

# Session III

# **Securing Livelihoods**

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*Chair: Dr Hans Gsaenger*



# Keynote Paper – Securing Livelihoods for Mountain People

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## Introduction

The Hindu Kush-Himalayan (HKH) region is home to an estimated 150 million people who depend directly or indirectly on the land, forests, pastures, water, and other resources that the mountains harbour. In addition, these resources provide environmental goods and services to an even larger downstream population, estimated to be in excess of 500 million. Despite being rich in resources, a vast majority of mountain people live in the midst of poverty and in the most difficult situations. They are primarily dependent on the integrated use of subsistence agriculture and natural resources, from which they are neither able to generate economic surplus, nor to find off-farm employment opportunities. Except during the peak agricultural season, a large number of mountain people are underemployed and are forced to migrate seasonally to the plains in search of employment, as off-farm opportunities are not forthcoming. Food deficit is a recurring problem in large parts of mountain areas and is accentuated by the increasing population pressure on the one hand, and the declining supply of natural resources on the other. Soil erosion is believed to be increasing, as people have been unable to replenish the nutrient loss from their farms and have been forced to move cultivation to steeper mountain slopes in search of food. Many marginalised communities and farmers have only limited access to production technologies and inputs, which further lowers farm productivity. Throughout mountain areas, coping strategies have relied on multiple forms of livelihood activities.

The HKH is one of the world's ten 'mega-centres' in terms of biodiversity and also forms one of twenty-five global 'biodiversity hotspots'. Approximately 39% of the HKH is pasture, 21% is forest, 11% is protected area, and 5% is agricultural land. The diverse ecosystems found in the varied land use areas of the HKH have been subjected to great stress and continue to face multiple threats, even in protected areas. The rapid degradation and deterioration of the forest resource base has multiple consequences in terms of energy and water scarcity, biodiversity loss, and soil erosion. These all threaten the livelihoods, not only of the present, but also of future generations.

Poor communication and transport networks, high transport costs, economic isolation, high overhead costs, and the slow pace of transformation are other characteristics of most mountain areas that have made development efforts relatively expensive.

Six of the world's longest rivers originate in the HKH and meet the water needs of over 600 million people (ICIMOD 2003a). Despite the huge potential for power generation to meet the growing demand of industry in the plains, water resources have remained largely untapped. The few water resources that have been tapped have only marginally benefited mountain people.

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<sup>1</sup> The assistance received from Dr Kamal Banskota and ICIMOD in the preparation of this speech is duly appreciated.

Market penetration is gradually breaking up the centuries old relative isolation of mountain people. While the growing linkage between highlands and lowlands has brought some benefits to mountain people, terms of trade continue to be unfavourable to mountain areas. Mountain areas have not received fair compensation for resources exploited for the benefit of the lowlands. With globalisation, this state of affairs is likely to become further accentuated.

Mountain people have a rich and diverse cultural heritage. However, due to the poor appreciation and understanding of the customs, culture, and way of life of mountain people, this heritage is, in most cases, historically marginalised from the mainstream. The varied challenges faced by the HKH region, and conflict over contested resources and assets critical for the livelihood of mountain communities, are challenging the quality of life of mountain people. This is visible as the mountains are also home to a disproportionate number of violent conflicts. Some of these conflicts are becoming serious and widespread enough to challenge state stability.

## **Overview of the key issues in global, regional, and national contexts: challenges to securing livelihoods**

Despite the hardships that mountain people face in carving out their livelihoods, many lessons have been learned which clearly show that vulnerabilities can be transformed into economic security. Some important examples are as follow.

### **Livelihoods and harnessing mountain niches**

Livelihoods in the mountains can be summarised in terms of livelihood resources that people have (both tangible and intangible), the livelihood strategies that people pursue, and the livelihood outcomes that they are able to achieve. Resources, strategies, and outcomes operate within two interrelated contexts, namely the institutional context and the vulnerability context. Mountain households are characterised by a diverse portfolio of livelihood activities and income sources. This reflects how mountain households construct an increasingly diverse portfolio of activities and assets in order to survive, cope with, and improve their standard of living. History shows that mountain people cope with crises using their own resources and go to great lengths to protect their livelihoods. This has, however, become increasingly difficult in mountain areas due to a shrinking natural resource base, increasing population pressure, and a low level of development. While inaccessibility, fragility, and marginality accentuate vulnerabilities in mountain areas and affect livelihoods, mountain niches and diversity, the other two mountain specificities, provide scope for the mitigation of vulnerabilities to improve the livelihood of mountain people (ICIMOD 2003b).

A typical farm household in the mountains is involved in multiple activities, both farm-based and non-farm based. Seasonal migration is becoming an integral part of this livelihood strategy for many mountain households. While migration has benefited households in some ways, it has placed an additional work burden on women.

Another important livelihood option is being provided by mountain tourism. As many mountain areas are endowed with natural assets that attract tourists, tourism is becoming an important livelihood activity for mountain people. However, there are risks associated with tourism.

In addition, non-timber forest products (NTFPs) and in particular, medical and aromatic plants, have a great potential to increase cash economies and markets within and between the countries of the HKH region and beyond. The HKH also offers an array of nature and adventure tourism based on the region's great biological wealth and rich ethnic diversity.

Harnessing mountain niches and linking them to markets can provide new livelihood opportunities and reduce the high dependence of mountain people on degraded land, forests, and pastures, and provide incentives for their conservation. An example of harnessing a niche is the conservation of the indigenous honeybees of the Himalayas – *Apis cerana*. Research work on honeybees is ongoing, but the lessons learned so far indicate that bees can provide supplementary income to poor mountain households. The programme is ongoing in Nepal, India, Pakistan, and China. Besides perfecting the selection process of *Apis cerana*, new commercial products (honey, beeswax, and beeswax-based beauty and healing products) are providing new livelihood options to mountain people. Research results indicate that pollination services can enhance crop productivity by 20-30%, while also contributing to biodiversity.

