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The public finance potential of community forestry

evidence from Nepal

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Introduction

Community-based and decentralized approaches to natural resource management are increasingly being evaluated on the criterion of rural poverty alleviation. One of the ways in which poverty alleviation can be achieved is through redistribution of natural resource values through taxation of forest products use and redistribution of the tax revenue at the community level. The poverty alleviation potential of

this mechanism is, however, contested. Hence, there is scope for empirical research to explore this public finance potential, i.e. the magnitude of forest taxation revenue and the degree to which it finances local public services and infrastructure and contributes to poverty alleviation.

This brief reports on two larger empirical investigations of the potential of community forestry taxation in the mid-Hills of Nepal. The results

are based on an empirical investigation of 44 Community-Forest User Groups (CFUG) randomly selected from censored[1] lists of CFUGs in Baglung, Kaski and Gorkha districts reported in Lund et al. (2010) and 41 randomly selected CFUGs in Gorkha district reported in Chhetri et al. (2011).

In all CFUGs, the operational plans, minutes, audit reports, and original vouchers were reviewed to obtain the source wise income and expenditure of the CFUGs from since their establishment[2] and until the end of 2007 (Chettri et al. 2011) and 2008 (Lund et al. 2010). The recorded information was validated by key informants – usually present or past secretary, treasurer, or chairman of the CFUG. In several CFUGs some records were found missing. In such situations, the data was based on informants' recollection. A pre-tested checklist attached to the financial recording format was used to systemize the key informant interviews.

Results

Revenue income

The studies arrive at an average annual CFUG income level of Nepali Rupees (NRs) 22-24,000 (~ USD 300). The CFUG level income distribution is, however, highly skewed. Lund et al. (2010) thus find that the highest and lowest income quartile of CFUGs account for approximately 50% and 5% of the total income. Similarly, Chhetri et al. (2011) find that the highest and lowest income quartile of CFUGs account for 59.8% and 3.1% of the total income, respectively.

Tables 1 and 2 indicate that the main income sources also differ between the CFUGs, with timber, and partly firewood, being more dominant in the high income CFUGs. Analyses show that the income from timber is highly dependent on the species composition of the community forests, with the valuable timber species Sal (*Shorea robusta, C. F. Gaertn.*) and Chir Pine (*Pinus roxburghii Sarg.*) being decisive for the income potential.

Further, in terms of poverty alleviation, it is important to gauge the actual amounts of money being redistributed. Doing so reveals that the average annual CFUG taxation income per CFUG member household is NRs 5.5 and NRs 2.9 for the Chhetri et al. (2011) and Lund et al. (2010) study, respectively. Comparing these figures with the results of recent household income surveys in the area, reveals that the private benefits from community forestry – in the form of income from forest products from these forests – are hundredfold higher than the amounts of tax revenue collected. Chhetri (2010), for example, finds an average annual income from forests of NRs 2,943 on the basis of a household survey conducted in 2008 with a random sample of 303 households drawn from the populations of two Village Development Committees in Gorkha district.

Revenue expenditure

In terms of expenditure patterns, the two studies report slightly differing findings. Both find that the CFUGs allocate 45-50% of their total expenditure to local public services and infrastructure, such as building of roads, schools and

Table 1: Average annual CFUG income in NRs divided on income quartile and source (Lund et al. 2010)

Income	0-25%	25-50%	50-75%	75-100%	Average
Timber	804	3.530	6.060	16.599	6.667
Firewood	1.143	1.386	3.888	10.642	4.211
NTFP	458	2.372	2.320	3.883	2.255
User	865	4.409	8.353	10.264	6.046
Donor	442	285	916	1.651	822
Other	1.212	1.738	2.506	9.417	3.638
Total	**4.924**	**13.720**	**24.043**	**52.456**	**23.639**

Table 2: Average annual CFUG income in NRs divided on income quartile and source (Chhetri et al. 2011)

Income	0-25%	25-50%	50-75%	75-100%	Average
Timber	725	3.486	4.667	32.721	11.016
Firewood	526	1.042	1.253	1.715	1.138
NTFP	50	303	210	72	156
User	713	5.157	12.732	14.549	8.174
Donor	441	329	215	548	394
Other	190	636	1.445	1.105	819
Total	**2.645**	**10.953**	**20.522**	**50.711**	**21.696**

