "Satisfaction"(31.72), "Activeness"(21.00), and "Self-reliance" (19.55), while literate respondents tended to have higher attitude mean score (Table 6-8). The results of an ANOVA indicated that there were significant differences between the means of the illiterate and literate groups in terms of "Activeness" ($F_{(2,200)}=8.67$, $p<0.01$). In short, there were significant influences of literacy rates towards "Activeness;" however, the percentages of literacy rate among the three FUGs

Table 6-6. Influence of Occupation for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
Agri	165	32.72			23.31			20.16		
Agri+side job	35	31.63			24.22			19.63		
Busi/Emp	3	28.33			20			17		
	203	32.47	2.34	0.09	23.42	1.28	0.28	20.02	6.12	0.00**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-7. Structure of Literacy Rate in the Three FUGs

	Education level (%)							
	Illiterate	No-school	Primary	Lower-sec	Secondary	Higher	Others	Total
FUG-support	32.50	50.00	1.25	7.50	6.25	0.00	2.50	100.00
NGO-support	39.68	44.44	4.76	1.59	9.52	0.00	0.00	100.00
No-support	30.00	36.67	3.33	6.67	10.00	3.33	10.00	100.00
Total	33.99	44.33	2.96	5.42	8.37	0.99	3.94	100.00

Source: Author created based on the result of questionnaire

Table 6-8. Influences of Literacy Rate in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
Illiterate	69	31.72			21			19.55		
Literate-Noschool	90	32.49			24.28			20.27		
Primary	6	33			22.17			19.5		
Lower Secondary	11	32.36			22.64			20.45		
Secondary	17	34.12			28.18			20.76		
High	2	33			31			19.5		
Others	8	34.75			24.63			19.62		
	203	32.47	1.15	0.33	23.42	8.67	0.00**	20.02	1.99	0.07

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-9. Influences of Income from Crops for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
Income from Crops		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
1 0-1000	7	34.29			25.14			19.85		
2 1,000-	20	33.3			24.45			19.75		
3 2,000-	18	32.44			25.06			20.22		
4 3,000-	16	31.81			22.25			20.25		
5 4,000-	9	32			24.89			21		
6 5000-	39	33.15			24.41			2i.82		
	109	32.84	0.56	0.73	24.29	0.77	0.57	20.39	2.36	0.05*

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

were not different. Therefore, the influence of the literacy rate for comparison among mean scores of three FUGs might not be strong.

6.3.2. Influences of Economic Conditions towards Attitude

Regarding economic features of the respondents, the following variables had a correlation with attitude scores for CF management: income from crops, cattle, total income, expenditure for food, cultivation, festival, availability of credit/saving, availability of household facilities, changes in crop production and cattle number, changes in time for collecting wood for fuel and the needs for other forest products. This section will analyze relationship between these variables and the attitude score.

6.3.2.1. Income

In terms of total income, the FUG-support group had the highest average income within the three FUG's (50,269 Nepal rupee), while the average of three FUGs was 39,940 Nepal rupee (NRP), NGO-support was 27,697 NRP, and No-support was 38,723 NRP. In the FUG-support group, more people were dependent on the income from seasonal workers because of the limited agricultural production due to severe climatic conditions. However, they were spending more money for food and therefore, the living standard of this group was not much different than the other two FUGs.

Compared to before the CF formation, total income of the FUG-support group and No-support were doubled, while NGO-support was more than quadrupled. The total income can be divided into six sources: income from crops, cattle, employment, business support from family members, and others. In terms of income sources, NGO-support increased income from business dramatically. The average total income of each three FUGs was doubled or more than doubled, however, income from crops and cattle did not increase much. Therefore, this increased income cannot be considered as influence of CF formation. As a result of the correlation analysis, among the six groups of income sources mentioned above, income from crops, cattle, and total income had a correlation with attitude score. Each of these three groups was categorized into six income level groups. ANOVA was employed to examine whether there were statistically significant difference among the mean scores of six income level groups.

Income from Crops

In terms of "Self-reliance," respondents with higher income from crops tended to have higher attitude scores, while "Satisfaction" and "Activeness" did not show particular tendency of mean scores among the six income level groups (Table 6-9). The results of ANOVA indicated that there were statistically significant differences amongst the means of the six income levels. Therefore, it was clarified that income from crops has significant influence toward "Self-reliance." The results of chi-square-test showed that the composition of six income levels

among the three FUGs was significantly different. The income from crops was considered as a significant factor that had influences towards differences of mean scores for "Satisfaction" and "Activeness" among the three FUGs.

Income from Cattle

Respondents with higher income from cattle tended to have higher mean scores among six income level groups for all the three attitude scales (Table 6-10). An ANOVA test was employed to see whether there were statistically significant differences among the six income level groups toward attitude scales. As a result, there were significant differences among the mean scores of the six income level groups for all the three attitude scales. In other words, there were significant influences of the cattle income towards the perception for CF management. However, since composition of six income level groups among the three FUGs was not different significantly, income from cattle might have only little influence towards difference on mean scores for the attitude among the three FUGs.

Total Income

In terms of "Self-reliance," respondents with total income of 2,000-3,000 rupee had the highest mean scores among the six income level groups. On the other hand, respondents with total income of 3,000-4,000 had the highest mean score for "Satisfaction," and respondents with total income of more than 5,000 rupee had the highest mean score of "Activeness" (Table 6-11). As a result of ANOVA, there were significant differences among the mean scores of the six income level groups for "Self-reliance." In short, there were significant influences of total income towards the mean scores of the three FUGs. Since the composition of six income level groups was significantly different, total income had influences for mean scores of "Self-reliance" among the three FUGs.

6.3.2.2. Expenditure

The average total expenditure of each FUG was doubled or tripled after the CF formation. The amount of expenditures was the highest in FUG-support that had the highest total income. However, as mentioned in a previous section, nearly half of the total expenditure in this group was food. A majority of respondents answered that a price hike was the main reason for this increased amount of expenditure, therefore, this change cannot be considered as influence from CF formation. The total expenditure can be divided into eight categories: food, cloths, treatment, schooling, festival, cultivation, CF, and others. As a result of correlation analysis, expenditure for food, cultivation and festival had correlation with attitude score. The ratio of the other expenditures such as cloth, health treatment, schooling, and cultivation are not different from that of the other two FUGs.

The answers for expenditure were divided into seven expense level groups. However, in the case of expenditures for festivals, there was no respondents with "no expense for festival," this has six categories of expenditure level. ANOVA was employed in

Table 6-10. Influences of Income from Livestock for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
Income from Cattles		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
1 0-1,000	12	30.17			22			20.58		
2 1,000-	28	29.68			22.25			19.25		
3 2,000-	37	33.43			24.32			20.16		
4 3,000-	34	32.91			23.41			20.59		
5 4,000-	9	33.33			27.56			20.33		
6 5000-	17	33.41			27.18			20.71		
	137	32.24	3.9	0.00**	24.04	3.83	0.00**	20.2	2.96	0.01**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-11. Influences of Total Income for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
Total Income		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
1 0-1,000	35	31.51			21.97			18.91		
2 1,000-	25	31.6			22.92			19.84		
3 2,000-	25	32.88			24.24			20.56		
4 3,000-	27	33.52			23.81			20.07		
5 4,000-	30	31.7			22.77			20.43		
6 5000-	54	33.27			24.48			20.26		
	196	32.49	1.52	0.19	23.45	1.48	0.2	20.01	4.03	0.00**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

order to see whether there were significant influence of expenditure for food, cultivation, and festival.

Expenditure for Food

Respondents with more expense for food tended to have higher mean scores among the seven expense level groups for "Self-reliance" (Table 6-12). On the other hand, in terms of "Satisfaction" and "Activeness," there was no particular tendency for the mean scores. As a result of ANOVA, there were significant differences among mean scores of expense level groups only for "Self-reliance" however, there was not significant difference among mean scores of seven groups for "Satisfaction" and "Activeness." Therefore, expenditures for food have significant influences for "Self-reliance." Since the chi-square test showed that the composition of expense level groups for food was significantly different among the three FUGs, then the mean scores of "Self-reliance" among the three FUGs might be influenced by this variable.

Expenditure for Cultivation

In terms of "Satisfaction" and "Activeness," respondents with high expense tended to have higher mean scores among the seven expense level groups; however, no clear tendency has been observed from the mean scores for "Self-reliance" (Table 6-13). As a result, significant differences among the mean scores the groups of seven expense-levels were found only for "Activeness." In other words, expenditure for cultivation was one of the factors that influence the mean score for "Activeness." As a result of chi-square test, the composition of the seven expenditure levels on cultivation was significantly different; therefore, this variable was considered a factor that had influences on toward differences in mans scores of "Activeness" among the three FUGs.

Expenditure for Festivals

In terms of "Activeness" and "Self-reliance," there was a weak tendency that the respondents with 5,000 rupees more in expense for festivals had a higher mean scores among the groups of six expense level. The lowest mean score for "Activeness" was a group with the lowest expenditure for festivals. On the other hand, the lowest mean score for "Self-reliance" was a group of 2,000-3,000 rupee expenses (Table 6-14). The result of ANOVA indicated that there were significant differences among the mean scores of six groups only for "Self-reliance." Therefore, there were significant influences of expenditure for festival toward "Self-reliance." Concerning differences on composition of six level expense groups among the three FUGs, this variable was considered that to be influenced towards the difference of mean scores of "Self-reliance" among the three FUGs.