## **Renewing the resource base**

Natural resources should be left to a community-based management system in which the stakeholders and users are the central actors. Experience shows that community managed systems can increase mountain productivity, food security, and biological sustainability. ICIMOD has been promoting such programmes through participatory forest management. Joint forest management in India and community forestry and leasehold forestry in Nepal are good examples of participatory forest management that have led to the successful regeneration of degraded forests and have helped promote biodiversity and conservation.

In Nepal, over 16% of the total forest area is managed by community forestry. The community forest user groups have expanded managed forest areas to almost barren slopes. This is a significant achievement; because without forests the majority of Nepal's rich biodiversity would be lost. Community forestry has also contributed to preventing the local extinction of species, the creation of habitat corridors, and the development of successive stages of forests. Wildlife sightings have increased, but so have livestock depredation and damage to fields by wildlife. Leasehold forestry is also contributing to forest development. Mountains are becoming greener, degradation is gradually being reduced, areas are protected, and biological diversity is slowly recovering. The key to this success story has been the sharing not only of management responsibilities, but also of profits with local communities (Sharma 2004).

## **Hazard mitigation**

There are a plethora of problems in the HKH region – a low level of development, endemic and persistent poverty, rising population pressure, increasing resource scarcity, natural resource degradation, and the unsustainability of present patterns of resource use (Banskota et al. 2000). Six of the world's largest rivers – the Indus, Ganges, Brahmaputra, Mekong, Yangtze, and Yellow River originate in the HKH. These rivers not only sustain agriculture, livestock, household needs, industry, energy, and navigation but also support all biological life in the mountains. At the same time, mountain people are also the primary victims of environmental hazards such as floods, landslides, and snow disasters, which have been accentuated by deforestation and global warming. To address these issues, ICIMOD is seeking to improve regional cooperation on environmental services and hazard mitigation to reduce the physical vulnerability and increase the environmental security of mountain people and the downstream poor. The Centre mainly focuses on promoting regional cooperation and strengthening networks. Two major challenges are the collection of the necessary high quality hydro-meteorological data in all parts of the major river basins, including remote areas with limited infrastructure, and facilitating a system for the exchange of this data in real time between the countries through which each river runs to enable adequate lead time (ICIMOD 2003). This endeavour will provide greater security to livelihoods, property, and infrastructure in the region.

## **Decentralisation and empowerment**

Decentralisation and the empowerment of local institutions and people can help vulnerable mountain people by enhancing social security and reducing conflict, as well as by promoting gender mainstreaming and respect for equity and rights. To promote decentralisation, ICIMOD has conducted over 15 case studies and developed over 20 civil society organisations. The fundamentals behind the decentralisation programme are strengthening and promoting civil society networks so that communities and people can claim their rights. Federations such as FECOFUN and HIMAWANTI (Himalayan Grassroots Women's Natural Resource Management Association) are community-based institutions of this type developed in a professional way to generate demand for power from the bottom level so that this demand is heard at the central or higher level.

FECOFUN, founded in 1995, is one type of community network – a national association for community forestry user groups in Nepal. Its mission is to safeguard the natural and legal rights of forest users, to inculcate self-reliance, and to increase the decision-making capacity of forest user groups. FECOFUN has made everyone realise how community forestry in Nepal exemplifies a unique and successful case: users, given the appropriate policy and legal environment, can organise themselves collectively and manage natural resources.

Likewise, HIMAWANTI is another exemplary independent, non-government organisation mandated to strengthen and promote the role of grassroots women in sustainable natural resource management in the countries of the HKH. Women from Nepal, India, and Pakistan formed a regional women's community forest user group network in December 1995 with the aim of identifying the problems experienced by women's user

groups and evolving strategies for the future, especially the institutional mechanism for the network. The mission of HIMAWANTI was to ensure the emergence of appropriate policies and decision-making processes in relation to programmes aimed at organising rural women and promoting their moral strength for the conservation and management of the natural resources of the HKH by giving them priority. In October 1999, after more than two years of planning and preparation, HIMAWANTI succeeded in bringing together more than 200 women from the region to a workshop, supported by ICIMOD, entitled 'Focus on Grassroots Women in Natural Resources Management in the HKH'. The aim was to provide a forum for grassroots women to share their experiences, evolve strategies, and to strengthen communication and alliances among the rural women who are actually involved in conserving and managing natural resources.

## **Policy dialogue**

The policy process in the Hindu Kush-Himalayan region needs to be cognisant of the appropriateness of policies for mountain regions. ICIMOD has pioneered the shaping of mountain policies and has advocated for recognition of the parameters of vulnerability, marginality, fragility, and inaccessibility as specific mountain conditions. ICIMOD conceived and promoted the 'mountain perspective framework' and its application to formulating mountain-specific policies in the Regional Member Countries. Its leadership role in this area is widely recognised. ICIMOD has pursued policy advocacy work using thematic windows and identified cross-cutting issues with respect to food security, mountain agriculture, highland-lowland economic links, and the effectiveness of participatory natural resource management. ICIMOD's programme on policy development and advocacy support has positively influenced national policies and strategies and the allocation of resources in favour of mountain people and areas. ICIMOD has established a system for engaging in policy dialogue with the Regional Member Countries to identify critical policy gaps and viable alternatives and options. Likewise, ICIMOD is duly working on partnership development at different levels of involvement with 60 major regional partners and 200 collaborating organisations inside and outside the region. Developing regional partnerships has been the main thrust of the Centre since 2003.

## **The way forward**

Although the problems and challenges faced by the Hindu Kush-Himalayan region are multifaceted and complex, various initiatives clearly indicate that the challenges are surmountable. First and foremost, the policy-making process must be relevant and responsive to the needs and the challenges of mountain areas. Second, the nexus between poverty and environmental sustainability must be recognised and the poor and the community be made the central actors. Third, institutions like ICIMOD can be used maximally to strengthen partnerships and enhance capacity for collaboration in planning, achieving, and monitoring programme activities. Fourth, a giant step has to be taken in order to make mountain information and knowledge accessible and usable by partners, policy makers, advocates, and development practitioners. Finally, in order to achieve the above and much more, ICIMOD has to be supported and made sustainable in order to make these results deliverable.

