

Community forest management practices in far-western lowlands of Nepal

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Wider discussions are held as to the contribution of community forestry program in Nepal to improve the forest condition and meeting the forest product requirements. This paper presents findings from a study of six Community Forest User Groups in far-western lowlands of Kailali and Kanchanpur in Nepal. The groups with natural and plantation forests have varied experiences in forest conservation and distribution of products. Some groups are resourceful in terms of availability of forest products from the natural forests. Others with plantation forests are product scarce from their own and depend on government managed forest and other sources to meet their demands. The role of concerned government authorities and federation of groups would be instrumental to analyse demand and supply, and make provisions for distribution of forest products within and outside groups and district.

Key words: Community forest management, forest products, distribution, far-western low land

Decentralization in the management of natural resources has proliferated in discourses, policies and practices since past three decades. This is with the recognition of the roles of natural resources such as forest, water, land, pasture, etc. in the livelihoods of the local people, poverty reduction and the creation of environmental services such as soil and watershed conservation, conservation of biological diversity and carbon sequestration. Emphasis is being laid on participatory approach to common property resource (CPR) management, which entrusts local resource users with the rights and responsibilities to management the CPR (Timsina and Ojha 2004). Thus, CPR is considered to be the most viable option for both ecological and economic sustainability of the commons. With this consideration, governments in more than 50 countries are pursuing community forest/ry (CF) initiatives that provide some sort of local users control over the resources (Agrawal 2001).

Wider discussions are held as to the contribution of CF program in Nepal to improve the forest condition and meeting the forest product requirements. It is interesting to note that firewood is the main source of cooking fuel in Nepal, as almost seven tenth of total households use firewood as their primary source of cooking fuel (HMGN 2004, HMGN 1996). Master plan for forestry sector and three year interim plan have also given due consideration to resource use, poverty reduction and rural development through

CF program (HMGN 1988, GN 2007b). These initiatives have been possible due to government's progressive policies towards CF program and recognition of Community Forest User Group (CFUG) as an independent and self-governing local organization. More than 14,000 CFUGs are managing 1.2 million hectares of CF, which comprises around 20 per cent of total forest area of Nepal, and benefiting more than 1.6 million households, which constitute around 35 per cent of total population of Nepal (GN 2007a). As of early 2005 in far-western development region of Nepal, around 140 thousand hectares of forests, 13 per cent of total forest area in the region and 27 per cent of the total potential community forest area and 7 per cent of the total area of the region, were handed over to around 1984 CFUGs (Chhetri and Pandey 1992, HMGN 2005). As of mid-2007 in far-western lowlands (Kailali and Kanchanpur districts), also referred to as *Terai*, a total of 23,236 hectares of forest, which covers 9 per cent of total forest area, was handed over to 224 CFUGs (DFO 2007a, DFO 2007b and DoF 2005).

Despite increasing recognition of CF program, there is a growing concern facing development planners and the academia whether CF program has been successful in improving the livelihoods of the poor and marginalised people and equity aspects (Bhattarai and Ojha 2001, Adhikari 2002, Bhatta 2002a and 2002b, Ojha et al. 2002, Malla et al. 2003, Sharma

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2005). Bhatta (2002a), Bhatta (2002b) and Sharma (2005) have noted that larger tracts of forests have been handed over to the CFUGs comprising fewer households while a large number of households are included in smaller patches of community forests, leading into a situation where material benefits are not accruing sufficiently to a large number of forest user households while a few households are using forests indiscriminately. These facts necessitate understanding different CF management practices. Besides, studies have shown that forest management systems are widely distributed throughout Nepal. However, most of the studies are confined to central and western Nepal, thereby leaving a knowledge gap from other parts of the country (Fisher 1991, Chhetri and Pandey 1992). Therefore, studies from various parts are also needed to understand CF management typologies and develop appropriate policies and legal frameworks.

