

## **Community Forestry in Bhutan Contributes to Poverty Reduction While Maintaining the Sustainability of the Resources**

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*Community Forestry (CF) in Bhutan started to take off in 2000. As of June 2007, 46 community forests had been approved covering about 4,200 hectares with 2,192 households involved. With the potential to reach 69% of the population (about 95,000 rural households) it has great potential for livelihood improvement. By law the rural population already has access to construction timber and fuelwood against subsidized rates (so-called rural timber supply), but with CF the communities are allowed to sell excess products (both wood and nonwood) as the Forest and Nature Conservation Rules, 2006 created an enabling environment to sell excess products. CF also makes timber for own consumption more easily available as no permits are required after the management plans have been approved.*

*The sale of excess nonwood forest products (NWFPs) from CFs started a few years ago and the number of community forests selling NWFPs is increasing. In late 2007, the first excess timber from two CFs was sold. This shows the benefits and also the potential of how CF contributes to poverty reduction as communities receive income from it.*

*Several communities have the management rights over their NWFPs and thus also the right to sell these products to “outsiders,” thus creating income for the community forest members. Several initiatives have started to establish small-scale enterprises to either produce or sell products in an organized way so communities can benefit even more. The establishment of small-scale forest enterprises is facilitated through in-service training.*

*The establishment of the Community Forestry Management Group also makes the group stronger and enables the group to have a stronger voice in the local discussion forum and speak out for its own development (empowerment). Several examples of this empowerment can already be seen.*

### **Introduction**

The Bhutan Living Standard Survey 2003 revealed that almost 31% of the Bhutanese population lives below the national poverty line; 94% of these people live in rural areas. Based on these statistics and the Poverty Analysis Report, 2004 which showed that the communities depend on natural resources, the Royal Government of Bhutan made poverty reduction a focus of the 10<sup>th</sup> five-year plan. This strategy focuses on rural development, ensuring balanced development, and promoting the private sector among other approaches (Bhutanimes 2007).

Sixty-nine percent of the total Bhutanese population (about 635,000 according to the 2005 census) is defined as rural. This indicates that natural resources are very important for the majority of the population's livelihoods. They rely on forests for timber and fuelwood as well as for food, cash income from sale (e.g. bamboo), and grazing areas. Nonwood forest

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resources are very rich in Bhutan, including medicinal plants, cane, dyes, oil seeds, nuts, incense, vegetables, fruit, bamboo, spices, and mushrooms.

This paper shows that Community Forestry (CF) is contributing to poverty reduction as it not only contributes to economic development but also to good governance and ensuring the sustainability of the natural resources.

## **Background**

Bhutan is a sparsely populated Himalayan country, reaching from the 7,500 meter peaks of the eastern Himalayas to the low subtropical broadleaf forests near the Indian border at 100 meters. Total forest cover is about 72% of the land area. This Buddhist country is characterized by a rural population that is largely self-subsistent. Development efforts are challenged by scattered populations, difficult terrain, and a fragile ecosystem. The ratio of people to forest is still very favorable (almost 5 hectares/capita), the forests are largely intact, and overall development prospects are very favorable, because the Government and the population are extraordinarily aware of environmental and development issues.

The natural richness of the country is well protected, with 26% of total land under protection (National Parks); biological corridors (another 9% of the land area) connect all protected areas. About 10% of the forests are part of forest management units to fulfil the domestic (commercial) timber demand. The remaining forests are without management plans and are used for so-called “rural timber supply,” which provides the rural population with subsidized timber for house construction and maintenance and fuelwood. Currently less than 1% is under CF management.

Bhutan is one of about 200 global hotspots of biodiversity, counting 165 species of mammals (among them, the Bengal tiger, snow leopard, Asian elephant and rhino, Himalayan black bear, and takin<sup>3</sup>), 770 species of birds, an estimated 300 to 600 medicinal plants of traditional and economic value, as well as 400 orchid species. What is more, Bhutan is one of the few countries fixing more carbon dioxide in its forests than it is actually emitting.

The Kingdom of Bhutan is currently going through a process of governmental restructuring. The monarchy has decided to devolve power to an elected parliament and to decentralize the power structures. In 2008, the country will conduct its first parliamentary elections and become a constitutional monarchy. In this process, CF could play an important role, because it has the potential to address a large part of the mainly rural population through Community Forest Management Groups (CFMGs); it is coherent with the national aim of reducing poverty and fosters democracy and other main aspects of good governance in the CFMGs. In the 10<sup>th</sup> Five Year Plan (starting mid-2008), poverty reduction is the main priority and in the forestry sector the CF program is the sole program contributing towards the national goal.