If the past has been challenging, to say the least, then the future is even more daunting. Given the changes seen in mountain areas, as well as the changes in the global development scene, how can ICIMOD adapt and respond, so that it is not only well grounded in these mountains but at the same time relevant internationally? Just as people discover the mountains only during their holidays or at times of disaster, there is always a danger that ICIMOD is also only an 'occasional discovery'. To avoid this ICIMOD must become more relevant to the countries, to their national policy makers, to the region, to the world, and to their key players. During the past two decades, many national and regional institutions have come up. The links made with Consultative Group on International Agricultural Research (CGIAR) centres have been quite limited. There is a need for ICIMOD to work together with these centres. The utility of ICIMOD to countries is what it can offer. With many of the mountain areas catching up in the information age (here ICIMOD has made a major contribution in the past) the future holds even greater promises to bring more useful knowledge to the doorsteps of mountain people.

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## Panel Topic – Sustainable Rural Development in Mountain Regions – Lessons from the Tibet Autonomous Region of China

*Dr Nyima Tashi, Vice President, Tibetan Academy of Agricultural and Animal Husbandry Sciences (TAAAS)*

Mr Chairman, Your Excellencies, Ladies and Gentlemen, as a member of ICIMOD's alumni, I feel greatly honoured to have this opportunity to share with you my experiences and views on mountain development. The Tibet Autonomous Region of China occupies a large area of the Hindu Kush-Himalayas and is therefore a key constituent of ICIMOD's area. As we have already heard many times in the past few days that mountains have unique environments generally characterised by harsh climatic conditions, fragile landscapes, clean water, and fresh air, I will not dwell on these aspects. However, let me re-emphasise the fact that mountain areas are socioeconomically weaker than the plains and coastal areas. While much progress has



been made through the support of the central and provincial governments as well as donor agencies and NGOs, there is still much that needs to be done to alleviate poverty, enhance the general living standards of mountain people, and increase their income.

There is now a general consensus that poverty in rural mountains is manifested in low income earning opportunities, inadequate access to nutritionally balanced food, inadequate access to safe drinking water and energy, low literacy rates, poor health, and weak social and economic support services and infrastructure. Given such environmental and socioeconomic conditions, mountain areas face many challenges, but also enjoy some niche opportunities. Hence, coping strategies leading to sustainable development entail a balanced and integrated approach to address the challenges and realise the niche opportunities.

It is also apparent that there are significant disparities throughout the region between urban and rural areas in terms of living standards, income levels, and access to goods and services. In the Tibet Autonomous Region, the government has initiated some very forward looking measures, such as the village level development plans adopted under the county poverty alleviation planning methodology using a participatory approach.

It is now widely acknowledged that globalisation and the free market have opened up many new opportunities for income generation, as well as presenting new challenges. Our ability to harness these perceived benefits will, however, depend upon how well we use the comparative advantages offered by the pristine environment of the mountains and the unique culture and traditions of mountain people by exploiting niche markets for products and services such as organic food products and eco-tourism. The main factors constraining participation in the market economy are lack of economies of scale, poor quality, inaccessibility to markets and market information, lack of an enabling policy environment, inadequate investment in processing facilities, and rather weak marketing skills and entrepreneurship spirit.

In order to overcome the above constraints, we need to carry out a systematic poverty assessment exercise, based on existing data and further surveys, so that we can better target the poor and marginalised households and communities, using a participatory development planning approach. Based on the results of this poverty assessment, a poverty alleviation plan should be formulated for different economic and ecological regions. The plan should focus on improving social infrastructure and the livelihoods of the rural poor, and aim to provide better social services such as education, drinking water supply, health clinics, and agricultural and livestock production services. Due emphasis should also be placed on the promotion of alternative sources of energy, communication, and transportation facilities. There must be a concentrated effort to further strengthen and accelerate the adoption of participatory planning and the implementation of rural development programmes by scaling up the poverty alleviation planning methodology, and by building the capacity of government officials in participatory planning and management approaches through a focused training programme.

In mountain areas, it is particularly important to adopt an integrated approach to rural development planning and implementation through the involvement of all stakeholders, including government agencies and local institutions, and by improving cross-sectoral cooperation and coordination.

To increase the income of mountain people, there is an urgent need to assess and promote niche opportunities and the comparative advantages of different areas of income generation from both farm and non-farm sources, for example, the integration of organic food production into the pastoral and farming production system. This process should be supported by institutions, such as cooperative organisations, with the assistance of the government and private sector companies, to add value through the establishment of processing facilities for identified niches. Of course, it goes without saying that an enabling policy environment should be in place to encourage private sector involvement by reducing procedural bottlenecks in production and marketing, and to actively facilitate the promotion of trade and commerce by creating an improved investment climate.

Another important area, which needs urgent attention, is vocational training in various fields, from traditional to modern. Vocational training will help to create employment opportunities and non-farm income generating opportunities and will help adjust learning curricula to meet market demands. This, together with the capacity building of policy makers and planners to be more responsive to the special development needs of mountain areas, should help to mitigate the number of migrants from rural to urban areas.

These are my comments and suggestions for the promotion of sustainable development in mountain areas. I hope that this Symposium will come up with valuable recommendations to help us to refine our policies, development programmes, research, and extension systems, so that they are more responsive and relevant to mountain people and their ecosystems.

Finally, let me, on behalf of my General President, Professor Lobsang Danda and TAAAS, join with all of the others in congratulating ICIMOD for its successful move to its own home.

Tashi Delek!

# **Panel Topic – Poverty and Environmental Linkages, the Relationship between the Environment, Poverty, and Gender**

*Dr Rob Visser, Ministry of Foreign Affairs (DSI), Government of The Netherlands*

## **The close connection between the environment, poverty, and gender**

It is generally accepted that there are close ties between poverty and the environmental situation. In practise, poverty can be the cause, as well as the effect, of environmental problems.