6.3.2.3. Saving/ Credit Availability

Among the three FUGs, the number of respondents who have savings was the highest in FUG-support. Before the CF

Table 6-12. Influences of Expenditure (Food) for Attitude in CF Management

Expenditure for Food	*N*	Satisfaction			Activeness			Self-reliance		
		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
0 0	77	33.12			24.1			19.84		
1 1-1000	32	32.13			21.97			19.38		
2 1,000-	24	33.04			24.29			19.83		
3 2,000-	19	30.42			24.74			20.32		
4 3,000-	15	31.27			23.27			20.87		
5 4,000-	14	32.43			21.93			20.21		
6 5000-	22	32.68			22.09			20.86		
	203	32.47	1.32	0.25	23.42	1.62	0.14	20.02	2.53	0.02*

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-13. Influences of Expenditure (Cultivation) for Attitude in CF Management

Expenditure for Cultivatio	*N*	Satisfaction			Activeness			Self-reliance		
		mean	*F*	sig.	mean	*F*	sig.	mean	*F*	sig.
0 0	7	32.43			24.71			20.28		
1 1-1,000	27	31.15			20.7			19.89		
2 1,000-	58	32.1			22.6			19.82		
3 2,000-	44	32.45			23.45			20.45		
4 3,000-	19	32.32			24.58			19.52		
5 4,000-	17	32.94			24.82			19.94		
6 5000-	31	34.16			25.48			20.19		
	203	32.47	1.33	0.24	23.41	3.34	0.00**	20.02	0.915	0.485

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-14. Influences of Expenditure (Festival) for Attitude in CF Management

Expenditure for Festival	*N*	Satisfaction mean	*F*	sig.	Activeness mean	*F*	sig.	Self-reliance mean	*F*	sig.
1 0-1,000	4	33.5			20.25			20		
2 1,000-	15	32			20.93			19.6		
3 2,000-	37	31.54			22.68			18.86		
4 3,000-	40	33.25			23.25			20.28		
5 4,000-	24	32.54			24			20.21		
6 5000-	83	32.52			24.27			20.45		
	203	32.47	0.68	0.64	23.42	1.93	0.09	20.02	4.99	0.00**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-15. Influences of Saving Availability for Attitude in CF Management

	N	Satisfaction mean	*t*	sig.	Activeness mean	*t*	sig.	Self-reliance mean	*t*	sig.
No	144	31.96			22.99			19.9		
Yes	59	33.71			24.46			20.32		
	203		-3.13	0.00**		-1.97	0.05*		-1.55	0.12

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-16. Influences of Credit Availability for Attitude in CF Management

	N	Satisfaction mean	*t*	sig.	Activeness mean	*t*	sig.	Self-reliance mean	*t*	sig.
No	101	33.09			23.95			20.16		
Yes	102	31.85			22.89			19.89		
	203		2.06	0.04*		1.56	0.12		1.08	0.28

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

formation, only 12 members (15%) of the respondents answered that they had savings; however, 58 respondents (72.5%) of the respondents had savings today. In the No-support, the number of respondents who have savings doubled after CF formation, and now 26 (43.3%) of them have savings. In the case of NGO-support, the number of people who have savings increased by 17.5% and was still lower than the other two FUGs. In terms of changes in amount, the majority of all the respondents answered that the amount of their savings had not changed even after CF formation.

NGO-support was the highest rate of credit availability (65.1%) even though only 17.5% of them had savings. More than 70% of NGO-support and No-support members answered that the amount of their credit had not changed even after CF formation. In the case of FUG-support, almost half of the members answered that the amount of credit increased while the rest answered there had been no change.

Saving Availability

The respondents with savings showed higher mean scores than those without savings for all the three attitude scales. In the case of "Satisfaction," the mean score of respondents who had savings was 33.71, higher than that for the respondents without saving (31.96). This was the common tendency for the other two attitude scales (Table 6-15). In order to identify whether there were significant influences of saving availability towards perception for CF management, *t*-test was employed. As a result, there were significant difference between the two groups in terms of "Satisfaction" ($t_{(200)}=-3.13$, $p<0.001$), and "Activeness" ($t_{(200)}=-1.97$, $p<0.01$). Therefore, availability of savings could be one of the factors that influence to "Satisfaction" and "Activeness." Since the composition of respondents who have savings was different among the three FUGs (chi-square test), the saving availability was considered as a factor that had influenced towards mean scores of "Satisfaction" and "Activeness" among the three FUGs.

Credit Availability

In the case of credit availability, there was an opposite tendency compare to the saving availability. The respondents who had credit showed lower attitude scores (Table 6-16). The result of *t*-test showed that there were significant differences between

Table 6-17. Influences of Number of Home Facilities for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	F	sig.	mean	F	sig.	mean	F	sig.
-1	34	30.79			21.94			19.18		
0	71	31.99			23.15			20.13		
1	41	33.41			24.19			20.51		
2	57	33.39			24.07			20.05		
	203	32.47	3.65	0.01**	23.42	1.84	0.14	20.02	3.92	0.01**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

respondents with credit and without credit, in other words, credit availability was significantly influencing to "Satisfaction" ($t_{(200)}$= 2.06, $p<0.01$). Since more than 60% of NGO-support and No-support had credit while only 30% of NGO-support had credit, structure of the three FUGs' on credit availability was significantly different (chi-square test), credit availability can be concerned as influential factors towards mean scores of the three FUGs for "Satisfaction".

6.3.2.4. Availability of Home Facility

As a general trend in three FUGs, the prevailing home facilities were radio and TV. Most households: 76.5% of FUG-support's members, 65.0% of NGO-support's and 75.0% of No-support's had radio even before CF formation, and the ratio of radio availability did not much change after CF formation. On the other hand, the number of respondents who had TV was increased after CF formation. Before the CF formation, there were only two households in each NGO-support and No-support had TV, while 30 households in each FUG-support (37.5%) and No-support (50%) had TV after the CF formation. In terms of changes in facility number, 31 respondents in No-support's members and 29 respondents in FUG-support's increased the number of facility after CF formation, while only 4 respondents in NGO-support answered "increased." However, their increased income was mostly derived from business or employment, it was considered that the change was not an influence of CF formation.

The respondents of No-support group had more home facilities than that of the other two FUGs. As a result of chi-square-test, availability of home facilities was significantly different among the three FUGs at 1% level. At the same time, tendency of changes in number of available facilities was also significantly different among the three FUGs at the 1% level by chi-square-test. Table 6-17 showed that the mean score of four groups: Group 1 is a respondent who decreased the number of facilities, Group 2 is unchanged, Group 3 increased one facility, and Group 4 increased 2 facilities. The respondents who have decreased the number of facilities had lower scores than the respondents who have increased the number of facilities. As a result of ANOVA, there were significant differences among the four mean scores in terms of "Satisfaction" ($F_{(2,200)}$=3.65, $p<0.01$) and "Self-reliance" ($F_{(2,200)}$=3.92, $p<0.01$). In other words, there were significant influences of availability of facility towards "Satisfaction" and "Self-reliance. Since availability of home facility was different among the three FUGs, this might have been influencing to the mean scores of the three FUGs towards "Satisfaction" and "Self-reliance".

6.3.2.5. Changes in Crops Production

Household consumption was one of the purposes of crop production in all the three FUGs. Almost all, in other words, 202 out of 203 respondents answered that household consumption as a main purpose. Another purpose was for market. FUG-support had much a higher ratio for this purpose (83.7%) than that of the other two FUGs which had a lower ratio of 43.4% (NO-support) and 38.1% (NGO-support). This difference probably derived from a mono-cultural production due to sever climatic conditions in FUG-support areas. There was no change in this ratio before and after the CF formation. In terms of the amount of production, 71.7% of NGO-support and 83.3% of No-support members answered that the amount of crop production increased mainly due to introduction of chemical fertilizers. On the other hand, about half of the FUG-support's member answered that the amount of crop production was decreased since CF formation, however, the main reason were due to adverse climate and disease in crops. As a result of chi-square tests, the structure of changes in crop production among the three FUGs was different at 1% of the significant level.

In the question of crop production, the answers were categorized into three groups: increased, decreased, and unchanged. In the case of the respondents who have increased amount of crop production, the mean score of "Satisfaction" was the highest in "Activeness," the second highest in "Satisfaction" and the lowest in "Self-reliance." In terms of "Satisfaction" and "Self-reliance," respondents who have unchanged crop production had the highest score, while respondents whose crop production have increased, had the highest score of "Activeness" (Table 6-18). As a result of ANOVA, there were significant differences among the mean scores of three groups: "increased" "decreased",

Table 6-18. Influences of Crop Change for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	F	sig.	mean	F	sig.	mean	F	sig.
Increased	129	32.74			24.19			19.92		
Decreased	59	31.37			21.98			20.19		
Unchanged	15	34.4			22.47			20.27		
	203	32.47	3.76	0.03*	23.42	4.65	0.01**	20.02	0.61	0.55

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-19. Influences of Number of Livestock Change for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	F	sig.	mean	F	sig.	mean	F	sig.
Increased	60	32.4			24.73			19.85		
Decreased	101	32.78			22.86			20.02		
Unchanged	42	31.81			22.88			20.29		
	203	32.47	0.76	0.47	23.42	3.19	0.04**	20.02	0.76	0.47

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

and "unchanged" in terms of "Satisfaction" and "Activeness." Since the three FUGs had different features of changes in crop production, the mean scores of three FUGs has been influenced toward "Satisfaction" and "Activeness."

6.3.2.6. Changes in Cattle Number

There were four kinds livestock with four reasons keeping all of them in the three FUGs. Goats were the most popular domestic animal for all the respondents, with cow/ox and buffalo also being important, however, sheep was a major domestic animal only in No-support groups. The average number of livestock was the highest in the NGO-support group for buffalo, cow/ox and goats, and the least average number in FUG-support.

