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Private, Collective, and Centralized Institutional Arrangements for Managing Forest "Commons" in Nepal

The main forest management strategy of Nepal, community forestry, is based on people's participation and was formally introduced in 1978. Under the community forestry structure, local people make decisions regarding forest management, utilization, and distribution of benefits from a forest; they are organized as a Community Forest User Group (CFUG). Presently, about 1 million ha of forest are under the control of about 13,000 CFUGs. The present article gives an overview of the status of community forestry and its features in Nepal and analyzes the institutional arrangements of 3 CFUGs from different parts of the country. The collective institutional arrangement is a legally supported approach in community forestry. It was found that the CFUGs have developed alternative institutional arrangements to this approach, ie private and centralized systems. As the case studies show, the practice of allocating limited use rights and protection responsibility to individual users as private property is decisive for the successful rehabilitation of degraded forests in the Churiya region. In the Terai region, centralized institutional arrangements are found to be the most appropriate option for the implementation of community forestry. In the Mid Hill region, from where community forestry originates, collective institutional arrangements are successful. These different forms of arrangement appear to be the best alternatives in the prevailing local situation. The findings suggest that various contextual factors in a community and their interaction affect the formulation of institutional arrangements. Successful groups are able to craft innovative arrangements well suited to local conditions. But common property resource models based on linear relations are not always sufficient to explain the dynamism of the interfaces between people's innovations and forest resources.

Keywords: *Community forestry; community forest user group; institutional arrangements; policy; participation; Nepal.*

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Introduction

In Nepal, particularly in the Mid Hill region, forests are an integral part of the farming system. Farmers must have access to forest products such as leafy biomass for fodder and animal bedding, fuelwood, and timber for building and agricultural implements (Mahat 1987; Gilmour and Fisher 1991; Malla 2000). Rural people—because of their dependence on a variety of forest products to maintain their subsistence farming—have played an important role in the use and management of forests. Therefore, locally recognized claims and rights for individuals to use specified products from common property forests are a common feature of institutional arrangements (Gauli and Rishi 2004). However, in many parts of the country the sustainability of the farming system is threatened by a shortage of forest products (Bartlett and Malla 1992; Springate-Baginski et al 2003). Figure 1 illustrates forest cover in Nepal in the late 1990s.

Status of community forestry

During the 1970s there was a growing recognition that the Department of Forests (DoF), the government body, could not manage the forests alone. A partnership between government and villagers was seen as an essential instrument to ensure sustainability of management and guaranteed access to forest products for villagers. His Majesty's Government of Nepal moved towards the adoption of community forestry (CF) in 1978 by enacting legislation that allowed transfer of forest management responsibility from the Government to the local *panchayats* (lowest level, territorially based political and administrative unit established under the partyless Panchayat system from 1960 to 1990) as Panchayat Forest and Panchayat Protected Forest (Gilmour et al 1989; Gilmour and Fisher 1991; Bartlett 1992; Malla 2000). In the past 25 years, there have been several legislative changes, the aims of which were to hand over the forests to the real users and empower them to manage the resources (Acharya 2002). The status of CF in mid-July 2004 is presented in Table 1.