Poverty can cause environmental problems. Sometimes the poor apply short-term strategies for survival out of necessity, or because long-term strategies are of no interest to them due to precarious or obscure land rights. Mainly in developing countries, the poor are increasingly dependent on natural resources for their basic necessities of life, such as food and energy. Consideration for the environment or a sensible conservancy is often not an option. It goes without saying that these two factors are of vital consequence in mountainous countries. What applies to the poor is also true in general for poor national governments. The emphasis lies on the realisation of quick economic growth and the expenses of conservation are considered a luxury.

Poverty is also an effect of environmental problems. The poor often rely upon ecologically marginal areas characterised by low productivity, high vulnerability, and livelihood risks. As a result of this, and their dependability, poor communities are disproportionately hard hit by negative environmental problems. Their capacity to avoid, endure, or absorb negative effects is limited. They lack the financial means to employ alternatives, like using butane gas instead of scarce firewood, or fertiliser for declining yields due to soil exhaustion. Again, it goes without saying, that these three factors are of vital consequence in mountainous areas.

The poor fall into a vicious cycle of poverty and environmental degradation. Cause and effect are so intricately interwoven that they cannot escape from this so called 'poverty trap' by themselves.

The relationship between women and the environment has received a lot of attention since the beginning of the 1980s. In Nairobi, in 1985, the National World Women Conference brought both topics together on a policy level for the first time. For years, many publications have pointed out the responsibilities, activities, and authority of women in connection with the use and management of natural resources. In view of the responsibility women have for production (agriculture, livestock industry, and gathering water and firewood) as well as for consumption (choice of products, waste disposal) women are clearly important users and consumers of the environment. Environmental activities that do not take the (gender-) diversity and interests of the concerned target group into account run the risk of failing.

## **The context of the connection between the environment, poverty, and gender**

The connection between the environment, poverty, and gender is very context specific. It is a connection that differs with every ecosystem. Is there anything that can be said in general about this connection? Yes, but only in very general terms. This, for instance, has happened in the so called OECD DAC system (Organisation for Economic Co-operation and Development, Development Assistance Committee) which states that the connection between the environment, gender, and poverty always depends upon economic, political, and social factors and also has to do with the vulnerable position of the poor and their social status. That these five factors are crucial for the connection between the environment, poverty, and gender speaks for itself. However, it remains imperative to emphasise the context. The fact that there is an obvious analytical relationship between the environment, poverty, and gender does not mean that there is a clear-cut relationship between environment policy and poverty and gender policy. On the contrary, this is where environmentalists make their gravest error. They have the urge to deal with environmental problems using environmental measures. This can be prevented by the realisation that the relationship between the environment, gender, and poverty is dependent upon other contextual factors. If environmental degradation is a consequence of the bad economic policies of a government, which is sometimes the case, then economic policy is the key to improvement. In this case environmental measures to prevent degradation could even become 'symptom treatment'. If environmental degradation is caused by what Homer-Dixon calls 'resource capture', which is common along with other political factors, then these political phenomena would be the key to tackling environmental degradation, and interventions for better conservancy would become symptom treatment. If environmental degradation is a consequence of bad governance, which is quite often the case, then good governance is the key to improvement.

## **The most recent ideas on linking poverty reduction and environmental management**

The most recent notions linking poverty reduction and environmental management are summarised in a concise publication by the UK Department for International Development, the European Commission, UNDP, and the World Bank (2002), based on an extensive e-mail discussion with more than 1000 participants from 84 countries.

As far as analysis of the connection between the environment and poverty goes, there are no new arguments. As is usually the case in most of these documents, gender is treated in a separate paragraph and without an adequate analysis. Due to insufficient accountability in the donor world, when it comes to gender oriented work, authors regrettably aren't put in the pillory by their organisations.

However, the guidelines for policy opportunities are worth positive recognition. (Even if only to emphasise once more that they, by definition, are incomplete and superficial because of the lack of focus on gender.) Here follows a summary of the four central policy highlights from the report:

- improving governance – among others: integrate poverty-environment issues into national development; empower civil society; address gender-dimensions (as a separate sub issue); strengthen anti-corruption efforts; reduce environment-related conflict
- enhancing the assets of the poor – among others: improve resource rights; access to environmentally sound and locally appropriate technology; reduce environmental vulnerability
- improving the quality of growth – among others: integrate poverty-environment issues into economic policy reforms; encourage appropriate private sector involvement in pro-poor environmental management; implement pro-poor fiscal reforms
- reforming international and industrial country policies – among others: more pro-poor and pro-environment trade policies and foreign investment; encourage sustainable consumption and production

Some remarks follow about these points, which are seen as the core challenges on the agenda. It is remarkable that some new notions of poverty prevention are well portrayed in the agenda. It is emphasised that the poor are not passive victims, there is a shift towards the macro level, and there is talk of a broadening of relevant factors (tax for example) and actors (the private sector for example). Interestingly enough, there is still an emphasis on governance, which through the years has become a greater centre of attention for donors. Among the positive points in an assessment, it needs to be said that there is an increasingly integral vision of environment.

However, there are also critical notes. First of all, the already mentioned marginal, instead of central, attention to gender. Secondly, the apolitical character of the analysis. For example, governance is not a politically neutral technical management assignment; the basis for governance is culture, politics, and institutions. Finally, the last note of criticism, namely the lack of attention to institutions. One does not need a lot of empirical experience to realise that, specifically with the relationship between environment, poverty, and gender, formal organisations, mandates, and targets only touch upon a part of reality, and a very small part at that.

All in all the notions of the donors about the connection between the environment, poverty, and gender convey positive points, but for more meaningful interventions it is necessary to look at the political aspects and institutions.

