Aspects of Social Forestry in Bhutan

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Background

The Buddhist Kingdom of Bhutan lies in the Eastern Himalayas between China (Tibet) and India. The country covers about 40,000 sq. km rising steeply from the Siwalik deposits bordering the Brahmaputra plain to a height of almost 8,000 m in the Himalayas. The forest resource in Bhutan is unique in the entire Himalayan area. It has enormous variety, changing with altitude over a relatively short distance from sub-tropical forest through temperate broad-leaved and coniferous woodland to high alpine meadows.

The Bhutanese economy, which has been of an early medieval form probably comparable with those found in montane Europe at the start of the millennium, has developed drastically over the last 30 years. The forestry department was established in 1969 with a mandate to protect and manage the forests and to develop an export industry. All land, which is not explicitly registered as private land, has been declared government reserved forest. The total forest area is estimated at 29,000 sq. km (corresponding to 72.5 % of the total area) out of which about 55 % is broad-leaved forest and 45 % conifer. With a population of only about 600,000, the ratio of people to forest is still very favourable (almost 5 ha per person) and the forests are still largely intact. Free and uncontrolled cattle grazing is presently posing the biggest threat to the maintenance of the present forest ecosystems. About 29 % of the total land area is under protected area management (mainly National Parks).

The concept of “Social Forestry” was introduced in Bhutan by a Royal decree in 1979. During the initial stage, “social forestry” was confined to the distribution of cost-free tree seedlings. However, the programme could not take off due to the legal framework of tree tenure. Trees planted on private land were still considered as Government property; this proved to be a big disincentive to plant trees.
For commercial purposes (logging), forest management is practiced on less than 5% of the total forest area in so called Forest Management Units (FMU) with well developed forest management plans. The export of unprocessed wood was banned in January 1999. Until then, most of the exported timber was sold to India.

**Rationale of the Participatory Rural Appraisal (PRA)**

A participatory rural appraisal (PRA) of forest resources and local forest management was conducted in December 1998 in the villages of a clearly confined watershed called Lingmutey Chhu. The main purpose of the PRA was to investigate the perceptions of the communities concerning the present forest management system of the forestry department (FD) and their interest in working as partners with FD staff to develop a more participatory forest management system.

**The PRA area: Lingmutey Chhu watershed**

The watershed spans the boundaries of three districts (Punakha, Thimphu and Wangdue) in Western Bhutan, ranges from 1200 to 3000 m.a.s.l, covers an area of 3400 ha and contains 6 villages with 175 households (see Table 1).

Forest covers approximately 3000 ha (i.e. 88% of the watershed area) and forest resources range from severely degraded Chir pine (*Pinus roxburghii*) in the lowest part of the watershed (around Wonjokha) to closed canopy deciduous forest on the northwestern ridge (near Limbukha and Nabche).

**Table 1: Lingmutey Chhu watershed village characteristics**

<table>
<thead>
<tr>
<th>Village</th>
<th>Altit.</th>
<th>Households</th>
<th>Crops</th>
<th>Availability of forest products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dompola</td>
<td>1800</td>
<td>35</td>
<td>Rice-Wheat</td>
<td>Moderate</td>
</tr>
<tr>
<td>Limbukha</td>
<td>2000</td>
<td>35</td>
<td>Rice-Potato/ Wheat</td>
<td>Good</td>
</tr>
<tr>
<td>Mat.Chhu</td>
<td>1500</td>
<td>20</td>
<td>Rice-Wheat/ Mustard</td>
<td>Scarce</td>
</tr>
<tr>
<td>Nabchhe</td>
<td>1800</td>
<td>20</td>
<td>Maize</td>
<td>Moderate</td>
</tr>
<tr>
<td>Omtekha</td>
<td>1600</td>
<td>28</td>
<td>Rice-Wheat/ Mustard</td>
<td>Scarce</td>
</tr>
<tr>
<td>Wonjokha</td>
<td>1200</td>
<td>37</td>
<td>Rice-Wheat/ Mustard</td>
<td>Scarce</td>
</tr>
</tbody>
</table>
The present forest management system

For private rural households a quota system is applied: the main wood products (green firewood, building timber, poles) are issued against payment of royalties. Households submit their application through the headman of the sub-district to the district administration and then to the local district forest officer. Trees can be harvested from any permissible area in the country and the selected and markable trees are marked by the local forest guard. The trees are then felled and transported by the household.

Forest guards are posted throughout Bhutan to supervise wood extraction, to patrol their forest area to prevent illegal felling, forest fires etc, and to fine those responsible for any illegal acts.

Apart from these activities, and some control in the selection of trees, there is no strong management planning of the forest resources used by the local communities.

