

Session III

**Promoting Increased Regional
and Local Conservation of
Mountain Biological and
Cultural Heritage**

Lessons and Prospects for Increased Regional Cooperation in the Conservation of Biological Diversity and Cultural Heritage: An Overview of the Hindu Kush-Himalayas

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Introduction

The Hindu Kush-Himalayas is among the most fragile and biodiversity-rich areas in the world. It is home to millions of poor and marginalised communities who depend on biological resources for their subsistence. In recent years, there has been an unprecedented loss of biological resources due to land-use change, changes in regime, fragmentation of families, external market forces, globalisation, and others. The HKH region covers parts or all of Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. Approximately 39% of the HKH region consists of pasture, 33% is covered under protected area networks, 21% is forest, and 5% is agricultural land. The entire region has an area of 4.3 million sq km that sustains about 150 million people and has an impact on the lives of three times as many people living downstream. In terms of natural resources, parts of the HKH region are among the world's ten mega-centres of biodiversity, endowed with a rich variety of gene pools, species, and ecosystems of global importance. The HKH region is important not only as a habitat for plant and animal species, a great number of which are rare and endemic, they are also home to many historical ethnic communities such as the Wakhis, Tibetans, Sherpas, Kirats, Bhutias, Lepchas, and many others, with diverse sociocultural values. A long history of human presence in this fragile ecosystem and the maintenance of its fragile environment are indicators of the compatibility and satisfaction of community needs through traditional practices with biodiversity conservation. Traditional natural resource management systems such as Sokshing in Bhutan (an indigenous practice that has evolved over many years whereby rural agricultural households and communities maintain patches of village forest for collection of leaf litter to produce farm manure); Dzumsa in Sikkim (an institutional arrangement for natural resource management by the Papon village head); nomadism amongst the Wakhis, Ladhakis, and

Tibetans; and Kipat systems amongst the Kiratis and Limbuwans (Kipat is land inherited from forefathers with rights), are some of the effective traditional conservation measures that address sustainability. This reveals that in the past, there were these methods of sustainable use of biological resources that met human needs.

The major challenge to people living in the HKH region is how to use these dwindling resources in a sustainable manner. Climate change has increased species extinction risks from 15-37% in specific regions (Thomas et al. 2004). Among the excellent community-based natural resource management practices evolved during the recent past are joint forest management (JFM) in India and community forestry (CF) and leasehold forestry (LF) in Nepal. These are strengthened by the promotion of rangeland co-management, enterprise-based community biodiversity conservation, and a participatory transboundary landscape approach to development and conservation. The notion that “conservation and management of natural resources are impossible without people’s participation” is now becoming the guiding principle of community-based biodiversity management. Since the 1980s, decentralisation and devolution of authority for the management of natural resources are being seen in government efforts throughout the HKH region. Biodiversity conservation and management approaches also evolved from conservation of charismatic species (species that have popular appeal and are used to focus attention on conservation campaigns), to habitat and protected area management, buffer zone and community-based management, to landscape and ecosystem approaches. This paper highlights some of the lessons learned and prospects for regional cooperation on conservation of biological diversity and cultural heritage in the HKH region.

Mountain and biodiversity conventions

Six of the twenty plants that supply 80% of humanity’s food, specifically, maize, potatoes, barley, sorghum, apples, and tomatoes, originate in the mountains. Seven others – wheat, rice, beans, oats, grapes, oranges, and rye – are now cultivated in mountain areas and have evolved into many different varieties (Fleury 1999). The Conference of the Parties (COP) to the Convention on Biological Diversity (CBD), during its seventh meeting held in February 2004 in Kuala Lumpur, adopted ‘Mountain Biodiversity’ as decision VII/27 of the CBD. The Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), an open-ended inter-governmental scientific advisory body to the COP, at its eighth meeting, made mountain biodiversity the main theme and adopted the structure, elements, goals, and possible actions of the proposed programme of work on mountain biodiversity in which ICIMOD was involved. Thus, COP-7 took up mountain biodiversity as one of the priority issues for review and guidance and adopted the decision by 188 countries as parties. It invited the parties to adopt outcome-oriented targets for mountain biodiversity taking into account the strategic plan of the CBD, the Global Strategy for Plant Conservation, and The Plan of Implementation of the World Summit on Sustainable Development and the Millennium Development Goals. It also agreed that all should take into account the knowledge, innovations, and practices of indigenous and local communities and ensure their participation in conservation and sustainable use of mountain biological diversity, in accordance with Article 8(j) on in situ conservation and related provisions of the CBD. Further, it urged bilateral and multilateral