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## Panel Topic – New Opportunities for Mountain Economies

*Dr Kamal Banskota, Programme Manager, ARID, ICIMOD*

### Background

Opportunities do not come by chance. They are created and facilitated by man-made and natural capital, infrastructures and technologies, the biophysical conditions that characterise mountain areas, human resource development, institutions, and an appropriate policy environment. Here we refer to economic opportunities only, meaning a set of favourable circumstances that help employment and income generation through a qualitative or quantitative increase in production, consumption, and exchange that enhances the livelihoods of mountain people. Such opportunities also arise through the conservation of natural resources. Economic opportunities arise when value is added to old activities (goods or services) or new products and services for sale in the markets.

Opportunities could be internal within the mountains, or external to mountain areas. Mountain niches, natural resource management, and the application of technologies or new methods of production or exchange could generate employment and income opportunities in the mountains. The migration of cheap labour to urban centres, within the country or outside, also provides employment opportunities to mountain people. Harnessing mountain resources for hydropower and tourism development has generated opportunities in the mountains. The development of urban centres in mountain areas creates a demand for fresh vegetables, milk, fruit, and others, which mountain communities can fill.

Unfavourable policies have hindered the creation of opportunities in mountain areas despite the potential. Urban areas and lowlands have generally treated mountain areas as their hinterlands and a source of raw materials. Over time, this has led to the selective extraction of some raw materials from mountain areas. Mountain people have generally not received fair prices for their products due to constraints imposed by the poor mobility of people and their products; the perishable nature of mountain products; and the low bargaining power of the unorganised and scattered markets in mountain areas, as well as the overall inaccessibility of the HKH. The result has been the underpricing of highland resources, products, and services; concomitant structural and operational inequalities; and the creation of negligible economic opportunities for mountain people in their mountain homes.

Despite the large potential opportunities, there are formidable barriers as well. The challenge lies in removing these obstacles. These obstacles relate to policies, institutions, human capacities, physical access, communications, markets, and incentives for outsiders to invest in mountain areas. Attempting to identify and list all of the emerging opportunities in the HKH region is a vast topic and beyond the scope of this paper. This paper only touches the surface of some of the emerging opportunities in the HKH.

## Emerging opportunities

### Improving physical access

Limited accessibility due to terrain and altitude is the single largest constraint on the generation of opportunities in mountain areas. Improved access (roads, ropeways, bridges, trails) enhances physical accessibility, inclusion (as opposed to isolation), communication, and mobility, and reduces transportation costs, all of which, besides directly benefiting mountain communities, help harness the many new opportunities in mountain areas. The lack of physical accessibility severely limits access to markets for many mountain products and resources, as well as the harnessing of niches. The poor access situation also prevents the delivery of many development inputs and services from reaching mountain communities. As a result, marketable surpluses and many mountain niche resources have remained grossly under utilised and under valued. However, given the acute poverty that characterises large parts of the HKH, simply constructing roads and other infrastructure is unlikely to generate new opportunities. Roads and infrastructure must be followed by complementary investment that enhances local production and harnesses mountain niches. Throughout mountain areas, the development of roads has been an important factor in generating new opportunities for mountain people.

Besides roads, gravity ropeway technology helps to mitigate inaccessibility in mountain areas and has the potential to add value to existing roads given that many settlements in the mountains are far from them. Gravity ropeways offer massive time-savings in transport and savings in labour and drudgery, particularly where the transportation of bulky items is concerned.

#### Examples

- In Himachal Pradesh (HP), India, roads have been a primary factor responsible for horticultural development in the state. Over time, the large network of roads has made HP a successful mountain state, able to produce a variety of niche products based on market demand. While 30 years ago HP specialised in horticultural production (primarily apples), it has now been able to diversify into cut flowers and vegetables to meet the insatiable demand of the lowland urban centres. This dynamic growth has created employment and income opportunities not only for the people of HP, but for people outside the state as well (Bihar and Nepal).
- A study by the International Food Policy Research Institute (IFPRI) attributed investment in roads as the single most important factor contributing to poverty alleviation in India (Fan, Hazell, and Thorat 1999).
- Over 50% of the Kathmandu valley's vegetable demand is met by vegetables supplied by neighbouring districts due to improved road access (Bhandari, Banskota, and Sharma 1999).
- In west Nepal the construction of mule trails increased the flow of milk, fruit, and vegetables from villages that were long distances from the road head, to market centres such as Baglung and Pokhara (RCIW 1999).
- In the mountain areas of Pakistan, roads have had the single largest impact on rural livelihoods by increasing the stock of their productive asset (land) and by increasing the mobility of goods and services to and from villages (Malik 2004).

- An Asian Development Bank study shows a strong connection between infrastructure (roads, irrigation, and electricity) and poverty reduction in developing countries (Nepal, China, Indonesia, Philippines) when road investment is complemented by other investment such as strengthening of governance and institutional frameworks (Ali and Pernia 2003).
- In Danogi village HP, with gravity ropeways, people have been able to transport goods to and from villages at a cheaper rate and in a shorter time. Due to improved access to markets, almost 90% of the land is being used for mixed cropping of apples and vegetables in place of food grain. Village people report that men have more time to share the agricultural workload with women and to grow vegetables.
- In the village of Marpha in Mustang district, Nepal, the construction of a gravity ropeway has reduced the travel time for carrying apples from orchards from about two hours to two minutes. Apples reach the market in a fresher condition and fetch higher prices. The price of inputs has reportedly been reduced. The ropeway has also reduced the drudgery of carrying heavy loads on human backs.

## Access to improved technology

Technology helps to improve livelihoods by raising productivity, improving product quality and diversity, reducing the cost of raw materials, and reducing energy requirements, leading to increased sales and income. Technology also improves livelihoods by developing the capability, within farm and non-farm sectors and supporting institutions, to respond to changing needs and opportunities as they arise. Technology plays a key role in generating new opportunities.