## **Community Forestry Development**

Over the years, rural communities have had to move further and further from their settlements in order to gather timber, which has also made transportation costs much more expensive. As a consequence, Bhutan has developed a long tradition of CF. The tradition was initiated by His Majesty the King in 1979 with a decree that the land should have forest cover of at least 60% at any time in the future. Over the last few decades, the CF program was developed into what it has become today. The current CF program started to take off in 2000. Its main goals

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<sup>3</sup> A goat-antelope.

are the establishment of a decentralized qualified forestry extension service, protection of aquifers and biodiversity, and income generation through the sale of excess forest products from community forests. All goals are based on the sustainability principle and that communities have the management rights and the responsibilities towards the surrounding forests.

Since mid-2002, through the Participatory Forest Management Project, the Swiss Development Cooperation (SDC) and Helvetas are supporting the efforts of the Government in decentralized participatory forest management.

If the community is managing the timber resources, in principle the community can have management rights over an area which has 2.5 hectares per household (if available around the village); if the focus is on NWFPs the area can be flexible depending on the traditional harvesting areas and the availability of the area according to the Forest and Nature Conservation Rules of Bhutan, 2006 (MOA 2006).



**Photo 1: Forests Surrounding Villages Can Be Designated as CFs**

To date (June 2007), 46 community forests with an area of about 4,200 hectares and 2,192 rural households have been established throughout the country, and many more are being prepared. Overall, the program has in the long run the theoretical potential to cover 240 km<sup>2</sup>, based on the 2.5 hectare per rural household principle (Temphel and Beukeboom 2006), however in the next few years it will be realistic to establish about another 300 community forests covering about 45 km<sup>2</sup> involving approximately 15,000 households.

Administratively, forest extension services have been trained to increase their capacity in the further development and upscaling of the CF program. Courses on community and private forestry management planning, practical silviculture, conflict management and facilitation of conflict management, and on the application of geographical information and global positioning systems are regularly conducted. These training courses will have to be continued to ensure that the forest extension services are updated and have enough capacity; however new training courses will be designed as well (e.g. on formation of regional associations, product development, and market analysis). Exchange visits and workshops increase the knowledge of the communities and provide them with a good opportunity to raise issues and to contribute to possible solutions.

A Forest-based Enterprise Development for Sustainable Livelihoods training course has been conducted for the first time. The calculations indicated that the CF program has economic potential. As the priority of the 10<sup>th</sup> Five Year Plan is to reduce poverty, CF is the main program of the Department of Forests to contribute to this goal.

A detailed Community Forestry Manual was developed, tested in the field, and finally adopted by the Department of Forests in 2004. It is a very useful tool for the extension service to implement the project. It supports the main steps in establishing community forests: initiation of CF; the application process; management planning, review, and approval; implementation and monitoring. After a few years of experience it is now time to revise the manual. Overall, capacity building and technical backstopping have considerably contributed to strengthening the local administration and authority to establish CF. Guidelines on NWFPs (e.g. *Borinda grossa* [an endemic bamboo], *Illicium griffithii*, and *Cymbopogon flexuosus* [lemon grass]) are also in the pipeline, which include resource assessment as well as management. Silviculture materials have been developed to encourage the communities to improve timber management (Figure 1).



**Figure 1: The Cover of the Silviculture Training Manual**

## **The Economic Prospects of CF**

Several initiatives have been taken already to address the 10<sup>th</sup> Five Year Plan's goal to reduce poverty.

The way the communities benefit (economically) from community forests is expressed by the CFMGs as:

- Easier access to timber
- Access to NWFPs
- Strengthening of CFMGs
- Establishment of savings groups
- Possibility of sale of timber and NWFPs (if sustainability allows this)
- Time saving (the process to obtain permits for rural timber supply through the Government is lengthy)
- Possibility of the establishment of community enterprises based on forest resources

Several Community Forestry Management Plans have a provision that they can sell excess timber and/or NWFPs. Two community forests are making final preparations to sell their timber. The only hindrance is the need for the transit hammer (to ensure that the timber is legally harvested or transported) which is being produced and is expected in July/August 2007. Dorji and Phuntsho (2007) calculated that in 2007 the community in Masangdaza can

earn Nu211,043 (US\$5,276) and the community in Shambayung Nu156,315 (US\$3,908) once they start selling their excess timber. Sales in the following years depend on the annual harvesting limit and their own needs.



**Photo 2: Community Members Sawing Their Own Harvested Trees**

More and more emerging CF management plans now have the provision that the sale of timber is possible. This increase can be attributed to the change in the Forest and Nature Conservation Rules, 2006, in which the criteria for community forests was changed from 50% degraded and 50% good forests to the criteria that any type of forest in and around villages and human settlement may be designated as community forest (MOA 2006). It can be expected that as soon as the first two community forests have started selling their excess timber (based on sustainable harvesting) other CFs will also become more active.

