

Session II

**Promoting Productive and
Sustainable Community-based
Management of Vulnerable
Mountain Natural Resources**

Issues, Options, Challenges and Opportunities in Promoting Community-based Natural Resource Management in the Hindu Kush-Himalayan Region

Madhav Karki, Deputy Director General - Programmes and
Golam Rasul, Policy Development Specialist
International Centre for Integrated Mountain Development, Kathmandu, Nepal

Introduction

The Hindu Kush-Himalayan (HKH) region, extending over 3500 kilometres and home to about 150 million people, is a rich ecosystem dominated by forests, mountain ranges, biodiversity, and other natural resources. Many of these resources are critical for the wellbeing of close to a billion people living downstream because of the role they play in sustaining supplies of water, hydroelectricity, timber, mineral resources, and flood control related services. They are also areas of recreation for nature lovers. Increased population pressure and inappropriate use and management of these environmental and natural resources, however, have created severe pressure leading to a vicious cycle of degradation, poverty, and more degradation. It is generally believed that changing property regimes, from local users to distant and weak state machineries, has been one of the leading factors for degradation.

Land

The vast majority of people in the HKH region live in rural areas and depend largely on land for their sustenance; there is limited scope for other means of earning a living. Land is relatively scarce in HKH compared to other regions in Africa and Latin America, for example. Moreover, rapid population growth over the years has exerted serious pressure on the region's land resources.

This situation is getting worse in the HKH as steep slopes, high altitudes, and harsh environments render much of the land unsuitable for arable agriculture. Only 5% of the land is suitable for intensive arable agriculture. Severe scarcity necessitates the sustainable use and management of land resources.

Land, which is the prime source of livelihoods in the region, is in a severe state of degradation. Forests are shrinking and agriculture is gradually expanding on to marginal and sloping lands. Accelerating land degradation through nutrient leaching and soil erosion is affecting crop yield. It is estimated that more than 300 million ha of land in the HKH region are degraded to a certain extent (Table 1).

Forests

Forests are crucial for the livelihoods of millions of people living in the HKH. About 100 million people are partially or wholly dependent on forest resources for their subsistence. In mountain areas, where erosion rapidly depletes the bare agricultural soils, forests are the main source of nutrients that maintain the productivity of the land.

Table 1: The extent of land degradation in the Hindu Kush-Himalayas

Country	Extent of land degradation (in million ha)
Afghanistan (mountainous land)	39.8
Hilly areas of Bangladesh	1.0
Bhutan	1.6
China (Himalayan areas)	209.0
India (Himalayan areas)	17.3
Myanmar (Uplands)	17.6
Nepal	1.8
Pakistan (northern mountains)	20.0

Source: Bhatta 1990, in Partap and Watson 1994

Besides protecting the natural resource base for growing agricultural crops, forests provide important services by enhancing water supply, controlling erosion, and moderating micro and macro climates (Myers 1995). While experts argue that an ideal per capita forest area should be close to one ha, except for Bhutan countries of the region have much less than the desired level of forest resources. This has created an imbalance between population and natural resources. In Afghanistan, Bangladesh, China, and India, the figure is estimated to be only around 0.1 ha (Table 2).

Like land resources, forest resources are also dwindling in most parts of the region (Table 2). About half of India’s forest land are in various degrees of degradation due to socioeconomic, policy, and institutional reasons (Chundawat and Gautam 1993).

Table 3: Forest resources in the HKH countries

Table 2: Changes in forest cover in HKH countries

Country	Forest area (ha '000)			Annual change (%)	
	1980	1990	1995	1981-1990	1991-1995
Afghanistan	1,990	1,990	1,398	0.0	-5.9
Bangladesh	1,434	1,054	1,010	-2.6	-0.9
Bhutan	2,963	2,803	2,756	-0.5	-0.9
China	137,756	133,756	133,323	-0.3	-0.1
India	68,359	64,956	65,005	-0.5	0.0
Myanmar	33,098	29,088	27,151	-1.2	-2.3
Nepal	5,636	5,096	4,822	-1.0	-1.1
Pakistan	2,793	2,023	1,748	-2.8	-2.7