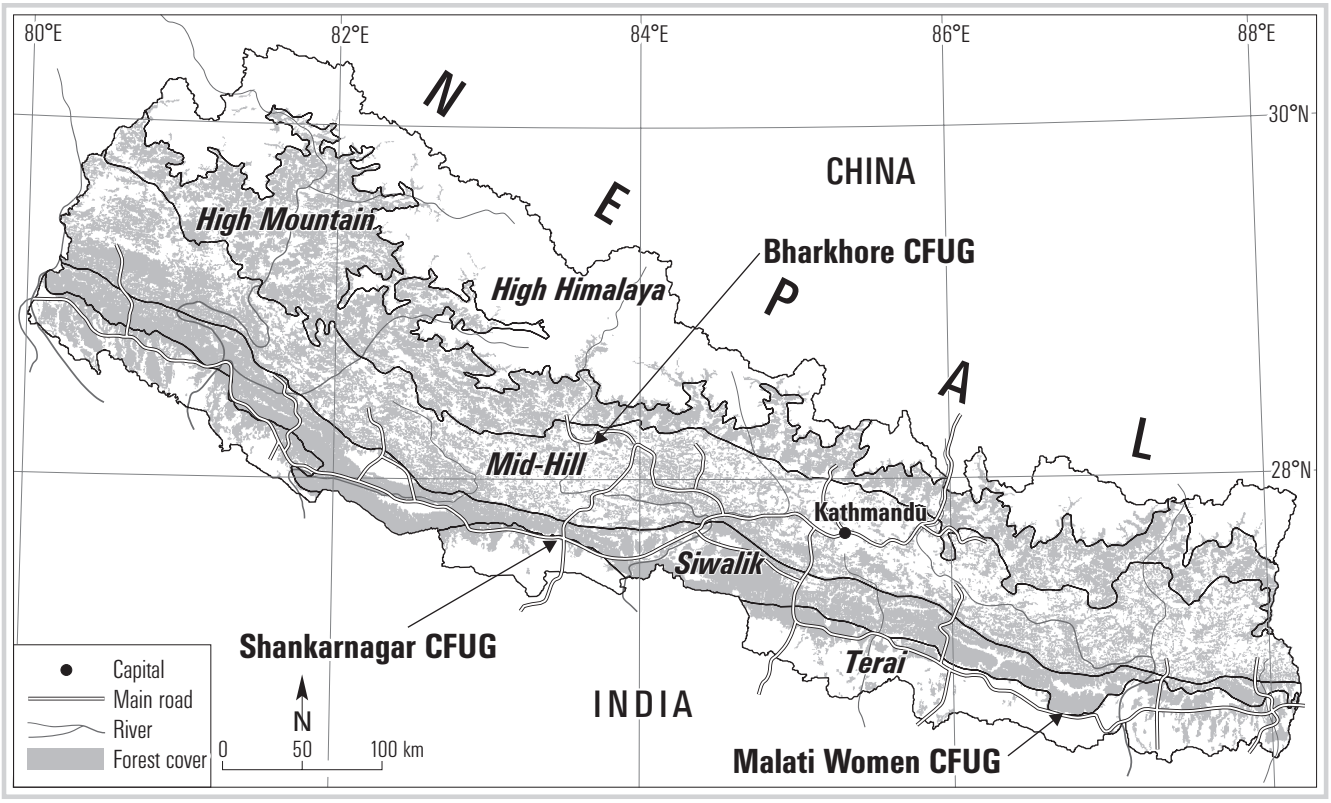
Community forestry policy

The 1989 Master Plan for the Forestry Sector (MPFS) and periodic Five-Year Plans provide the policy base for CF implementation. The 1993 Forest Act and the 1995 Forest Regulations, formulated in consistency with the MPFS, are governing laws (HMG 1995). Some of the important features of CF as described by Tiwari (1996) and Acharya (2002) are:

- All accessible forests can be handed over to users without any area, geographical, and time limit.
- Land ownership remains with the state, but land use rights belong to the CFUGs.
- All management decisions (land management, forest management, and resource distribution) are taken

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FIGURE 1 Map showing forest cover in Nepal and the location of the case study areas. Nepal occupies 14.7 million ha of land, with 29% forest cover and 10.6% shrubland. (Source: DFRS 1999; map by author)



by the CFUGs.

- Each member of the CFUG has equal rights over the resources.
- Outsiders are excluded from access and rights of use are mutually recognized.
- The state provides technical assistance and advice.

Decision-making processes

The assembly of a CFUG is supreme in all decision-making processes. Through a series of meetings and discussions, the users make decisions on issues such as identification of users and recognition of mutual rights of use, preparation of a constitution describing the conditions for collective action, and formulation of operational rules describing the conditions for resource management (Acharya 1997). The assembly elects a Community Forest User Group Committee (CFUGC) to execute CFUG decisions and conduct routine operations. Once the constitution, Operational Plan (OP), and CFUGC are prepared, the forest is formally handed over to the CFUG. Review and revision are follow-up actions performed in due course of implementation.