In this context, a study was undertaken to understand contexts and different practices of CF management in far-western lowlands of Nepal. This paper examines the historical background of the CF management, socioeconomic condition, forest condition, demand and supply of forest products and distribution of forest products. The issues raised in the study will have implications to policy discourse to devise policy, legal and institutional frameworks for different types of CF management schemes.

Materials and methods

A study of six CFUGs in far-western lowlands of Kailali and Kanchanpur of Nepal was undertaken in December 2007 to January 2008. The CFUGs that had completed five years from the date of CF hand

over by district forest authority to respective groups, were selected for the study. These CFUGs are listed in Table 1.

Checklists were prepared before the field visits to the CFUGs in order to elicit information in line with the objectives of the study. Interactions were held with the executive committee members and general users. Transact walks were undertaken along the forest tracts to observe the forest condition. The CFUG documents such as Forest Operational Plan (FOP), constitution and financial and forest product distribution records were reviewed.

The information collected during interaction, visit and reviews were tabulated in the excel software to analyse the content of study in the CFUGs. The data collected from the field was analysed using statistical tools such as average and per cent to summarise data, which were describe in the text.

Results and discussion

History of community forest management

Kailali and Kanchanpur are parts of *Naya Muluk*². Prior to 1860, those districts were the parts of India. The districts were covered with dense forest and home to local tribes such as *Tharu*³ (DFCC 2008a and 2008b). At the time of *Rana* regime⁴ and after the eradication of Malaria during early 1960s, the districts experienced massive flow of people. Several groups of people migrated to those districts, including government employees privileged with land offerings from the government, families having linkages with the royal families, people in search of cultivable land and better life opportunities, people immigrating from India and Myanmar. As a result,

Table 1: Name, location and date of handover

SN	Name of CFUG	District	VDC/ Municipality (MP)-Ward	Date of handover
1	Adarsha	Kailali	Dhangadhi MP-3	2002
2	Gyanjyoti (women)	Kailali	Dhangadhi MP-3	2000
3	Baijanath	Kanchanpur	Jhalari-4	2001
4	Baitada	Kanchanpur	Daiji-4	1997
5	Nawadurga	Kanchanpur	Krishnapur-4	2001
6	Sayapatri	Kanchanpur	Krishnapur-6	2001

Source: Adarsha CFUG (2002), Baijanath CFUG (2008), Baitada CFUG (2003), Gyanjyoti CFUG (2005), Nawadurga CFUG (2004) and Sayapatri CFUG (2004).

² The *Naya Muluk* (literally new country) areas, present Kanchanpur, Kailali, Bardia and Banke districts annexed by the British under the Anglo-Nepalese Treaty of Peace (Sugauli Treaty) in 1815 AD. In 1860, the *Naya Muluk* areas were restored to the *Ranas* by the British as a reward for *Rana* support in putting down the First War of Indian Independence in 1859 (ActionAid Nepal 2005).

³ An ethnic group of the *Terai* plains in Nepal. They were virtually the sole inhabitants of the *Terai*. The *Tharu* are present in contiguous areas across the border in India also (ActionAid Nepal 2005). *Tharu* population constitutes 35.9 per cent in far-western *Terai* and 6.75 per cent in Nepal (GN 2008).

⁴ *Rana* regime ruled Nepal from 1846 to 1950. It was the time when *Rana* rulers had distributed one-third of the forest to various *Rana* families and others in the form of *birta* and *jagir* tenure (Chapagain et al. 1999).

huge patches of forests were cleared for establishing settlements and arable lands.

The government established the resettlement company in Kanchanpur in 1963 which started to resettle people by clearing forests. The forests were further cleared in resettling the landless, the flood victims and the political victims. The political movements in 1979 and 1989 also resulted in illegal felling and encroachment. The freed Kamaiyas (bonded labour) and people displaced from wildlife reserves had also settled into the forest around the CF. Besides, *Tharu* and seasonal migrants from the hills used to shift their livestock during winter season. Gradually, the migrants from other parts of the country increased (Nawadurga 2004 and Sapayatri 2004). With the increasing population pressure the CFUG were not able to meet the demand of forest products. The users had difficult time to conserve forest from local encroachers, illegal collectors and landless households who had illegally settled into forest. Later, the community members formed the group for conservation, control of illegal activities and utilising the forest products.