organisations and processes to provide financial assistance, training, and support, where applicable, to developing country parties and parties with economies in transition, to assist in the effective implementation of the programme of work.

There are many great transboundary mountain systems and cultures all over the world: the Alps, Andes, Carpathian, Caucasus, Central Asian Mountains, and the Hindu Kush-Himalayas are some examples. Transboundary mountains face greater challenges than others as they are often governed by different political systems. Cooperation among countries sharing these mountain systems is needed to facilitate the development of these mountain areas and to sustain the flow of goods and services among and from them. One such example of cooperation among countries sharing a transboundary mountain system is the Alpine Convention.

The Alpine Convention was agreed upon in 1989, signed in 1991, and came into force beginning 1995. All eight alpine countries and the European Union are signatories to the Alpine Convention. Experiences with the Alpine Convention are new and evolving. Some of the agreed areas of cooperation for immediate benefit are in the areas of nature and landscape protection, mountain forests, mountain farming, tourism, soil conservation, and energy and transport-related infrastructure. The lessons provided by the Alpine process have a global significance as the only example worldwide of a legally binding inter-governmental mountain agreement. Despite difficulties, it has evolved into a successful platform for regional exchange and negotiation as well as for sustainable development. Lessons from the Alpine process and experience were drawn for various mountain systems of the world during the International Year of the Mountains at Berchtesgaden, Germany, and these have come in the form of a declaration and recommendations. Recently in 2005, another sharing of processes was organised in Bolzano, Italy to adopt areas of cooperation for other mountain systems. ICIMOD is leading the sharing process for the HKH region.

Lessons and prospects for regional cooperation

Participatory forest management

The notion that conservation and management of natural resources are impossible without people's participation is now becoming a guiding principle in community-based natural resource management (CBNRM). Since the 1980s, decentralisation and devolution of the authority to manage natural resources are being seen in government efforts throughout the HKH region. In 1992, The United Nations Conference on Environment and Development (UNCED) placed a premium on people's participation and promotion of a conceptual shift in both natural resource management and conservation. In response, participatory forest management approaches evolved. Experiments on such approaches began in the 1970s. Joint forest management in India (Poffenberger and Singh 1989; Campbell 1992; Saxena 1992; Sarin 1993; Saighal et al. 1996), community forestry and leasehold forestry in Nepal (Gilmour and Fisher 1991; Joshi 2000; Mikkola 2002), and community-based natural resource management in Bhutan are some often cited examples of effective management of natural resources and regeneration of degraded forests. In all of these examples, community-

based natural resource management (CBNRM) was seen as an instrument that enhances conservation and sustainable natural resource use. Technologies and science for natural resource management are important, but sustainable harvesting processes and equitable distribution of benefits among the communities are more challenging and perhaps of greater importance (Sharma and Chettri 2003).

All these participatory forest management approaches are considered to be successes in many respects, especially in shared responsibility for management and profit sharing with local communities. Second generation problems, mostly relating to equity in access and benefit-sharing, have emerged in the application of these approaches. These issues need careful handling. In all three approaches, the planning and design did not specifically consider biodiversity assessment, therefore the impact on biodiversity is mostly a byproduct or consequence of forestry programmes involving the community. Biodiversity maintenance and enrichment are visible in these community-managed, forested mountain areas (Sharma and Chettri 2003).