The implementation of the PRA and some comments on PRA tools

The PRA went well and villagers expressed appreciation that they were being consulted on forest resources and management. The villagers requested that only 1 day be spent on the PRA. This reduced the amount of information collected, and the extent of cross checking (triangulation).

Village household participation was good (approx 70%) and both men and women were present. Gender related forest resource use differences were considered by discussing key issues separately with women and with men. Plenary sessions with all the village participants at the end or the beginning of the daily PRA allowed for some cross checking of information, as did the plenary meeting with representatives from all villages on the final day of the PRA.

Other than the participatory mapping of forest resources, visualisation techniques (e.g. participatory construction of seasonal calendars) were only used occasionally. The villagers found it easier and less time consuming to report
verbally on the different months and responsibilities for produce collection, and their priority species and products; than to produce seasonal calendars or matrices.

The PRA findings were compiled and verified in a plenary meeting at which the headman of the sub-district and 5-6 representatives of each village attended.

**Results of the PRA**

**Forest resources**
In general, the villagers agree that forest cover is increasing but that the quality is declining, that collection distances for fuelwood, timber and shingles have increased and that there is over-extraction from certain areas. Villagers collect some products from beyond the watershed, and from areas belonging to neighbouring sub-districts.

**Forest products**
With the exception of one village, the watershed forest products used (firewood, timber, shingles, leaf litter, grazing, edible plants) are similar across villages. Only Nabchhe village reported the sale of forest products (mushrooms and ferns).

**Water**
The priority problem in all six villages is shortage of water for irrigation and/or for drinking. Wonjokha, in the lower watershed and at the tail end of the watershed irrigation and drinking water systems, is worst affected.

**Firewood**
The problem of firewood is seen in relation to availability, collection distance and preferred species. All villages prefer firewood from hard wood species. For their preferred hardwood species they all indicate an increase in collection distances or a tendency to replace it with Chir pine.

**Timber**
Procuring timber for construction is considered a problem in most of the villages. Over the years timber resources have declined and big trees are no longer available nearby.
Shingles
Except Nabchhe, all villages reported shingle production as a problem. The use of CGI (corrugated galvanised iron) roofing is beginning to reduce the pressure on tree species used for shingle production.

Priority forest products
Overall, the six villages regard firewood as the top priority forest product that would require increased production. Women were unanimous in this view but some men ranked timber or grazing higher. The second and third priorities varied.

Traditional forest management
Villagers reported the former traditional system as one of free and unrestricted harvest within the village forest and strong protection of their own forest areas against illegal use by outsiders. Villagers predicted that the traditional system would have led to severe forest depletion near the villages and continuing inter-village conflicts over forest resources.

Village institutions
All villages reported effective community institutions for religious festivals and/or for management or harvesting of common natural resources (e.g. irrigation water; shingle collection). Water management and community forest management organisations are usually the most formal ones with rules, sanctions and formalised leadership. Reciprocal agreements exist between communities inside and outside the watershed for joint use of natural resources

Villagers perceptions of the forest management system
All villages expressed considerable satisfaction with the positive impact of the present system (of the forestry department) (1) on natural forest regeneration near the villages, (2) on the reduction of inter-village conflicts over wood products, (3) on the improved equity in forest resources access and (4) on forestry staff being responsible for forest conservation and protection.

However, villagers are concerned that the system gives them no right to protect resources in sensitive areas, e.g. water sources, and that wild animal damage to
crops and livestock has increased. They find travelling to the forest office for all permits and permit renewal inconvenient; and the timber quota of 30 trees per household for new construction and the firewood quota of 200 head loads per year (when their consumption needs are around 720 head loads) insufficient.

**Preferred forest management systems**

For most villagers, their first preference for an improved forest management system was village protection of an area of forest near the village for their own use, primarily for firewood. Villagers developed some interest in a watershed system (with restricted access for outsiders), to ensure village access to all its forest products. Opinions on the preferred forest management systems remained divided, with the older men and women doubting whether a modified system could resolve conflicts of interest, unequal sharing of forest resources and resource depletion.

**Equity of access**

All of the villages reported that access to forest resources was equal for all households, but that use of forest resources was greater for resource rich households (more labour, more cattle and more cash for buying permits).

**Gender**

With regard to forest products, women consistently placed greatest emphasis on firewood while men also prioritised timber and grazing: only women prioritised leaf litter, which is collected as bedding for cattle and then used as important organic fertilizer for farming. Women regard forest product harvesting as mainly the responsibility of men, who would have a more detailed knowledge of the forest. Nonetheless, women are frequently the lead decision makers with regard to the household need for forest product supply (firewood, shingles, building timber). In return, men were better placed than women to suggest potential ways and modalities for a participatory management of the watershed forest resources.

