Generating Income from Nepal's Community Forestry: Does Timber Matter?

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Abstract: This paper argues that timber is the most valuable product of community forests and forms the largest share of the income for community forest user groups (CFUGs). This paper assesses the sources of CFUGs' income in general and income through timber sale, in particular. Drawing information from one hundred CFUGs in three mid-hill districts of Nepal, shows that the contribution from timber is significantly higher compared to other sources such as non- timber forest products, membership fee, penalty, and renting meeting hall. Moreover, the CFUGs with timber sale collect a lesser amount of membership fee, which is one of the major incentives for the members. The research findings emphasize the need to put timber in CFUGs' key forest management priority.

Key words: CFUG income, timber sale, forest management, membership fee

INTRODUCTION

Community forestry is the major program in forest sector adopted by the Government of Nepal in managing national forests. Since the late 1970s, community forestry has continuously evolved with supportive policies and legislations, which encourage local people to manage nearby forests by organizing themselves into groups, known as Community Forest User Groups (CFUGs). District Forest Offices (DFOs) are authorized to transfer part of national forests to these groups. This transfer includes right of access, withdrawal, management, and exclusion. There are over 15,000 CFUGs in Nepal, managing 1.22 million hectares of forestlands. Apart from protecting forests, these groups are also managing forest products distribution and income. They generate income from various sources such as the sale of forest products, membership fees, and penalties from the offenders. The generated income is deposited in the CFUG account(s). The annual income of CFUGs in Nepal is estimated to be over US$10 million, where forest products contribute the major share (Kanel and Niraula 2004). A recent study conducted by Pokharel (2008) shows that the average annual income of a CFUG is NRs 63,202 and can be increased up to nearly five times by selling the timbers at market price even within the CFUG.

Decentralization of forest management in the form of community forest in Nepal has given the decision-making authority to the local people. Each CFUG develops its own constitution describing the conditions of collective action and operational plans for community forest describing how the forest will be managed. Although it is clearly mentioned in the operational plan how the forest will be managed, the CFUGs face difficulty in managing the forests due to lack of technical knowledge and support from the government side. Such lacking in the management arena has led the CFUGs to manage the forests for protection and basic needs - not for surplus production. As a result,

forests are under-utilized, but if the forests are managed properly they can generate more than four times the benefits obtained under the current management practices (Shrestha and Jakobson 2001). In this context, this paper analyses the sources of income of CFUGs with particular focus on timber and concludes that timber is the most important source of CFUGs' income.

STUDY AREAS AND DATA COLLECTION

This study covers three mid-hill districts (Kaski, Tanahu, and Lamjung) of western development region of Nepal where community forestry was introduced in the early 1980s. 100 CFUGs (34 from Kaski, 33 from Lamjung and 33 from Tanahun) with annual income higher than NRs 20,000 were selected randomly for this study. A structured questionnaire that includes a number of households, forest area, and income from different sources such as timber, fuel wood and Non-Timber Forest Products (NTFPs) was used for this study. Executive committee members of the CFUGs were also interviewed.

PATTERN OF CFUG INCOME

Table 1 shows the basic characteristics of the selected community forests. Although community forestry in Nepal started in the 1980s, the momentum of transferring forest management responsibilities from the Forest Department to CFUGs took place in the country only after the introduction of Forest Act, 1993 and Forest Regulations, 1995. The selected CFUGs are relatively mature, as they have been managing forests for about ten years. The forest area per household is 0.85 ha, which is slightly higher than the national average of 0.73 ha (DoF 2008). Almost two-thirds of the sampled community forests were dominated by sal (*Shorea robusta)* tree, a highly valuable timber species. The remaining forests are typical chilaune-katus (*Schima-castenopsis*), a less valuable timber species (Table 1).

