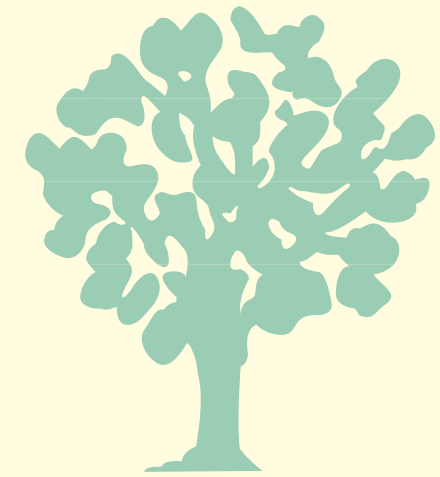


Nepal's Community Forestry Funds: Do they Benefit the Poor?

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Ridish K. Pokharel



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Abstract

Funds generated through community forestry offer crucial and significant resources for rural development in Nepal. This study examines forestry funds in 100 communities in three districts to assess how large they are and how they are utilized. The study finds that the income from community funds increases local development resources by about 25%. This income is invested in schools, temples, roads, and water reservoirs, which bodes well for rural development. However, there are some critical problems with the 'pro-poor programme', an effort to reduce poverty through the resources generated from community forestry. The study finds that timber is heavily subsidised and the subsidies accrue mainly to the non-poor. Furthermore, income spent on loans tends to favour the non-poor. Overall some 74% of the benefits of community forestry funds accrue to the non-poor while 26% accrue to the poor in rural communities in Nepal. The study concludes that two actions may increase the benefits accruing to the poor: a) allowing all households to have an equal share in timber that is harvested; and b) increasing the participation of poor and less advantaged members in the executive committees that manage forestry funds.

Key Words: Community forestry funds, Nepal, timber subsidies, loans, poverty.

Nepal's Community Forestry Funds: Do They Benefit the Poor?

Ridish K. Pokharel

1. Introduction

Nepal's community forestry is over 25 years old and well established. By 2007, the government had handed over 1,166,447 hectares of forestlands to 14,287 Community Forest User Groups (CFUGs¹), involving some 1.6 million households (DoF, 2007). In fact, over a third of Nepal's households² are involved in managing these forests. Community forestry is considered quite a success story in terms of improving the condition of forests and people in Nepal (Acharya, 2002; Agrawal and Ostrom 2001; Chakarborty, 2001; Dev et al., 2003; Dongol et al., 2002; Gautam et al., 2004; Pokharel, 2003; Richard et al., 2003; Tachibana et al., 2001).

Community forestry in Nepal is a vital source of income generation. CFUGs earn through the sale of forest products, membership fees and through fines from rule violators. According to one estimate, the annual income of CFUGs is NRS 914 million (over US\$10 millions), with forest products contributing the major share (Kanel and Niraula, 2004). This income is not shared with the government but is mobilised by communities for building local public goods and for forest management. CFUGs are required to invest 25% of their income in forest development, while the rest can be used for community purposes (Gautam et al., 2004). With this money, CFUGs have constructed school buildings, temples, trails and roads.

In Nepal, community forestry is seen as an opportunity to reduce poverty, just as community-driven development in many parts of the world (Mansuri and Rao, 2004; Narayan, 2002). In recent years, the government has introduced poverty reduction as an important objective of community forestry. The poverty reduction strategy relies on a targeted pro-poor programme that utilises CFUG funds. Under this programme, some portion of CFUG funds is expected to be used to improve the lives of the poorest households through: a) micro-credit; b) self-employment training and c) forest-land allocation for cash crops.

With this in mind, we want first to understand how much money community forestry actually generates. This is useful knowledge because rural communities in Nepal have little direct access to government funds. We want to verify whether community forestry is indeed enabling the 'self-financing' of local public goods. A second objective of our study is to measure how much of the investments made through community forestry really reach the poor (through pro-poor programmes). Nepal's Three Year Interim Development Plan has targeted 35% of the CFUG fund to be utilized for its pro-poor activities (NPC, 2007). The question we want to be able to answer is: does this pro-poor programme work the way it is designed to, and what if anything can be done to improve it?

¹ A group of people who regularly uses a particular forest for various purposes and organizes themselves to manage, protect, and utilize the forest by forming a group

² Total households of Nepal is 4,253,220 (NIDI, 2006)

2. Study Area and Data

Nepal is divided into five development regions (eastern, central, western, mid-western, and far-western) which contain 75 administrative districts ranging from high Himal to Tarai areas. Our study covers three different mid-hill districts³: Lamjung, Tanahu, and Kaski in Nepal's western development region (Figure 1). The three study districts represent a typical forest dependent district in the mid-hills as they rely on subsistence agriculture and forest resources to sustain local livelihoods. Crop production, livestock rearing, forestry, and to some small-scale enterprises are the main sources of livelihood for people in these districts. The principal crops grown in the study area are maize, millet and rice; livestock rearing is principally with buffalo and cattle. On average about 70% of economically active population 10 years of age and over in the study areas are engaged in agriculture and forestry (NIDI, 2006).

The three study districts are amongst the 29 hill districts in which community forestry was initiated in the early 1980s as part of a first community forestry pilot project. The total forest area in the study areas is 211,561 hectares of which a quarter has been handed over to CFUGs as community forests. Our study area is particularly rich with CFUGs. As of January 2007, the western development region contained 29% of all of Nepal's CFUGs and of these over a quarter (27%) belong to our three study districts (DoF, 2007). Furthermore, a fifth of the population which directly receives benefits from the community forests in the development region is located in the study areas.

The average age of a CFUG (as shown in Table 1) is 9.65 (± 2.8) years. Thus, these are mature institutions. The average traveling time to market (41 minutes) and forest office (70 minutes) shows that these CFUGs are located in relatively accessible areas.

For our study, a list of the CFUGs of the selected district was collected from the respective District Forest Offices. We excluded CFUGs with a fund size of under NRS 20,000 as there is a tendency to commence financial activity with a common fund only after the fund corpus is NRS 20,000 or more. We sorted CFUGs by fund size into three categories: a) NRS 20,000-NRS 49,999; b) NRS 50,000-NRS 99,999; and c) NRS 100,000 and above.

We selected 100 CFUGs randomly – 33 each from Lamjung and Tanahu districts, and 34 from Kaski – ensuring that 11 fit each of our three categories in each district. An additional CFUG from NRS 100,000 and above category was selected from Kaski district to fulfil the required number of CFUGs for our study.

A structured questionnaire was prepared consisting of four sections: general information about the Village Development Committee (VDC); CFUG-level information such as number of households, forest area, and forest protection system; information about forest product use and sources of income; and finally executive committee- level information (Appendix). Before employing the questionnaire, we tested it in four CFUGs of Parbat district.

Our survey enumerators were six under-graduate forestry students. They were trained by the

³ This study excludes Tarai region where community forestry is very different from the mid-hills. The forests in the Tarai are commercially more valuable than the hill forests. The communities in the Tarai are also more heterogeneous than those in the mid-hills.

researcher for three days to ensure they understood the logic of the questionnaire and the coding required to fill it out. Once trained they were sent to research field sites for data collection which was conducted from April to November 2006. Interviews were conducted with groups ranging from one to six respondents, mostly CFUG executive committee members and often including their chairperson and secretary. The mean interview group size our enumerators encountered was 1.67 (standard deviation of 0.865). Interview locations ranged from tea stalls and *chautaris* (resting place with tree shade) to CFUG office building and chairperson's home.

A second round of data collection was made from 29 of the 100 original CFUGs in July 2007. In this second round, we focused on collecting data on loan distribution patterns and timber subsidy. The 29 CFUGs were a random selection from the original 100. Ten CFUGs each from Kaski and Tanahu and nine from Lamjung districts were visited in this round.

Communities in our study area depend on agriculture (paddy and maize cultivation) and forest produce. Per household forest area in our study districts is 0.85 ha, which is slightly higher than the national average (DOF, 2007). About 65% of the forests in the study area are dominated by Sal, an important timber species, which makes up about 49% of community forests in the study areas. The remaining forest type is typically 'Schima-castanopsis', a tree species of lower value. Timber, fuel wood and fodder are important products from the community forests.

In rural Nepal, caste structure can be an important determinant in decisions made locally. In our sample, over one-half (54%) of the forest users' households belong to advantaged groups, followed by disadvantaged groups (28%) and *dalit* (18%). Advantaged groups appear to dominate all sizes of community user groups⁴ in the study areas. To aid our understanding of patterns of dominance, we define a community as being homogenous if three-fourths or more of the households of a CFUG belong to the same group. With that definition, we find that only a third of the communities managing community forests can be considered homogenous. Thus, while our study area is dominated by households that belong to upper castes, these communities are socially diverse and susceptible to a variety of pressures.

3. Income from Community Forestry

The CFUG in Nepal is a driver of income generation and forest products are a major source of income. How much do CFUGs earn in our study area and what are the sources of that income?

We define CFUG income as its total revenues within a year from different sources such as sale of forest products, collecting membership fees, levying penalties, and grants from such as NGOs. We use two measures of income: average annual income (based on revenues collected in the previous five years) and 2005 income. We were not able to get exact figures on revenues in each of the previous years. Thus, average annual income is calculated as the total investment (expenditures) made by the CFUG in the last five years divided by five plus annual savings. Annual savings is calculated as the current balance of the CFUGs in the account divided by age of the CFUG.