The four reasons for keeping cattle were for milk, meat, market and fertilization, and there was no change in these reasons before and after CF formation. On the other hand, 55.0% of FUG-support members, 48.3% of No-support members, and 44.4% of NGO-support members answered that the number of livestock decreased after CF formation. The main reasons for decreased cattle were: decreasing availability of grass, controlled forest, and shortage of manpower. In the FUG-support group, 38.6% of all answered, deceasing availability of grass and 36.4% answered forest is controlled. On the other hand, shortage of manpower was the most typical answer in NGO-support and No-support. Among the respondents who answered the number of domestic animals increased, the main reason was that they were "expecting more income from cattle," however, a few respondents answered that the "availability of grass increased" as a reason. Thus, the entire FUG had the same purpose for keeping cattle while each FUG had different reasons of changes in the number of cattle. In addition, features of three FUGs on changes in number of cattle were statistically different at 1% level (from the chi-square test).

With the question regarding changes in cattle number, the answers were divided into three categories as well as crop production: increased, decreased and unchanged. Respondents who answered the number of cattle decreased, had the highest mean score among the four groups for "Satisfaction," on the other hand, in terms of "Activeness," respondents whose cattle number increased, had the highest score among the three groups. In addition, respondents whose cattle number unchanged had the highest mean score among the three groups for "Self-reliance" (Table 6-19). However, the result of ANOVA showed that there were significant differences among the three mean scores for "Self-reliance." Therefore, changes in the number of cattle have significant influences toward "Self-reliance." Since the ratio of respondents whose cattle number changed among the three FUGs was significantly different, the changes of cattle number influences towards mean score of the three FUGs for "Self-reliance."

6.3.3. Influences of Other Factors towards Attitude

Table 6-20 showed the changes in time for fuelwood collection before and after CF formation. All the three FUGs showed that the time for fuelwood collection has decreased. The average time for collecting fuelwood for three FUGs is presently 2.34 hours while it was 4.44 hours before the CF formation. The No-support group members have decreased the average hour for fuelwood collection from 5.68 hours per day to 1.93 hours per day (−3.75 hours), the NGO-support group members have decreased from 4.63 hours per day to 2.52 hours per day (−2.1 hours), and FUG-support group members have decreased it from 3.36 hours per day to 2.50 hours per day (−51.6 min). In the case of the No-support

Table 6-20. Influences of Firewood Collection Time for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	F	sig.	mean	F	sig.	mean	F	sig.
Increased	20	27.2			22.25			2.7		
Decreased	177	33.02			23.6			19.94		
Unchanged	6	33.5			22			20.17		
	203	32.47	19.56	0.00**	23.42	0.96	0.39	20.02	1.69	0.19

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Table 6-21. Influences of Buying Other Forest Products for Attitude in CF Management

	N	Satisfaction			Activeness			Self-reliance		
		mean	t	sig.	mean	t	sig.	mean	t	sig.
No	153	32.08			22.79			19.95		
Yes	50	33.67			25.34			20.24		
	203		-2.75	0.01**		-3.3	0.00**		-1.39	0.17

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

group, 26 respondents (43.3%) answered that the necessary time for fuelwood collection was reduced by more than five hours after CF formation. In NGO-support, 31 respondents (49.2%) answered that it was between 1-2 hours less than before, while 31.3% of FUG-support answered that less than an hour had been reduced.

Answers to the question for changes in time for fuelwood collection before and after CF were categorized into three groups of change. The respondents, who increased their time in collecting fuelwood, had lower the score for three attitude scales. In terms of "Satisfaction," the mean score of respondents whose time to collect fuelwood decreased was higher than others. As a result of ANOVA, there were significant differences among mean scores of three categorized groups ($F_{(2,200)}=19.56$, $p<0.001$), however, "Activeness" and "Self-reliance" did not show statistically significant difference among mean scores of the three categories. Therefore, changes in time to collect fuelwood might have influenced mean scores of the three FUGs for "Satisfaction" since the three FUGs had a significantly different structure of respondents whose necessary time for fuelwood collection.

Demands for Buying Forest Products

Another considerable influence towards perception for CF management was the demands for forest products other than fuelwood and fodder. Answers to this question had two categories of yes or no to check. Respondents who needed to buy other forest products were highest among the members of NGO-support group (38.1%) and the lowest among the FUG-supports' members (8.8%). The respondents who needed to buy forest products tended to have higher score for all the three attitude scales. As a result of the t-test, there were significant differences between mean scores in two categories for "Satisfaction" ($t_{(200)}=-2.75$, $p<0.01$) and "Activeness" ($t_{(200)}=-3.3$, $p<0.001$) (Table 6-21). In other words, there were significant influences of demands for other forest products toward "Satisfaction" and "Activeness." Since the ratio of respondents who have to buy forest products was different among the three FUGs, buying forest products might have influenced towards "Satisfaction" and "Activeness."

Membership of the Local or National Organizations

In order to understand the members' attitude and participation in the societies, respondents were asked whether or not they are members of any organization except CF. In the FUG-support, 71 (88.8%) of all the respondents were member of other organizations, while only 19.0% of the NGO-supporters and 27% of No-supporters respondents were members of some other organization. In terms of "Activeness" and "Self-reliance," respondents who were members of another organization tended to have a higher score, while the opposite tendency was observed for "Satisfaction." The results of the chi-square test showed that ratio of the respondents who had membership in other organizations was significantly different.

In order to examine whether there were influences of membership towards perception of FUGs,' ANOVA was employed. As a result, there were significant differences between mean scores of member and non-member for "Self-reliance" (Table 6-22). In short, there were significant influences of mean scores between members and non-members of other organization. Since the ratio of respondents who were members of the other organization was significantly different, this variable can be considered as one of the factors that influenced mean scores towards the three FUGs.

6.3.4. Knowledge of CF and Attitude towards CF Management

This section attempts to clarify the relationship between

Table 6-22. Membership of the Local or National Organizations

	N	Satisfaction			Activeness			Self-reliance		
		mean	t	sig.	mean	t	sig.	mean	t	sig.
No	103	32.57			22.93			19.68		
Yes	99	32.42			23.96			20.48		
	202		0.245	0.807		-1.51	0.133		-3.64	0.00**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

knowledge on CF and the attitude towards CF management. Answers to each question are categorized into "do not know" and "correct answer." Respondents who answered with "do not know" were counted and calculated in a ratio. As a result of a *t*-test of two categories, many questions about CF knowledge displayed their effects on the attitude towards CF management (Table 6-23). In all questions, the respondents who had knowledge on CF tended to have a higher attitude towards CF management. Availability of Knowledge on a CF and the number of committee members had the strongest influence on the respondents' attitude towards CF management, and it influenced all the three attitude scales. All of the following, knowledge on CF blocks, number of CF member household, CF formation process, the number of organizations that helped the CF formation with their own CFs, and the membership fee had great influence on both the attitudes of activeness and self-reliance. On the other hand, satisfaction had the least influence from the availability of knowledge on CF. Only two of them, availability of knowledge on CF area and the number of committee members, had influence on all the attitude scales. According to these results, respondents who had knowledge on CF tended to have a higher attitude towards CF management, especially for activeness and self-reliance.

6.4. Conclusion

This chapter attempted to identify factors that had influences on perception for CF management. Many variables influenced perceptions of CF management significantly (Table 6-24). For example, all four socio-cultural variables (sex, ethnic, occupation, and literacy rate) significantly influenced the perception of CF management. However, according to the chi-squared test, there were no differences between the three FUGs in terms of sex ratio, occupations, or literacy rate. Thus, these three variables cannot have a strong influence on the difference in the mean scores for the three FUGs. By contrast, ethnic groups differed significantly among the three FUGs. Therefore, ethnic group has a powerful influence on the difference in the mean scores for the three FUGs, especially for *Self-reliance.*

The economic parameters were all correlated with the attitude score, including the income from crops and livestock, total income, expenditures for food, cultivation, festivals, changes in crop production, number of cattle, availability of savings/credit, and availability of home facilities. The three FUGs differed significantly at the 1% level in terms of these variables using the chi-squared test. The economic variables tended to have a greater influence on *Self-reliance* given that seven variables influenced *Self-reliance* versus five for *Activeness* and *Satisfaction.* Only income from cattle influenced all three attitude scales.

Three other variables were correlated with the attitude scales: time spent collecting fuelwood, the demand to buy forest products other than fuelwood and fodder, and membership in other organizations. As these variables differed significantly across the three FUGs, all three variables significantly influenced *Satisfaction.* By contrast, knowledge about their own CF significantly influenced *Activeness* and *Self-reliance,* and the level of knowledge about their own CF differed significantly across the three FUGs. Therefore, knowledge tended to influence *Activeness* and *Self-reliance* more than *Satisfaction.* In addition, support for the CF formation process will enhance members' perceptions of CF management indirectly via increased knowledge of CF. Indeed, people with more knowledge of their own CF tended to have a better perception of CF management.

The analyses indicated that most of the variables analyzed in this study significantly influenced the differences in the mean scores of the attitude scales for the three FUGs. As sex, occupation, and literacy rate did not differ significantly across the three FUGs, these variables had less influence on the differences between the FUGs than did the other variables studied. To determine the appropriate level of support for FUGs, it is necessary to consider features of the both supporter groups and recipient groups.