CFUGs as institutions

The 1993 Forest Act defines CFUGs as registered groups of people "desirous to utilize the forest products by developing and conserving such forest for the collective interest." A CFUG is recognized as an autonomous corporate body registered at the District Forest Office (DFO). The CFUG can fix the price for forest products, sell products, raise funds, and use income for community development activities (Kanel 1993; HMG 1995).

The CFUG is more cohesive and determined than the *panchayat* or "user committee." It is now recognized as an optimized, functional, and appropriate local level institution for implementation of CF (Kanel 2004). The possibility of law enforcement and communal control is greater in smaller groups such as CFUGs. This helps to reduce the potential problem of free riders in common property resource management (Karki et al 1994; Hobley et al 1996).

Case studies

Methodology

The case studies focus on 3 CFUGs representing 3 different geographic regions: the Mid Hill region, the Churiya (Siwalik ranges), and the Terai (lowlands in the Indo-Gangetic plain in Southern Nepal; see Figure 1). Semi-structured interviews, observations, a review of user group records, focus group discussions, informal discussions, and key informant surveys were carried out to collect information. The principle of triangulation

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Status of community forestry in Nepal	
Total land area in Nepal	14,019,319 ha
Total forest area	5,938,933 ha
Potential community forest area	3,420,412 ha
Forest area under community forestry	1,082,156 ha
Total number of CFUGs	13,238
Total number of households	1,491,314
Percentage of potential forest area handed over by mid-July 2004	30.47%

TABLE 1 Present status of community forestry in Nepal. (Source: DoF 2004)

was applied to verify the information. The aim of the case studies was to analyze various institutional arrangements developed by CFUGs in order to implement CF programs successfully.

Malati Women CFUG

The Malati community forest is located in Bhakduwa Village Development Committee (VDC; the lowest level political body, of which there are about 4000 in Nepal), ward number 7 of Saptari District in the Eastern Development Region (Nepal is divided into 5 development regions and 75 districts). It covers an area of 80 ha. The forest is predominantly covered by *sal* (*Shorea robusta*) at the pole development stage. A total of 113 households are users of the forest. The users were migrants who chose livestock keeping as a main source of income.

The community forest is divided into small parcels and each parcel with ground identification is handed over to a member of the user group. The owner is responsible for its protection and carries out limited management activities. Responsibility for the production, management, and utilization of green grass, fuelwood from branches and twigs, and regeneration protection falls to each individual. Individuals can reap the benefits from the allocated plot regardless of any time limit. However, the management of timber is the responsibility of the user group. Moreover, the plot owner can sell use rights to his/her allocated plot to other members of the community. In all these activities, the user group carries out monitoring activities.

Bharkhore CFUG

The Bharkhore forest is located in Siwalaya VDC, ward number 1 of Parbat District in the Western Development Region. All the households in ward number 1 and one household from ward number 3 of Siwalaya VDC are recognized as users. The main occupation of the users is subsistence agriculture. There are 116 households with a total population of 675, and the group is ethnically and economically heterogeneous. The forest of the Bharkhore CFUG covers an area of 57.5 ha. The forest is on the top of the hill slopes and settlements are scattered around.

The forest is predominantly *sal* forest. A forest guardian is appointed by the CFUG and is a wage-earner. Assemblies take all forest management decisions, which are then implemented collectively with a high level of participation. Forest products are divided into portions equal to the number of households and shared equally among households. The user group retains monitoring responsibility. The user group charges a small amount of money for major forest products such as firewood and timber. Other products such as non-timber forest products (NTFPs), grasses, leaf litter, and *jhikra* (dry and small branches used as firewood) are free of charge.