⁴ The advantaged group includes different castes of brahmin, chhetri, thakuri, sanyasi, newar and thakali. Similarly, disadvantaged group includes magar, tamang, gurung, rai limbu serpa, gharti/bhujel, kumal, sunwar, jiral, chhantal, darai, majhi, thami, chepang, raute, kusunda, churaute/miya; and *dalit* includes damai, kami, sarkee, gaine, and badi.

In our study area, average CFUG income in 2005 was NRS 44,658 (Table 2). If we consider average income over the last five years, we find that CFUGs on average earned an annual income of NRS 63,202. If we include the value of subsidies in timber and fuel wood (estimated in the next section), the average income of 100 CFUG in 2005 would be NRS 155,526 – 192,752 (Table 4). Including the subsidy increases the average fund income in 2005 on average by nearly four to five times.

There are two notable issues about these numbers. First, our estimated revenues of CFUGs are very much higher than current forest department estimates of CFUG income in these districts (DOF 2007).⁵ *In these three districts government statistics under-estimate CFUG income by approximately 300%.* The government's data may be out of date, or their data may reflect the peak Maoist insurgency years, when silvicultural operations and therefore income from this stream was limited. It is also possible that CFUGs report lower incomes to the government from fear of higher incomes being claimed by the government as attracting tax.⁶

Second, aggregating the CFUG income to the Village Development Committee (VDC⁷) level shows that via these community funds, forests contribute NRS 124,381 per year to the average VDC in the area. The government pays out some NRS 500,000 to each VDC as an annual block grant (this is done irrespective of size of block, population and index of other developmental infrastructures). CFUG income is therefore equivalent to approximately a quarter of the annual block grant a VDC receives to conduct small scale development activities. *Thus, forests, through contributions to CFUGs, increase local 'development' funds by some 25% every year.*

3.1 Accounting for Timber Subsidies

What contributes to forest funds and can these funds be increased? CFUG funds use revenue from four key sources: a) timber, b) non-timber, c) membership fees, and d) assistance from I/NGOs. Fund sizes vary depending on different factors such as forest area, number of user households, type of species in the forest, and forest condition. As we show, subsidies play an important role in determining fund size.

Timber is the main source of income for forest funds. Table 2 shows that three-fourths of the income in the study area in 2005 is generated from selling forest products and the major share (68% of the total) comes from timber alone. This finding is consistent with other studies such as Kanel and Niraula (2004), and with Iversen et al. (2006). All CFUGs sold timber and obtained a combined income of NRS 3,043,701 in 2005.

Timber is used for building houses and making furniture. Sal from the Tarai is considered the best quality timber and commands a higher price than hill Sal in the market. In Nepal's rural areas, it is the wealthier households that buy timber (in contrast poor households rarely build new houses

⁵ The average CFUG income in Tanahu, Kaski and Lamjung is estimated by the Department of Forests as NRS 16,154, NRS 9,174, and NRS 16,986, respectively (DoF, 2007).

⁶ CFUGs have become suspicious of the government because of a policy amendment in 2001 that required them to share 40 per cent of income generated from the commercial sale of surplus forests products with the government.

⁷ Lower political administrative unit with the maximum population of 9,000 in urban area and minimum of 150 in the VDC of Manag District (Source: The Kathmandu Post, July 01, 2002)

or have furniture made). Timber is generally first sold amongst the user group and if there is a surplus, then to outsiders (whose own community forests are minus Sal).

CFUGs sell timber at a subsidised rate. In order to assess the income earned by CFUGs, we estimate the extent of the subsidy. We focus on the 29 CFUGs in our second round wherein. We explicitly collected user price data for Sal timber. User price refers to the actual price the forest users obtain when they sell the forest products within and outside the group (Kanel, 2004). CFUGs sell⁸ Sal for between NRS 20-225 per cubic foot (cu ft), with the average price being NRS 75 for outsiders and NRS 65 for those within the community. Given that 23% of the sale of Sal is to outsiders, the weighted average price of Sal sold by CFUGs is NRS 67 per cu ft. In contrast, the local market price for round Sal timber is NRS 500- 600 per cu ft. We found that 24 of the 29 CFUGs sold Sal at well below these market prices.

Collecting data on the quantities of Sal and other timber separately proved difficult as CFUGs record the value of timber sold but do not disaggregate by type. Our assumptions about the amount of Sal sold considers that: in our study area 49% of the community forests are in Sal, so we assume that 49% of the quantity of timber sold is Sal; we also know the average prices of Sal (NRS 67) and non-Sal timber (NRS 22), the average value of timber (NRS 30,437) sold per CFUG and the percentage of Sal versus non-Sal timber sold (49%).

Based on this information, we arrive at 345 cu ft of Sal and 333 cu ft of non-Sal timber sold per CFUG in our study area. However, we also know that not every CFUG harvests Sal based on the availability of 'harvestable' Sal. Field insights suggest more conservative assumptions about how much Sal is sold, and we think 30% may be nearer the norm. With this understanding, the estimated amounts of timber sold per CFUG are 257 cu ft of Sal and 600 cu ft of non-Sal timber.

To determine the timber subsidy, we estimate average Sal and non-Sal income from sales to insiders and outsiders. We multiply the quantity of Sal sold by the market price and the difference between the market value of timber and the CFUG sales value, which gives us the Sal subsidy. The average income from sale of Sal timber was NRS 23,115 per CFUG in 2005. However, the total value of Sal that would accrue to the average CFUG if Sal was sold at market prices is NRS 196,305. Thus, the Sal subsidy equals NRS 145,945 (using the assumption that 49% of the timber sold by CFUGs is Sal). If we use the more conservative estimate that 30% of the timber sold is Sal, then the subsidy equals NRS 108,719 (see Table 3). Currently, some 77% of the subsidy accrues to households within the community and 23% accrues to households from other villages who buy Sal.

Based on differing assumptions of percentage of Sal sold, our analysis suggests that the average annual *timber* income to a community would increase by five to seven times if Sal was not subsidised (see Table 3). Furthermore, the average annual *total* income to a community would increase by nearly four to five times if the subsidy did not exist.⁹

⁸ CFUGs have to pay an amount of 13% of the total revenue commercial sale of timber as Value Added Tax (VAT). Recently, the government has also introduced a tax on forestry funds where CFUGs are required to pay Nrs5 per cubic foot of timber revenues in the fund (P. Subedi, Assistant Forest Office, pers. comm., 2008).

⁹ Average income of 100 CFUGs in 2005 is NRS 44658; Average income of 100 CFUGs from timber in 2005 is NRS 30437.

If this is the extent of potential income for a CFUG that is being forfeited, who is it that gains from the timber subsidy? To arrive at an answer, we calculate the subsidy for 100 CFUGs and also examine which households (by economic status) obtain more timber.¹⁰ As Table 3 shows, it is the non-poor who get most of the timber (81%) which means they also get most of the subsidy that accrues to insiders in the community.

Many CFUGs in the hills have a quota system and award timber quotas within the community based on needs and availability. The CFUGs charge a price for timber and require advance payments, allowing access only to those who can afford it, i.e. the non-poor. An alternate system that provided everybody in the community an option to either buy timber or to get a share from timber sales would benefit the poor and non-poor equally. It would be perfectly appropriate, for example, to allow everybody who did not buy timber in the last three years to get a share of the timber that is 'harvestable'.

Fuel wood is also subsidised by CFUGs. Green fuel wood from the community forest is usually distributed equally to all users once a year. This occurs as they work collectively in the forest on silvicultural tasks, extracting fuel wood by removing dead, diseased and dying trees. Fuel wood, like timber, is given first to community users and then to outsiders at a relatively high price if there is a surplus. In the study area, some 60% of the CFUGs distribute fuel wood to members free, while the remainder charge for it. The price of fuel wood in the CFUG ranges from NRS 0.25 to NRS 50 per *bhari*, depending on tree species and community rules, with an average price of NRS 9.15 / *bhari*.¹¹ This is a price significantly under the market price of NRS 80-NRS 100 per *bhari*.

We find that CFUGs sell fuel wood to their members at a price that is 90 per cent lower than the market price (see Table 3). The average income of CFUGs from fuel wood in 2005 was NRS 2,388 with subsidy (based on data from all 100 CFUGs). If we remove the subsidy, fuel wood alone would generate the total amount of NRS 4,537, which was calculated by adding the value of subsidy to the actual revenue from fuel wood. This figure is 90 per cent higher than the present income from fuel wood. This is also an underestimation of the fuel wood subsidy because the majority of CFUGs distribute fuel wood freely. Fodder, ground grass, and thatching grass are other forest products that provide real income to households, often distributed free to CFUG members.

3.2 Other Sources

CFUGs obtain income from a variety of sources other than forest produce. These include penalties paid, membership fees, assistance from international and other non-government organisations

¹⁰ CFUGs have classified household economic status into four categories: ultra poor – owns house only, no regular income, work as wage labor to feed the family; poor – owns land and is good enough to feed the family for six months or less from their own farmland, work as wage labor or borrows money to feed the family for the remaining months; middle – owns land and is good enough to feed the family for a year from their own farmland and also earns regular income through employment or other income generating activities; rich – owns land and produces surplus products from own farmland and also generates regular income from other income generating activities

¹¹ Bhari is local unit for measuring fuel wood in the mid-hills of Nepal (one bhari = 30 kg)

(NGOs), the District Forest Office (DFO), and by renting out community halls and utensils. All these sources together contribute 25% of the total CFUG fund. Only some 5% of CFUGs get financial support from NGOs. The DFO provides technical support to CFUG rather than financial. In the study area only 2 per cent of CFUGs have received financial support from the DFO.