Through silviculture improvement in community forests there is definitely more potential to increase timber resources and thus increase timber sales. Also community forests now have access to a larger portion (thanks to the revised and improved rules) of good forests so the opportunity to sell timber is increasing.

Several community forests are established mainly for NWFPs. This allows the community to manage their resources themselves when before they had to share with outsiders (often intermediaries).

Overall the high economic potentials of NWFPs have not been adequately explored and the full impact of NWFPs on Bhutan's rural economy is yet to be addressed. Nevertheless, NWFP resources are very rich in Bhutan and cover a wide range of products from medicinal plants to dyes, oil seeds and nuts, incense, forest vegetables, fruit and nuts, bamboo and cane, spices, resins, and high value mushrooms.

Three case studies (Temphel and Beukeboom 2006; Phuntsho and Sangye 2006; and Wangdi and Tshering 2006) show that the communities are aware of the economic potential of CF but economically do not optimally benefit from it.

In the past few years a total of US\$12,150 have been accumulated in the savings groups of 24 CFMGs which would not have happened without the formation of the CFMGs (Temphel and Beukeboom 2006). This might seem only a small amount but is significant in the context that in some communities the cash economy was only introduced recently. Most of the funds are collected through savings, NWFP sale, and fines.

The Department of Forests also has high hopes for NWFPs to address the priority of poverty reduction. The policy is to follow the three guiding principles for the development of NWFPs (DOF 2006a):

- Existing policy: legal and regulatory frameworks should be the basis for further development
- NWFP harvesting should be based on resource availability and sustainable management principles and should not be market driven
- Resource utilization should be community based and not individual based

Several specific products have shown potential for income generation:

- The recently established community forests based on bamboo management in Wamanang already show that the community earns more income from the sale of bamboo and bamboo products than before (Dorji and Tenzin 2007). They have demonstrated that the community in the future can collect about Nu540,000 (US\$13,500) from the sale and home consumption of bamboo
- The community forest in Lhuentse, based on cane and bamboo, has started a product development program for on-farm processing and thus providing additional income for the community. Training was provided by resource persons from Bjoka community (Zhemgang District) which has been making these products traditionally. This initiative is promising and other communities will learn from it
- If the market opportunities for pipla (*Piper pedicellatum*) are opportune again several communities will benefit economically from pipla. Renewed market studies by the Agriculture Marketing Services of the Ministry of Agriculture are promising
- Mukia et al. (2006) showed that *Illicium griffittii* (used in tea, as incense, for medicinal purposes or to improve the strength of local alcohol or aromatic stimulants) also provides a good opportunity for communities once confusion about the product has been resolved; the Bhutanese product (whose seeds are poisonous) is often compared with the more lucrative *Illicium verum*, often called Star anise (DOF 2006b). As the collection of *Illicium griffittii* is hardly affecting its sustainability, collection and sale should be stimulated
- The case study by Norbu and Gyeltshen (2007) showed that *Swertia chirata* is providing a good income to the community. They calculated that based on the resource inventory about 13,400 kilograms can be harvested sustainably and with the 2006 price of Nu100/kg they could have generated Nu1,340,000 (US\$33,500) from sales
- The case study by Namgay et al. (2007) showed that incense plant management by communities is sustainable and profitable and has the potential to increase their income if they can establish on-farm incense production. They argued that each household can earn about Nu2,860 (US\$71.5) and this can be increased slightly if collection is increased to sustainable harvesting levels, and improved drying methods are used

Draft business plans prepared for a number of products during a training course on Forest-based Enterprise Development for Sustainable Livelihoods illustrate the viability of these products in terms of net profit and return on investment (Table 1). All the samples used in the training showed that the extant informal enterprises can be profitable although not all the data were available at the time of making the business plan. Besides the benefits from the enterprises, the community has its labor paid and after the costs to get raw materials from the community forests (according to the by-laws of the CF management plan) as well as the marketing and transportation costs have been accounted for, the enterprises can make a profit.

The training also made it clear that Bhutan has to do much more from the economic standpoint as economic understanding, especially at the field level, is limited.

**Table 1: Examples of Business Calculations of CF-based Enterprises**

<b>Product</b>	<b>No. of Households</b>	<b>Net Profit per year (Nu)<sup>†</sup></b>	<b>Return on Investment (%)</b>
Cane and Bamboo Association in Lhuentse	17	15,234	56
Bamboo and Cane Shoot Production in Punakha	42	2,764	1.2
Mushroom Cooperative, Thimphu	18	14,121	7.3
Pipla Enterprise in Zhemgang	107	78,500	146
Tea ( <i>Vicsum articulatu</i> ) in Pemagatshel	29	45,685	14.9
Cane and Bamboo Enterprise in Mongar		178,274	65
Lemon grass in Mongar	109	3,574	4.36
Timber Cooperative in Mongar	87	69,355	11.3
Chirata Enterprise in Samdrupjongkha	532	881,240	481

<sup>†</sup>This amount is after payment of all costs like labor, raw materials, marketing, administration, transportation, etc. as they are the costs to run the enterprise.