Table 1: Basic characteristics of sampled CFUGs

SN	Characteristics	Average	Percentage
1	Age of community forest user groups (Year)	9.65	
2	Area of community forests per CFUG (hectare)	83.03	
3	Forest area per household (hectare)	0.85	
4	Number of households per CFUG (Number)	131.32	
5	Sal *(Shorea robusta)* dominant community forests		65
6	*Schima-castenopsis* dominant community forests		35

CFUG INCOME

Forest products are the major sources of CFUG income. For this study, CFUG income refers to the annual income from the sale of forest products, membership fees, penalties, and outside grants. This study classifies income sources into two categories: i) forestry, and ii) non-forestry. The forestry sources include the sale of timber, fuel wood, poles, NTFPs and fodder/grasses, whereas non-forestry sources are penalty, membership fee, assistance from GOs/NGOs (Government and Non-

government Organizations) and renting halls and utensils. The forestry sources are further classified into timber and non-timber (fodder/ grasses, fuel wood, small poles and herbs) products. However, this study does not incorporate income from NTFPs, as it was insignificant in the selected CFUGs. Table 2 shows the average CFUG income in 2005 was NRs 44,658 where three-quarters of income comes from forestry sources. Of the total income, timber alone contributes about 68 per cent. The CFUGs who sold timber obtained a combined income of NRs 3,043,701 in 2005. Timber is generally first sold within the CFUGs and if there is a surplus, then it is offered for sale to non-CFUG members. Records show that only 12 per cent of the CFUGs in the study areas have sold timber to non-CFUG members in 2005. Many CFUGs in the hills have a quota system and distribute timber to the members based on needs and availability. Although the average price of timber for members in the study areas was NRs 58/cft.

Non-timber contributed to around 7 per cent of the income in 2005 (Table 2). Fuel wood is collected and distributed equally to all the members once a year. The average price for fuel wood was NRs10 per *bhari*[**]. However, the price for fuelwood varies across the group. Almost 60 per cent of CFUGs distribute fuel wood to their members free of charge.

Table 2: Average income of CFUGs in 2005

SN	Income source		Amount (NRs)	Percentage
1	Forest based	Timber	30,437	68.16
2		Non-timber	3,216	7.20
	Sub-total		**33,653**	**75.36**
3	Non-forest based	Membership fees	6,141	13.75
4		Penalty	1,012	2.27
5		Assistance from NGOs/DoF	2,687	6.01
6		Renting halls and utensils	1,165	2.61
	Sub-total		**11,005**	**24.64**
	Total	44,658	100.00	

Non-timber includes fuel wood, small poles, grasses and NTFP.

CFUGs obtain income from non-forestry sources as well. Membership fees contribute 14 per cent of the CFUG income. While average fees for a new member was NRs 3,326, new members are generally charged higher. However, if the new member buys an existing house in the village, he or she pays less fee compared to a member who intends to build a new house. The average fee paid by new members who intend to build new houses is NRs 5,000. Some CFUGs have constructed halls in the office building which are rented and provided with utensils to make additional soruces of CFUG income.

** *Bhari* means one head-load which is generally equal to approximately 30 kg

Table 3: Average income of CFUG with and without timber sale in 2005

SN	Income Sources	Income w/ timber sale		Income w/o timber sale	
		Amount (NRs)	Per cent	Amount (NRs)	Per cent
1	Timber	40,049	75.92	0	0.00
2	Non-timber	2,783	5.27	4,583	24.07
3	Membership fees	4,990	9.45	9,786	51.40
4	Penalty	1,097	2.07	745	3.91
5	Assistance from NGOs	3,735	7.07	0	0
6	Renting halls and utensils	293	0.55	3,927	20.62
	Total	**52,747**	**100.00**	**19,041**	**100.00**

Non-timber includes such as fuel wood, small poles, and grasses.

There is a significant gap in income between those who sell timber and who do not. For example, the average income of CFUGs who had sold timber was NRs 52,747 in 2005. However, those who did not sell timber earned only NRs 19,041. Table 3 shows, CFUGs selling timber earned approximately three times more than those who did not sell timber. It can also be calculated from the Table 3 that timber alone contributes over 90 per cent of the total income of CFUGs from forestry source revenue. Similarly, the CFUGs who did not sell timber generated only 25 percent of the income from other forestry sources. In these groups, membership fee alone contributes to over two thirds of the total income from non-forestry sources (Table 3).