A source of income that is surprisingly large and merits additional discussion is membership fees. CFUGs charge a relatively high first membership fee to new members, the average for new villagers being NRS 3326. A member who builds a new house is asked for a higher membership fee compared with one who buys an existing house in the village. The average fees paid by new members who intend to build new houses is NRS 5000. Thus, CFUGs have devised a reasonable strategy to make new members pay for any additional timber they may need from forests.

In the study area, membership fees amounted to 14 per cent of the income earned by CFUGs. These fees are significantly higher than the amounts earned as penalties (2%) and as user fees related to non-timber forest products (7%). From secondary data (NLSS, 2004), we know the average annual income of households in our study districts to be NRS 82,568. With these paying an average of 0.57% of their annual income as membership fees for CFUGs, what benefits make this a reasonable expense for them?

4. CFUG Funds – How are they used?

The linked question – and the focus of our study – is: are CFUGs investing in the poor? CFUGs usually invest their funds in four areas: (1) forest development; (2) public infrastructure development; (3) pro-poor activities; and (4) forest administration. Forest development is defined as any activity that improves the forest condition such as silvicultural operation, hiring a forest watcher, and awareness campaigns. Development investments include building schools, roads and water reservoirs. Pro-poor activities refer to allocating soft loans and programmes for training self-employment skills.

To calculate the savings and investments made by CFUGs, we undertook the following tasks. The annual saving was calculated as the current balance in the CFUG fund divided by the age of the CFUG. Similarly, investments include the amount of expenditures spent each year on infrastructure, financial support, pro-poor activities, forest development, and forest administration.

Our questionnaire gave us data from CFUGs on these investments for the last five years and for 2005. We did not have the data on 2005 investment for infrastructure so we estimated the annual investment for assessing the CFUG investment. Annual investment was estimated as the total investment in the last five years divided by five.

4.1 Different Forms of Investments

Based on the simple accounting of CFUG funds, we find that the average CFUG has a current balance (end of the year income minus expenditures) of NRS 103,253. The average annual saving and annual investment of the CFUG is NRS 11,629 and NRS 51,574 respectively.

We find that 55% of the annual investment of CFUGs is in public infrastructure development, similar to observations of other studies such as Dongol et al. (2002) and Kanel and Niraula

(2004). Each CFUG has invested an average of NRS 28,142 in community infrastructure annually. In the last five years, the total investment in our study area on schools was NRS 2.6 million, on roads NRS 2.5 million and on reservoirs NRS 667,000. Forest income thus catalysed an investment of approximately NRS 6 million¹² (over USD 90,000) in crucial local infrastructure in the area. For many VDCs, there are no other sources of income except the block grant each receives from the government.¹³ Thus, while it is challenging to estimate the full and multiplier effects of CFUG investments on economic development in the villages, this influx of resources can play a vital role if the right investments are made.

What is the nature of community investments made with village funds? Our data indicates that CFUG investments have gone into school buildings, temples, road/trail construction, VDC office buildings, CFUG office buildings, water reservoirs, irrigation canals, community buildings, biogas systems, mills, libraries, health posts, clubs, school toilets, bridges, check dams and children development centres.

Standout investments are those in schools, temples, roads, and reservoirs: 60% of the CFUGs have invested in school buildings. Similarly, 46% of CFUGs have invested part of their funds in temples and 40% in reservoirs (Figure 2). That community investments in a majority of cases are going into improving school infrastructure is a very good indicator of local importance placed on schools. Similarly, CFUGs provided a total of NRS 1.9 million as salary for teachers in the last five years.

Of other investments, 22% of annual investment is in pro-poor activities, followed by forest development (17%) and forest administration (6%). The amount of money that is going to pro-poor activity is a surprising finding. The last careful examination of funds by Kanel and Niraula (2004) suggested that only three per cent of CFUG investments were directed for the poor.

In Table 5 we classify CFUGs according to their fund size and look at three categories: CFUGs with less than NRS 24,000 in income, with income between NRS 24,000 and NRS 52,000 and those with more than NRS 52,000 in annual income. We find that in all three categories, about 50 per cent and more of the resources are invested in community development infrastructure and the rest of the income is almost equally divided between pro-poor activity and forest development plus administration. Thus, the size of the funds doesn't seem to drive these investment decisions in any particular direction.

Even so, CFUGs are mandated to put 25% of their income in forest development and maintenance activities. The forest development works involve silvicultural operation, plantation, nursery establishment, running awareness campaigns, providing training and study tours for forest users, and paying salaries of forest watchers/nursery workers. Table 5 indicates that CFUGs do not entirely comply with the 25% rule.

The CFUGs also invest part of their income on routine forest administration: honoraria for executive members, meeting allowances, per diem and travelling allowances, renewing operational plan,

¹² US\$ 1 = NRS 64

¹³ In Nepal, a two-tiered local government system exists. The district is considered the intermediary level and Municipalities and Villages are at the lower level of the government structure. There are 75 districts, 58 municipalities and 3,913 VDCs in Nepal.

auditing, and making signboards and stationery. An average of some 5% of total income is spent on forest administration, suggesting a reasonably low overhead.

To return to the household-CFUG relationship, NRS 47 is paid by the typical household as a membership fee (which goes into the CFUG fund). For every rupee of their membership fee, on average, they invest NRS 83 on sustainable growth of the forests and administering the FUGs. Notably, NRS 303 is invested in village public goods. This suggests that rural Nepalis have bought into the idea of sustainability and public benefits.

4.2 Investments in Poverty Reduction: Who Actually Gains?

The central government encourages CFUGs to initiate pro-poor programmes by investing part of their incomes for poverty reduction rather than being limited to fulfilling basic forestry needs. The flow of soft loans to the poor, allocation of forestland for cash crops, training to build skills for self-employment, scholarship, and financial support to the poor for buying medicine and renovating their buildings are the activities supported by pro-poor programmes in community forestry. What leads to a household being classified as poor? Different criteria are utilised such as food sufficiency from a household's own farmland for less than six months, land holding below a certain size (three *ropanies*¹⁴), and type of housing.

We do not see any evidence of reluctance by CFUGs to invest in activities that are considered pro-poor. In our study area, 61% of all CFUGs have undertaken pro-poor activities (Figure 3) amongst which the granting of soft loans is very common. A quarter of the investment by CFUGs in the last five years was in the form of loans to the forest users. In 2005, an average of 54% of CFUGs' revenues was made available as sanctioned loans (Table 6). Further, and notably, CFUGs with more funds at their command invested a higher percentage in loans compared with smaller CFUGs. This observation leads us to posit that these pro-poor activities take off after the CFUGs reach a certain corpus size. While we know how much of CFUG funds are used as loans, our data does not have sufficient detail to show us whether these are repeat loans or to what extent these loans were repaid.

Among the pro-poor activities in 2005, CFUGs used an overwhelming portion (98%) of their funds to give out loans, while one per cent each was used for providing scholarship and skills training for self-employment (Figure 4). In the last five years, soft loans also comprise a higher proportion of pro-poor activities (Figure 5). CFUGs have also offered financial support to the poor for buying medicine or repairing their buildings, although that amount is very small. The repayment term for CFUG loans varies from three months to one year and interest rates also vary from one to two per cent per month, which is higher than the bank rate (10% and more per year) and lower than that of the local moneylenders (2-3% per month). Although the interest rate is higher than the bank rate, local people prefer a loan from the CFUG as the process is far easier to negotiate (for example no collateral is required) and the CFUG is physically nearby.¹⁵ While CFUGs are known to be accommodating on repayment schedules, the borrower must maintain

¹⁴ *Ropani* is local unit for measuring land in the mid-hills of Nepal (one *ropani* = 0.052 ha)

¹⁵ In the study areas, an individual requires traveling about two hours (106 minutes) to reach the nearest bank for credit which means they are in the population of 21 per cent in the country who walks 1-2 hours to reach the bank (NLSS, 2004).

a regular repayment record to be extended such a concession, which also depends on an executive committee assessment of the household's situation.

In order to better understand how loans were disbursed, we used the detailed data from our second round of 29 CFUGs to analyze loan patterns. Examining the loan distribution in 2005, it appears that all households – not only poor households – get benefits from soft loans. Our data shows that in 2005, 13% of poor households and 10 % of non-poor households took soft loans from CFUG funds (Table 7). The difference lies in the total value of the two groups of borrowers: non-poor households (middle income and rich) obtained 70% of the total value of loans given out in 2005 by CFUGs.

The question that we face is: why are non-poor households benefiting more than poor households from an activity which is supposed to target the poor? During field visits, we found that there were a few cases of lapsed loans, especially from very poor households. CFUG committee members explained that the poor tend to take loans for one activity and use them in another, making re-payment more difficult.

More careful scrutiny of the CFUGs methods revealed two fears. One is that CFUGs seem to grant higher value loans to better-off households to show a low balance in their community account. This they do apparently out of a suspicion that the government may claim unutilised money. Second, there is the likelihood of elite capture whereby loans are given to members who exercise power and authority in the village.