In the given historical setting, the CFUGs with natural and plantation forests have varied experiences in forest management including conservation, distribution and utilisation of forest products. Some CFUGs have long been conserving and utilising the forest products from the natural forests. They had experienced heavy felling of trees in the nearby

government managed natural forests adjoining to Churia range in Kanchanpur and forests that the communities had been protecting since long time ago. The forests that the communities had been conserving were later handed over to the respective community without adequate participation of the communities to prepare constitution and operational plan, perhaps due to lack of adequate attention by the concerned authorities. This tendency could have serious implications to forest conservation and utilisation of products.

The communities of CFUGs in Kailali undertook plantation in bare lands along east of Mohana river, bordering between Kailali and Kanchanpur, during late 1990s and promoted regeneration to meet their current and future requirements of the forest products. They had to rely on forest products from Laljhadi forest block in Kanchanpur along west of Mohana river and Dudhuwa National Park fringe in Indian boarder side south of Nepal, to meet their requirements. The users were worried due to sweeping away of parts of their CF by flash flood in Mohana river from time to time. Irrespective of natural threats such as flood, they have conserved their best to cover the bare forests for present and future utilisation.

Socio-economic condition

The number of households in CFUGs varies widely from five hundred to less than 80 (Table 2). The annual growth in number of households ranges from

Table 2: Household and population distribution

Name of CFUG Indicator (year)	Kailali		Kanchanpur			
	Adarsha	Gyanjyoti (women)	Baijanath	Baitada	Nawadurga	Sayapatri
Number of household	81 (2001), 161 (2007)	77 (2007)	118 (2001), 232 (2007)	343 (1997), 415 (2003), 500 (2007)	295 (2001), 380 (2004)	127 (2001), 218 (2004)
Number of household growth per year (per cent)	16		16	3-5	10	24
Caste/ethnic distribution (per cent)						
<i>Dalit</i> ⁵	36	0	7	20	16	17
<i>Janajati</i> ⁶	0	86	43	5	5	50
Others	64	14	50	75	79	33
Population (year)	885 (2007)	562 (2007)	600 (2001)	2000 (1997)	2676 (2004)	2021 (2004)
Men (year)	55 (2002)	49 (2007)			51 (2004)	50 (2004)
Women	45	51			49	50
Average household size	5.5	7.3			7.0	9.3

⁵ The term *Dalit* refers to "Pani Nachalne" (untouchable) group or caste from whom water is not accepted in Hindu social structure (Dahal et al. 2002).

⁶ Nationality (*Janajati*) is that community which has its own mother tongue and traditional culture and yet do not fall under the conventional four fold *Varna* of Hindu or Hindu hierarchical caste structure (National Committee for Development of Nationalities 1996 cited in Dahal 2001).

24 to three per cent. The groups closer to motorable roads and local towns have high flow of people from outside leading to increased number of households.

The CFUGs are composed of users from different caste/ ethnic groups. The proportion of *Dalit* households ranges from around one third of total households to none. Similarly, the proportion of *Janajati* households ranges from more than eight tenth to none. *Janajati* includes mainly *Tharu* people. The proportion of other caste/ ethnic groups ranges from around two third to one sixth. The population size varies widely from more than two thousand six hundred to six hundred. The proportion of men ranges from 55 to 49 per cent. The average household ranges from more than nine to five persons. Mostly, *Tharu* live in extended family giving rise to high average household size.

The CFUGs are composed of users that have diverse well-being status. Some user households are relatively well-off, others are of medium status and rest are poorest of the poor. The CFUGs have different practices to identify poor. Some CFUGs have documented the detailed profile of users (name, address, land holding, and livestock holding) and others have conducted participatory well-being ranking to identify poor, medium and well-off users. For example, in a CFUG with plantation forest the proportions of well-off, medium and poor households are around three tenth, half and one fifth of the total households.