Chapter 7. General Conclusion

7.1. Emergence of Community Forestry and Reviews

Emergence of Community Forestry, issues, and reviews of studies has introduced in the first chapter. Community Forestry (CF) that recognizes local people as forest managers has emerged in the late 1970s as an ideal approach towards both meeting basic need of rural people and sustainable resources utilization for rural development. Since then, this approach in developing countries has been implemented mainly by aid agencies. Despite more than 25 years of experiences, most projects are still struggling to be

Table 6-23. Influences of CF Knowledge for Attitude in CF Management

CF area	N	Satisfaction mean	Satisfaction t	Satisfaction sig.	Involvement mean	Involvement t	Involvement sig.	Self-reliance mean	Self-reliance t	Self-reliance sig.
correct	75	33.45			25.27			20.62		
do not know	128	31.89			22.34			19.67		
	203		2.72	0.01**		4.12	0.00**		3.85	0.00**
CF boundaries										
correct	129	32.43			23.88			20.42		
do not know	74	32.53			22.62			19.34		
	203		-0.15	0.88		1.78	0.08		4.39	0.00**
CF blocks										
correct	114	32.41			24.33			20.46		
do not know	89	32.54			22.25			19.47		
	203		-0.21	0.84		3.10	0.00**		4.102	0.00**
CF members										
correct	116	32.73			24.68			20.47		
do not know	87	32.11			21.74			19.42		
	203		1.01	0.32		4.48	0.00**		4.38	0.00**
CF formation										
correct	116	32.47			24.3			20.43		
do not know	87	32.47			22.24			19.48		
	203		-0.01	0.99		3.06	0.00**		3.93	0.00**
Committee										
correct	144	32.9			24.67			20.37		
do not know	59	31.42			20.37			19.19		
	203		1.96	0.05*		6.23	0.00**		3.7	0.00**
Organization										
correct	120	32.48			24.56			20.48		
do not know	83	32.46			21.77			19.37		
	203		0.028	0.98		4.18	0.00**		4.592	0.00**
Membership fee										
correct	115	32.08			23.99			20.5		
do not know	88	32.98			22.67			19.41		
	203		-1.47	0.14		1.94	0.05*		4.56	0.00**
Distribution										
correct	195	32.45			23.58			20.02		
do not know	8	32.88			19.37			20.13		
	203		-0.27	0.79		2.43	0.02*		-0.16	0.87

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

successful. Involvement of a local community is definitely essential for successful CF in natural resources management. However, difficulties of leading the active participation of local people, sustainability of local people's activities and self-reliance have been assayed in many reports as reasons for struggling projects. Most of the previous studies focused on "incentives" or "factors" of participation, sustainability and self-reliance. Despite the most CF have been supported or implemented by aid projects, little studies have discussed about aid projects' approach to lead participation, sustainability and self-reliance. The primary objective of this study was to identify aid projects' approaches towards these issues then to analyze how the approaches are functioning, working currently. Nepal, one of the typical examples of developing countries where CF has been supported by many aid agencies, and has been recognized as one of the succeeding countries on CF, was selected for this study.

7.2. Forests and Policy in Nepal

On the occasion when studies on Community Forestry in Nepal take place, it is necessary to understand both the history and current status of the people, geography, forests, and forest policies because these will influence to forest conditions.

Table 6-24. Overview of Relationship between Features of Three FUGs and Attitude Scales

Classification	Composition of 3FUGs (Chi-square-test)	Attitude scale Satisfaction	Activeness	Self-reliance
Socio-cultural				
Sex	*		**	
Ethnic	**	**		**
Occupation				**
Literacy			**	
Economic				
Income-crop	**			*
Income-cattle	**	**	**	**
Income-total	**			**
Change in crop	**	*	**	
Change in cattle	**		**	
Saving	**	**	*	
Credit	**	*		
Home facilities	**	**		**
Expenditure for food	**			*
Expenditure for cultivation	**		**	
Expenditure for festival	**			*
Others	**			
Fuelwood	**	**		
Other products	**	**	**	
Membership of organization	**			**
Knowledge				
CF area	**	**	**	**
CF boundaries	**		*	**
CF blocks	**		**	**
CF members	**		**	**
CF formation	**		**	**
CF committee	*	*	**	**
CF organization	**		**	**
CF membership-fee	**		*	**

* The mean difference is significant at the 0.05 level
* *The mean difference is significant at the 0.01 level

Therefore, chapter 2 focused on understanding the features of geography, people, and forests in Nepal. In addition, this chapter also deals with relationship between aid projects and forest policies or programs in Nepal.

This chapter figured out the main features of Nepal, the emergence of the CF along shift in forest policy, history and current status of forests and its utilization. There were several key forest policies that led to the emergence and development of CF such as the Panchayat Forest Rule of 1978, the Master Plan of the Forestry Sector of 1988, the Forest Act of 1993 and the Forest Regulation of 1995. Most of these shifts in policies have been influenced by external powers of bi-multilateral aid agencies. In the case of the forestry sector in Nepal, many bi-multilateral aids have been implementing their projects since 1950s. Therefore, this chapter indicated the importance of external aid on the forestry sector, "Community Forestry," in this country. This chapter showed the importance of external aid for the forestry sectors in Nepal, and the great influence and meaning of the research on the approaches of aid projects for CF was fully realized.

7.3. Status of CF in Nepal through Aid Projects

Since the 1950s, aid agencies have supported the forestry sector in Nepal, especially Community Forestry, an approach that recognizes the local people as forest managers. Aid agencies thus have enormous influence over the expansion of CFs in Nepal. Over the past few decades, many studies have examined individual CF aid projects supported by specific aid agencies. However, little attention has focused on the overall state of CF supported by various aid projects in one country. Therefore, Chapter 3 intended to examine the overall state of CF currently being conducted with the support of many different aid agencies and to show factors that may allow the smooth expansion of Community Forestry.

As a result, the collaboration of all stakeholders, based on a common and clear understanding of the objectives and methods of CF, was shown as an important foundation for CF expansion in a country where CF is supported by a number of different aid agencies. Since CF or other Participatory Forestry approaches in the most developing countries have been supported by several different donor agencies, this result will provide the other countries with similar situations with useful information.

However, the rapid expansion of CF has led to insufficient pre- and post-formation support. Smooth CF expansion, with the goal of creating sustainable forest management by local users, has stagnated in Nepal. So long as DFOs cannot support FUG's various needs, other institutional involvement is urgently necessary to mitigate this problem. Recently, both the Government of Nepal and aid agencies have started to pay attention to NGOs as a partner of intermediary organizations. However, tensions between NGOs and DFOs have arisen and the tensions seem to be disrupting support from other institutions. In order to improve this situation, a formal system to involve other institutions effectively is recommended, and the current status of NGO involvement and issues should be clarified in advance.

7.4. Aid Projects' Recent Approach and Its Purposes

As the number of CF increases in Nepal, the services of District Forest Office staff, who are responsible for both instituting and overseeing CF management, have been increasingly insufficient. In order to mitigate this problem and extend CF activities, NGOs have been expected to become more involved in CF activities, and several bilateral aid projects for CFs that involve NGOs as project partners have been started. In spite of these high expectations for NGOs, the current status of their involvement has not been clarified at present. Therefore, Chapter 4 attempted to clarify the current status of the involvement of NGOs in bilateral aid projects for CFs, and to identify factors that influence types of NGO involvement.

As a result, all six of the donors found the capacity of line departments inappropriate and therefore began to cooperate with other institutions primarily NGOs. The following three different types of NGO involvement among six different projects were identified: (A) contract with a bilateral aid project, (B) contract with a government agency, and (C) non-contractual coordination and collaboration. In terms of purposes of NGO involvement, the "Insufficient number of DFO staff" and the "DFO staff cannot fulfill FUG's diversified needs besides forestry," are common reasons listed for all projects except in the German project. Type A projects had more expectations towards NGO involvement including issues of "Participation," "Sustainability," and "Self-reliance." In the other words, NGO involvement was recognized as one of the projects' efforts towards these issues.

Although NGO involvement in these six projects tended to differ depending on the level of expectation on NGOs, the policy and strategy of aid agency or donor country, NGOs have been implementing grassroot level activities that directly support the locals for CF extension. Since the method of NGO involvement will influence to future CF extension, it is necessary to develop a NGO development system that will make NGO effective for community forestry extension.

7.5. NGO Involvement and Attitude for Community Forestry Management

With the increased level of NGO participation recently, project partners in bilateral aid for CF in Nepal has become a major approach. However, whether the NGO involvement now favored by many donors is more efficient to FUGs has yet to be seen. Intent of Chapter 5 was to clarify the scope of influence of NGO involvement on the local people's perception towards CF management based on an attitude survey. A structured survey based on "Satisfaction," "Activeness," and "Self-reliance" showing the perception towards CF management was conducted on 244 selected households amongst the three FUG's: FUG-support, NGO-support, and No-support.

In terms of "Satisfaction" and "Activeness," members of the No-support had the highest mean score. However, there was no statistically significant difference among the three FUG's mean scores for satisfaction and activeness. The results showed that NGO involvement has less influence on "Satisfaction" and "Activeness." On the other hand, it has influence on "Self-reliance" and "Knowledge on CF." In the case of "Self-reliance," members of the FUG-support have the highest score, and NGO-support have the second highest. As a result of statistical analysis by ANOVA, there were significant differences amongst the means of the three FUG's, and multiple comparisons showed that significant differences were found between FUG-support and No-support, between FUG-support and NGO-support. Therefore, the score of the FUG-support was the highest among the three groups.

The results in Section 3, "knowledge," showed significant differences between the ratio of No-support and that of the other

two FUGs. In short, knowledge of No-support was the significantly lower than that of the other two FUGs, in other words, knowledge of No-support was the lowest among the three FUGs.