To better understand the issue of elite capture, we re-classified the 29 revisited CUGs into two groups: (A) those that provided greater than 50% of the value of their total loans in 2005 to the poor; and (B) those that provided less than 50% of the total value of the loans to the poor in the same year. We then looked at two indicators of representativeness of the poor: the average number of disadvantage group households in each group and the average number of dalit households on executive committees. Our independent sample t-test results show that the number of disadvantaged households is higher in group (A) ($t = 2.766$; $p < .010$) and representation of dalit households in the executive committee was also significantly higher in group (A) ($t = 2.075$; $p < .048$) relative to group (B). Thus, increased representation of lower caste households both at the community level and in the executive committee is correlated with greater access to loans.

Finally, we look at the overall benefits received by forest farmers in our study area from CFUG funds and the gains that have accrued to the poor versus the non-poor. There are four components to the total annual benefits from CFUGs: a) expenditures on a variety of development activities etc; b) loans made to the community; c) savings or wealth generated for the future; and, c) subsidies given from timber sales. To determine the proportion of benefits that goes to the non-poor instead of the poor, we approached the 2005 expenditures and subsidies using three reasonable assumptions:

1. Based on our second survey round information, we assume 38 per cent of the population in the study areas is poor and the remainder is non-poor. This distinction for our study area is reinforced by other sources. For example, Joshi et al. (2007) indicate that approximately 41% of the households in the study districts are marginal farm households.

2. We assume that income spent on public infrastructure development and activities are neutral and benefit both poor and non-poor equally. These investments include village infrastructure, silvicultural operations, and awareness campaigns regarding forestry and grants to schools. Annual savings are also considered poverty neutral.
3. We assume fuel wood from community forests benefits poor and non-poor equally since the harvested green fuel wood from the forest in the study area is distributed equally.

Two aspects about how the funds are run have serious distributional effects. First, timber is heavily subsidised (see Section 3.1, ‘Accounting for timber subsidies’) and the subsidies accrue mainly to the non-poor. Second, income that is spent on loans favour the non-poor relative to the poor.

In Table 8, we account for the different benefits and income stream for 2005 for the average CFUG in our study area. If we use the conservative estimate of 30% Sal harvests, then the average CFUG provided a timber subsidy of NRS 101,490 (USD 1586) to the community in 2005, of which 19% went to the poor. In the same year, 78% of the annual investment, NRS 40,306 (USD 630), was spent on a variety of development activities and these were poverty-neutral. However, the remaining 22% (NRS 11,268) was spent on loans and these favoured the non-poor considerably. Added up, the total benefits from CFUG funds in 2005 – including subsidies, savings, development investments and loans – was NRS 164,693 (USD 2573).

How did the poor fare overall? The poor received 26% (NRS 42,807) and non-poor 74% (NRS 121,886) of the benefits from CFUG funds in 2005. When we recalculate these numbers assuming that 49% of the timber sold is Sal, then we find that the poor gain 25% of the benefits while the non-poor gain 75%. Given the population distribution in our study districts (approximately 40% poor and 60% non-poor), the poor are clearly getting less than their share.

4.3 Decision-making in the CFUG

Managing CFUG funds in the community forestry is becoming a challenging task as the funds have grown in size and become popular with communities. Our analyses also suggest that there is a need for a stronger pro-poor strategy in fund management. How are funds managed and who manages them?

An executive committee, made up of a sub-group of community members of the CFUG, administers the funds. Committee members are either elected or unanimously nominated by forest users. The decision-making authority over fund development and use in principle lies with all the members of CFUG and the executive committee is authorised to implement them. The committee is usually directed to discuss investment activities in the general assembly before implementing them.

In practice, decisions are made by committee members and put forward to the assembly for endorsement. The chairperson and secretary discuss the possible agenda informally before the executive meetings. The CFUG committee considers the directive from the forest office, mandates given by general assembly, constitution and operational plan. It also listens to requests from various groups such as school management committee, mother group (*ama samuha*) and water group in the villages. All these inputs shape its decisions, which could favour the non-poor if the committee is dominated by local elites.

The two key people on the CFUG committee are the chairperson and secretary. In our study area, the chairperson is male, belongs to an advantaged group, and uses all forest products from the community forests. His average land holding size is 18.37 *ropanies* (about one ha) which is higher than the national average size of land holding (0.7 ha). The average length of holding the post is about four years, which indicates that the average chairperson stays in the post for more than one term. We find that while the secretary is generally younger than the chairperson and relatively more educated, the post is held by males who in most cases belong to an advantaged community.

What of the composition of the rest of the committee? Our data indicates that nearly three quarters (73%) of the committee members are male and the remaining (27%) are female. Similarly, about two-thirds (64%) of the members in the executive committee are from advantaged groups, followed by disadvantaged groups (27%) and *dalit* (9%).

Is elite capture in CFUGs likely? The answer is probably yes, based on the evidence that the poor get fewer benefits and that the executive committee is dominated by better-off individuals. However, there are other considerations. Leadership is very important in the CFUG. This means that the chairperson has to be an active individual who maintains a good relationship with forest officials and motivates forest users as well. This position would be difficult to hold for a poor villager, who is paid little respect in the hierarchical systems that dominate rural Nepal.

Almost all the chairpersons interviewed say that the condition of village forests have improved after the community has taken management responsibility. They also say that CFUGs are effective at delivering developmental activities at the village level. Thus, there is clearly local faith in the institution and a strong sense of ownership.

5. Community-driven Development Through Forestry

Our study of the three mid-hill districts - Lamjung, Tanahu, and Kaski - shows that the ideas underlying community-driven development (CDD) are being internalised in Nepal's community forestry. The underlying notion in projects designed to a CDD methodology is that community-level participation and accountability will help ensure that the benefits of developments flow to the community as a whole and more specifically to the poor (UNCDF, 1999).

CDD projects have emerged as a popular model for development assistance. One indicator of their popularity is World Bank lending to community-based development projects, which increased from USD 325 million in 1996 to USD 2 billion in 2003 (Mansuri and Rao, 2004). Consonant with an international view and experience, a number of studies indicate that in Nepal community investments are an important component of CFUG expenditures (Dongol et al., 2002; Kanel and Niraula, 2004). Furthermore, there is an increased perception among rural communities that local infrastructure is improving as a result (Bajracharya et al., 2005).

If CFUG funds in Nepal are headed in the direction of most other social funds, what can we learn from the global experience with these funds? A cross-country study conducted by Rawlings et al. (2003) evaluating social funds in Armenia, Bolivia, Honduras, Nicaragua, Peru and Zambia found that geographically poor districts received more per capita of social fund expenditures relative to wealthier districts. They further indicate that poor households were more likely to benefit from a social fund investment in latrines and health clinics than better-off households.

Even so, a number of studies (such as Bardhan and Mookherjee, 2005; Galasso and Ravallion, 2005; Platteau, 2004; Rao and Ibanez, 2005) argue that community development projects are often ineffective in reaching the poor as local elites frequently dominate community decision-making. Indeed our study has noted such a tendency with our 100 CFUGs. Moreover, several studies describe membership of CFUG and related benefits as favouring economically advantaged groups (Graner, 1999; Kanel and Varughese, 2000; Malla, 2000; Malla et al., 2003).

Currently, these are the socially charged questions that fuel the debate over the poverty implications of investments made by CFUGs in Nepal. A recurrent line of questioning concerns the extent to which CFUG investments, which are dominated by rural infrastructure development, directly benefit the poor. What projects do the poor prefer and do investments actually go into these? Foster and Rosenzweig (2003), for example, argue based on Indian data that roads are pro-poor investments, irrigation investments are pro-rich and schools are neutral. However, poor households in Nepal may not view schooling as a benefit since they cannot afford to send their children to school.

Education (and access to it), livelihood sources, social status and caste can be powerful influences working outside a CDD umbrella. Poor households may not receive benefits from the community forestry as expected since CFUG decisions often reflect the view of local elites who may influence such decisions and indeed the discourse when they occupy executive positions (Banjade et al., 2006; Baral and Subedi, 2000; Malla et al., 2003; Pokharel, 2003; Springgate-Baginski et al., 1999). A study conducted by Hills and Shields (1998) in India also made similar observations about Forest Protection Committees (FPC) of Joint Forest Management programmes. They observed that leadership of the FPC tends to be in the hands of the better-educated local elites who tend to be less dependent on the forests,

Similarly, Rao and Ibanez (2005) conclude that a social fund project within the community is more likely to enhance the capacity of the relatively well-off to engage in collective action. They further argue that any improvements in the ability to reach collective decisions are more likely to have been realised by better networked and employed individuals. It can be argued that the domination of the elite in executive committees may contribute to pro-poor programmes being kept in the background as these would offer the wealthy few benefits.

6. Conclusions and Policy Implications

Our study shows that CFUGs generate substantial income through their forest assets. *This income increases local development resources available to the community through block grants by about 25%.* Our study also indicates that the forest department currently under-estimates the revenues obtained through CFUG funds by some 300%.

Timber contributes the major share (68%) to the funds. This is primarily because 49% of the forests here are made up of Sal, an important and valuable tree. CFUGs currently sell Sal at a price that is almost 90% lower than the market rate. *If the subsidies were removed, the average income earned by CFUGs would grow by nearly five times.*

An issue to consider is whether subsidies for forest products are an incentive for the people in managing the forest resources. These subsidies are mostly utilised by households in the same

villages or those in adjacent villages without Sal. Thus, removing the subsidy would hurt rural Nepalese and may reduce their incentive to manage the forests. It is also clear that the market price for Sal is very high and there is demand for this wood elsewhere, which needs to be captured. A further area of research and action for the forest department is to assess whether Sal can be marketed externally through rural cooperatives or other organisations, enabling rural communities to significantly increase their income.