The executive committee (EC) of a CFUG plays an important role in the decision making process. The size of EC reflects the population the CFUG has covered and the volume of responsibilities the EC members bear in the group. The composition of an EC shows how it has represented different segments

of the community. The size of EC ranges from 17 to 11 persons (Table 3).

The proportional representation by caste/ ethnicity reveals that representation of *Dalits* ranges from 27 per cent of total EC members to none. Similarly, the representation of *Janajatis* ranges from around 65 per cent to null. The representation of other caste/ ethnic groups than *Dalits* and *Janajatis* ranges from cent per cent to 36 per cent. Some CFUGs are not very sensitive to proportional representation of different segments of the community. There is high domination of men in the EC membership. The proportion of men members ranges from more than nine tenth to less than three tenth and that of women ranges from cent per cent in the exclusively women group to nine per cent. Poor representation of different caste/ ethnic groups and women in the EC of CFUGs could be due to less empowerment and leadership capability, and also domination of other caste/ethnic groups in decision making processes. The disproportional representation in the decision making positions could have implications to sustainable forest management.

Forest Condition

There is wide variation in CF area available with CFUGs ranging between over five hundred hectares to 10 hectares. The average forest size per household ranges between more than one hectare to less than one fifth of it (Table 4). Population pressure on the forest ranges from more than 50 to less than three persons per hectare CF. Most of the CFUGs have forest area per household less than the average for Kailali (0.38) and Kanchanpur (0.4 hectare) as reported in DFCC (2008a) and DFCC (2008b) and national average as reported by GN (2007a).

Table 3: Number of executive committee members

Name of CFUG Indicator (year)	Kailali		Kanchanpur			
	Adarsha	Gyanjyoti (women)	Baijanath	Baitada	Nawadurga	Sayapatri
Number of EC member	11 (2007)	11 (2007)	17 (2007)	17 (2007)	15 (2004)	11 (2004)
Caste/ ethnic distribution per cent						
Dalit	27	0	12	12	0	15
Janajati	0	64	29	0	0	46
Others	73	36	59	88	100	39
Gender distribution per cent						
Men	27	0	82	65	73	91
Women	73	100	18	35	27	9

Table 4: Community forest area and type

Name of CFUG Indicator (year)	Kailali		Kanchanpur			
	Adarsha	Gyanjyoti (women)	Baijanath	Baitada	Nawadurga	Sayapatri
CF area (ha)	46 (2007)	13 (2005)	227 (2007)	505 (2003)	134 (2004)	40 (2004)
Average CF area per household (ha)	0.3	0.19	0.97	1.2	0.35	0.33
Population per hectare CF	19	43	2.6	4	20	51
Proportion of forest by type						
Natural forest area (per cent)	9	31	100	100	80	90
Plantation forest area (per cent)	91	69			20	10
Proportion of forest by use						
Conservation area (per cent)		69	13	12		21
Effective area (per cent)		31	87	88		79
Number of block (block area in ha)	2 (13.85- 9.5)	2 (8.98- 3.98)	2 (128.25- 89)	5 (198- 32.75)	2 (81.5- 52.25)	2 (66.5- 7)

The proportion of natural forest ranges from cent per cent to less than one tenth. The proportion of effective forest patches ranges between almost nine tenth and one third of total CF area. Accordingly, conservation area ranges between nearly seven tenth to more than one tenth. The number of blocks in a CF ranges between 5 to 2 (all but one). The area of a block ranges between around two hundred hectares and around four hectares.

Some CFUGs have only natural forests and others have plantation forest patches. In the pursuit of community forest management practices, large tracts of natural forests along Churia belt in Kanchanpur were handed over to the adjoining communities for conservation and utilisation of forest products. The small patches of bare lands along Mohana river in Kailali were handed over to the adjoining communities for plantation, conservation and use of forest products. Noticeably, the CFUGs with natural forest have relatively more CF area per household and those having all or higher proportion of plantation forests have less per household forest area.