Shankarnagar CFUG

The CFUG is located in Shankarnagar VDC of Rupandehi District (Terai) in the Western Development Region. The forest was handed over as a community forest in 1989 and was the first CFUG in the district. The CFUG includes all 1889 households from Shankarnagar VDC, with a total population of 8500 users. High-input diversified agriculture and employment due to nearby market opportunities are the main sources of livelihood.

The forest covers an area of 549 ha predominantly occupied by *sal*. Of the 17-member CFUGC, a committee chairperson, vice-chairperson, and treasurer are elected or selected among the users: 9 members (1 from each ward) are selected and the chairman among the users nominates the remaining 5 members. The chairman is the most influential position. The users delegate their authority to the committee and the chairman. The CFUGC takes all forest and resource management decisions. The committee decides on harvesting, management, and distribution mechanisms, and hires wage laborers to carry out these operations. The committee members are responsible for monitoring these activities, for which they are paid. Once the harvested

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FIGURE 2 The Malati forest has multiple functions, thanks to its under-canopy layer where grass grows abundantly. The trail that runs in front of this woman's feet separates two plots. (Photo by author)



forest products reach the depot, they are ready for selling. Users, based on their requirements and purchase capacity, buy the forest products.

Types of institutional arrangement

The 3 case studies presented above indicate the existence of various types of institutional arrangement within a single national community forestry framework. The legal framework provides a mechanism only for collective arrangements. However, the CFUGs have developed various alternative options suitable to their specific local situation.

Private institutional arrangement

The first case study from Malati CFUG illustrates how the collective system was locally modified to accommodate the allocation of limited use rights to individual members. With the increased shortage of grass to feed livestock, the members began to explore the potential of grass production in their community forest. This exploration ultimately led to the fragmentation of the forest area and the allocation of plots to individual households for grass production with specific responsibilities. This system is based on the traditional agroforestry system in Nepal. The individual plot owner is free to manage the allocated plot at his/her own convenience and discretion. The owner has the right to decide what types of tree or grass need to be produced, as long as this is consistent with the OP. In this system, the understorey is considered the private property of individual users where management decisions are concerned. This practice has also been followed in neighboring CFUGs, for example Raktamala in Saptari District and Janacahana in Rautahat District.

Collective institutional arrangement

Bharkhore CFUG is working effectively based on the principle of collective action. This is the most common practice in the Mid Hills of Nepal. There is a high level of social cohesion consolidated by kinship. Each household takes part in decision-making and implementation in collectively agreed time and space. There is a high recognition of women, in addition to the involvement of members of the poor and occupational castes in decision-making processes. In this system, forest products flow to individual users as common property. The activities of Bharkhore CFUG are being replicated by neighboring CFUGs (especially in the Dhaulagiri area) and in action research aiming at better management of community forests in other, similar areas (DFRS 2003).

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TABLE 2 The various institutional arrangements found in the case study areas: nature and attributes.

Characteristics	Private	Collective	Centralized
Management objectives	Multiple products	Multiple products	Timber
Decision-making	Individual + CFUG	CFUG	CFUGC
Time horizon	Seasonal, annual, periodic to long term	Seasonal, annual, periodic to long term	Periodic to long term
Participation level	High	High	Limited
Labor force to execute Operational Plan (OP)	Users	Users	Contract laborers
Monitoring	CFUG	CFUG	CFUGC
Distribution of benefits	Benefits to all	Benefits to all	Benefits to the rich
Management aim	Forestry and community development	Forestry and community development	Generation of cash benefits

Centralized institutional arrangement

The centralized system in Shankarnagar CFUG was introduced as a response to problems repeatedly encountered by the CFUG in implementation. The main problems were the low level of participation and difficulties in monitoring a large number of users. The committee members are working as members of a company and running the CFUG as a successful public enterprise. The delegation of power to the committee members is making them more accountable. The demand for user participation is low and forest products are available for purchase at depots. This practice has also been followed in CFUGs with a higher number of users and larger forest areas, especially in the Terai region, for example in Rudrapur and Charpala in Rupandehi District.