Rangeland co-management

Rangelands, pasture, and livestock support, directly or indirectly, the livelihoods of thousands of communities in the HKH region. Numerous ethnic groups including nomadic and semi-nomadic communities live in rich but fragile ecosystems and depend on pastureland and livestock for subsistence because of limited agricultural options in mountain areas. But acute water crisis, limited foraging ground, fodder crises, livestock disease, and livestock depredation on wildlife, however, are limiting livelihood options from rangelands. Sustainable use of resources is of paramount interest not only to sustaining the local communities but also to the conservation of rare flora and fauna, water, and carbon sequestration, and preserving both the cultural and natural landscapes. Such conditions depict the inexorable link between poverty and environmental degradation, each reinforcing the other. Thus, strengthening the ecological coherence and resilience of this farming system through co-management operations is necessary in both conservation and sustainable use of resources. ICIMOD's rangeland programme started in 1996, focusing on the following objectives: a) improved community-based rangeland management practices that balance grazing and other economic activities with biodiversity conservation introduced in at least six sites in six regional member countries; b) improved policy framework for sustainable use and management of rangeland ecosystems, pastures, and livestock resources; and c) enhanced capacity of six lead partner institutions in participatory planning of rangeland, pastoral, and livestock development programmes (Zhaoli 2004). In the past four decades, rangeland science has shifted focus from livestock management to rangeland ecology and later to rangeland co-management mainly through ICIMOD's research and advocacy role (Sharma et al. 2006)

Reassessing shifting cultivation

Shifting cultivation is the most widely practised farming system in the sub-tropical and tropical zones of the Eastern Himalayan region. In the whole of South Asia, an estimated 10 million hectares of land are under shifting cultivation. Across Asia, generally, more than 400 million

people, most of them indigenous, are dependent on tropical forests and a majority of them practise shifting cultivation. This makes it the dominant land-use system throughout much of Northeast India, the Chittagong Hill Tracts of Bangladesh, Eastern Bhutan, Myanmar, Lao PDR, Cambodia, Northern Thailand, Vietnam, and some parts of China. Yet, in many of these places, property rights' regimes have made shifting cultivators 'illegal squatters' on land that has been cultivated by their ancestors for countless generations. There has been no concerted effort to address this dichotomy in the Eastern Himalayan region as a whole, despite individual country initiatives. ICIMOD is playing a vital role in carefully documenting and validating practices to debunk the common stereotype of shifting cultivators as engaging in wanton destruction of forest ecosystems – and, more accurately, to portray them as forest planters and managers. Through the combined efforts of farmers and policy makers, a transition process is now visible (Kerkhoff and Sharma 2005).

Biodiversity linked enterprises

Biodiversity management by the people becomes more evident when it has a utility value and communities benefit from it. The utility could be subsistence; for instance, non-timber forest products form part of the food security strategy for many indigenous people in the HKH region; or it could enterprise development that provides opportunities for generating income for poor rural households. The HKH region has demonstrated examples of enterprise development involving communities where biodiversity has been used or is a component, but these examples seem more like 'islands of success' and are yet to be upscaled. There are great potentials for enterprise development in NTFPs and medicinal and aromatic plants (MAPs); however, the forward linkages have not been properly studied. The general problems with most of these NTFPs and medicinal plants are their unsustainable harvesting and the lack of management of these resources in both government and community-managed forests and pasture areas. Only a few species are being cultivated on a small-scale in private areas.

Some successful examples of biodiversity-linked enterprise development involving communities are oak-silk in Garhwal (India); 'jatamansi' (*Nardostachys jatamansi*) in Humla (Nepal); traditional local paper from 'lokta' (*Daphne* spp), 'argeli' (*Edgeworthia gardenieri*) in Nepal; and eco-tourism in Sikkim (India) and the Annapurna Conservation Area in Nepal (Sharma et al. 2006).

Private sector partnership in the NTFP sector

Natural resources such as non-timber forest products, especially medicinal and aromatic plants, have a great potential to increase cash economies and markets within and among countries of the HKH region. Efforts to research and develop this sector often neglect the sector's key business players; yet taking value chain into consideration, these sectors are important. Furthermore, they have often been limited to the national level, whereas the MAP trade, both legal and illegal, is typically a regional affair. The ICIMOD/IFAD collaboration with Dabur is an attempt to involve the corporate sector in research and development on MAP-based enterprises for poverty alleviation in the mountain areas of western Nepal (Anil and Kerkhoff 2004; Sharma et al. 2004).