Sal (*Shorea robusta*) is the predominant species in natural forests as observed by DFCC (2008a) and DFCC (2008b). Other species include Khayar (*Acacia catechu*), Sissoo/ Sisam (*Dalbergia sissoo*) Simal (*Bombax ceiba*), Jamun (*Syzygium cumini*) and Haldu (*Adina cordifolia*). In some CFUGs trees are as old as 100 years. Plantation forest has tree and non-tree species such as Eucalyptus (*Eucalyptus* spp.), Bakaino (*Melia azadirach*), Badahar (*Artocarpus lakoocha*), Tanki (*Bauhinia purpurea*), Amala (*Phyllanthus emblica*), Bamboo (*Dendrocalamus* spp.), Mango, Rattan, and Kurilo (*Asparagus racemosus*). Besides, there is good regeneration of some species such as Sissoo (*Dalbergia sissoo*) and Khayar (*Acacia catechu*).

The users undertake forest management measures for conservation and use of forest products. They harvest grasses during late monsoon in September and undertake silvicultural operations (thinning, singling, pruning and clearing) during December/January. Tree species such as Sal and Khayar have well regenerated in those CFUGs. Some CFUGs have fenced parts of natural forest for conservation and planted non-timber forest products (NTFPs) for income generation. It helps control open grazing, maintains biodiversity and helps grow timber and non-timber species. Some CFUGs have reduced the quota of firewood collection per household. The reduced mobility of people and carts to collect firewood from the forest also helps conserve regeneration of new plants due to less trampling effect. However, open grazing has been the major threats to regeneration of plant species in natural forests. This improper care could be because the communities having natural forests might not have developed ownership over the resources that they are endowed with.

Demand and supply of forest products

The CFUGs have increasing demand of forest products with the increasing number of households, human population, livestock population and consumption of forest products for household requirements. Some CFUGs have calculated the demand and supply of forest products in their FOPs (Table 5). There is wide variation in annual allowable cut (AAC) of forest products estimated by CFUGs with natural and plantation forests. AAC for timber ranges between 60 Cft to less than one fourth of a Cft, firewood from around four to less than one fifth of a tonne, and grass from around four to one quarter of a ton.

Table 5: Annual average demand and supply of forest products

Name of CFUG	Kailali		Kanchanpur			
	Adarsha	Gyanjyoti (women)	Baijanath	Baitada	Nawadurga	Sayapatri
Demand per household						
Timber (Cft)	5		28			
Pole (number)	2					
Firewood (ton)	2.1		1.8			
Grass (ton)	13.7		3			
Annual allowable cut per household per year						
Timber (Cft)	4.5	0.4	33.1	59.7	4.9	1.4
Pole (number)						
Firewood (ton)	0.02	0.07	3.7	0.46	0.09	0.08
Grass (ton)			3.5	0.24		

In the CFUGs with natural forests demand is less than AAC. CFUGs with plantation forests have less availability of forest products from their own indicating that demand exceeds the AAC. Annual average demand of timber per household varies between 28 to 5 cubic feet (Cft); 2 poles; firewood from 2.1 to 1.8 tons, fodder grass from 13.7 to 3 tons. These figures are more or less consistent with average figures of Kanchanpur, reported by DFCC (2008b), as timber (7.8 Cft), pole (2.1 numbers), firewood (51.8 Bhari⁷) and grass (68.4 Bhari). Of them, the demand of grass is considerably higher than the district average of Kanchanpur. This could be due to relatively more number of livestock held in those CFUGs. The above facts reveal that substantial differences are observed in grass/ forage. This could be because users in some CFUGs have practiced stall feeding of cattle, buffalo and goats that require more grass to feed.

Of the total demand, some CFUGs with natural forests, have estimated to supply all products from their CF and others having plantation forest have planned to partly supply from their CF and partly from private and other sources. This is varying with the scenario of Kanchanpur, in which DFCC (2008b) reports that government forest is the prime source of grass, followed by own source and CF.