7.6. Living Conditions and Attitude for Community Forestry Management

The previous chapter attempted to clarify influence of NGO involvement on the local people's perception towards CF management. As a result, NGO involvement has influence on "Self-reliance" and "Knowledge on CF" while it has less influence on "Satisfaction" and "Activeness." Contents of support and the limited support were the considerable factors of the results. However, since many papers on CF or community-based natural resources management in Nepal have reported influence of socio-economic condition of respondents such as caste, gender, and income, further analysis by using the result of personal information and other questions are necessary. Therefore, Chapter 6 focuses on influence of socio-cultural, economic aspect to respondents' perception towards CF management.

According to the correlation analysis, there were four socio-cultural variables: sex, caste, occupation, and literacy rate; eight economic variables: income from crops, cattle and total income, expenditure for food, cultivation and festival, changes in crop production and number of cattle and availability of saving/credit, and the availability of home facilities; and three other variables: changes in time for fuelwood collection, demands to buy forest products other than fuel-wood and fodder, and membership of other organizations had a correlation with attitude scores.

The results of these analysis indicated that most of the variables analyzed in this chapter had a significant influence towards differences of the three FUGs' mean scores for attitude scales. However, in the case of sex, occupation and literacy rates, group member composition among the three FUGs was not significantly different. Therefore, these variables were considered to have fewer influences than the other variables in the case of this study.

These results have indicated that the influence of NGO involvement today is still not demarcated clearly. However, the previous chapter clarified that FUGs supported by another FUG or NGO had significantly higher "Self-reliance" and "Knowledge on CF." Therefore, it has the potential for enhancing the local people's attitude towards forest management indirectly through improved CF knowledge in the near future.

7.7. Final Suggestions and Recommendations

Differences between Two Approaches

Together, the study in this chapter has focused on approaches of aid projects in CFs that enhance the local population's active participation, their sustainability, and their self- reliance in all activities of the CF. Influences of NGO involvement were measured by perception towards CF management including satisfaction, activeness, and self-reliance based on an attitude survey. As a result of the comparisons between the two FUGs approaches, with support and without these support, the perception for self-reliance, degree of dependency, future perspectives on CF were significantly different. The results indicted that even under the same aid project, two approaches showed different influences towards the perception for CF management. Thus, this paper shows the importance of the projects' approach since it could have significant factors that influence the perception in CF management.

Importance of Supporter Selection

From the results of Chapter 5, FUG members with support from FUG/NGOs tended to have a higher perception in CF management. However, in several questions, the mean scores of FUG-support group members were significantly higher than that of NGO-support. Thus, supporters could be a factor that influences perceptions in CF management. In addition, results from Chapter 6 indicated that socio-culture, economic, and other features of FUG members have influences towards perception. Therefore, features of both the supporter group and the group that will receive support should be considered carefully. However, further studies are necessary to identify which institution is suitable in supporting which group.

Effectiveness of NGO Involvement towards the Purposes of Aid Projects

In the case of Nepal, bilateral aid agencies have been involving NGOs as partners for two purposes. One is to mitigate the current CF issues such as insufficient support from DFO officers, and another is to enhance active participation, sustainability of the local people's activities, and their self-reliance. In terms of the first purpose, NGO involvement approach was considered as effective to reduce FUGs that cannot obtain sufficient support. For instance, in the case of the Swiss project area (Dolakha district), the number of FUGs that were supported by FUG/NGOs has been increasing. In the fiscal year of 1999/2000, thirty out of a total thirty-eight (78.9%) FUGs were established under the Micro-project (Table 5-1).

In terms of other purposes, among the three perceptions for CF management, there was significant influence only towards self-reliance, while there was no significant influence towards satisfaction and activeness. As a general result, FUG members with support from FUG/ NGOs tended to have higher perception towards CF management. On the other hand, there was no significant influence towards satisfaction and activeness because limited or insufficient support to enhance satisfaction and activeness. In addition, socio-cultural and economic features of the

FUG members had a stronger influence on perception towards CF management than that of NGO involvement. Therefore, the influences of NGO involvement could not be seen well. However, it may be said that in spite of strong influences of cultural, social, and economic conditions, the NGO involvement influences towards self-reliance and knowledge on their own community forests was supported because of the CF formation procedure. In other words, the approach of NGO involvement could not be a sovereign remedy against all disease, but there were significant influences of NGO involvement where FUG/NGOs actually supported self-reliance, knowledge on CF, and degree of dependence. Therefore, FUG/NGOs have the potential to become important institutions for CF support. Although many aid projects mentioned that difficulties of finding appropriate NGOs as one of the issues of NGO involvement. However, as the results of this case study, FUG was sufficient to support CF formation procedure. Therefore, it will be possible to consider established FUGs as supporter.

In addition, Chapter 5 clarified that FUG members who had the support from FUG/ NGOs tended to have more knowledge on their own community forest. In Addition, the results of Chapter 6 identified respondents with knowledge on CF tended to have higher attitudes towards CF management. These results indicated that the influence of NGO involvement today is still not apparent, however, it has the potential for enhancing the local people's perception towards CF management indirectly through improved CF knowledge.

However, if projects continue to expect that the influence of FUG and NGO involvement exists in satisfaction and activeness as their purposes of involvement, then support from the FUG and NGO should be far deeper and wider. In order to do this, capability of FUG/NGOs will be a concern. The results of interviews with bilateral aid projects for CF, many agencies mentioned "Insufficient capabilities of NGOs" as one of the issues of NGO involvement. Especially in the case of Swiss project, focusing on Local-institutions involvement seemed be limiting contents of support from FUG/NGOs. As long as projects focus on local-institutions and expect influences towards recognizing local needs and active participation, then projects must support FUG/NGOs to implement further support in the project area. However, according to the case study in the Swiss project, FUG members with support from FUG tended to have higher perception and knowledge on their own CF. Therefore it was considered that FUGs were sufficient in supporting CF formation, at least better than the DFO support in this case study. If FUGs could support other FUGs or new FUGs, both the issues of insufficient number of appropriate NGO, and the issues of insufficient pre-formation support will be mitigated.

Limitation of This Study and Future Challenges

Since these results were based on the case study of three FUGs in Swiss project, results from this study were insufficient to generalize. Therefore, an additional survey is necessary to identify whether results from this case study can make generalizations. In addition, since there was no significant influence towards satisfaction, this survey could not find out whether or not FUG/NGOs have more potential to recognize real local needs. For this problem, different methods should be applied to find out it. Moreover, this case study was limited to a survey perception for CF management, and there is no evidence that FUGs with large number of respondents with high perception actually manage their forest well. It is necessary to survey the status of forest management and the relationship between perception and actual status of forest management. At the same time, the results of the detail survey are based only on the Swiss project. Since there are five more bilateral aid projects for the CF, and two more different types of NGO involvement, an additional survey with these projects will identify differences on influences or effectiveness among the international, national, local NGOs and other small local institutions such as community-based organizations.

Acknowledgements

First of all, I would like to seize this opportunity to acknowledge and thank all who spent their time, shared their views and contributed in diverse way towards the completion of my Doctoral degree. I wish to express my sincere gratitude to my supervisor, Professor Shigeaki Hattori, for his maximum support, throughout my stay in the laboratory. I am also grateful to Professor Hiroyuki Takeya of Socioeconomic Science of Food Production Laboratory, Professor Yoshihiko Nishimura of Graduate School of International Studies, Assistant Professor Yozo Yamada, Research Associate Yumi Oura and Minoru Kondo of Forest Resources Utilization Laboratory, Professor Katsuhiro Kitagawa of International Cooperation Center for Agricultural Education in Nagoya University for their faithful comments and suggestions. I also would like to show my appreciation towards student members of Forest Resources Utilization Laboratory who always gave me maximum support and invaluable advice to complete this thesis.

In Nepal, I am profoundly grateful to the members of the three selected FUGs for their valuable information and cooperation despite their busy life working in the field. At the same time, I would like thank the Nepal Swiss Community Forestry Project for providing me with several field staff member with whom I was able to work and for letting me use office facilities during my fieldwork. I am very thankful to Mr. Dinesh Paudel not only for his cooperation as project staff but also for his friendship. Without his cooperation and friendship, I could not conduct this survey in foreign country.

I also would like to express my appreciation many project staff members of Environment and Forest Enterprise Activities (United States), Nepal-Australia Community Resource Management Project, Nepal-UK Community Forestry Project (currently, Livelihoods and Forestry Program), Natural Resource Management Sector Assistance Program (Denmark), and officers of Department of Forests and District Forest Office for their valuable information that were all necessary to understand Community Forestry in Nepal.

Finally, I am extremely grateful to my parents and other family members who allowed and supported me to concentrate and finalize this thesis. Writing this thesis was precious time spent with my significant other who devoted all energy to support me.

Literature Cited

Acharya D.P., Shrestha R., Niraula D.R. and Ghimire K. (1998) Community Forestry for Everybody Forever Proceedings of the Third National Community Forestry Workshop, 27–29 Oct, 1988, Kathmandu: HMGN/Ministry of Forests and Soil Conservation Department of Forests.

Adhikari J.R. (2001) Community Based Natural Resources Management in Nepal with Reference to Community Forestry: A Gender Perspective. *A Journal of the Environment* 6 (7).

Agarwal B. (2001) Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework. *World Development* 29 (10): 1623–1648.

Alan S. (1994) Incentives in Community Forestry Projects: A Help or a Hindrance? RDFN paper 17 c, ODI, London.

Arnold J.E.M. (1991) Community Forestry: Ten Years in Review, Community Forestry Note 7, FAO, (http://www.fao.org /docrep/U5610-E/u5610e00.htm).

Arnold J.E.M. (1998) Managing Forests as Common Property, FAO Forestry Paper 136, FAO.

