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Balancing Mountain  
Biodiversity with  
Community Livelihoods:  
Integrating communities  
and livelihoods into  
conservation plans



## Why is it important to balance biodiversity conservation with community livelihoods?

Loss of biodiversity will have global impacts. Human beings cause degradation and this has to be redressed by balancing conservation and livelihoods. Community ownership and understanding of the value of biodiversity should be secured by using interventions that build on local culture, traditional knowledge, and experience and the use of local species for sustainable livelihoods.

“...poverty is not responsible for landscape decline. There is a danger of interlinking poverty, biodiversity, and climate change and each case should be considered separately.

What is needed is a transdisciplinary approach, which includes local people and which is either bottom-up or top-down as needed.”

P.S. Ramakrishnan, Jawaharlal Nehru University, India



## What is the link between poverty and loss of biodiversity?

The relationship between poverty and biodiversity in the region is not clear. Areas rich in biodiversity are also often those where human poverty is prevalent; the dilemma is how to promote conservation without depriving people living in subsistence economies of their livelihoods. Conservation measures need to be mindful not to interfere with regional sociocultural values that have historically been used to conserve biodiversity.

There are many driving forces behind the loss of biodiversity, not least of which are the acute human impacts on local resources and market-driven globalisation. Previously, poverty and population issues were thought to be the agents: it is now realised that they ‘stand at the end of a long chain of causes and effects’ and are ‘messengers’ of unsustainability rather than its agents.

## Mountain Transboundary Protected Area and Connectivity Conservation

Isolated protected areas do not provide the possibilities for migration and ranging needed by many species for survival. They also limit the possibilities for migration of plant and animal species as they adapt to changing climatic and other conditions. Linking these areas with 'conservation corridors' provides a way of extending the potential range for species enormously, but can only be successful if the people living within the corridor area are fully involved in the plans and also benefit.

Effectively managed large-scale corridors of connectivity in the mountains can provide a basis for improved species' conservation as well as healthy environments for humans threatened by climate change. Connectivity conservation management, assisted by transboundary protected area management, can help to minimise species' extinction and

maintain healthy environments and catchments, an aim common to all three participating institutions, i.e., IUCN, WCPA, and ICIMOD. The Mountain Transboundary Protected Area and Connectivity Conservation Workshop\* discussed ways to facilitate the Convention on Biological Diversity's Programme of Work on Protected Areas for transboundary protected areas and connectivity conservation initiatives in the mountains by reviewing a draft conceptual framework and tools for Connectivity Conservation Management (CCM) and developing action plans for specific connectivity corridors.

Two positive workshop outcomes were achieved. The first is that the conceptual framework for CCM was improved and ten CCM tools were proposed and verified as important. This essential advance in theoretical knowledge for CCM will help create order and a process for potential, significant international

investment in large-scale conservation initiatives and, consequently, will contribute to meeting the CBD 2015 PoWPA targets\*\*. The second is that several large mountainous areas containing important ecosystems and species were either recognised as corridors or their defined areas were improved. A very large connectivity corridor was established in the heart of Asia, the 'Altai-Sayam Connectivity Conservation Corridor'; major corridor improvements were suggested for the Karakoram-Pamir Transboundary Area of China and Pakistan; and focused connectivity conservation improvements were suggested for the Brahmaputra-Salween Transboundary Area for India, China, and Myanmar. Important advances in improvement and consolidation were also seen to have taken place in the Greater Virunga Landscape, the Terai Arc Landscape, and the A2A Connectivity Conservation Corridor.

\*Workshop convened by the IUCN World Commission on Protected Areas (WCPA) Mountains Biome and Transboundary Area Task Force in partnership with the International Centre for Integrated Mountain Development (ICIMOD) and the World Wide Fund for Nature (WWF). The Workshop was held at Dhulikhel (near Kathmandu) Nepal, 11-15 November 2008, the full summary of the workshop is included in the CD which accompanies this booklet.

\*\*This theoretical work will be published in 2009 in the new book by IUCN and Earthscan entitled Connectivity Conservation Management: A Global Guide.



## What is the way forward for protected areas?



Protecting an area is the traditional way of doing things but concepts are changing. Containing as they do small portions of ecosystems, protected areas are vulnerable to climate change in proportion to how limited an area they cover. Conservation strategies must anticipate the prevalent impacts of climate change to make conservation efforts more effective. Allocating land resources for protected areas seemed good enough at the time these areas were established, but now comprehensive and holistic approaches are needed.

The new paradigm of landscape-level interconnectivity between protected area systems takes a more inclusive perspective on expanding the biogeographic range so that natural adjustments to climate change can proceed without being restrictive. The suggestion is to design large protected areas with flexible boundaries (boundaries could be changed seasonally or as per the need). In many cases, corridors and transboundary protected areas could be established to assure sufficient area and connectivity for effective biodiversity conservation and to ensure people's livelihoods. The benefits of translating the concept into action have yet to be realised.