CFUG funds have been successfully used to build up local infrastructure, and to build it up where it counts: schools, roads and trails, reservoirs. Yet *CFUGs fall short of the directive to set aside 25% of their investment for forest development*. Is there a case, for those CFUGs with healthy forests, to reassess the rules? It may be appropriate to offer CFUGs some flexibility in complying with this rule, but this will require more careful monitoring by the forest department.

Poverty reduction is an important focus of the CFUGs' activity. Since the government's drive to make the CFUG programme pro-poor commenced only in 2004, there has been considerable progress, with some 22 per cent of the annual expenditures in 2005 targeted for pro-poor programmes. However, two distributional issues merit serious policy discussion. First, the subsidies from timber go mainly to the non-poor in the villages. Second, 'pro-poor' loans also go mainly to the non-poor. *Overall, some 24% of the annual benefits from CFUG funds accrue to the poor with 76% accruing to the non-poor.*

Two actions may increase the benefits accruing to the poor. These are: a) allowing all households to have an equal share in timber that is harvested; and b) increasing the participation of poor and less advantaged members in the executive committees that manage forestry funds. We think it is time to pilot alternative systems of timber revenue distribution to understand what the practical challenges of implementation maybe. Policy makers also need to send a clear message to CFUGS about executive committee composition, loan distribution and who can access 'pro-poor' funds, and the likely tax implications on remaining money. This may change the incentives that are currently at play that reduce loans to the poor.

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References

- Acharya, K. P. (2002), 'Twenty four years of community forestry in Nepal,' *International Forestry Review*, Vol. 4 (2): 149-156.
- Agrawal, A. and Ostrom, E. (2001), 'Collective action, property rights, and decentralization in resource use in India and Nepal,' *Politics and Society*, Vol. 29 (4): 485 – 514.
- Bajracharya, S., Furley, P.A., and Newton, A. C. (2005), 'Effectiveness of community involvement in delivering conservation benefits to the Annapurna Conservation Area,' Nepal, *Environmental Conservation*, Vol. 32 (3): 239 – 247.
- Banjade, M. R., Schanz, H. and Leeuwis, C. (2006), 'Discourses of information in community forest user groups in Nepal,' *International Forestry Review*, Vol. 8 (2): 229 – 240.
- Baral J. C. and Subedi, B. (2000), 'Some community forestry issues in the Tarai Nepal: Where do we go from here,' *Forests, Trees, and People Newsletter*, No. 42: 20 – 25.
- Bardhan, P. and Mookharjee, D. (2005), 'Decentralizing anti-poverty program delivery in developing countries,' *Journal of Public Economics*, Vol. 89: 675 – 704.
- Chakarborty, R. N. (2001), 'Stability and outcomes of common property institutions in forestry: Evidence from the Tarai region of Nepal,' *Ecological Economics*, Vol. 36 (2): 341-353.
- Dev, O. P., Yadav, N. P., Springate-Baginski, O., Soussan, J. (2003), 'Impacts of community forestry on livelihoods in the middle hills of Nepal,' *Journal of Forests and Livelihoods*, Vol. 3 (1): 64 – 77.
- Dongol, C. M., Hughey, K. F. D., Bigsby, Hugh R. (2002), 'Capital formation and sustainable community forestry in Nepal.' *Mountain Research and Development*, Vol. 22 (1): 70-77.
- Department of Forests (DoF), (2007), 'Community forest user groups database,' community forestry division, Department of Forests, Kathmandu.
- Foster, A. and Rosenzweig, M. (2003), 'Democratization, decentralization and the distribution of local public goods in a poor rural economy,' BREAD Working paper No. 010.
- Galasso, E. and Ravallion, M. (2005), 'Decentralized targeting of an anti-poverty program,' *Journal of Public Economics*, Vol. 89: 705 – 727.
- Gautam, A. P., Shivakoti, G. P. and Webb, E. L. (2004), 'A review of forest policies, institutions, and change in the resource condition in Nepal,' *International Forestry Review*, Vol. 6 (2): 136 – 148.
- Graner, E. (1999), 'Forest policies and access to forests in Nepal: Winners and losers,' in R. B. Chherti and O. P. Gurung (eds.), *Anthropology and sociology of Nepal: Culture, societies, ecology, and development*, 212-224, Kathmandu: Seasonal

Hills, I. and Shields, D. (1998), 'Incentives for joint forest management in India: Analytical methods and case studies,' World Bank Technical Paper No.394, Washington, D. C: The World Bank.

Iversen, V., Chhetry, B., Francis, P., Gurung, M., Kafle, G., Pain, A. and Seeley, J. (2006), 'High value forests, hidden economies and elite capture: Evidence from forest user groups in Nepal's Tarai,' *Ecological Economics*, Vol. 58: 93 – 107.

Joshi, S. R., Bhandari, H., Regmi, M., Tandan, H. and Khadka, M. B. (eds.) (2007), 'District profile of Nepal – 2007/08,' Kathmandu/Nepal: Intensive Study and Research Center.

Kanel, K. R. (2004), 'Twenty five years' of community forestry: Contribution to millennium development goals, In K. R. Kanel, P. Mathema, B. R. Kanel, D. R. Niraula and M. Gautam (eds.),' *Twenty five years of community forestry, Proceedings of the fourth national workshop on community forestry*, Community Forest Division, Department of Forests, Kathmandu: 4 – 18.

Kanel, K. R. and Niraula, D. R. (2004), 'Can rural livelihood be improved in Nepal through community forestry?' *Banko Jankari*, Vol. 14 (1): 19 – 26.

Kanel, K. and Varughese, G. (2000), 'Quantifying the benefits of community forestry in Nepal towards development of a participatory methodology of economic valuation,' Paper presented at 8th biennial IASCP conference, Indiana University, USA.

Malla, Y. B. (2000), 'Impact of community forestry policy on rural livelihoods and food security in Nepal,' *Unasylva*, Vol. 51 (3): 37 – 45.

Malla, Y. B., Neupane, H. R., and Branney, P. (2003), 'Why aren't poor people benefiting more from community forestry?,' *Journal of Forests and livelihood*, Vol. 3 (1): 78 – 93.

Mansuri, G. and Rao, V. 2004. Community based and driven development: A critical review, *The World Bank Research Observer*, Vol. 19 (1): 1 – 39.

Mansuri, G. and Rao, V. (2004), 'Community – based and – driven development: A critical review,' *The World Bank Research Observer*, Vol. 19 (1): 1 – 39.

Narayan, D. (2002), 'Empowerment and poverty reduction: A source book, Poverty reduction and economic management,' The World Bank, Washington D.C.

Nepal Development Information Institute (NIDI) (2006), 'Nepal district profile - 2006,' Kathmandu: Upahar Press.

National Planning Commission (NPC) (2007), 'Three Year Interim Plan: Approach Paper (2064/65 – 2066/67),' Kathmandu/Nepal: Government of Nepal/ National Planning Commission.

NLSS, (2004), 'Nepal living standards survey, Statistical report (Volume 2),' Central Bureau of Statistics, His Majesty's Government of Nepal, Kathmandu.

Platteau, J. P. (2004), 'Monitoring elite capture in community driven development,' *Development and Change*, Vol. 35 (2): 223 – 246.

Pokharel, Ridish K. (2003), 'An evaluation of community forestry program in Kaski district of Nepal; A local perspective,' Unpublished PhD dissertation, Michigan State University, Michigan.

Rao, V. and Ibanez, A. M. (2005), 'The social impact of social funds in Jamaica: A participatory econometric analysis of targeting, collective action, and participation in community driven development,' *The Journal of Development Studies*, Vol. 41 (5): 788 – 838.

Rawlings, L. B., Sherburne-Benz, L. and Domelen, J. V. (2003), 'Evaluating social funds: A cross country analysis of community investment,' World Bank Regional and Sectoral Studies (No. 27834), The World Bank, Washington D. C.

Richards, M., Maharjan, M., and Kanel, K. (2003), 'Economics, poverty and transparency: Measuring equity in forest user groups,' *Journal of Forest and Livelihoods*, Vol. 3 (1): 91 – 104.

Springgate-Baginski, O., Soussan, J. G., Dev, O. P., Yadav, N. P., and Kiff, E. (1999), 'Community forestry in Nepal: Impacts on common property resource management (Environment and development series No. 3),' *Working Paper*, Department for International Development

Tachibana, T., Upadhaya, H. K., Pokharel, R. K., Rayamajhi, S. and Otsuka, K. (2001), 'Common property forest management in the hills region of Nepal,' In K. Otsuka and F. Place (eds.), *Land Tenure and Natural Resource Management: A Comparative Study of Agrarian Communities in Asia and Africa*, (pp 273 – 314), Baltimore: The Johns Hopkins University Press.