Conservation on a landscape scale

ICIMOD has identified five potential transboundary landscapes for cooperation and management in the HKH region. These are: (a) the Pamir Landscape, covering parts of Afghanistan, China, Pakistan and Tajikistan; (b) Kailash Landscape, covering parts of India, Nepal, and China; (c) Everest Landscape, covering parts of Tibet Autonomous Region, China, and Nepal; (d) Kangchenjunga Landscape, covering parts of Bhutan, China, India, and Nepal; and (e) Kawagebo-Namdapha-Hkakaborazi Landscape, covering parts of China, India, and Myanmar (Chettri and Sharma 2005). Most protected areas in the HKH region are scattered as conservation 'islands', many of them are transboundary in nature. Connectivity amongst these protected 'islands', and regional understanding and cooperation among two or more countries were necessary for effective transboundary biodiversity management (Sharma and Chettri 2005).

The Kangchenjunga region has experienced conservation interventions ranging from species' preservation, to landscape-level conservation with a pre-set criteria (see Sharma and Chettri 2005; Chettri and Shakya, this proceedings), and developed a policy framework with the following recommendations, strategies, and actions (also see Sharma et al. 2007).

Scientific and technical cooperation

Research into biodiversity and gathering technical and scientific data form the basis for developing biodiversity conservation programmes. There is abundant research and scientific and technical data available on various aspects related to the Kangchenjunga region, but we need to improve cooperation for collaboration, data-sharing, and capacity-building amongst countries constituting the landscape. Some strategies and actions to improve scientific and technical cooperation are as follows.

- a. Based on analysis of information gaps, prioritise and conduct standard long-term research on issues relating to the Kangchenjunga landscape.
- b. Initiate mechanisms and develop collaborative research and scientific programmes of mutual interest among three countries in the landscape.
- c. Facilitate creation of a working group with representatives from each of the three countries in the landscape to identify research priorities and to optimise efficient use of research results by protected area managers, policy makers, and local stakeholders.
- d. Foster documentation and exchange of research, scientific, and technical data, as well as good practices and indigenous and traditional technologies relating to sustainable development and sustainable use of natural resources.
- e. Develop capacity and enhance opportunities for community-based biodiversity research and monitoring.

Information exchange and sharing

Exchange and sharing of information can lead to developing common approaches that address common issues. Information exchange and sharing also fosters regional teamwork. Standardised approaches to transboundary conservation of biodiversity can be developed and informed policy decisions made at the landscape level. Suggested strategies and actions for information exchange and sharing are given below.

- a. Increase promotion and exchange of traditional and indigenous knowledge and best practices as well as actual and potential contribution of such knowledge for the conservation and sustainable use of biological resources.
- b. Facilitate information exchange and sharing on issues related to access, benefits, and markets.
- c. Promote educational and capacity-building systems in line with target groups and conditions within the landscape.
- d. Emphasise capacity building of women for conservation and dissemination of traditional knowledge through information exchange and sharing.
- e. Explore the efficacy of a variety of media or platforms for information exchange and sharing, including but not limited to inventories and databases, web resources, audio-visual materials, regional newsletters, national reports and printed materials, information hubs and nature interpretation centres, institutional channels, and meetings and conferences.
- f. Explore the suitability of a clearing house mechanism for dissemination of documents, best practices, and appropriate technologies, and innovative approaches for biodiversity conservation.

Regional guidelines and soft legal instruments

Regional voluntary guidelines and soft legal instruments are essential in order to address transboundary issues within the framework of existing laws of countries constituting the Kangchenjunga Landscape. Some strategies and actions relevant to regional guidelines and soft legal instruments are as follows.