### Examples

- In rural areas of the HKH, women spend a considerable amount of time on water and energy related activities, which are also associated with a high level of drudgery. Through needs-based water and energy technology interventions, women have been able to save time in water and energy related activities and reduce drudgery. With training and exposure to different technologies, this saved time has helped women to generate income from diverse activities. Technologies selected and used by women (in Nepal, India, and Bhutan) include sprinkler and drip irrigation and water harvesting technologies, vermicomposting, tailoring, beekeeping, door-to-door service to construct improved cooking stoves, managing an LPG (liquid petroleum gas) depot, and production and sale of solar dryers.
- The introduction of triticale (*Triticale hexaploide*, a stabilised hybrid of wheat and rye) in Mustang has shown higher productivity (both grain as well as straw) than traditional barley. The crop is fast growing, requires a shorter season than barley, and less water and nutrients. Triticale also produces more straw and hence contributes to more livestock output. In Bhutan, local farmers have found triticale (introduced from Switzerland) to be better suited for food purposes than local wheat and barley (ICIMOD 2004).
- Mountain people are now able to cultivate different varieties of carp fish for their own consumption as well for market. This is possible because of the development of cheap ponds suitable for mountain areas. Such ponds have been able to earn as much as Rs 24,000 in a season in Kausani, India (ICIMOD 2004).



## Markets

Markets play a significant role in realising economic opportunities for the poor. Access to markets has enabled many mountain communities to produce according to the comparative advantages of their region. Markets can influence diversification from traditional crops to market demand led production.

Apart from conventional agricultural products, the rich biodiversity of the mountains of the HKH opens up scope for the marketing of many niche products and services internationally. Also growing is the market for environmentally friendly traded products. Organic, eco-labelling, and other forms of certification are market-based tools that enable consumers to differentiate between products based on their social and environmental qualities. This market opportunity has been a driving force in promoting sustainable management practices in both forestry and agricultural products worldwide. A certification logo enables consumers to choose between products based on the social and environmental impact of the production, harvesting, and processing of the product (Pierce et al. 2003).

Certification can also result in the implementation of long-term management plans and internal control systems such as monitoring and record keeping, as well as facilitating access to niche markets; it also reduces the pressure of increased market demand and its negative effect on the environment. The current system is affected by illegal trading and the adulteration of many mountain products, especially non-timber forest products (NTFPs); the certification system can ensure that the 'chains of custody' for NTFPs comply with norms and standards. As market pressure is a leading factor in unsustainable and unethical practices, making the markets work for the poor is an essential strategy to make business more responsible to environmental concerns and the livelihoods of local communities in the mountain regions of the HKH.

Certified products receive a premium price over non-certified ones, provided that markets for the products exist. Mountain regions have an advantage in this sector as the use of external chemical inputs has been minimal. This has substantially reduced the conversion period required for certification. There is also huge scope to transfer a significant portion of the profits earned from products traded internationally to rural producers through fair trade mechanisms.

These concepts are creating new opportunities for many countries in the HKH to tap into the huge market in the emerging globalised world. Where these potentials are being tapped, mountain people have been able to realise better incomes than previously realised from traditional practices.

### Examples

- Vegetable farming in and near the Kathmandu valley in Nepal.
- In Bhutan, the sale of off-season potatoes and vegetables to downstream markets in India and Bangladesh fetches an annual export earning of about US 4 million (Gyamtsho 2004).

- Off-season pea cultivation and potato seed production in remote arid regions of Lahaul and Spiti in Himachal Pradesh in India benefits many poor farmers who previously had to rely on subsistence farming.
- Growing and selling specialised crops that are in demand by the private sector in the plains for specialised consumer items, e.g., the cultivation and processing of hops by communities in Lahaul for the huge beer industry.
- Poor farmers in Bhutan have been able to earn an average of US \$1086 per season from the sale of matsutake mushroom to Japan (Gyamtscho 2004).
- The increasing market growth for herbal and natural products from the Himalayas is a promising example. The final consumers for many of these products are in distant markets in the West that are growing. Conservative estimates put the monetary value of medicinal and aromatic plants related global trade at around US \$63 billion (IDRC/MAPPA 2004).
- Many mountain states in India have declared, or are in the process of declaring, themselves as 'organic' e.g., Uttarakhand, Sikkim, and Mizoram.
- Some of the work being done by ICIMOD has helped to create new opportunities in fragile environments. The indigenous honeybee (*Apis cerana*) programme by ICIMOD has been able to achieve mass queen rearing and 'nucs' marketing. Private small-scale businesses in Pokhara have begun to emerge providing new sources of income without disturbing the environment. The other advantage is that mass queen rearing over time will help pollination services.
- High value medicinal and aromatic plants are often found in fragile areas. The managed harvesting of these products enhances livelihood opportunities in mountain areas. Seven high value medicinal and aromatic plants have been tested successfully at test and demonstration sites in remote areas such as Humla and Jumla in Nepal. With a buy-back policy supported by the government, new opportunities to generate income and employment have been provided. Some high value products such as *Tricholoma matsutake* and *Cordyceps sinensis* (yarcha gunbu) found in very fragile high altitude regions have traditionally been extracted and illegally exported. In Bhutan, ICIMOD is testing the feasibility of allowing local communities to harvest these products. If the communities can sell the products legally at market rates, there is the potential to generate income in some of the most remote areas of the HKH. There is scope to replicate this in Nepal also where *Cordyceps sinensis* is found.

## Natural resource management

Mountain areas are highly diverse in terms of renewable natural resources and environmental services. Diversity helps to reduce internal competition in mountain areas. While fragility accentuates vulnerability in the mountains, diversity can partially offset vulnerability. The biodiversity found in mountain areas has value in agriculture, medicine, food, and industry, as well as having spiritual, cultural, aesthetic, and recreational value. The ecosystem services provided include pollination, nutrient cycling, soil maintenance, and climate regulation. If managed properly, such resources provide many opportunities for mountain people. Where concerted efforts have been made, mountain niches are providing new opportunities.

However, many of the ecosystem services that provide sink functions, such as the purification of water and air, the detoxification and decomposition of waste, regulation of climate, regeneration of soil fertility, and the production and maintenance of biodiversity are only beginning to be appreciated. However, because these benefits are not traded in the markets, they do not carry any price that would provide scarcity signals to society. The threats to these systems are increasing, especially in mountain areas. There is a need to start valuing these ecosystem services at the micro level, where they are generated, and incorporate them into the decision-making process.