UNCDF, (1999), 'Taking risks,' New York: United Nations Capital Development Fund

TABLES

Table 1: Basic characteristics of sampled CFUGs (n = 100)

		Mean	Percentage
1	Age of community forest user groups (years)	9.65 (2.80)	
2	Number of households per CFUG	131.32 (81.98)	
3	Size of the forest per CFUG (ha)	83.03 (102.36)	
4	Percent of Sal species in community forests	48.63 (32.03)	
5	Number of hamlets using community forests	5.17 (2.84)	
6	Traveling time to local market (minutes)	40.98 (44.75)	
7	Traveling time to forest office (minutes)	70.14 (58.34)	
8	Percentage of Sal dominant forests		65.00
9	Percentage of schima-castenopsis dominant forests		35.00
10	Percentage of homogenous CFUG		36.00
11	Percentage of advantaged group households		53.67
12	Percentage of dalit households		17.89

Note: Number of parenthesis indicates standard deviation

Table 2: Income of CFUGs in 2005 from various sources (n = 100)

		Source	Average amount (NRS)	Percentage
1	Forest products	Timber	30,437	68.16
		Non-timber	3,216	7.20
2	Others	Penalty	1,012	2.27
		Membership fees	6,141	13.75
		Assistance from I/NGOs	2,630	5.88
		Assistance from DoF	57	0.13
		Renting halls and utensils	1,165	2.61
3	Total		44,658	100

Note: Non-timber includes fuel wood, grasses, poles and NTFP

Table 3: Income from non-Sal timber, Sal timber and fuel wood with and without subsidy in 2005 (n = 100)

		Per CFUG	
1	Average Sal timber sold by CFUGs from the community forests (percent)	49	30
2	Income from timber in 2005 (NRS)	30,437	30,437
3	Quantity of Sal timber sold in 2005 (cu ft)	345	257
4	Sal timber quantity sold to outsider in 2005 (cu ft)	79	59
5	Sal timber quantity sold to the community in 2005 (cu ft)	266	198
6	Average Sal timber price at CFUG level (NRS)	67	67
7	Average market price of Sal timber (NRS)	569	569
8	Price subsidy in Sal timber (NRS)	502	502
9	Income from Sal timber in 2005 (NRS)	23,115	17,219
10	Sal would generate income at market price (NRS)	196,305	146,233
11	Government tax (VAT - 13%) (NRS)	25,520	19,010
12	Tax on forestry fund (NRS)	1,725	1,285
13	CFUG would generate income from Sal timber (NRS)	169,060	125,938
14	Total subsidy in Sal timber (NRS)	145,945	108,719
15	Total timber income if subsidy is removed (NRS)	176,382	139,156
16	Increase in timber income from subsidy removal (per cent)	579	457
17	Percentage of subsidy accruing to households within the community	76	71
18	Timber received by non-poor in 2005 (per cent)	81	81
19	Timber received by poor in 2005 (per cent)	19	19
20	Subsidy in Sal timber received by non-poor (NRS)	108,019	80,466
21	Subsidy in Sal timber received by non-poor (per cent)	81	81
22	Income from fuel wood in 2005 (NRS)	2,388	2,388
23	Average price of fuel wood per bhari at CFUG level (NRS)	9	9
24	Average market price per bhari (NRS)	90	90
25	Price subsidy in fuel wood (per cent)	90	90
26	Amount of subsidy in fuel wood (NRS)	2,149	2,149
27	Income from fuel wood without subsidy (NRS)	4,537	4,537
28	Subsidy removal would increase income from fuel wood (per cent)	90	90
29	Per cent of non-poor households in the study areas	62	62
30	Per cent of poor households in the study	38	38
31	Amount of subsidy in fuel wood received by non-poor in 2005 (NRS)	1,333	1,333
32	Amount of subsidy in fuel wood received by poor in 2005 (NRS)	817	817
33	Total amount of subsidy in Sal timber and fuel wood in 2005 (NRS)	135,506	101,490

Table 4: Total revenue of CFUGs in 2005 with and without subsidy (n = 100)

		Income in 2005 (NRS)		Removing Subsidy would increase Income by (%)
		With subsidy	Without subsidy	
1	Timber	30,437	139,156-176,382	457-579
2	Fuel wood	2,388	4,537	90
3	Fodder/ground grass	828	828	0
4	Other	11,005	11,005	0
5	Total	44,658	155,526-192,752	348-432

Note: Others includes penalty, membership fees, assistance from I/NGOs and DoF, and renting halls and utensils.

Table 5: Annual investments of CFUGs in various activities and CFUG saving by fund size

	Activity	Annual investment of CFUGs by fund size (NRS)							
		n = 100		1 (n = 35)		2 (n = 31)		3 (n = 34)	
		Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent
1	Public infrastructure development	28,142 (63,600)	45	4,212 (4,944)	31	14,837 (10,639)	38	64,907 (99,200)	48
2	Pro-poor programmes	11,604 (28,814)	18	1,902 (2,955)	14	7,397 (8,224)	19	25,429 (45,901)	19
3	Forest development	8,819 (13,081)	14	2,948 (4,294)	22	7,828 (8,301)	20	15,766 (18,561)	11
4	Forest administration	3,009 (3,616)	5	1,578 (1,439)	12	2,136 (2,280)	5	5,277 (4,916)	4
5	Annual saving per CFUG	11,629 (30,046)	18	2,833 (2,102)	21	6,987 (6,195)	18	24,915 (48,833)	18
6	Annual income per CFUG	63,202 (119,527)	100	13,473 (6,601)	100	39,185 (9,735)	100	136,293 (184,554)	100

Note: Number in parenthesis indicates standard deviation; Fund size: 1 = up to NRS24,000; 2 = NRS24,001 – NRS52,000; 3 = higher than NRS52,000

Table 6: Percentage of investment in giving out loans, by fund size

	Activity	Flow of loan by fund size (NRS)							
		n = 100		1 (n = 35)		2 (n = 31)		3 (n = 34)	
		Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent
1	Flow of loans in the last five years	56,070 (142,695)	25	9,451 (14,763)	21	36,587 (40,981)	26	121,822 (228,513)	25
2	Flow of annual loans	11,214 (28,538)	18	1,890 (2,952)	14	7,317 (8,196)	19	24,364 (45,702)	18
3	Flow of loans in 2005	24,293 (47,461)	54	4,130 (8,259)	46	18,387 (24,635)	65	50,433 (70,481)	52
4	CFUG investments in the last 5 years	224,012		45,788		142,284		481,994	
5	CFUG annual income	63,202		13,473		39,185		136,293	
6	CFUG income in 2005	44,658		9,021		28,367		96,194	

Note: Number in parenthesis indicates standard deviation; Fund size: 1 = up to NRS24,000; 2 = NRS24,001 – NRS52,000; 3 = higher than NRS52,000

Table 7: Flow of loans in 2005 and 2006 (n = 29)

		Poor	Non-poor	Total
1	Average number of households given loans in 2005	6.17 (7.04)	7.93 (8.67)	
2	Average amount loaned out in 2005 (NRS)	16,566 (28,491)	38,831 (43,896)	
3	Percentage of households given loans in 2005	13	10	
4	Total number of households given loans in 2005	179	222	401
5	Distribution of loaned out amount in 2005 (per cent)	30	70	100

Table 8: Overall Benefits from CFUG Funds (2005)

		Benefits per CFUG		
		Poor	Non-poor	Total
1	Per cent of households in the study areas	38	62	100
2	Timber and fuel wood subsidy (NRS)	19,691-26,154 (19%)	81,799-109,351 (81%)	101,490-135,506
3	Annual development activities (NRS)	15,316 (38%)	24,990 (62%)	40,306
4	Annual flow of loans (NRS)	3,380 (30%)	7,888 (70%)	11,268
5	Annual saving (NRS)	4,419 (38%)	7,210 (62%)	11,629
6	Total benefits (NRS)	42,807-49,270 (26 - 25%) USD (669-770)	121,886-149,438 (74 - 75%) USD (1,904-2,335)	164,693-198,709 USD (2,573-3,105)