- a. Promote the creation of voluntary regional guidelines that identify and acknowledge ecological regions and corridors of biological significance as heritage sites, peace parks, and so on, irrespective of national boundaries.
- b. Develop mechanisms – check posts, training of personnel, intelligence gathering, and information exchange – for regular joint monitoring of biodiversity and related issues within the landscape.
- c. Facilitate development of uniform strategies and approaches for the conservation of endemic species in the landscape.
- d. Develop guidelines for joint research and mechanisms for effective and mutual use of capacities and resources available in the region.
- e. Harmonise guidelines for social and environmental impact assessments of development projects that will impact the fragile ecosystem of the Kangchenjunga landscape.
- f. Develop guidelines for capacity building of communities on transboundary issues that include knowledge exchange and information sharing, cooperation, technology transfer, and awareness generation among stakeholders.
- g. Develop guidelines for creating a common multi-stakeholder platform that will review these guidelines and their implementation at various levels including national, institutional research, state government, organisational, and community levels.
- h. Develop guidelines for providing incentives for tree tenure, cultivation of non-timber forest products, ex situ conservation, diversification of livelihood options, and for providing awards for intelligence reporting and conservation actions.

Criteria for successful community-based biodiversity conservation

Community-based biodiversity management (CBBC) in the context of the HKH region is complex, resulting as it does from diverse cultures, ecological variations, differences in climatic regimes, and difficult terrain. Future actions should focus on a) policies and laws; b) institution, management, and processes; c) community participation and equity; and d) ecological sustainability for effective community-based biodiversity conservation (see Sharma et al. 2006).

Conclusion

The HKH region offers a wide array of natural products derived from its rich resources for the evolving market. There are unprecedented opportunities to convert this richness for ensuring conservation of biodiversity and sustainable development. Conservation does not mean non-use but wise use of biological resources, and contributes to sustainable development. Applying effective management principles and achieving the objectives, however, will only be feasible if a way can be found to translate these broad frameworks into appropriate actions on the ground. Therefore, global conservation initiatives should work more towards population control and poverty alleviation, applying co-management practices to natural resources to make conservation effective and realistic. Sharing and learning from both mountain and biodiversity convention processes will enhance regional and international cooperation in biodiversity conservation and management.

Promoting community-based biodiversity conservation and concomitantly, sustainable economic development, are the greatest challenges of our time. The ways to achieve these two goals are becoming the focus of increasing attention, particularly within the conservation and development communities. Formal conservation in most countries has, for the last century, been treated as the domain of centralised government agencies. Predominantly, the focus has been on protecting natural resources from the people. More recently, there is increasing recognition of the value that local communities can bring to the process of conserving natural resources. This paradigm shift has seen the development and application of management models that are designed to integrate conservation and sustainable use.

Most of the initiatives were participatory in nature, with long-term institutional and legal support. They reveal that biodiversity management by the people becomes more effective and recognisable when it has a 'utility value', harnessed either for subsistence livelihoods through the consumptive use of resources, or for enterprise development and that communities benefit from it. The examples represent 'islands' of success on effective management of biodiversity, however, and efforts to replicate and upscale them are yet being taken. Thus, CBBC should be people-centred, livelihood-focused, enriching of biodiversity, and based on long-term vision and principles of providing equitable access, a fair share of benefits to local people, and conservation through sustainable use.

People's participation in natural resource management, conservation, and development based on economic incentives and an integrated landscape approach show promise for effective community-based biodiversity conservation. The emerging second generation problems in

participatory management should help focus future strategies. Some second generation issues that need to be addressed include: (a) the extent of communities' rights to economic benefits especially in mountain areas, (b) assignment of forest areas to communities, (c) developing systems for conflict resolution, (d) dealing with different administrative and forest boundaries, (e) increasing women's participation, (f) inclusion and full participation of traditional users and equitable distribution of benefits, and (g) social equity of unequal power relations between the rich and the poor, high and low castes, women and men.

The recently developed policy framework for regional collaboration on transboundary biodiversity management, and scientific and technological cooperation, information exchange and sharing, and guidelines and soft legal instruments have been developed for the southern half of the Kangchenjunga complex for Bhutan, India, and Nepal. They could be used to showcase how cooperation can be achieved for biodiversity conservation in the HKH region.

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