Women’s and men’s opinions and priorities did differ, but the presence of only one male “observer” to a women’s sub-group silenced the women and usually only one or two would express themselves in a fully mixed village group.
Community decision on “participatory forest management”
The headman of the sub-district and the various spokespeople for the different villages were consistent in their preference for retaining the present system of forest management. The main reasons they expressed were: (1) the improvements that they had seen in tree cover near the villages, (2) their fear of community conflict, and (3) their uncertainty whether they would see the benefits of the extra work load for participatory forest management. Some suggestions were made to improve the present forest management system and some participants expressed interest in reconsidering the “participatory forest management” option. A schedule for future action was drawn up.

Research topics
Two research areas were identified which would contribute to sustainable forest management in Bhutan: (1) To investigate the extent to which farmers’ criteria for forest quality assessment could replace classical resource intensive methods of forest inventory and assessment, (2) to analyse in more detail the traditional forest management system of communities and the extent to which it could serve as a basis for participatory forest management.

Points to ponder
A number of issues that emerged from the Lingmutey Chhu PRA are of wider relevance to sustainable forest management in Bhutan:

Tree selection
When villagers fell trees they naturally take the “best” trees for their purpose, leaving behind the “worst” trees. Consequently, although forest regeneration is occurring, it is likely to be of increasingly poorer genetic quality and of less valuable species. Some amendment is needed in the rules guiding tree selection for felling, in order to maintain adequate quality in the breeding stock.

Cutting of firewood
For firewood allotted on a head load basis, trees are not marked but the applicant must indicate the area from which s/he will collect the wood. The Range Officers
issuing the permit cannot be expected to always know whether the indicated area is suitable or sensitive for wood collection. Once issued, the permit is legal and local inhabitants have no possibility to protect areas which they consider as sensitive. Local communities and their forest guard should jointly identify a list of critical areas and inform the Range Offices who should avoid issuing permits for these areas.

Villagers go on their own to the area indicated in their permit, and collect as many head loads as possible of their preferred species (e.g. the hardwood saplings in a Chir pine dominated area), very often cutting the best trees that are of markable size. This system called ‘seyshing’ is very destructive to forest regeneration and the issue of seyshing permits should be restricted or stopped.

The role of the local forester
As long as no trees are cut down without a permit, the local forest guard is doing a fine job. S/He could do more because of his/her detailed knowledge of the local community and local forest. Given some decision making powers on local forest management, the local forest guard could be an important resource for working towards sustainably managed community forests. A number of changes in his/her responsibilities are suggested. These would require refresher training, initially on participatory extension methods and later on skills for local forest management.

Towards participatory forest management
Community participation in the village PRA’s was good. Even in the absence of more substantial moves towards participatory forest management, this process of consultation with the community (and where possible acting on the issues raised) could be adopted more widely as a first step towards community involvement in sustainable forest management.

The outcome of the Lingmutey Chhu watershed PRA was not in favour of participatory forest management. This may reflect a dependency mentality or may be a rational response of the community, who prefer to maintain a system which they see working to their advantage rather than to pilot a new system in which they perceive that their responsibility would obviously increase without an
obvious and equal increase in benefits. Community interest in participatory forest management will be greater if the benefits to the community are clear. Protection of the watershed forest from use by outsiders can be guaranteed by supportive Forest Range Offices and this is a clear benefit. A major disincentive under the present forestry rules is the uncertainty of future control and ownership by the villagers of the trees and tree products.

Multiple forest management systems
An appropriate approach towards participatory forest management is neither “the Forest Department management system” nor “the participatory forest management system”. Instead there is a need for many different systems graded to suit the confidence of the community, from those in which the communities have relatively less responsibilities to those in which the communities largely manage their own forests, while respecting sustainable production and conservation principles.

Institutional development for participatory forest management
In all villages of the watershed, effective community institutions exist for managing religious events and common natural resources. However, many villagers were not confident that they could develop new institutions to effectively implement a participatory forest management system. This suggests the need for a period of institution building and reaching agreement within and between the different villages communities, requiring consistent support from appropriately skilled staff.

Gender and the involvement of women
The priorities of men and women for forest products and species did differ and women frequently initiated decisions to harvest forest products. Women thus influence the demand for wood products. Any forest management plans developed in Bhutan will need to involve and to satisfy both women and men.
Towards Pluralistic Forestry

Literature

BG-SRDP, 1999: Participatory Forest Management for Local Use: Report of a Participatory Rural Appraisal of Forest Resources and Forest Management in the Lingmutey Chhu watershed (Project Report)


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