FIGURES

Figure 1: Map of study areas



Figure 2: Infrastructural Investments made by CFUGs

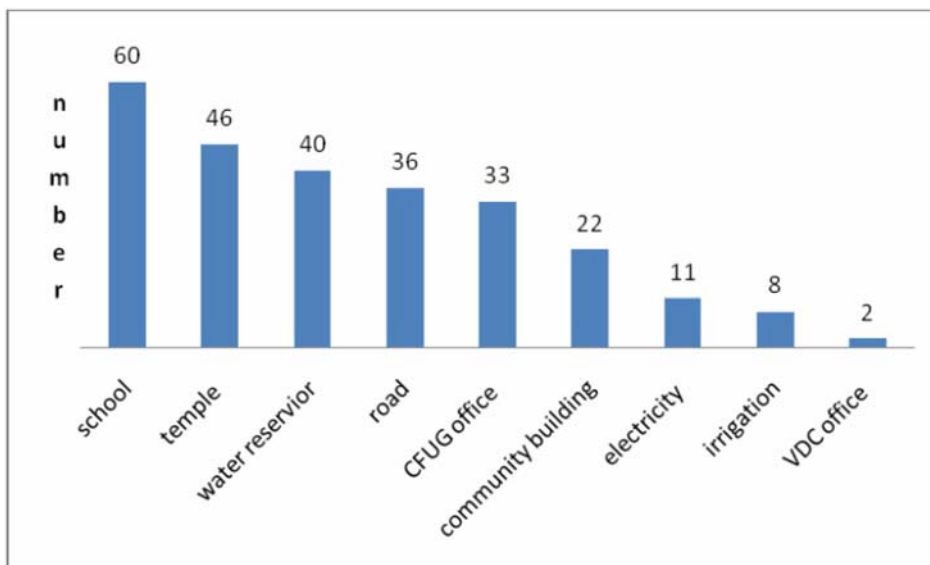


Figure 3: CFUGs investing in pro-poor programmes

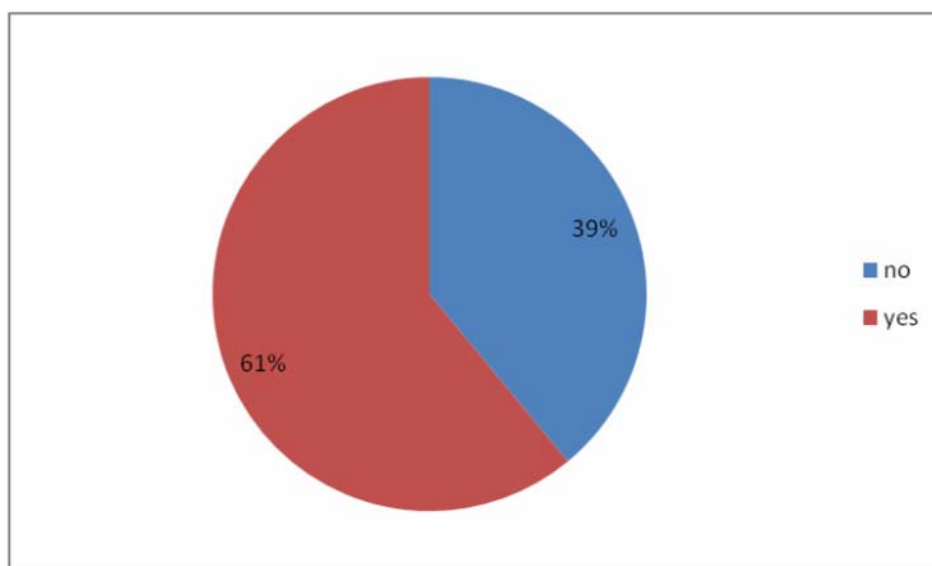


Figure 4: Pro-poor investments made by CFUGs in 2005

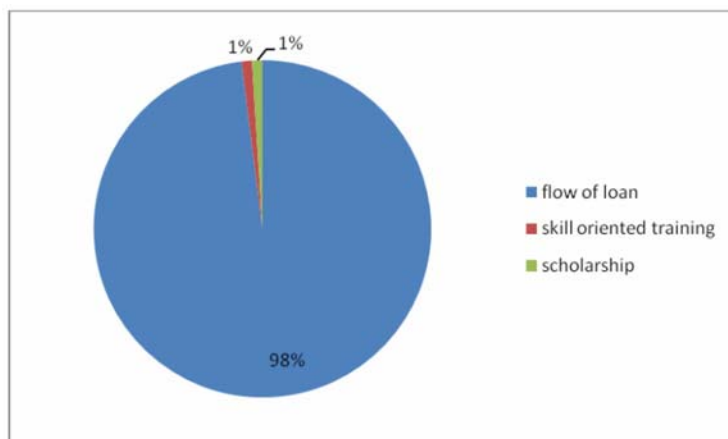


Figure 5: Pro-poor investments made by CFUGs in the last five years

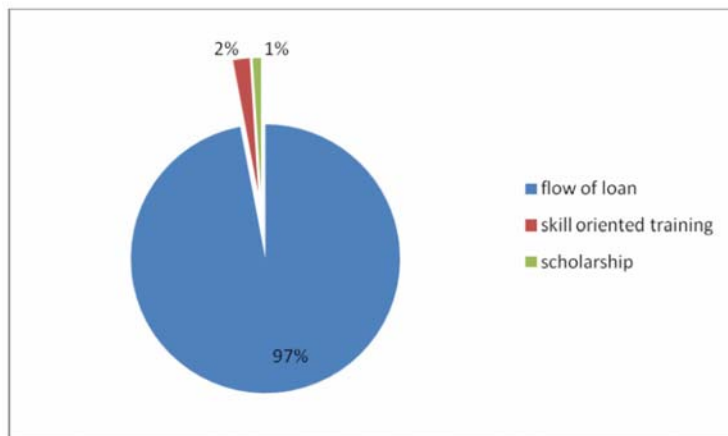
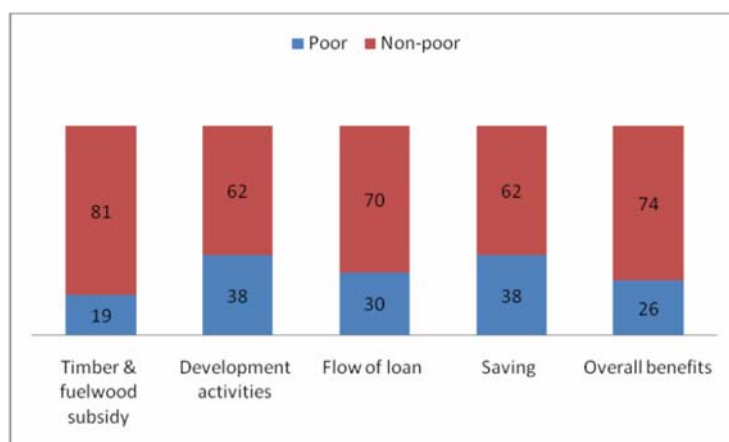


Figure 6: Benefits from different activities and overall benefits received by poor and non-poor from CFUG funds (per cent)



APPENDIX

Questionnaire Survey on Community Forest User Group's Income and Expenditures

Survey date (d/m/y):	Survey ID
Started time:	Finished time:
Name of enumerator:	

Greetings! the Institute of Forestry is conducting a research on poverty reduction through CFUG funds in Nepal in this district and require to conduct interviews with the executive members of CFUG, especially chairperson and secretary to know about CFUG fund investments on pro-poor programs. This research is solely for academic reasons and all your responses will remain confidential. We will try our best to share the results of our research with you once completed. We will be extremely grateful if you agree to collaborate with us and give some of your time to answer a set of questions we have. The questions are designed to help us understand how your CFUG is generating funds, how the funds are being invested, and the characteristics of the CFUG and CFUGC that you are involved in. We thank you for your time and eagerly hope for your co-operation.

Would you like to participate in the interview?

Yes



Proceed to
question A

No

A. Number of executive members participated in the interview:

	Name	Designation
1		
2		
3		
4		

Section I. Village Development Committee (VDC) Level Information

1.1 Name of the district:

1.2 Name of the VDC:

1.3 Total population of the VDC:

1.4	Facility available in the VDC (Code: 0 = no; 1 = yes)		Available facility	Code
		1.4.1	Primary school	
		1.4.2	Secondary school	
		1.4.3	Higher secondary school	
		1.4.4	Health post	
		1.4.5	Post office	
		1.4.6	Forest office	
		1.4.7	Bank/credit office	

1.5 Are there any NGO/INGO working in the VDC? (0 = no; 1 = yes)

If yes, type of work they are involved in

(Code: 1=social reform; 2=community development; 3=education & training; 4=resource conservation & management; 5 = micro credit; 6 = research & development; 7 = health; 8 = decentralization & governance; 9 = other)

1.6	What are the most common crops grown in the VDC?		Crops	Rank 1-3
		1.7.1	Paddy	
		1.7.2	Wheat	
		1.7.3	Millet	
		1.7.4	Maize	
		1.7.5	Barley	

1.7 Number of households

Ward number	Advanatged group	Disadvantaged group	Dalit	Total
1				
2				
3				
4				
5				
6				
7				
8				
9				
Total				

Advantaged group = brahman, chhetri, thakuri, sanyasi, newar, thakali; Disadvantaged group = magar, tamang, gurung, rai, limbu, serpa, gharti/bhujel, kumal, sunwar, jirel, chhantal, darai, majhi, thami, chepangraute, kusunda, churoute; Dalit = kami, damai, sarki, gaine, badi

1.8 Number of household in the VDC with and without agricultural land and livestock

		Household number with different groups			
		1. Adv. group	2. Disadv. group	3. Dalit	Total
8.1	No. of household with agricultural land				
8.2	No. of households with livestock or goat only; no ag. land				
8.3	No. of households without agricultural land, livestock and goat				
Total					

Section II. Community Forest User Group (CFUG) Level Information

2.1	2.1.1	Name of CFUG			
	2.1.2	Year of forest handed over to CFUG			
	2.1.3	Number of wards included in the CFUG			
	2.1.4	Area of the community forest			hectares
	2.1.5	Number of household included in the CFUG			households
	2.1.6	Total population of the CFUG			persons
	2.1.7	Number of hamlets using this community forest			

2.2	Proximity to facility from CFUG office to the nearest ... (1. C o d e : 1 = w a l k i n g ; 2 = b u s ; 3 = b u s and walking)		Facility	Time take (min)	Code	Approx Km
		2.2.1	Market			
		2.2.2	School			
		2.2.3	Health post			
		2.2.4	Bank/credit			
		2.2.5	Forest office			
		2.2.6	National forest			

2.3 Number of households with and without agricultural land and livestock in the CFUG

	Caste/ethnic group	Number of households with		
		1. Agricultural land	3. Livestock or goat only	4. No agri land, livestock and goat
2.3.1	Brahman			
2.3.2	Chhetri			
2.3.3	Thakuri			
2.3.4	Sanyasi			
2.3.5	Newar			
2.3.6	Thakali			
2.3.7	Gurung			
2.3.8	Tamang			
2.3.9	Rai/Limbu			
2.3.10	Magar			
2.3.11	Sunwar			
2.3.12	Dalit			
Total				

2.4 Forest status (obtained from records and the operational plan)

2.4.1	Year when OP was prepared	
2.4.2	Regeneration status	per ha
2.4.3	Tree density	per ha
2.4.4	Dominant tree species	
2.4.5	Presence of sal in the forest	
2.4.6	Growing stock of the forest	% cu ft per ha

