

Potential Micro-Enterprises and Income Generating Activities in the Kangchenjunga Landscape

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Enhancing livelihood options for rural communities living on the fringes of protected areas is vital for the conservation and effective management of biodiversity.



Introduction

Increasing populations and dependency of communities on forest resources for their livelihoods; issues related to rights and tenure; human wildlife conflicts; alienation of communities; and pressures from market forces are increasing threats to biodiversity (Kothari et al. 2000). Biodiversity management in and near protected areas is not possible without the participation of local communities, and they need to be given adequate alternatives in order to meet their needs for secure livelihoods (Sharma and Chettri 2003). Most forest-dependent communities are poor and isolated from major development interventions. Their poverty is exacerbated by limited information, opportunities, capacities, and external support.

The Transboundary Biodiversity Management initiative implemented by ICIMOD focuses on developing conservation corridors between protected areas of Bhutan, India, and Nepal and on addressing conservation at the landscape level through regional cooperation (Sharma and Chettri 2005). It aims to address the twin challenges of improvement in living standards and biodiversity conservation (Chettri and Sharma 2005). The way to reduce pressures on biodiversity and improve natural habitats is to introduce alternative livelihood and income-generating options for forest-dependent communities and, in turn, involve them in the conservation process (Jodha 2004).

A short field research project was carried out in 2004 in an attempt to assess possibilities for micro-enterprise development and other income-generating potentials opportunities among communities in the proposed Kangchenjunga landscape. The purpose of the study was to understand the conservation and development issues and the potentials and constraints.

Methodology

Participatory research was carried out among three distinct categories of stakeholders, development professionals, and experts; non-government organisations (NGOs); and community members, including the key resource persons. Interviews and focus group discussions were used to gather information. Field visits were also made to the corridor sites to understand the current development interventions. In addition, discussions were held with private entrepreneurs, marketing agents, and representatives of civil society from Bhutan, India, and Nepal.

Conservation and Development Practices and Issues

Views of experts and NGOs

The major issues presented are related to agriculture, horticulture, floriculture, forest products, cash crops, and potential income-generating technologies. In agriculture, the priority concern is the problem of disease and decreasing productivity of high-value cash crops. The production of organic fruit and vegetables and floriculture – including production of bulbs, flowers, seeds and saplings, and cultivation of orchids, dye, and medicinal and aromatic plants – are considered areas with potential benefits for communities. Ginger is an important cash crop that provides income to farmers during the festive season (October), but the negative effects of its cultivation on soil fertility cause concern. The cultivation of broom grass is emphasised (Box 1) because it is not so labour intensive and provides fodder as well as income from the sale of brooms.

Livestock is another important sector highlighted by different stakeholders, but there are differences of opinion between the choice of improved and local breeds. Some people express serious concern about the depletion of local breeds, such as the 'siri', and the introduction of European breeds. HIMUL, a semi-government milk marketing and processing corporation is playing an active role in purchasing milk and in providing animal health-care facilities in the project areas in Darjeeling.

Box 1: Plantation and use of 'Amliso'

'Amliso', a broom-grass (*Thysanolaena maxima*), has been domesticated in Darjeeling district for the last three decades. 'Amliso' promotes sustainable use of fragile and degraded land, provides fuelwood and fodder during lean periods, and generates income from its infructescence. It is commonly-used for making brooms. 'Amliso' plantation has a cycle of about six years in which five annual harvests are taken. This cycle generates a net revenue of US\$ 3,374 per ha against a total investment of US\$ 1,995 per ha, a return of nearly 1.7 times the cost of investment. If the cultivator is self employed, then the return goes up to 4.4 times the initial investment (Uma et al. 2001).

The degree of threat to medicinal and aromatic plants, mainly due to indiscriminate harvesting and falling productivity in natural areas, is another concern. A significant breakthrough includes the cultivation of *Swertia chirayita* ('chiraito') by communities in many areas within the proposed landscape. The intervention of the 'Panchavati Greentech Research Society (PGRS)', a local NGO based in Darjeeling, helps communities cultivate and sell seedlings of chiraito locally.

Cinchona cultivation, promoted by the Government of West Bengal, is facing problems due to declining markets and inadequate management skills. The government is sceptical, therefore, about trying other herbal species; hence the non-timber forest product (NTFPs) sector has remained largely untapped in the region, despite the presence of vast academic information. The SERVE project of WWF-India is contributing to economic development activities, conservation of indigenous tree species, and protecting watersheds.

A new concept of tea tourism has also been initiated by the SERVE project in Teenchule village which has been promoted as a model village for ecotourism in Darjeeling. Communities manage the entire process and it is claimed to be successful.