Arnold J.E.M. (2001) Forests and People: 25 Years of Community Forestry. pp.11. FAO, Rome.

Australian Agency for International Development (1997) Nepal Australia Community Resources Management Project. Quarterly Report, Kathmandu, Nepal.

Baginski O.S., Soussan J., Dev O.P., Yadav N.P. and Kiff E. (1999) Community Forestry in Nepal: A First Assessment of Sustainability and Impacts on Common and Private Property Resource Management. Report on the first phase of the field research of project funded by Department for International Institutional Development, Nepal.

Bajracharya D. (1983) Deforestation in the food / fuel context, historical and political perspective from Nepal. *Mountain Research and Development* 3(3): 227–240.

Baral S.P. (1999) Community Forestry in Nepal towards Self-reliance: Analysis of Some Major Constraints at Delivery Agency Level. Master thesis submitted for University of Reading, United Kingdom.

Bhattarai B. (1999) Distributional Impact of Community Forestry: Cost-Benefit Analysis of Forest Management to Various Income Groups of Forest Users-Case Studies from Two Forest User Groups in the Koshi Hills of Nepal. Master thesis submitted for Institute of Forestry. Nepal.

Budhabhimsen Forest User Group (1995) Constitution and Operational Plan. Budhabhimsen Community Forest User Group. Dolakha, Nepal.

CBS --Central Bureau of Statistics (2001) Statistical Year Book of Nepal 2001. Nepal.

Chhetri B.R. (2000) Relationship between Income Generating Activities and Conservation of Forest Resources: A Study in the Churia Forest Development Project Area. Submitted to Churia Forest Development Project / GTZ, Kathmandu, Nepal.

Chhetri B.R. and Sigdel H. (1999) Study on Post-Formation Supports for Community Forest Users Groups: Comparing the Hills and the Terai, Nepal.

Collet G., Chhetri R., Jackson W. and Shepherd K.R. (1996) Nepal Australia Community Forestry Project Socio-Economic Impact Study. Technical Note No. 1/96. ANUTECH Pty Ltd, Canberra.

Conroy C., Mishra A. and Rai A. (2002) Learning from Self-initiated Community Forestry Management in Orissa, India. *Forest Policy and Economics* 4: 227–237.

Department of Forests (1995) Community Forestry Directives, Ministry of Forest and Soil Conservation, Nepal.

Department of Forests (2000) Guideline for Inventory of Community Forests, Community and Private Forest Division, Nepal.

Department of Forests (2001) FUG Database Record, Community and Private Forestry Division, Nepal.

DFRS --Department of Forest Research and Survey (1999) Forest Resources of Nepal 1987–1998. Department of Forest Research and Survey/ Forest Resource Information System Project. Publication No. 74. Kathmandu, Nepal.

Department for International Institutional Development (1999/2000) Nepal-UK Community Forestry Project: Annual Report, Kathmandu.

Department for International Institutional Development (2001) Livelihoods and Forestry Programme: Work Plan 2001–2004, Kathmandu.

Eckholm E.P. (1975) The Other Energy Crisis: Firewood. World Watch Paper 1. Washington D.C. World Watch Institute.

Eckholm E.P. (1976) Losing Ground: Environmental Stress and World Food Prospects, New York, W.W. Norton and Co.

Edwards D.M. (1996) Non-timber Forest Products from Nepal: Aspect of the Trade in Medicinal and Aromatic Plants. FORESC Monograph 1/96, Forest Research and Survey Center, Ministry of Forests and Soil Conservation, Kathmandu, Nepal.

FAO (1978) Forestry for Local Community Development. FAO Forestry Paper 7. http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/t0692e/t0692e00.htm

FAO (1983) *Forest Tree and People*. FAO Forestry Topics Report, No.2. Food and Agriculture Organization of the United States. Rome.

FAO (2001a) State of the World's Forest 2001, FAO.

FAO (2001b) *Global Forest Resources Assessment 2000*: Main Report. FAO Forestry Paper No. 140. Rome (www.fao.org/forestry/fo/fra/main/index.jsp).

FECOFUN --Federation of Community Forestry Users Nepal (1996) The Federation of Community Forestry Users, Nepal (handbook). Kathmandu.

FECOFUN (2001) User Group Forestry News No. 1.

Gerrand A. (1994). An Analysis of Two Community Forestry Projects in Nepal. Master's thesis submitted for Oxford University.

Gilmour D.A. and Fisher R.J. (1991) Villagers, Forests and Foresters: the Philosophy, Process and Practice of Community Forestry in Nepal. Sahayogi Press.

Guntz M. (1998) The Churia Forest Development Project: Project Area, Objectives, Approaches and Experiences, German Technical Cooperation (GTZ), Kathmandu.

Hausler S. (1993) Community Forestry: A Critical Assessment. The

Case of Nepal. *The Ecologist* 23 (3): 84–90.
HMGN --His Majesty's Government of Nepal (1988) Master Plan for the Forestry Sector Nepal: Main Report, Nepal.
HMGN (2000/2001) Environment and Forest Enterprise Activity: Annual Progress Report, Kathmandu, Nepal.
HMGN (2001) NGO Guideline (District Level), Ministry of Forests and Soil Conservation. Kathmandu, Nepal.
HMGN and Swiss Agency for Development and Cooperation (SDC) (2000) Nepal Swiss Community Forestry Project Phase III, Kathmandu.
HMGN and USAID (1993) Forest Act 2049 (Official Translation), Nepal.
HMGN and USAID (1995) Forest Regulations 2051 (Official Translation), Nepal.
Hobley M. (1996) Participatory Forestry: The Process of Change in India and Nepal. Rural Development Forestry Study Guide-3, ODI, London.
Ito K., Takeya H. and Oura Y. (2003a) Expansion of Participatory Forestry and Inter-Project Collaboration in Nepal. *Journal of Agricultural Development Studies* 14: 45–55.
Ito K., Takeya H. and Oura Y. (2003b) NGO Involvement in Bilateral Aid Projects for Community Forestry in Nepal. *Journal of Extension Systems* 19: 6–21.
Ives J. and Messerli B. (1989) The Himalayan Dilemma. Reconciling Development and Conservation. The United Nations University and Routledge, London and New York.
Jackson W.J. and Ingles A.W. (1994) Developing Rural Community and Conserving the Biodiversity of Nepal's Forests through Community Forestry: Proceedings of a seminar on Community Development and Conservation of Forest Biodiversity through Community Forestry. held on 26–28 October 1994. Nepal-Australia Forestry Project. Kathmandu.
Jackson W.J., Vaidya A.G. and Hunt S.M. (1995) Post-Formation Support to Community Forestry User Groups: Proceedings of a Workshop on Training and Support Needs. 15–16 February 1995. Bhatte Danda, Lalitpur, Nepal Australia Community Forestry Project, Nepal.
Karmacharya S.C. (1987) Community Forestry Management: Experiences of Community Forestry Development Project. *Banko Janakari* 1(4): 30–36.
Kuthruke Gorkhinichaur Forest User Group (1997) Constitution and Operational Plan. Kuthruke Gorkhinichaur Community Forest User Group. Ramechhap, Nepal.
Lamichhane P.R., Amano M., Kadota T. and Sasaki A. (2000) An Analysis of the Socioeconomic Conditions of the Rural People based on Caste-Implications for Suitable Watershed Management in the Kaski District, Nepal. *Journal of Forest Planning* 6: 25–37.
Lamichhane P.R., Amano M., Kanomata H. and Minowa M. (2001) An analysis of the Relationship between Land Use and People's Concern: Considerations for Watershed Management Strategies in the Kaski District, Nepal. *Journal of Forest Planning* 7: 29–38.
Lamsal P. (1999) Support Needed for Community Forestry Development in Myagdi District, Nepal.
Maharjan M.R. (1998) The Flow and Distribution of Costs and Benefits in the Chuliban Community Forests Dhankuta District Nepal, Rural Development Forestry Network Paper No. 23e, London, United Kingdom, Overseas Development Institute.
Maskey V., Gebremedhin T.G. and Dalton T.J. (2003) A Survey Analysis of Participation in a Community Forest Management in Nepal. Selected paper for presentation at the Northeastern Agriculture Resource Economics Association, New Hampshire.
Mather S.A. (1990) Global Forest Resources. Timber Press, Inc. Portland, Oregon, U.S.A.
Meizen-Dick R., Brown L.R., Feldstein H.S. and Quisumbing A.R. (1997) *World Development* 25(8): 1303–1315.
Nirmal Kumar B.K. (2000) Post Formation Support Needs of the Forest User Groups at the Field Level: An Experience of DRMP Post Formation Support Area, Dhading, United Mission to Nepal, Nepal.
Ojha H.R., Subedi B.P. and Dangal S.P. (2000) Resource Assessment and Sustainable of Harvesting of Non-timber Forest Products: Some Initiatives in Community Forestry in the Hills of Nepal. A paper prepared for the international seminar on Harvesting of Non-timeber Forest Products, October 2–8, 2000, Ismir, Turkey. Asis Network for Small Scale Bioresources, Kathmandu, Nepal.
Paudel D. (1999) Distributional Impacts of Community Forestry Programs on Different Social Groups of People in the Mid-hills of Nepal. Master's thesis submitted to University of Cambridge, United Kingdom.
SDC --Swiss Agency for Development and Cooperation (2000a) Involvement of Non Government Organizations in the Community Forestry Programme in Nepal.
SDC (2000b) Geographical Distribution of FUGs Hand-over in Dolakha, 2001/2002.
SDI --Sustainable Development Institute (1997) Community Forestry Policy Project Report, Draft. http://www.susdev.org/cfp_proj_draft.html
Shrestha K.B. (2000a) All You are Eager to Know about Community Forestry. Community and Private Forestry Division, Department of Forest. *CF Bulletin*, Nepal, pp.10–14.
Shrestha R.B. (2000b) Community and Private Forestry Division, Department of Forest. *CF Bulletin*, Nepal, pp.14–16.
Sinha S., Shrestha N.K. and Kuchli C. (1996) Of Trees Careers and Capacity Development: Evaluation of the Dolakha Ramechhap Community Forestry Development Project. Kathmandu, Nepal.
Swar B.B., Naupane S.R. and Basnet S.K. (2000) Social Development and INGOs Activities in Nepal. Community Development Service Association, Kathmandu: Nepal.
Thalange Forest Users Group (1993) Constitution and Operational Plan. Thalange Forest Users Group. Dolakha, Nepal.
Thomson J.T. and Freudenberger K.S. (1997) Crafting Institutional Arrangement for Community Forestry. Community Forestry Field Manual 7. FAO, Rome.
Thumkadanda Forest Users Group (1996) Constitution and Operational Plan. Thumkadanda Forest Users Group. Dolakha, Nepal.
UNEP (2000) Human Development Report 2000. New York, Oxford University Press.
USAID --United States Agency for International Development (1995) New Partnership Initiative: NGO Empowerment. http://www.usaid.gov/pubs/nip/corerept/npi-ngo.htm
Warner K. (1997) The Vision and Role of Community Forestry in Sustainable Development. Voluntary paper for XI World Forestry Congress Technical Program by Main Areas and Topics. Oct 13–22, 1997, Antalya, Turkey.
WATCH --Women Acting Together for Change (1995) Developing an Understanding of User's Expectations from Community Forestry: User's Expectations Collected from Seven Districts; Dhankuta, Terhathum, Sankhuwasabha, Bhojpur, Parbat and Myagdi.
World Bank (1996) World Bank Participatory Sourcebook. The World Bank, Washington DC, U.S.A.