There is variation in availability of forest products to a CFUG. Some CFUGs holding natural forests have ample supply of forest products from their own forests. Members of some other CFUGs owning natural and plantation forests in Kanchanpur are the users in other CFUGs with natural forests. In a CFUG of such type, around one fifth users have access to forest products from 2 CFUGs with

national forests at the rate of more than 2 hectares per household. Similarly, in other two CFUGs around half of users in some CFUGs have access to forest products from 1.2 to 1.5 hectares per household. Other CFUGs that have plantation forests depend mostly on purchase of forest products from government managed forests, and illegal collection from nearby government managed forest block. This has increased dependency on other forests including government managed forest. This situation could result into the situation, as observed by Sharma (2005), that the larger tracts of the community forests are handed over to the CFUGs comprising fewer households while a large number of households have are included in the smaller community forests.

Distribution of Forest Products

The CFUGs harvest forest products to distribute outside and within the groups to raise income and meet the forest product requirements. In an interval of 2/3 years, the CFUGs with natural forest harvest timber and firewood for distributing to outsiders. Distribution of forest products outside or within the group is determined by the availability of forest products and objectives of harvesting. The CFUGs have varying levels of income ranging from more than 2.3 million rupees in a CFUG with natural forest to less than 20 thousand in a CFUG with plantation forest.

The CFUGs with natural forest generate income mostly from the distribution of forest products to the outsiders. The share of income from distribution of forest products outside the group occupies more than nine tenth. Accordingly, the share of income from distribution within the group covers less than

⁷ 1 Bhari = 30 kg firewood/ fodder / forage, according to discussion with CFUGs.

one tenth. Relatively, very low proportion of income generated from the distribution of forest products within the group is due to less quantity sold to the users and relatively lower price of forest products charged to the users, almost one quarter of the price for the outsiders.

The CFUGs distribute forest products to outsiders including neighbour CFUGs and traders. They fix rates for neighbours higher than the users. They distribute forest products to the traders through competitive bidding process at the government rate (see HMG 2003a). Timber forms an important forest product for distribution. It occupies almost cent per cent of the forest products distributed outside and from seven tenth to half of it in case of distribution within the group. So, it forms an important forest product to generating income.

In case of distribution within the group, some CFUGs with natural forests set fixed quota per household for collection of firewood from the forest specify the collection period for few days in a year. The period is fixed during winter season (December-January). During that time, the users do not require to request the CFUG in written. The users who own or can manage oxen/ buffaloes driven cart (*Dallap* in local language) to transport firewood from the forest to their home yards collect during those open days. Others who cannot manage the *Dallap* collect of forest products after those open days. Renting a *Dallap* costs around Rs. 400 per day. The collection afterwards requires the request to the CFUG in written. Then, the CFUG verifies the request to confirm whether the applicant/ user has already collected the given quota of firewood and approves the request, if found unrepeatable. The CFUGs have maintained the records of users that have collected the forest products. This allows them to check or verify whether the users have already collected as per quota allowed to each user. This also helps to regulate the distribution of forest products to the users.

Sal trees are felled down mainly for high quality timber for construction works and furniture. Besides, species such as Asna (*Terminalia tomentosa*), Rohini/ Sindure (*Mallotus philippinensis*) and Jamun (*Syzygium cumini*) are used as low quality timber for activities such as construction of livestock shed and fencing. The rate of Sal ranges between Rs. 70 to 60 per Cft. and Sissoo around Rs. 60. The low quality timber costs Rs. 30 to 25. A pole costs from Rs. 8 to 2 per running feet. A low quality pole costs Rs. 10 per pole. Firewood costs Rs. 40 to 30 per ton for those who collect firewood

in bulk in a cart. The CFUGs fix some charge Rs. 100 per ton for those users who cannot afford or do not need cartful of firewood and wish to carry loads of firewood on their back from the forest to their homes. CFUGs allow the poor, who are unable to pay for firewood, to collect dried twigs from the forest year round free of cost. However, the CFUG warns such collectors not to use axe and other big weapons to harvest such forest products. They can use only the sickle. If those collectors are found using axes and other types of weapons, the forest watchmen seize such weapons from the collectors to penalise them.