Views of communities

Communities lack adequate sources of income for leading a proper life. They had issues of deteriorating conditions of soil on their farms, lack of stable income from farming due to fluctuating market rates, and an increasing incidence of diseases in their main crops such as cardamom and ginger. The shortage of fodder is acute and natural water sources are drying fast. Communities have to depend on non-farm work (daily wages and labour) to meet their subsistence needs for a considerable portion of the year. People have very limited access to credit and loans from the government to invest in alternative activities. Illegal felling of trees from the forests is a serious concern for local communities. Rights over forests are restricted and coordination between the forest department and village-level organisations needs to be strengthened.

Constraints

The various constraints to developing micro-enterprises and alternative income-generating activities, according to the stakeholders and from personal observations, include the following.

- Lack of capacities and skills
- Lack of information and awareness
- Poor state of development interventions in the project areas
- Lack of community mobilisation
- Lack of credit facilities
- Poor integration with government development schemes
- Lack of stable markets
- Lack of proper demonstration sites
- Unsupportive policies
- Lack of a scientific approach to NTFP development.
- Low levels of disposable income and risk-taking abilities.

Discussion

In protected area management practices, the needs of people were always sidelined and their relocation has been thought to be the most practical solution to achieving conservation objectives. But relocation is an extremely difficult process and invites conflict. Therefore, many recent conservation policies have highlighted involving communities in the conservation process (Box 2).

Box 2: Eco-development

Eco-development was launched as a centrally-sponsored scheme in the 1990s to reduce the dependence of people living within PAs and the areas surrounding PAs. The scheme began as a site-specific village-level programme advocating the sustainable use of village resources, providing alternatives to fuel, fodder, and timber and also creating job opportunities for individuals and families, ensuring the active participation of people in conservation (Campbell 1992).

To ensure community participation in forest and biodiversity conservation, joint forest management (JFM) in India, community forestry in Nepal, and community-based natural resource management (CBNRM) in Bhutan were introduced to involve people in the protection and conservation process. Participatory approaches of this sort to forest and PA management are limited in the proposed landscape; and the approach of targeting community forest institutions for conservation and improvement of livelihoods provides limited scope. The potential intervention group for large-scale dissemination and impact appears to be interventions in micro-enterprise development at the village level.

Since most of the villages in the proposed project areas are remote, community mobilisation around options to introduce conservation and livelihood improvement programmes is crucial. Despite the availability of schemes and policy guidelines on community participation, there are several lacunae in their operation and implementation, and, as such, the success and impacts on people's livelihoods, and people's participation in biodiversity conservation, remain questionable: not least because most of these areas have very limited development support from the government and other development agencies.

Recommendations for Potential Areas of Intervention

An integrated approach

With increasing population and falling productivity of farmlands, generating alternative sources of income is essential. It is important to promote activities that balance the need for conserving biodiversity and meet the requirements of local communities, on the one hand, and promote technologies and skills that can provide additional income on the other. A single intervention cannot raise the living standards of communities and will require an integrated approach for holistic development.

Community managed micro-enterprises; introduction and production of high-value niche products and services; capacity and awareness raising; and access to resources, technologies, and markets could be strategies to mainstream economic activities.

Improving the productivity of current farming systems

This is the most vital issue faced by the communities in the proposed landscape. Interventions for improving the productivity of the subsistence systems are much needed. Regarding high-value cash crop farming, the incidence of disease in cardamom, the most valuable cash crop in the region, may cause problems in pursuing traditional agroforestry based on *Alnus* and cardamom. Cardamom plantations are being replaced by broom grass, a much less valuable plant for local communities. The possibility of introducing other off-season cash crops and improving soil fertility should be explored. Compost making can be integrated into this approach to improve soil fertility.

Strengthening and promoting development initiatives

Involvement of development organisations in the project locations should be promoted. This can be achieved by educating local NGOs to take an interest in conservation and community development initiatives and by providing them with appropriate tools and options to initiate relevant programmes. A network of village development organisations such as the forest protection committees (FPCs), eco-development committees (EDCs), and community forest user groups (CFUGs) can facilitate information sharing and local action.

Existing local institutions like the panchayats, FPCs, and EDCs in India, and CFUGs in Nepal should be strengthened. They should be made aware of different development schemes, policies, financial markets, technologies, and methodologies. Training and capacity-building programmes that enable them to plan and initiate development activities should be carried out.