Summary

Community Forestry (CF) that recognizes local people as forest managers has emerged in the late 1970s as an ideal approach towards both meeting basic need of rural people and sustainable resources utilization for rural development. Since then, this approach in developing countries has been implemented mainly by aid agencies. Despite more than 25 years of experiences, most projects are still struggling to be

successful. Involvement of a local community is definitely essential for successful CF in natural resources management. However, difficulties of leading the Active participation of local people, Sustainability of local people's activities and Self-reliance have been assayed in many project reports as reasons for struggling projects. Most of the previous studies focused on "incentives" or "factors" of participation, sustainability and self-reliance. Despite the most CF have been supported or implemented by aid projects, little studies have discussed about aid projects' approach to lead participation, sustainability and self-reliance. The primary objective of this study was to identify aid projects' approaches towards these issues then to analyze how the approaches are functioning, working currently. Nepal, one of the typical examples of developing countries where CF has been supported by many aid agencies, and has been recognized as one of the succeeding countries on CF, was selected for this study.

Chapter 2 discussed the main features of Nepal, the emergence of CF along shift in forest policy, the history and current status of forests, and its utilization. In addition, this chapter focused on relationship between aid projects and forest policies or programs in Nepal. Since the late 1970s, most forest policies and shifts in forest policies in Nepal have been influenced by external powers such as bi-multilateral aid agencies. Thus, this chapter showed the importance of the external aid for the forestry sector in Nepal, and the great influence and meaning of the research on approaches of aid project for CF was fully realized. Chapter 3 examined current aid projects and the overall status of CF, and identified several factors for smooth CF expansion. Nepal successfully formed a number of CF in the years following the Master Plan of the Forestry Sector of 1988. The description of the overall situation regarding aid projects in Nepal confirmed the country's clear and consistent CF application process and definition. Consistency has allowed implementation of various CF aid projects based on the same policy, legislation, and operational guidelines that have encouraged collaboration in preventing fragmentation among aid projects. These factors have contributed to smooth and rapid community forest expansion. On the other hand, several issues were clarified. As the number of people or communities aware of CF has increased, the demand for both Forest User Group (FUG) formation and the hand-over of forestland has also increased. Recently, District Forest Officers have been unable to strike a balance between pre-formation and post-formation support for FUGs. The sustainable forest management of established community forests also remains in doubt due to insufficient support for FUGs, signifying that Nepal's CF movement has stagnated. So long as DFOs cannot support FUG's various needs, other institutional involvement is urgently necessary to mitigate this problem. Recently, both the Government of Nepal and aid agencies have started to pay attention to NGOs as partner of intermediary organization to mitigate this problem.

In spite of the high expectations for NGOs, the current status of their involvement has not been clarified yet. Therefore, the Chapter 4 was devoted to examine current status and purposes of the involvement of NGOs in bilateral aid projects for CF, and to identify factors that influence different types of NGO involvement. As a result, all six bilateral aid projects for the CF have been recognized and have begun to be integrated in the NGOs as an important aspect of CF development. The following three types of NGO involvement were identified among the six bilateral projects: Type A as a contract with a bilateral aid project; Type B contract with a government agency; Type C as a non-contractual coordination and collaboration. The three types of NGO involvement seem to depend on the level of expectations in the NGOs, policy and strategy of the aid agencies, and the donor country that funds CFs in Nepal. In terms of purposes of NGO involvement, "Insufficient number of DFO staff" and "DFO staff cannot fulfill FUG's diversified needs besides forestry," are common reasons for all projects except in the German project. On the other hand, Type A projects had more expectation towards NGO involvement including issues of "Participation", "Sustainability" and "Self-reliance". In the other words, NGO involvement was recognized as one of the projects' efforts towards these issues. However, whether the NGO involvement favored by many donors are more efficient to the FUGs has yet to be seen.

Therefore, Chapter 5 attempted to clarify the scope of influence of NGO involvement on FUG members' perception towards CF management based on an attitude survey. Since the previous chapter clarified that the purpose of the Swiss project was not only for insufficient supports from DFO staff, but also to lead more "Participation," "Sustainability," and "Self-reliance" of local people, questions covered attitudes towards "Satisfaction", "Activeness" and "Self-reliance." It was conducted 244 selected households amongst the three FUG's: A FUG supported by another FUG (FUG-support), a FUG supported by a NGO that specialized for a CF (NGO-support) and a FUG with no support except service from DFO (No-support). Content of support from the FUG and NGOs was only for the CF formation procedure in this case study. The results of this study showed that NGO involvement has some influence on the form of perceptions such as "Self-reliance", "Knowledge on CF," "Degree of dependence," and "Perspective for CF." On the other hand, it has less influence on "Satisfaction" and "Activeness." There were considerable factors of influence, and limited influences, towards perception for CF management. According to the common CF formation procedure in Nepal, if the CF was formed through the appropriate process of participation and consensus, most FUG members would expect to gain basic knowledge on CF, purpose and importance. Therefore, support for the CF formation procedure was considered as a factor with a higher score towards the FUG-support and NGO-support groups in terms of "Self-reliance," higher "Knowledge on CF," multi-purposes, and less dependence on the outsiders. On the other hand, this limited support from FUG and NGO was considered insufficient to motivate the FUG members to participate actively in CF activities and to provide and derive satisfaction from the CF. However, since several papers have reported strong influence of socio-economic features such as ethnic groups and gender, they may have more factors of score for perception towards CF management. Further analysis is necessary to find out the other factors of influence, and limited influence, towards perception for CF management by using the results of personal data along with other question.

Then, chapter 6 was devoted to find out the other considerable factors. As a result of analysis, four socio-cultural variables, eight economic variables, three other variables, and eight variables of "Knowledge on CF" had a significant influence towards differences of the three FUGs' mean scores for attitude scales. Therefore, influence of NGO involvement could not be seen well. However, in spite of strong influences of these features of respondents, FUGs supported by another FUG or NGO had significantly higher "Self-reliance" and "Knowledge on CF." It was considered that because contents of the NGOs involvement in this study was only for CF formation. Since the previous chapter showed that respondents who had knowledge on CF tended to have higher attitude towards CF management, it was indicated that the influence of NGO involvement today is still not demarcated clearly, however, it has the potential for enhancing the local people's perception towards CF management indirectly through improved CF knowledge.

Chapter 7 summarized conclusion of each chapter as a general conclusion, and mentioned several recommendation towards NGO involvement as the efforts of aid projects. The results from analysis in this thesis indicated that the influence of NGO involvement today is still not demarcated clearly, and several considerable reasons were identified. The approach of NGO involvement could not be a sovereign remedy. Therefore, if projects continue to expect that the influence of FUG and NGO involvement towards "Satisfaction" and "Activeness," support from the FUG and NGO should be far wider and deeper. In order to do this, capability of the NGO will be one of the issues. If aid projects

expect more to NGO involvement, projects have to support NGOs to improve their capability, such as trainings. Otherwise, their activities could not be either wider or deeper.

