



POLICY Brief

Number 1-04, March 2004

Community Forestry in Nepal Management Rules and Distribution of Benefits

In the last decade, far-reaching policy reforms in Nepal have allowed local communities to regain control over the management of vast tracts of forest. Community forestry is widely believed to be a major step forward in Nepal's history of forest management – it has helped stem forest degradation and empowered rural people. However, little is known about the actual distributional impacts of community-oriented forestry. How do the poor fare relative to the rich in this new management regime? Also, what contribution does forest income make to total household income? A recent SANDEE study tries to answer these questions.

The study finds that richer households get higher benefits from community forestry relative to poorer households. In fact, on average, wealthier households obtain three times as much forest income as the poor. Forests income makes up approximately 14% of total income for poor households and some 22% of total income for somewhat better endowed households. The study argues that this discrepancy in impacts is a result of inherent inequalities in the ways in which the rules of management are forged.

This study was undertaken by Bhim Adhikari in eight forest communities in Nepal in 2000-01. It is based on detailed data on forest products collected from community forests, valuation of income from these products, and identification of social, economic and institutional factors that affect forest income.

COMMUNITY FORESTRY IN NEPAL

Property rights over forests in Nepal have a long history of dramatic changes. In 1957, the state first nationalized forests, and brought most forest tracts that were under private or community ownership, under its control.

Nationalization of forests provoked many owners and users of forests to convert forested land to agricultural land to avoid losing access. By the mid-seventies, deforestation was rampant. Slowly, a consensus developed within the government that local communities had to be involved to sustain forests.

The Forest Act 1961 which was first amended in 1978 signalled a major change in forest policy from government management to community to community ownership. In 1982, the Community Forestry Legislation & Decentralisation Act was passed and plans were made to increase local forestry rights. Nepal gained democracy in 1990, and the popularly elected government acted in 1993 to hand over forest management rights to forest user groups (FUGs).

Currently, almost a quarter of potential community forests in Nepal are managed through some 11000 user groups. There are plans to increase this area to include all forests that can be potentially managed by communities. Thus, the stakes for getting community forestry right are very high.

This Brief summarizes SANDEE Working Paper 1—03, "Property Rights and Natural Resources: Socio-Economic Heterogeneity and Distributional Implications of Common Property Resource Management" by Bhim Adhikari. The full report is available at www.sandeeonline.org. During the time of this study, Bhim Adhikari was a graduate student at the University of York and undertook this research as part of his Ph.D. dissertation.



COMMUNITY RIGHTS AND RESPONSIBILITIES OVER FORESTS IN NEPAL

Rights

- Users reserve the right to form FUGs.
- Users identify traditional users of forests and provide membership to new entrants under certain conditions.
- Operational rules on protection, utilization and infractions are made by FUGs.
- Users can enter community forests as per rules.
- Users can harvest pre-defined types and units of forest products.
- FUGs can price forest products irrespective of government royalty and use funds for community development. Cash crops can be planted without disturbing the main forestry species.
- Users cannot sell /lease/ share of rights to other users or sell their private share of produce.

Responsibilities

- Users pay a membership fee and contribute to paying a guard.
- Users have to participate in monthly meetings.
- A small fee is payable for some forest products.
- Users are expected to participate in obligatory community activities such as tree planting, thinning, pruning etc.

Large sections of South Asia's population depend on natural resources for their survival. Ownership rights over these resources are often ambiguous or held by the State. This causes many problems for sustainable management. There are three potential solutions to this problem – the resource can be privatised, it can be more efficiently managed by the State, or, handed over to communities. State management has been rather unsuccessful so far, and, privatization raises the spectre of market and distributional failures and political upheaval. Thus, it is useful to consider the prospect of community management of resources. If communities are given property rights over control and management of natural resources, it is expected that they would preserve resources through sustainable use. This general premise has led to the growth of community forestry in many parts of the world. Nepal, is considered a pioneer in this area, and, has undertaken major policy reforms to hand management authority of forests to village-level forest user groups. This Brief discusses the impact of this change in property regimes on poor forest households.

A STUDY OF EIGHT VILLAGE COMMUNITIES

In order to assess the distributional impact of community forestry, Adhikari focused on two mid-hill districts of Nepal, where community forestry is prevalent. He surveyed eight Forest User Groups in Kavre Palanchok and Sindhu Palchok districts. Using participatory rural appraisal techniques, households in each forest user group were categorized into poor, middle income and rich households. Twenty percent of randomly selected households were surveyed from each category. Household questionnaires were used to collect forest-use and agricultural information. Data was collected from some 330 households. Village level questionnaires resulted in data on forest user groups, their rules and regulations.

ESTIMATING BENEFITS FROM COMMUNITY FORESTRY

Households use community forests for a variety of purposes. Benefits from forests include firewood, tree fodder, cut grass, leaf litter, medicinal herbs & timber. To determine if there are differential benefits to diverse socio-economic groups, Adhikari calculated the value of forest products to different economic groups.