2.5	What has been the role of Forest Department in the last year?		Role	Rank 1-3
		2.5.1	Technical advice	
		2.5.2	Financial support	
		2.5.3	Regulatory	
		2.5.4	Facilitation	
		2.5.5	Conflict resolutions	

2.6	No. of forest watcher, if any (1 code 1=year round; 2=seasonal)			No. of watcher in the last year		
				Code	Male	Female
	2.6.1	Watcher				

2.7	What is the salary of forest watcher?, if any			Monthly salary for a watcher		
				Male	Female	Total
	2.7.1	Salary				

2.8	Number of individuals per day voluntarily guard the forest on rotational basis			Number of volunteer per day			Days spent in the last 12 month
				Male	Female	Time spent (hr)	
	2.8.1	Volunteer					

2.9	What is the local wage rate? (NRS per day)		Gender	Rate	
				Summer	Winter
				2.9.1	Male
	2.9.2	Female			

Section III. Forest Product Use Information

3.1	What forest products are used mainly from the community forest?		Products	Rank 1-3
		3.1.1	Fuel wood	
		3.1.2	Fodder/grasses	
		3.1.3	Timber	
		3.1.4	Pole	
		3.1.5	Leaf litter	
		3.1.6	Grazing	

3.2	Regulation in collecting forest products (Code for charges: 0=no; 1=yes) (Code for mode of collection: 1=daily; 2=seasonal)		Forest products	Regulation			
				Charges	Price	Unit	Mode of collection
		3.2.1	Green firewood				
		3.2.2	Dead branches				
		3.2.3	Timber				
		3.2.4	Pole				
		3.2.5	Tree fodder				
		3.2.6	Leaf litter				
		3.2.7	Grasses				
		3.2.8	Thatching grass				
		3.2.9	Fruits/nut				
		3.2.10	NTFP				
3.2.11	Grazing						

3.3	What type of penalties is imposed for different forest products if someone violates the rules? (Code for offence: 1=cash payment; 2=returning collected products; 3=both (cash payment and returning collected products); 4=exclusion from the group; 9=other)		Forest products and activity	Offence		
				First	Second	Third
		3.3.1	Green firewood			
		3.3.2	Dead branches			
		3.3.3	Timber			
		3.3.4	Pole			
		3.3.5	Tree fodder			
		3.3.6	Leaf litter			
		3.3.7	Grasses			
		3.3.8	Thatching grass			
		3.3.9	Fruits/nuts			
		3.3.10	N'TFP			
		3.3.11	Grazing			
		3.3.12	Hunting			
		3.3.13	Put fire on the forest			
3.3.14	No participation in the activity as directed by CFUGC					

3.4	If cash payment for no participation in the activity as directed by CFUG, indicate the amount (NRS)			Cash payment		
				First time	Second time	Third time
3.4.1	Amount					

3.5	Income of CFUG in 2005 by selling the forest products within and outside the community (Code: 1=within the community; 2=outside the community)		Forest products	Amount (NRS)		Total
				1	2	
		3.5.1	Firewood			
		3.5.2	Timber			
		3.5.3	Pole			
		3.5.4	Thatching grass			
		3.5.5	N'TFP			
		3.5.6	Grasses			
		3.5.7	Seedlings			
		3.5.8	Leaf litter			
Total						

3.6 Income in 2005 from other sources

	Source	Amount (NRS)
3.6.1	Penalty	
3.6.2	Membership fee/entry fee	
3.6.3	Assistance from donor/NGO	
3.6.4	Assistance from forest office	
3.6.5	Others	
Total		

3.7		2005	2004	2003
	If financial support from I/NGO, please indicate the amount (NRS)			

3.8 What is the total balance in the CFUG fund until today? (NRS)

3.9	Total amount spent by CFUG for the developmental works in the last five years (Others include such as VDC or DDC support)	Activity	Amount (NRS) spent by		
			1. CFUG	2. Others	Total
	3.9.1	School building			
	3.9.2	Temple			
	3.9.3	Trail/road			
	3.9.4	VDC office			
	3.9.5	CFUG office			
	3.9.6	Water reservoir			
	3.9.7	Irrigational canals			
	3.9.8	Electricity generation			
	3.9.9	Community building			
	3.9.10	Others (specify)			

3.10	Financial support provided by CFUG	Activity	Amount (NRS) in		
			2005	Total in 5 years	Started since
	3.10.1	Grants for school			
	3.10.2	Salary for teacher			
	3.10.3	Others			
	Total				

3.11 Does your CFUG undertake any poor directed activity? (Code: 0=no; 1=yes)

3.12	What criteria are used to identify poor household, if any?		Criteria	Rank 1-3
		3.12.1	No regular income	
		3.12.2	Food sufficiency for less than 6 months from own farm land	
		3.12.3	Land holding size (<3 ropani)	
		3.12.4	Type of housing	

3.13	Total amount spent in poor directed activities in the last five years			Amount (NRS) spent in		
		3.13.1	Flow of soft loan	2005	Total in 5 years	Since started
		3.13.2	Self-employment skill oriented training			
		3.13.3	Scholarship for poor			
		3.13.4	Others (specify)			

3.14	Number of households or individuals received loan or scholarship or in-kind support by CFUG in the last five years			Number of household/ individual		
		3.14.1	Flow of soft loan	2005	Total in 5 years	Since started
		3.14.2	Skill oriented training			
		3.14.3	Scholarship			
		3.14.4	Goat			
		3.14.5	Sewing machine			
		3.14.6	Ginger (kg)			
		3.14.7	Others (specify)			

3.15	Allocated community forest land to poor for inter-cropping, if any			In 2005	Total in 5 years	Since started
		3.15.1	Forest area (ropanis)			
		3.15.2	Number of household			

3.16	Total amount spent by CFUG for forest development works in the last five years			Amount (NRS) spent in		
			Forest development works	2005	Total in 5 years	Since started
		3.16.1	Silvicultural operation			
		3.16.2	Plantation/nursery			
		3.16.3	Awareness campaign			
		3.16.4	Training/study tour			
		3.16.5	Salary for watcher			
		3.16.6	Salary for nursery worker			

3.17	Total amount spent by CFUG in administration in the last five years			Amount (NRS) spent in		
			Forest development works	2005	Total in 5 years	Since started
		3.17.1	Honorarium, if any			
		3.17.2	Meeting allowance			
		3.17.3	Traveling allowance			
		3.17.4	Per diem			
		3.17.5	Miscellaneous			
		Total				

Section IV. Executive Committee Level Information

4.1 Total member in the Community Forest User Group Committee (CFUGC):

	Post	1. Gender	2. Age (yrs)	3. Caste or ethnic group	4. Education	5. Relation to chair person	6. Length of holding post (yrs)
4.1.1	Chairperson						
4.1.2	Vice chair person						
4.1.3	Secretary						
4.1.4	Joint secretary						
4.1.5	Treasurer						
4.1.6	Member						
4.1.7	Member						
4.1.8	Member						
4.1.9	Member						
4.1.10	Member						
4.1.11	Member						

Education: Number of year completed in the formal class (Code for gender: 1=male; 2=female) (Code for caste/ethnic group: 1=brahman/chhetri/thakuri; 2=sanyasi; 3=newar; 4=gurung/magar/tamang; 5=dalit) (Code for relationship: 1=spouse; 2=son/daughter; 3=son/daughter in law; 4=grandchild; 5=mother/father; 6=mother/father in law; 7=brother/sister; 8=brother/sister in law; 9=uncle/aunt; 10=niece/nephew; 11=step child; 12=not related)

4.2		Post	Code
Who is responsible for liaising with forest office in the committee? (1 Code: 0=no; 1=yes)	4.2.1	Chairperson	
	4.2.2	Vice chairperson	
	4.2.3	Secretary	
	4.2.4	Treasurer	
	4.2.5	Member	

4.3 The extent of use of forest products by the executive members from community forest

	Post	1. Use of products	2. No. of training or tour attended in 5 yrs	3. Assets owned		
				Land (ropani)	No. of livestock	No. of goat
4.3.1	Chairperson					
4.3.2	Vice chair person					
4.3.3	Secretary					
4.3.4	Joint secretary					
4.3.5	Treasurer					
4.3.6	Member					
4.3.7	Member					
4.3.8	Member					
4.3.9	Member					
4.3.10	Member					
4.3.11	Member					

(Code for forest products use by the executive members: 1=all forest products; 2=only timber and green firewood; 3=other forest products such as dried branches, leaf litter and grasses; 4=not at all)

4.4 Number of meeting held by the executive committee in 2005:

4.5	Number of CFUG members participated in the study tour or training in the last five years			Study tour/training in	
		4.5.1	Male	2005	Total in 5 years
		4.5.2	Female		

4.6	Do you have election to decide the committee members? (Code: 0=no; 1=yes)			In the last 5 years	Election year
		4.6.1	Election		

4.7	Number of meeting held with forest officials and development workers in 2005			Number of meeting w/	
				1. DoF	2. NGO
		4.7.1	Meeting in 2005		

4.8 Chairperson's perception towards community forestry (1 Code: 0=disagree; 1=agree)

	Perception on the statement	Code
4.8.1	Forest condition has improved over the last five years	
4.8.2	Community access to fuelwood and timber after CF has increased	
4.8.3	Conflict related to forest has decreased as a result of CFUG	
4.8.4	Interaction with the Forest Department has improved after CF	



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