Keywords: Nepal, Community Forestry, Aid Projects, NGO Involvement, Attitude for Forest Management

摘　要

開発途上国の多くは，植民地時代以降，国有化をはじめとする中央政府による一括した森林保護・管理が試みられてきたものの，その結果地域住民の森林に対する管理意識の低下から森林減少・劣化を招いてきた。1970年代になると，森林資源に依存した生活を送る人々のニーズを満たした形の森林管理を導入しない限り，森林減少に歯止めをかけることができないと認識されるようになり，日常的に森林資源を採取・利用する地域住民を森林管理の主体とした「参加型森林管理」の概念が生じてきた。

参加型森林管理は，1970年代に発案された地域住民を主体とした森林管理のことを指し，持続可能な森林管理に基づく地域開発のための理想的な手法として考えられている。それ以降，多くが援助プロジェクトに支援されているが，数々の苦戦が報告されている。その要因として，プロジェクトスタッフ等の外部者による一方的な支援計画に基づいたプロジェクトの実施が地域のニーズに沿わず，結果として参加型森林管理の本質である「地域住民の参加」，「活動の持続性」，「自立性」が導けなかったことが挙げられている。従って，援助プロジェクトは，地域のニーズが把握できるようなプロジェクトのアプローチ方法を用いることが重要であると考えられるが，既往の研究の多くが地域住民の「参加」，「活動の持続性」，「自立性」を導くためのインセンティブを探索するものであり，援助プロジェクトのアプローチに関してはその重要性が示されているにもかかわらず研究は殆ど存在しない。

本研究は，早くから参加型森林管理に取り組み，多数の援助プロジェクトのもとにその導入・普及に成功していると言われているネパールにおいて，1）援助機関による支援の全体像をとらえ，2）各援助プロジェクトにおける地域住民の参加・活動の持続性，自立性を導くための取り組みの現状を把握し，3）実態調査に基づいて，その取り組みがどの程度機能しているのかを実証した。そのうえで4）その取り組み方法の課題および今後の可能性を明らかにしたものである。

まず，ネパールの森林・森林政策及び複数の援助機関による支援の全体像を把握し，現状における問題点を明確にした。多くの開発途上国と同様に，ネパールにおいても，1957年の私有林国有地化法，1961年の森林法および1967年の森林保護法の制定によって，一部の私有林を除く全ての森林が国有林となり，地域住民の森林資源利用を厳しく制限した中央政府レベルの森林管理が試みられた。これにより伝統的な森林管理が非合法とされ，住民の森林管理意識が消失し，森林の乱用と減少に拍車をかけたといわれている。この森林に依存する地域住民を無視した形での中央政府レベルの森林管理の限界からネパール政府は，1976年国家林業計画の制定以降，地域住民を含めた森林利用・管理へと政策の転換をはかってきた。同年には，森林省にCommunity Forest課を設け，また森林回復のために国有林の一部を行政村に委託して森林管理や植林を行うプログラムがFAO（国連食糧農業機関）と世界銀行によって開始された。1978年のパンチャヤット森林規約ではパンチャヤットへの森林管理の移譲が，また1988年のMaster Plan for the Forestry Sectorにおいて森林利用・管理活動の主体である森林利用グループ，Forest User Group（FUG）への森林管理の移譲が認められるようになり，Community Forestry（CF）も新しく定義された。さらに1993年にはマスタープランに基づいた新しい森林法を公布し，森林の所有権が国家にあるという明記とともに，FUGsを正式な自治団体として認めた。また，住民参加によって森林を生育し，林産物収入を地域の発展に利用すべきとの提言がなされ，森林管理は地域の森林利用者を主体とした体制へと転換されてきた。

このネパールのCFは，多数の海外援助機関から支援されている。中でも1990年代前半から集中的に実施されているのがアメリカ・イギリス・ドイツ・スイス・デンマーク・オーストラリアの6カ国による二国間援助プロジェクトであり，ネパール全75郡のうち59郡でプロジェクトが実施されている。これら二国間援助プロジェクトの開始以降，ネパールのCF設立数は急激に増加しており，2000年までには1万近いFUGが設立され（2003年5月現在12,569），約100万haの森林がCFとして移譲されている。これらのことから，ネパールはCFの導入に成功した国の一つとして挙げられるが，CFとして移譲された森林面積は，ネパール政府が“移譲可能”としている森林面積（356万ha）のおよそ3分の1であり，まだ移譲の余地がある。しかし，急激なCF設立数の増加によって，郡森林官の任務であるCF新規設立への支援とCF設立後の適切な管理を導く支援との両立に困難が生じており，年間設立数も近年減少傾向にある。この状況を緩和し，更なるCFの普及と拡大を図るには，郡森林官の任務の一部を代行できる組織を育成し巻き込む必要があり，ネパール政府及び援助機関はともに該当組織としてNGOに注目していることが明確となったが，NGOの包含に関する実態は明らかにされていなかった。

6つの二国間援助プロジェクトにおけるNGO包含の現状を把握し，各プロジェクトのNGO包含の方法・NGO包含の目的及び問題点を明らかにした。各二国間援助プロジェクトのNGO包含に対する目的及び方法には相違がみられるものの，全てのプロジェクトがCFプロジェクトのアプローチとしてNGO包含を重視しており，その包含が本格化していた。包含方法としては，アメリカ，オーストラリア，スイス，ドイツのプロジェクトで実施されているA）二国間援助プロジェクトとNGOがコントラクトを結ぶタイプ，デンマークのプロジェクトが実施しているB）郡森林局とNGOがコントラクトを結ぶタイプ，イギリスのプロジェクトが実施しているC）コントラクトを結ばずに協力・協調するタイプ，の3タイプの存在が確認された。AタイプはNGOに対して最も多くの期待を抱き，積極的にNGOを包含していた。またその目的は，郡森林官による

サポート不足を補うことのみでなく，参加型森林管理プロジェクトにおける困難の要因である「地域住民の参加」，「活動の持続性」，「自発性」をNGO包含によって導こうとしていることが確認された。しかし，NGO包含は，CFの管理主体であるFUGに対する実態調査に基づく影響が明確にされないままに本格化していた。

最も主流なNGO包含方法が援助プロジェクトとNGOがコントラクトを結ぶAタイプであり，NGOの包含を積極的に実施していたスイスプロジェクト地域を調査対象地域とし，森林管理の主体であるFUGを調査対象としてNGO包含によるFUGへの影響の実証を試みた。支援者としてはNGOと既設のFUGが存在しており，既設のFUGがサポートしたFUG，NGOがサポートしたFUG，郡森林官以外のサポートを受けていないFUG，の3タイプのFUGを1グループずつ抽出してNGOのサポートが現在及び今後の森林管理の実施を左右すると考えられる「森林管理に対する意識」を測定し，グループ間で比較することでNGO包含の影響を測った。FUGおよびNGOによるサポートの内容は，「CFの設立に対する支援」のみである。

援助プロジェクトのNGO包含の主要目的として，郡森林官によるサポートの不足を補うこと以外に「参加」，「活動の持続性」，「自立性」につながっていくことを期待するものが挙げられていることから，リッカート尺度（5件法）を用いて，① Satisfaction（どの程度CFの主機能に対して満足しているのか？）② Activeness（現在どの程度CF活動に対して積極性を持っているのか？）③ Self-reliance（どの程度今後のCFに対して主体的展望を持っているのか？）の3つの尺度によって“森林管理に対する意識”の測定を行った。この他に，CFに関する知識を測定する項目およびその他の項目を準備し，フェイス項目と共に244世帯に対する調査を個人面接法で実施した。

その結果，Satisfaction, Activenessは3タイプのFUGの間で平均態度得点に差がなく，NGO包含の影響はみられなかったものの，Self-relianceとCFに関する知識においては，3つのFUG間で有意差がみられ，NGO包含の影響がみられた。また，森林管理に対する意識はNGO包含の有無以外にも，カースト，性別，収入，支出などの文化，社会，経済的因子に大きく影響を受けていた。したがって，影響がある部分とない部分があった要因としては，文化，社会，経済的な背景の影響が強く，NGO包含による影響が測れなかったことと，NGO包含によるサポートがCFの設立に対するサポートのみで，設立後の参加や持続性を促すための活動は含まれていなかったことから，サポートがなされた部分にだけ影響が出たという2点が考えられた。したがって，援助プロジェクトが今後もNGO包含に対して「地域住民の参加」，「持続性」，「自立性」を期待するのであれば，文化，社会，経済的背景を考慮したNGO包含と，CF設立支援に限らない，より深く幅広いNGOによる支援の実施が求められる。

以上の結果より，以下の課題と可能性が導かれた。NGOによるサポートはCFに関する知識を導いており，CFに関する知識がある人程，森林管理に対して高い意識を持っていたことから，現行のNGO包含においてもCFに関する知識の向上から，森林管理に対する意識の向上に間接的につながっていく可能性が示唆された。また，郡森林官のみからサポートされたグループにおいては，80%以上のメンバーが自らのCFに関する基本的な知識すら持っていなかったことから，既設のFUGやNGOによるCF設立プロセスへのサポートは郡森林官のみのサポートよりも効果的であると考えられた。さらに，援助プロジェクトの視点から，NGO包含に対する問題点として，NGOの能力に対する疑問や適切なNGOを探すのが困難であることが挙げられていたが，本調査の結果からは，CF設立プロセスへのサポートに関しては既設のFUGでも十分に機能しており，むしろ郡森林官のみのサポートよりも効果的であった。したがって，今後既設のFUGも支援者として考慮できる可能性が示唆された。

以上，本研究は，同一プロジェクト内であっても，NGO包含の有無というアプローチの違いで森林管理に対する意識に違いがみられたことから，異なるアプローチを取ることの影響力およびアプローチの重要性が再確認される結果となった。しかしながら，本研究でNGO包含の影響の尺度として用いた「森林管理に対する意識」が高いグループメンバーほどより良い森林管理を実施するとは限らないため，今後森林管理状況と照らし合わせた考察が必要とされることが提示された。同時に，森林管理に対する意識は，文化，社会，経済的背景に大きく影響されていたことから，より信頼できる結果を得るためには，調査対象グループを増やした分析も必要であることが提示された。

キーワード：ネパール，参加型森林管理，NGO包含，援助プロジェクト