Adhikari used numerous valuation techniques to estimate the cash value of forest products. For items that were transacted in the market, the annual physical gross produce was multiplied by their market values. For items that did not have a market prices e.g. tree and grass fodder, an imputed value was derived by means of a barter game where groups were asked to exchange the non-market products with some other product (like rice) that had well established market prices. The exchange price was then used to calculate gross income. Leaf litter was valued by imputing costs of labour time in collection and transportation. Costs of hired labour, membership fees, expenses on tools, transaction costs, etc. were deducted from gross values to calculate net income from forest products.



Since formation of community forest groups involves time and effort, Adhikari estimated transaction costs associated with collective action. These costs include expenses incurred in ensuring that group decisions are implemented. For example, the FUG hires a watchman or develops a rotational watch system where an adult member from each family takes turns to keep watch over the community forest. Those families that are unable to participate in the rotational watch contribute monetarily or in kind. In general, three broad categories of transactions costs were included in the analysis – costs of decision-making, costs of implementing these decisions, and costs of monitoring.



RICHER HOUSEHOLDS GAIN THE MOST

Adhikari's study shows that richer households earn more from community forestry than poorer households in terms of both absolute and relative income. Poor households on average earn about Rs. 7,756 (Nepalese Rupee) annually from community forestry while richer households earned Rs. 24,466. Thus, rich households gain approximately three times more than poor households. If costs are subtracted from gross incomes to obtain net income, the poor still earn 40% less from community forests than the rich. Thus, in terms of sheer value, the rich get the most out of community forests.

Another important question is what contribution does forestry make to the total income of households in rural Nepal. In order to answer this question, Adhikari focuses on relative earnings, i.e. the ratio of incomes from community forestry to total income. Here, if gross income is considered, 22% of the total income of the average rich household is attributable to forests, while only 14% of the total income of the average poor household comes from forests. Interestingly, however, if net incomes are used to compare relative dependence, then an inverted U-shaped relationship emerges. The poor on average earn 5% of their net income from CF, middle-income groups earn 8% and the rich households earn 4%.

In terms of transaction costs, Adhikari estimates that transaction costs relative to total costs are highest for poorer households (14%) and lowest for richer households

(9%). Thus, the poor are putting a lot into community management but earning the least.

WHY DO HOUSEHOLDS WITH MORE ASSETS BENEFIT THE MOST FROM COMMUNITY FORESTS?

The study finds that benefits derived from community forestry are biased in favour of those with land and livestock ownership. Of all the forest products collected, only timber and fuel wood are used as final goods. All other biomass products form intermediate inputs into agricultural production. Thus, demand for forest products appears to be directly linked to the amount of private assets of land and cattle owned by households.

Annual average gross and net income per household from CF (Nepalese Rupees)

Income Group	Gross Income	Net Income	% Gross CPR Income	% Net CPR Income
Poor	7,756	2,701	14	5
Middle	14,815	5,731	20	8
Rich	24,466	4,335	22	4



SANDEE

The South Asian Network for Development and Environmental Economics (SANDEE) is a regional network that seeks to bring together analysts from the different countries in South Asia to address their development-environment problems. Its mission is to strengthen the capacity of individuals and institutions in South Asia to undertake research on the inter-linkages among economic development, poverty, and environmental change, and, to disseminate practical information that can be applied to development policies. SANDEE's activities cover Bangladesh, Bhutan, Nepal, India, Pakistan and Sri Lanka.

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This policy brief is an output of a research project funded by SANDEE. The view's expressed here are not necessarily those of SANDEE's sponsors.

The rules for community forest management emphasize intermediate goods such as fodder, leaf litter and grass. On the other hand, there are restrictions on direct collection of non-timber forest products and how much fuelwood can be collected. The landless and those without livestock have little need for fodder and grass. Therefore, they use less from the forests and benefit less. They are also unable to trade these items under current rules.

SOCIO-ECONOMIC FACTORS AND FOREST INCOME

Analyses of costs and benefits clearly show that the asset-endowed gain relative to the poor. To further explore the link between forest income and wealth and other socio-economic factors, Adhikari sets up a statistical model. This model allows him to estimate factors that significantly influence income from community forests.

Results indicate that household wealth, education, caste, and gender have a significant impact on forest-related incomes. Thus, for example, forest income is highly correlated with richer households. Another significant result is that male-headed households gain more from forests relative to female-headed households. This can be attributed to the low representation of females on FUG executive committees (15.7%), and their lack of awareness regarding community forest operational plans. In general, households with higher levels of education seem to have lower forest incomes because they have alternative sources of employment or income.

WHERE DO WE GO NEXT?

Adhikari's study suggests that decentralized forestry reinforces some traditional social and economic hierarchies prevalent in rural South Asia. There is a clear demarcation in terms of what kinds of products are used by the rich and the poor. The manner in which institutional rules are devised is at least partly to blame for how benefits are distributed.

The study concludes that two policy changes might facilitate goals of forest conservation and equitable distribution of forest produce. Increased representation of women and the poor in FUG Committees would give a voice to the less powerful and facilitate more impartial rules. Second, a system of transferable private property rights over forest produce (within a community regime) might redress the bias against poorer households. Tradable rights would allow the poor to exchange forest products that are of low value to them for products that they are more likely to use.

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