Discussion

Factors affecting institutional arrangements

It appears that there are at least 3 factors responsible for the formulation of alternative arrangements by the communities in the study areas. These are:

1. The nature of forest resources,
2. The nature of community dynamics, and
3. The type of major occupation.

The development and functioning of the 3 institutional arrangements is the result of interactions among these 3 factors, which should therefore not be considered in isolation.

A large forest area with a higher number of users seems to favor the development of centralized arrangements, whereas a smaller forest area with fewer users normally favors the development of a collective system. Similarly, a smaller forest area with fewer users producing specific NTFPs such as grass seems to favor the formulation of private arrangements. However, in the case study areas, the forest area per household was larger in the private system, followed by the collective system, and smallest in the centralized system.

In Malati, grass production is a major activity (Figure 2) that supports livestock, with grass use rights retained by individual users within the framework of CF. There is no limitation in terms of time, nor are there any sales restrictions. In Bharkhore CFUG, the grass production area and productivity are assessed annually. The harvesting rights are allocated to each user based on need. Thus the rights of use are retained by the group. By contrast, in Shankarnagar CFUG, grass production activities were not mentioned in the OP and no such arrangement was found.

In Shankarnagar, the larger number of users within the CFUG has created problems in awareness, identification, and monitoring, resulting in a low level of participation. The dynamic community behavior is due to a high rate of migration; fluctuating user numbers and non-users residing within the community forest boundary have caused low social cohesion. The participation of all members in decision-making is not always possible. Forest management activities are implemented through contractors rather than through people's participation, which ultimately hampers the development of ownership feelings. This situation has favored a centralized system, by contrast to the situations in the other 2 CFUGs, which favored either collective or limited private arrangements, as described above.

In addition, the low level of dependency of subsistence agriculture on forest resources has also paved the way for production over the long term of products such as timber. Moreover, the existence of a nearby market has provided alternative employment opportunities, reducing dependency on agriculture. Table 2 presents the situations resulting from the 3 different institutional arrangements in the case study areas.

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FIGURE 3 Bharkhore CFUG holds its general assembly inside a simple coppice demonstration plot; the members are discussing the possibility of catering to fuelwood demand and scaling up their management regime in the forest. (Photo by author)

Opportunities and constraints

The limited private institutional arrangement found in Malati leads to effective protection of resources such as private property. The direct benefits at household level are realized within a short period, increasing feelings of ownership and corresponding stewardship among the users. Grass supports livestock farming and has played a key role in the development of the local alternative arrangements. The individual owner is free to sell forest products to generate income, as under a private property regime. However, such institutional arrangements may result in unequal distribution of resources due to differences in plot size and productivity. Predictions regarding user numbers are not easy to make due to family partition and/or immigration or migration, making allocation of plots to new members difficult. Moreover, locational differences and accessibility of the plot affect labor input and management costs. The present national forest management system is protection-oriented, which contradicts the focus on grass production at ground level. Consequently, the productivity of grass may be reduced with increasing tree canopy, threatening the grass production system in future.

In the case of collective institutional arrangements, community forests could be effectively managed as common property with multiple products through the active participation of users (Figure 3). On the other hand, there is increasing evidence that rural elites and wealthier households are manipulating collective institutional arrangements in their favor (Gentle 2000; Nightingale 2002; Adhikari 2003; Acharya 2003). In addition, cash income from forest management does not reach individual households.

Similarly, the opportunity associated with the centralized type of institutional arrangement is effective management of the forest as a public cooperative (Figure 4). The timber management objective increases the value of the forest. However, this type of institutional arrangement is not only limited in terms of people's participation; it also increases the likelihood that power will be appropriated by committee members and that external political influences will further alienate community forest benefits. Likewise, the concerns of the poor and the disadvantaged are not well addressed and the focus is only on timber production, which is a limitation for most subsistence users, as benefits from production are accessible only over the long term.