Although the CFUGs allow the poor to collect dried twigs on their head, they are not much sensitive to equitable distribution of forest products such as fixing different rates of forest products particularly focusing to poor and marginal users. Even, the rate fixed for collecting firewood on their back is too high considering the volume of collection (Rs. 100 versus 40 as discussed above).

Some CFUGs even tried to address the concerns of poor. However, it is very difficult to implement the provisions made to improve the livelihoods of the poor. A CFUG had a difficult experience on it. Some years back, the CFUG decided to purchase the firewood that the poor collect from the forest. It was intended to raise the income of poor, as for some poor households the collection and distribution of forest products has been the main source of income. Accordingly, some poor households started to collect and deposit near the CFUG building premise. Later, other users than poor also started to collect from the forest and nearby places and deposit in the same place and asking for the money in the CFUG. At that time, it was very difficult to administer who were poor. It was not possible for the CFUG to purchase all whatever and was collected and whoever collected and deposited. The entire intention of improving the livelihoods of poor from distribution of forest products was deviated giving rise to abandoning that pro-poor scheme.

Conclusion

The findings from the study of six community forest user groups reveal that the community members have long been involved in forest conservation, distribution and utilisation of forest products to meeting their household requirements. The groups are endowed with different by type of forests, namely

natural and plantation forests, resulting in different practices. Some groups are resourceful in terms of availability of forest products from the natural forests. Others with plantation forests are product scarce from their own and depend on government managed forest and other sources to meet their demands.

The CFUGs that have natural forests are relatively in the better-off position in terms of forest area available per user household, income generation from distribution of forest products outside and with in the groups. The CFUGs that have plantation forests have relatively less forest area per household resulting in high population pressure on forest. Thus, the CF area per household is an important indicator to assess the users' access to forest and products. In addition, the forest should be assessed by its type, whether natural, plantation or conserved to ensure the availability of products to the users to meet the current and future demands to avoid the situation that the larger tracts of the community forests have been handed over to the CFUGs comprising fewer households while a large number of households have been included in the smaller community forests. Thus, the concerned authorities need to analyse the forest area per user household specifically for different types of forest before natural and plantation forests are handed over to the communities.

Analysis of demand and supply of forest products in CFUGs and their networking will help meet the demand of various segments of the CFUG and also neighbouring communities and distance users. The CFUGs need to calculate the annual demand and supply of forest products and incorporate it into their FOPs and prepare their annual plans accordingly. This could enhance conservation and sustainable use of forest resources. The concerned authority, district forest authority and federation of CFUGs could play important roles to administer the demand and supply within the groups and district and also outside the district in coordination with the concerned authorities. The demand of a CFUG could be linked to the supply from a neighbouring CFUG in the process that district forest authority approves the harvesting procedure of forest products in a CFUG. External interventions to provide alternatives to forest product requirements such as biogas and improved cooking system would be an advantage for the communities that are resource scarce. Promotion of NTFPs in both natural and plantation forests would help conserve forest, generate income and

develop ownership among the users for sustainable forest management.

Intra-group equity is another important dimension of equitable distribution of forest products to users of diverse well-being status. The CFUGs need to organise discussions at different clusters representing various segments of the community to analyse their demand of forest products and supply from CFUG and alternative sources. The CFUGs and concerned authorities need to emphasise the distribution of forest products from the rights of users from different segments rather than simply distributing the products as demand arises. The CFUGs need to undertake participatory well-being to identify the poor in the group. Accordingly, the rate and quantity of forest product distribution need to be fixed. This facilitates the poor and marginal users to get their share and make use of them to improve their livelihoods. This allows enriching their ownership over the common resource for sustainable management.

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