Linking to micro-credit and micro-finance institutions

Communities should be organised and self-help groups could be formed to inculcate the habit of saving and enhance financial security. There is a huge potential for securing micro-credit from local and national governments, financial institutions, and cooperative banks. Micro-credit is a very important input for developing appropriate livelihoods and enterprise strategies

as middlemen play a vital role in providing credit to farmers. Micro-credit should be taken as an important component in the entire enterprise and in income-generating activities. The concept of village banks and consumer cooperatives should also be explored.

Development of market linkages

Apart from the existing markets, local retail markets should also be developed. Establishing retail networks for rural farm products could be another option. The role of marketing organisations in selling farm products should be analysed. Organising the urban-educated unemployed and local NGOs to form marketing associations on a profit basis could help to link producers to markets. Such organisations can develop market linkages and pass on the necessary information to producers and purchase in bulk from them. The potential to develop linkages with the government, army institutions, tea estates, hotels, and restaurants – and not just markets in the plains – should be explored.

Community ownership in such organisations can also be developed through issue of equity shares. Strengthening existing institutions such as ‘Teesta Tours and Agro Trade’, a private company based in Siliguri, could be a starting point for introducing the process in Darjeeling.

Promotion of appropriate technologies

Other income-generating activities, which have minimum negative effects on the environment, such as beekeeping, have a lot of potential in the project areas. In areas where bee flora are abundant, beekeeping could provide a good source of income. The ICIMOD beekeeping project can contribute a lot in terms of providing training and technologies to communities and NGOs; but caution should be taken in and near tea estates where the use of pesticides is very high. Other technologies, such as low cost renewable energy systems, which could provide alternatives to firewood, or that use water efficiently, should also be explored. The current dairy development situation should be studied and appropriate recommendations and strategies for the development of the sector promoted. Successful angora rabbit farming enterprises should also be studied.

Agroforestry promotion

Agroforestry provides the best opportunity for creating green belts and providing corridors for the movement of animals. There are already good practices in cardamom-based agroforestry in the areas and it should be strengthened. Indigenous, fast-growing tree species, which have a potential demand in the private sector (Box 3), should be researched and integrated into agroforestry plantations, village forest, and wood-lot activities.

Box 3: Towards community benefit

The private sector has played an enormous role in promoting agroforestry in the Punjab, Haryana, and western Uttar Pradesh in India after the Supreme Court of India imposed a ban on green felling. The majority of plywood industries from North East India shifted to these places and new industries were established. The process initiated by WIMCO Limited, known for manufacturing matches, is a good example of integrating forestry and the private sector to increase community gains (personal observation).

Cooperation

Collaboration with the government will enable leverage from existing schemes and programmes and communities will gain if programme activities are included in the plans of local development authorities. The NGO network in Darjeeling could provide a platform for promoting project goals, objectives, and activities among different stakeholders and generating a common understanding. This can be linked to enhancing development activities in the project locations by developing expertise in different sectors.

Organic certification, as in the case of tea in Darjeeling, is successful due to participation of the private sector and strategies to certify other indigenous products, e.g., ginger, cardamom, and so on, through collaborating with NGOs and the private sector have potential.

Capacity building

Improving the capacities and skills of the different stakeholders involved in activities will be essential to bring about a positive impact on conservation and livelihoods. Training on different aspects of conservation, resource planning, micro-credit, development of micro-plans, technologies, enterprise development, marketing, and business management will be vital for success.

Ecotourism promotion

Ecotourism has immense potential in the area and it is being introduced in some places, although on a small scale. The tourism sector has the potential to boost rural enterprises and different allied activities without creating too much dependency on outside forces. If properly planned and executed, ecotourism can provide equitable benefits to different sections of society by minimising leakages and providing a market for local products.

Promotion of NTFPs for income generation

NTFPs are another option for improving livelihoods and enhancing conservation in the project areas. The fibre-yielding species, *Daphne* and *Edgeworthia*, growing in the project area could provide scope for local-level cultivation, processing, and value addition for hand-made paper. Similarly, other medicinal plants, such as *Swertia chirayita*, *Gloriosa superba*, *Piper longum*, and *Aloe vera*, can be cultivated and marketed. Manufacturing of vegetable dyes using 'manjith' is another possibility. Strategies to incorporate cultivated herbs as ingredients in herbal tea can be developed.

Conclusion

The Kangchenjunga landscape is an area with great potential for developing micro-enterprises. The past history of Darjeeling in tea, timber, and tourism has made it an area of immense potential for entrepreneurs. Demands for broom grass and cardamom have made the landscape a very productive area. There are other potentials, however, such as NTFPs, dairy products, apiaries, and organic farming. Facilitation by ICIMOD and other development organisations, interventions by the private sector, and commitment from local entrepreneurs and governments