Conclusion

At least 3 different kinds of local institutional arrangement exist in CF in Nepal (Table 3). They range from limited individual ownership to collective and central-

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FIGURE 4 Office building of Shankarnagar CFUG, and forest products ready for sale inside the office compound. (Photo by author)

TABLE 3 Factors and their role in the formulation of different institutional arrangements in community forestry.

Factors	Institutional arrangement		
	Private	Collective	Centralized
Forest resource condition			
Forest area	Small	Small	Large
Forest area (ha/HH)	High (0.708)	Medium (0.496)	Low (0.291)
Community dynamics			
Number of users	Small	Small	Large
Social cohesion	High	High	Low
Occupation			
Agriculture dependency	Low	High	Low
Alternative employment	Yes	Limited	Yes

ized systems. In the collective system, all users have equal recognition and functional participation in running the CFUG as a collective institution. By contrast, in the centralized system, only a few selected or elected individuals dominate the scene and take the responsibility of running a centralized cooperative institution by collective action.

In the case of Malati CFUG, the community forest is divided into plots which are allocated to individual families who are entitled to sell NTFPs to other members. There is a combination of collective action and individual action pertaining to the same piece of land. Collective action is used to manage high-value timber products, and individual action is used in the case of production of highly demanded grass products to support the subsistence needs of livestock producers.

The possibility of having combined institutional arrangements, with a mix of limited private action and collective action within a community forest, does not seem to fit within the framework of the debate about CF as a common property resource. Oakerson (1986) has described indivisibility as an important attribute of common property resources and mentions that common property cannot be divided without significantly impairing its management potential or productive value. Others argue that forests are simply indivisible as a

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matter of principle (Karki 1991; Arnold 1998). Similarly, McKean and Ostrom (1995) have listed indivisibility as a favorable factor in successful common property resource management. They also argue that management costs and administrative efficiency require management of forests as large units, and not small, fragmented ones—an opinion shared by Arnold (1998). However, as mentioned above, the possibility of merging these two extremes within a forest area is not discussed. The case study results suggest that since a great variety of forest products can be produced in individual community forests, and since these cater to a variety of needs and local contexts, combined institutional arrangements are certainly an adequate way of managing resources sustainably. This indicates that common property resource models based on linear relations may not always be adequate to describe the dynamism of the interfaces between people's innovations and forest resources.

Berkes and Farvar (1989), Fenny et al (1990), and Ostrom et al (1994) have defined common property as a class of resources for which exclusion is difficult, as joint use involves substractability. The institutional arrangement in Malati CFUG has merged the principles of exclusion and substractability within an area of land that is managed by both private and common property principles at the same time, but with reference to different products. Thus, a specific type of indigenous arrangement has emerged in Nepal. The common property forest resource is managed for individual cash benefits, but the collective principles of community forestry are maintained. In other words, this rural community has developed a judicious strategy mix. Some forest products are controlled and managed on an individual basis, whereas others are controlled and managed by the group. However, the division between private and collective management is not a clear-cut one, as the strategy mix is based on spatial and temporal overlaps.

In a situation such as that of Bharkhore CFUG—with high social cohesion and kinship bonds between identified users, a high level of dependency on agriculture linked to forest products, homogeneous values and desires regarding forest management and benefits, and a low level of market intervention—a collective institutional arrangement is very likely to be the best strategy. In a situation such as that of Shankarnagar, where there is a large number of users, a large forest area with high-value timber species, and therefore a potential for high yields, the centralized system seems more effective and functional. The development of the CFUG as a public timber cooperative can promote effective and successful forest management activities, provided the private interests of powerful members do not take the lead.

A homogeneous institutional arrangement to manage community forests, with strict and sole validity for the whole of the country, is not recommended because such a system cannot take into account the importance of local autonomy and the variations between communities in different areas. There should be provision for incorporating various heterogeneous local situations and factors that are responsible for successful functioning of user groups. Similar innovations in common property institutions to devise solutions to address problems of resource use, allocations, and conflicts have been discussed by Berkes et al (1998) regarding the Western Indian Himalaya.

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