Source: Business Plans Developed during the “Forest-based Enterprise Development for Sustainable Livelihoods” training course, May 2006, Bhutan.

As shown in Table 1 the community enterprise can be profitable but as individuals (or as a group) they can also benefit additionally as their labor will be paid and the group will benefit from the sale of raw material to the community-based enterprise. Most of the communities from Table 1, already sell their products but this is the first time that the economics of their activities have been calculated and ways of improving their benefits have been discussed.

## **Other (Nondirect Economic) Benefits**

The formation of CFMGs has increased the overall capacity of the community, which will help the community to be a good partner in the Government’s overall decentralization process. Gender, equity, and leaderships skills are being addressed during awareness workshops on decentralized forestry activities (of which CF is the most important).

The formation of CFMGs increases the capacity of the community in the decentralization process. Through these groups, the community has a way to voice its concerns in the local government process: for example, in Mongar District the community forest contributes to the water supply of the main town, and negotiation by the CFMG with the town’s authorities to pay for the preservation of its water source is ongoing (payment for environmental services). Another CFMG in Mongar has temporarily stopped the construction of a farm road through its community forests after promises made to limit the damage to its CF were not fulfilled; now it is negotiating as a group with the local government. Without the formation of a CFMG this would not have happened.



The CFMGs indirectly contribute to the development of democracy through practically adhering to democratic principles (e.g. by election of its leaders, by conflict facilitation, and by creating and ensuring transparency) and through strengthening civil society (by addressing issues of minorities, gender, and poverty). The CFMG could also produce future local leaders.

The motivation of the communities to start the process of CF varies in each community. It can be for protecting their water resources as well as keeping “outsiders” out of their collecting area for NWFPs. Some communities with good forests in their surroundings through CF obtain additional income by selling the surplus timber after having fulfilled their own requirements. Studies show already that these communities share the resources in an equitable way with extra attention to the poorest households within the community. Initial monitoring also shows that the overall forest condition is improving. In general the communities are proud of their forest management rights and therefore take what they have received rather seriously.

Another positive example is the promotion of organic products from community forests. In collaboration with Bio-Bhutan (a private company specialized in marketing organic products with support from Helvetas) lemon grass and pipla are now in the process of certification and it is very likely that next year these products will be certified as organic products. The benefits for the communities will be that by producing a niche product they will have access to a high value market and a reliable marketing chain. As a landlocked country, Bhutan cannot compete (in price) with high-yielding agriculture in neighboring countries, thus the market is more geared towards the organic and other niche markets. During the organic certification process, related issues such as maintaining quality, regular supply, sustainability as well as product diversification are being discussed. This gives the project an opportunity to discuss these issues in a wider forum and so create awareness, which will contribute to an overall better production system for CF in Bhutan.



**Photo 3: Farmer Harvesting Lemon Grass from CF to Produce Organic Lemon Grass Oil**

The following environmental benefits in community forests have been recorded:

- Communities rehabilitate degraded areas
- Communities protect water sources
- So far they harvest carefully according to management plans
- Reduced fire incidents
- Communities patrol against illegal activities
- Protected wildlife in the community forest





**Photo 4: The Group Process with Different Gender Participation**

## **Conclusions**

There are still several unresolved issues related to CF which need continuous attention (e.g. a relatively conservative forest department and the urgent need for capacity building), however the CF program is still making continuous progress.

Networking with other projects and programs has helped to accelerate processes and increase impact. Linking (resource) sustainability and conservation (and even building up natural resources) with income-generating activities has stimulated and motivated communities to express their wishes in CF and so contribute to a bottom-up decentralized natural resource management system.

More needs to be done on the economic aspects of community forests. The expertise is limited. Capacity building is required for the CFMGs and the extension service. To have better economic information more baseline data need to be gathered at the beginning of CF establishment. This improved information will help to show other communities the program's potential.

More market research and exploring are needed to utilize the availability of NWFPs. This also includes quality and quantity aspects.

Community Forestry is already contributing economically to the CFMGs and thus to the goal of poverty reduction but there is potential to contribute further. This potential should and can be utilized without compromising on the other benefits of CF such as strengthening the decentralization process, good governance, and the sustainability of the resources (including forest protection and rehabilitation).

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