### Research Strategy on Global Change in Mountain Biosphere Reserves\*

The Global Change in Mountain Regions Project (GLOCHAMORE) has developed guidelines to help scientists and managers of mountain biosphere reserves to test, monitor, and assess the impacts of global change on the biophysical environment and the livelihoods of mountain people. The 'Research Strategy on Global Change in Mountain Biosphere Reserves' workshop brought together protected area managers from the region to discuss how the GLOCHAMORE Research Strategy could be deployed in the Hindu Kush-Himalayan region. The participants welcomed ICIMOD's 'transects' concept as a useful structure that would facilitate the link to global programmes and would make sharing and comparing data easy. Within this framework, they decided that the themes that would be most appropriate for implementation in the Hindu Kush-Himalayas were changes in land use, availability of water, biodiversity, and mountain economies; and that it would also be necessary to monitor relevant data on climatic trends and develop climatic scenarios. Standard protocols for monitoring and research, which build on the GLOCHAMORE Research Strategy, as well as clear policies for managing and sharing data are needed before any work can begin. Initially, the main sites for implementing the GLOCHAMORE Research Strategy should be those Mountain Biosphere Reserves that are either GLORIA sites or which already have a tradition of research.

\* A workshop convened by UNESCO's Man and the Biosphere Programme in partnership with the International Centre for Integrated Mountain Development (ICIMOD). The Workshop was held at ICIMOD Headquarters, Kathmandu, Nepal, on 19 November 2008.

## What is the change in approach to protected area management?

Experiences with isolating protected areas have shown that the local people often lose access to their prime alpine pastures, source of medicinal herbs, and the tourist trade in one fell swoop. When there are insufficient opportunities for livelihoods, the threat to biodiversity increases and the foundations of local culture are threatened because people are deprived of their rights and their roles as natural guardians.

People's adaptations to changes in the environment are at the heart of biodiversity-related issues and efforts and determine the effectiveness of conservation. Involving people within and near protected areas is a key factor in conserving biodiversity. The local community's sense of ownership is vital so governments and policy makers need to be convinced of the value of integrating local communities into conservation plans.

## What are some examples of sustainable conservation approaches in mountain areas?

UNESCO's 'Biosphere Reserve' approach is a site-based concept that combines biodiversity conservation and community-based development with scientific studies on human-environment interactions and ecosystem studies, thereby combining conservation with sustainable development. Biosphere reserves include protected areas (natural or near-natural environments), areas inhabited by human beings and used for economic activities, and research infrastructure.

Biosphere reserves remain under national sovereign jurisdiction but share their experience and ideas nationally, regionally, and internationally within the World Network of Biosphere Reserves.

## How can the CBD 'access to genetic resources and the sharing of benefits arising out of their use' work in the Hindu Kush-Himalayas?

Access to genetic resources and benefit sharing (ABS) can be a driving force for development. ABS can promote conservation of traditional knowledge, innovation, and practices of indigenous communities that possess in-depth knowledge about the ecology and economy of plant species.

It can also promote the emergence of institutions and governance structures essential for sustainable use of biological resources.



## How can eco-tourism favour both biodiversity and the economic well-being of the local population?

Spectacular scenery, a clean environment, rare and endangered species, and cultural uniqueness are all assets that favour tourism as a means of balancing biodiversity conservation with community livelihoods. Local communities can enjoy long-term benefits from the income generated when tourism mutually reinforces biodiversity conservation and community livelihoods. Ecotourism leaves only a marginal ecological footprint, creating a win-win situation, and has been implemented with success in several mountain biosphere reserves and protected areas around the world.

## What about areas where tourism is not an option?

Where tourism is not possible, one approach, which is based on a process of participatory research and broad-based stakeholder consultations, is to improve the social and economic well-being of rural communities by enhancing the transboundary ecosystem through promotion and mainstreaming of tools and practices for sustainable land management.

To conserve ecological and cultural diversity, new adaptive land-use systems are identified in a participatory manner to increase capacity and give ownership to local communities over their natural resources.

Trekker in the Everest region, Nepal



## What particular payment for ecosystem services schemes are potentially available to mountain communities in the region?



Under the Clean Development Mechanism, afforestation or reforestation projects represent a potentially important payment for ecosystem services (PES) mechanism which can make substantial contributions to biodiversity conservation in the Hindu Kush-Himalayan region. In this scheme, farmers are compensated for growing trees on-farm, because this directly reduces pressure on forests, wildlife, and biodiversity, while sequestering carbon from the atmosphere into biomass and soils.

Maintaining and improving existing forests have been identified by the IPCC as being among the least expensive climate-change mitigation options: the 'Reduced Emissions from Deforestation and Forest Degradation' (REDD) PES scheme in developing countries is a central component of the global climate protection regime currently being discussed for inclusion in the post Kyoto Protocol era.

Water and hydropower related PES, and ecotourism enforced payments to mountain communities are potential schemes that are being piloted and tested in the Hindu Kush-Himalayan region.

## What is needed to make PES schemes work in the Hindu Kush-Himalayas?

Development of a regional knowledge base, based on multi-scale research, and advanced remote-sensing and modelling approaches, are needed to foster understanding of the implications, complexities, and benefits of PES among regional and national partners.

The Hindu Kush-Himalayan region has a set of unique conditions which require mountain-specific approaches that recognise and value biodiversity conservation. Improved understanding of the drivers and impacts of deforestation and forest degradation and ecosystem-level management options will help countries in the region to adopt policies and negotiate positions that address the needs of poor mountain communities. Participatory approaches and capacity building to meet these challenges will also be required.



"...the question remains how to respond to global challenges at local level..."

P.S. Ramakrishnan, Jawaharlal Nehru University, India