The independent sample t-test shows that the income generated by CFUGs from the sale of timber is highly significant ($t = -2.685$; $p < .009$) relative to CFUGs who did not sell timber. Therefore, timber sales in the CFUGs are correlated with higher income to CFUGs, implying that CFUGs with timber sales tend to generate higher income than those without timber sales. Similarly, if we run the independent sample t-test with the membership fee, the results show that paying membership fee by the household from the CFUGs without timber sales is significantly higher ($t = 2.007$; $p < .055$) relative to the household from the CFUGs with timber sales. This implies that households of the CFUGs without timber sales tend to pay higher membership fees than those households of the CFUGs with timber sales. Thus, timber sales in the CFUG are correlated with paying membership fees to CFUGs.

DISCUSSION

CFUGs generate income from various sources among which timber is the major one. Overall, timber occupies the major share by contributing over two-thirds to the CFUG income. Dhakal and Masuda (2007), Kanel and Niraula (2004), Iversen *et al.* (2006) and Pokharel (2008) also observed timber as the major source of income for CFUGs. The CFUGs, which sell timber, generate approximately three times more income in comparison to CFUGs which do not sell timber. Generally, the CFUGs charge

higher prices for timber in comparison to other products such as fuel wood, poles and fodder/ grasses and it is logical to see higher incomes if CFUGs sell timber. CFUG income from the sale of forest products is perceived as a major incentive for forest conservation and a source of rural development (Karki *et al.* 1994; Byron 1996; Gautam 1997). Timber sales in the CFUGs not only contribute to higher income but also allow the households to pay a smaller amount of membership fee, which is also an incentive to rural people. The CFUGs without timber sales impose higher fees in order to increase the CFUGs funds. On average, households from the CFUGs with timber sales pay NRs 37 as membership fee, whereas the household of the CFUGs without timber sales pay more than double i.e. NRs 80. This gap is a significant factor for the poor members of the CFUGs, and is therefore a major incentive to contribute to forest conservation.

CONCLUSION

This paper demonstrates that timber management has multiple advantages for the CFUGs. Firstly, it is observed that CFUGs with timber sales earn approximately three times more income than those which do not sell timber. Secondly, members of CFUGs with timber sales pay less membership fee, which is a very significant incentive for the poor members who cannot afford high membership fees and therefore ensures their active participation in forest protection and management. It is important to consider timber as a key component of community forestry, and also to encourage the CFUGs to increase their efforts towards timber management.

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REFERENCES

Byron, N. 1996. Income Generation through Community Forestry. In: M. Victor (Eds.), Income Generation through Community Forestry, Proceedings of a Seminar, Bangkok, 18-20 Oct 1995, RECOFTC Report 13 (pp. 1-14), Bangkok: Regional Community Forestry Training Center for Asia and the Pacific.

DoF 2008. Community Forest User Groups Database. Kathmandu. Department of forests.

Dhakal, M. & Masuda, M. 2007. Generation and Utilization of Community Fund in Small Scale Community Forest Management in the Terai region of Nepal. *Banko Janakari*: **17** (2): 55 – 61.

Gautam, K. 1997. Forestry for Sustainable Rural Development in Nepal: Community Forestry beyond the Subsistence Horizon Towards the 21st Century. Paper presented at XI World Forest Congress, 13-22 Oct, 1997, Antalya, Turkey.

Iversen, V., Chhetry B., Francis, P., Gurung, M., Kafle, G., Pain, A. & Seeley, J. 2006. High Value Forests, Hidden Economies and Elite Capture: Evidence from Forest User Groups in Nepal's Terai. *Ecological Economics*: **58**: 93 – 107.

Kanel, K. & Niraula, D. 2004. Can Rural Livelihood be improved in Nepal through Community Forestry? *Banko Jankari:* **14** (1): 19 – 26.

Karki, M., Karki, J. & Karki, N. 1994. *Sustainable Management of Common Forest Resources: An Evaluation of Selected Forest User Groups in Western Nepal*, Kathmandu, Nepal: ICIMOD (International Center for Integrated Mountain Development).

Pokharel, R. 2008. Nepal's Community Forestry Funds: Do They Benefit the Poor? Working Paper No. 31-08. Kathmandu: South Asian Network for Development and Environmental Economics (SANDEE).

Shrestha, K. & Grosen, J. 2001. Protection Versus Active Management of Community Forests, Joint Technical Review of Community Forestry: Report of Joint Technical Review Committee (pp. 3 – 21). Kathmandu: Ministry of Forests and Soil Conservation.

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