Figure 1. Average expenditure shares divided on income quartile and expenditure purpose (Lund et al. 2010).
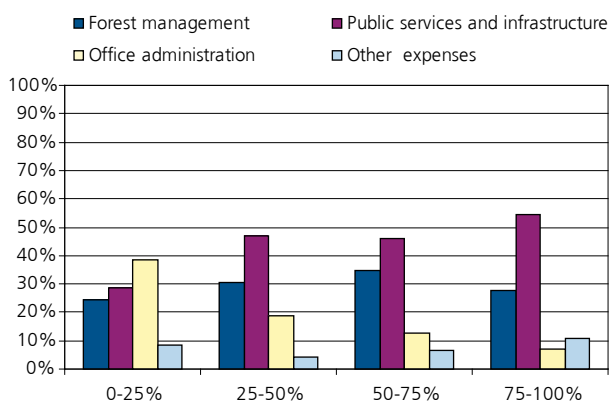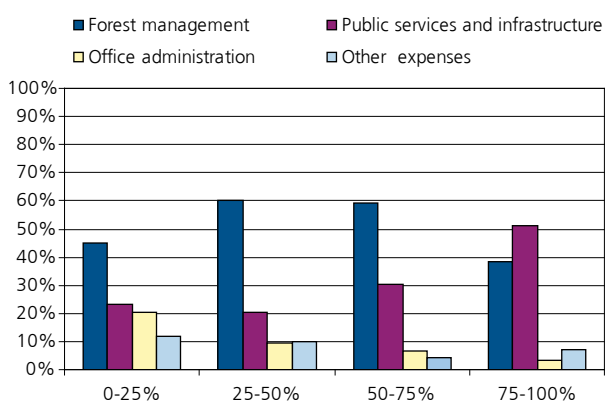

Figure 2. Average expenditure shares divided on income quartile and expenditure purpose (Chhetri et al. 2011).

temples, extension of the local electricity grid, and support to poor people and local associations, see Figure 1 and 2.. On forest management, however, findings differ. Whereas Lund et al. (2010) find that 30% of total expenditure is allocated to forest management, Chhetri et al. (2011) arrive at a higher share of 46.6%. On administrative expenditures, it is noteworthy that the share of expenditures allocated to forest administration, including allowances, drops to less than 10% for the high-income CFUGs. There are, in other words, no indications of extravagancy among CFUG executive committee members in Nepal's community forestry.

The expenditure pattern is, furthermore, highly skewed. Lund et al. (2010) find that the highest quartile CFUGs spend around 30 times more than the lowest on forest management – a difference that is driven mainly by expenditures associated with patrolling. In the high income CFUGs this is predominantly done by a paid team of guards, whereas it is done by all members on a rotational basis in the low income CFUGs.

Lund et al. (2010) also show that 50% of the total community development expenditure is attributable to a mere four

Table 3: Average annual CFUG expenditure in NRs divided on income quartile and source (Lund et al. 2010)

Income	0-25%	25-50%	50-75%	75-100%	Average
Forest management	650	3.216	7.042	13.360	6.099
Public services and infrastructure	768	4.977	9.322	26.387	10.330
Office administration	1.028	1.967	2.617	3.457	2.278
Other	219	428	1.330	5.274	1.797
Total	**2.665**	**10.588**	**20.311**	**48.478**	**20.504**

Table 4: Average annual CFUG expenditure in NRs divided on income quartile and source (Chhetri et al. 2011)

Income	0-25%	25-50%	50-75%	75-100%	Average
Forest management	1.054	6.254	11.133	18.815	9.377
Public services and infrastructure	542	2.103	5.676	25.051	8.724
Office administration	479	1.000	1.258	1.616	1.089
Other	277	1.013	774	3.405	1.428
Total	**2.352**	**10.369**	**18.842**	**48.887**	**20.618**

CFUGs. Similarly, Chhetri et al. (2011) show how 75.1% of all public services and infrastructure have been financed by the high-income quartile CFUGs.

Discussion and conclusion

The comparison of CFUG revenue income levels with households' forest incomes shows that the current pricing of forest products implies that the potential of community forestry to redistribute benefits through locally-based taxation of forest products is not realised. Further, as both poor and more affluent households seem to use the same types of forest products, only in varying quantities (Chhetri 2010), redistribution of benefits through increased taxation of forest products is unviable. Hence, using taxation to induce more equity in community forestry would require more sophisticated approaches to ensure that the poor are not excluded from accessing the products they need. This could entail free subsistence quotas for poor CFUG members or other means of assuring them access on favourable terms, while more affluent members could be required to pay higher fees for the same products.

Authors

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i   The censoring was done by use of three criteria concerning the CFUGs: minimum 5 years of age; minimum of 30 members and; minimum of 5 ha of community forest. The purpose of this censoring was to ensure that we would be able to gather financial records at least 5 years back in time, and that there would be some minimum of financial flow. The random drawing from the three lists of CFUGs resulted in 45 CFUGs that fulfilled the censoring criteria, whereas 33 were discarded mainly because of the area and age criteria.

ii   In both studies, the average CFUG age at the time of the empirical study was 10-11 years.