### Examples

- Mountain tourism has been able to provide income and employment opportunities to marginalised communities in many inaccessible and fragile areas. Mountain tourism is one product that appears to overcome the vulnerability dimensions of inaccessibility, fragility, and marginality, while at the same time capitalising on the niche and diversity specificities of the mountains. Although tourism is an export product, it need not be physically exported, and those who want to enjoy it must visit the place. The diversity of mountain areas is reflected in the multitude of tourism destinations and different products often found in fragile landscapes that visitors can enjoy, each of which is unique. As visitors have to visit the site, inaccessibility is not a prime deterrent. Mountain tourism, by and large, benefits marginalised communities in most mountain areas. The potential to generate additional employment and income opportunities in mountain areas through tourism is high.
- Bee watch tourism is being developed to provide new opportunities in some marginalised mountain communities, to reduce drudgery, and promote the conservation of ‘cliff bees’ in the Himalayas. Harvesting honey was a source of income for marginalised communities residing near cliff bee habitats, however harvesting methods were not conducive to conservation. Bee watch tourism will generate funds by allowing tourists to observe the nesting habitats of cliff bees. Not only is the conservation of the cliff bees promoted, but the livelihoods of marginalised communities are also enhanced.

## Enabling environment

Mainstream development approaches, strategies, and policies have little relevance in generating new opportunities in mountain areas. An enabling policy environment needs to be created to generate and sustain opportunities in mountain areas by mitigating the influence of vulnerability and by harnessing mountain niches, diversity, and human adaptation skills.

Despite all the rhetoric of development and significant development expenditure, mountain people continue to be marginalised. The role of the government is primarily to facilitate. Governments can systematically develop the opportunities available in the mountains by creating enabling conditions that favour economic expansion. Highlighted below are some critical elements of an enabling policy environment that creates and sustains economic opportunities and confronts the existing barriers in mountain areas.

## **Area-wise focused development approach**

An area-wise focused development approach in mountain areas is likely to be more effective than a broad-based household targeting approach, given the isolation and geographical exclusion of mountain areas that requires an integrated rural accessibility planning approach (IFRTD 1998; Papola 2001). This calls for delineation of an area using spatial methodology, like GIS, on the basis of a watershed approach, while at the same developing rural-urban linkages with the ultimate aim of graduating from a watershed to a market-shed approach (Papola 1996; Sharma 2002).

## **Promoting decentralised planning and control processes**

Promoting decentralised planning and control processes within agencies and governments and the involvement of the community are prerequisites for effective conservation and sustainable development in mountain regions. Ways and means have to be explored to overcome the problems and difficulties involved in decentralisation and participation arising from centralisation, internal power conflicts, and bureaucratic hassle, including policy and legal barriers.

The central goal of mountain development should be the strengthening of human resources (education, health, and productivity) and the breaking down of barriers that prevent men and women from fully developing their ability to create economic opportunity and growth.

## **Information and communication technology**

Information and communication technology offers new opportunities to access information on emerging technologies and markets in more effective ways. This enables mountain people to take advantage of the poverty reducing opportunities offered by new technology and the marketing of their products. The potential for information and communication technologies to widen access is important, as it may compensate for the constraints imposed by poor linkages. Ways and means need to be explored to utilise the opportunities provided by such technologies on a wider scale for the benefit of mountain people.

## **Ensuring good governance**

Ensuring good governance is most essential to generate and sustain opportunities in mountain areas. Despite the current emphasis on greater reliance on markets for development and poverty alleviation, the central role of governments cannot be undermined. This is especially true in mountain areas, where the state should continue to invest in infrastructure and services, and evolve conducive policies in favour of mountain areas to ensure that markets function better and that the risks and effects of market failures are minimised. Investment by governments in the development of mountain areas and for the welfare of mountain people needs to be seen as the price for environmental services rendered by them, rather than as subsidies in the conventional sense (Papola 2001).

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## Panel Topic – Mountain People, Economic Benefits, and Biodiversity

*Synopsis prepared from panel commentaries and presentations made by Dr Ruth Egger, Independent Board Member, ICIMOD*

### Introduction

The Hindu Kush-Himalayan (HKH) region is bestowed with a rich biodiversity that provides for several distinct products and services. More work has to be done and can be done to exploit these mountain niches to support income generation and contribute to the economic and social benefit of mountain people, especially women. To achieve success, this work has to be done professionally and strategically, and not just as a side activity. Various issues need to be addressed if the potential benefits are to be realised.

### The valuation of goods and services in the HKH

There are different approaches for developing niche products and ensuring valuation of goods and services.

#### *a. Identification of goods and services with a special attribute or value for the market*

This can be done through collection of information with regard to use, traditional practices, and market values of different biological resources. Building on the indigenous knowledge that already exists with the local people, products and services can be identified and their potential benefits further validated through scientific research. Investigations should include the identification and/or development of suitable technologies for sustainable utilisation of the resources required, as well as the search for markets for the products and services.

Examples of such goods and services produced in the region that have been identified as having a special value for a wide range of markets are medicinal and aromatic plants, ecotourism, and Nepali paper.

#### *b. Rejuvenation and improvement of traditional crops for national consumption*

There is a growing market for foods from indigenous crops, which are associated with high nutritional values and having medicinal properties. This opportunity needs to be harnessed by documenting and validating the specific nutritional and medicinal values of traditional crops, by improving the processing and the packaging to suit the demands of urban consumers, and for promotion in urban and national markets. The aim is to reduce imports of costly and often less nutritious food crops from abroad.

A good example of such a crop is finger millet. It enjoys the reputation of a healthy food. Processing and repackaging this crop in a way that makes it more attractive to the urban population, and propagating its nutritional value to consumers, can greatly enhance its use. Other examples include potatoes and buckwheat. Buckwheat had not been grown in the mountains of Europe for some time, but now there is a resurgence of cultivation in mountain areas due to its nutritional value and appreciation for biodiversity. Similarly, potatoes can be promoted in urban markets as mountain potatoes have a very different taste to lowland potatoes.

*c. Improvement of production and harvesting methods of high-value products in an ecologically sustainable way*

There is a need to conduct research on ways of improving the production and harvesting methods of mountain products and to establish demonstration plots to promote these improved technologies among producers. Dissemination of information relating to production and processing as well as training should be provided to producers and retailers.

A good example of how intensified research and management can enhance productivity and sustainability of a niche mountain product is lapsi. Lapsi has two kinds of trees, male and female. If more research is undertaken to help identify male and female trees at an early stage, a higher proportion of fruit bearing female lapsi trees could be cultivated. This would make the cultivation of lapsi more attractive to mountain farmers and increase production as lapsi has a good market locally and in the surrounding region. Another example is pine kernels, which are produced in the Swat area of Pakistan and have a good market in Europe if they are properly collected and preserved.

## **Prerequisites for success in realising the potential benefits from mountain goods and services**

*a. Framework conditions*

For a certain product to be successful in the market, it is important that the producers, primarily smallholder farmers, have user rights to or ownership of the resource base from which the raw materials for the products are derived. The producers should also have easy access to information, technology and markets.

*b. Support from the local authorities*

If the markets are controlled by a few traders, it is difficult to enter as a newcomer and with new products. Therefore, it is important to engage local authorities in the promotion of a product and markets.

*c. Organisation of the community (collectors, producers, and processors)*

In order to be successful, a product has to reach a minimum quantity for sale (economy of scale). This often entails the pooling of resources and/or products from small producers to generate a viable quantity for marketing. In a market economy, quantity and standard quality are necessary to have an impact in the local economy and to sustain production and marketing. When organising the producers, the poorer and weaker members must be involved at the very early stages – once the market is developed the chance to involve them is limited as class hierarchy then plays a vital role. There needs to be a clear strategy from the beginning if we want to involve poor people and if they are to derive any economic benefits from participation in the value chain.

*d. Linkages to markets (to intermediaries or final buyers)*

A facilitator is needed to link the producers and product with the market. Markets should be looked at over time, and support should be extended to producers to



negotiate favourable business terms, and conditions and to ensure that all parties get a fair deal. People in villages are often not good at negotiating with buyers who come into the area, and are either cheated or unable to negotiate the best price for their goods. Facilitators (such as non-government organisations) can help people to negotiate and create an equal playing field for all so that everyone benefits (benefit-sharing).

*e. Entrepreneurial, businesslike behaviour from all partners involved*

For any business to be successful, a high degree of professionalism is required. Hence the development of entrepreneurial skills and attitudes among the various stakeholders involved in producing and marketing of the selected mountain products should be given high priority.

## **The role of ICIMOD**

ICIMOD can play an important role in the sustainable use and management of goods and services derived from mountain biological resources.

*a. Identification of goods and services*

ICIMOD can help in the identification of goods and services that have a high potential for accruing benefits to the mountain poor. This can be done through documentation of traditional knowledge and practices and through innovations for product development. A small change in productivity, quality or processing, and packaging of goods can make the difference in the market.

*b. Organisation of research and value chain analysis*

ICIMOD is already playing this role in relation to honeybees and medicinal herbs in Humla and Jumla. It should intensify its search for new products, and production and processing technologies, to enhance sustainability and quality of products and access to markets. People need to learn how to analyse markets and understand the supply and demand side, so that they do not depend on the sole intermediaries. To build up linkages, it is important to involve all stakeholders along the value chain from the beginning.

*c. Information, documentation, and propagation*

ICIMOD can do a great deal by identifying products with a high potential in different areas of the Hindu Kush-Himalayas, documenting information on their properties and uses, and disseminating this information widely.

*d. Mobilisation of NGOs and other actors*

As is already being done, ICIMOD can facilitate the organisation of farmers and communities into associations and producer groups, and provide training to them in production, marketing, and business management including financial services. For instance, providing training on financial management that emphasises the value of savings as a strategy to manage liquidity and risks would be highly beneficial for poor people.



#### *e. Advocacy and lobbying*

This role can be important for securing rights and equal access to resources among the producers and in resolution of conflicts and legal matters.

### **Perspectives**

Even though very few products have been discussed here, there is a considerable, yet under-utilised potential for mountain goods and services, especially for healthy and or high value products. What is needed now is for us to be ready to invest in conducting research, providing access to information, and promoting the framework conditions under which the potential benefits from such goods and services can be realised. Such efforts are necessary to maintain, and partly revive biodiversity in mountain areas, and above all, to improve the livelihood of the people in the Hindu Kush-Himalayas.

### **Discussion and Recommendations: Working Session III**

The plenary discussions after the presentations in Working Session III focused on the marketing problems of the Chittagong Hill Tracts and the realisation of the complementarity between the papers presented in the session. Accessibility has now been accepted as a critical factor in poverty alleviation, which was not the case two decades ago.

At the end of each presentation and discussion, recommendations were also made that would help set the future direction of ICIMOD. Some of the most important made during Working Session III are listed below.

- The following suggestions were made for promoting the securing of livelihoods for mountain people:
  - the policy-making process must be relevant and responsive to the needs of mountain areas
  - the nexus between poverty and environmental sustainability must be recognised
  - it is necessary to strengthen partnerships and collaboration in planning, achieving, and monitoring programmes
  - it is important to make mountain knowledge and information accessible and usable
- To develop and promote the potential of mountain goods and services, ICIMOD needs to initiate investment in research, information, and education, and in the women, men, and young people living in the mountains.
- Lessons and coping strategies leading to sustainable development entailing a balanced and integrated approach should be drawn from around the region. There is a need for systematic poverty assessment and poverty alleviation plans, as well as a need for the assessment and promotion of niche opportunities and the comparative advantages of different areas.
- A built-in alarm system should be developed to safeguard mountain societies from future negative impacts. A question was raised as to how remote areas could benefit from technological advances without losing their minority cultural identity.