Source: Kaosa-ard and Rerkasem 2000

Table 3: Forest resources in the HKH countries

Country	Forest area 1995	
	% of land	ha/cap.
Afghanistan	2.1	0.1
Bangladesh	7.8	-
Bhutan	58.6	1.7
China	14.3	0.1
India	21.9	0.1
Myanmar	41.3	0.6
Nepal	35.2	0.2
Pakistan	2.3	-

Source: Kaosa-ard and Rerkasem 2000

Rangelands

About 60% of the HKH region is classified as rangelands. These areas are home to many culturally diverse pastoral people. Large numbers of animals and people depend fully or partially on rangelands. They support a sizeable livestock population and wildlife which supply meat and milk products, game, recreation, and soil nutrients. They also provide critical watershed services, climatic functions, and preserve diverse biological and cultural resources. These resources are, however, under heavy stress because of degradation caused by overgrazing, unscientific or unsystematic management, and overexploitation and mismanagement. Large expanse of rangelands have lost their vegetative cover completely and some areas close to the subtropical zone have been converted into agricultural uses. In China, about two-third of rangelands are degraded. Rangeland degradation has accelerated loss of biological resources including flora and fauna, which has affected the lives of people dependent on pastoralism.

Water

The HKH region is the largest storehouse of fresh water in South Asia. The greater Himalayan mountains are the source of nine major river systems critical for the welfare of millions of people who live both upstream and downstream. Although once considered abundant, water

is becoming an extremely scarce resource as demand has increased as users have multiplied and supply has become erratic. Water has become a source of contention between many countries in the region.

Biodiversity

The Eastern Himalayas which lies in the HKH region is one of the global biodiversity hotspots. Its geological, climatic, and altitudinal variations makes this Himalayan hotspot also the most diverse: it is home to about 10,000 plant species, 300 mammal species, 977 birds, 176 reptiles, 105 amphibians, and 269 freshwater fishes. Many of its rare flora and fauna are endemic, not found in other regions of the world. Many of these biodiversity resources, especially faunal and floral species, however, are either being lost or are endangered due to overexploitation and loss of habitat.

Management of the rare environmental and natural resources of the region is confronting new and complex issues and challenges. Most important among them are mounting pressure on limited natural resources, persistent poverty, increasing social and gender inequity and inequality, and deteriorating resource base and overall erosion of environmental quality. The population is growing steadily in all countries of the region, from about 1% in China to more than 3% in Afghanistan. This has forced people to either migrate to urban areas, or intensify the use of limited resources. Marginal lands are too often used for cultivation, undermining their ecological sustainability. Despite considerable expansion of more effective community-based natural resource management systems, degradation continues unabated. To make matters worse, urban environments are declining rapidly as unplanned townships and cities expand in an uncontrolled manner, putting further pressure on nearby forest and water resources. Accelerating economic development in the neighbouring plains and the impact of external forces have added new challenges to environmental managers of the region. Mountain peoples are known for their resiliency and adaptive capacities, but they face formidable hurdles, competing with outside forces, in effectively joining the mainstream of economic and social development taking place in Asia today.

Key Issues

Poverty

Poverty and inequality persist in a number of subregions and pockets despite notable economic growth in some countries of the region and certain pockets of the Himalayas. Poverty is widespread in all countries of the Himalayan region (Table 4). Per capita GDP ranges from US\$ 167 in Afghanistan to US\$ 1,100 in China (FAO 2005). According to a recent Millennium Development Goals Report, progress made by the South Asian region as a whole between 1990 and 2002, although impressive, is not uniform. Average overall incomes increased by approximately 21%, the number of people in extreme poverty declined by an estimated 130 million, and child mortality fell from 133 deaths per 1000 live births a year to 88. Life expectancy rose from 63 to nearly 65 years. Huge disparities prevail across regions and within countries. The report indicates poor progress in education, gender equality, sanitation, environmental degradation, and housing for the poor. "National data

often mask wide disparities between males and females” and South Asia is singled out for having the highest extent of disparities in women’s life expectancy and infant mortality rates for girls. The report states, “country averages may disguise the fact that a number of areas within countries are significantly off track towards the Millennium Development Goals (MDG), while others are on track. Some countries, like Nepal and Afghanistan, are far behind the others mainly due to political and social conflict” (Banskota 2006). While data are not adequately disaggregated for mountain areas, China reports that the majority of its poverty is in the mountainous western provinces.

Table 4: Percentage of population below the national poverty line in HKH countries

Country	Population (in million)	% of Population below the national poverty line	Population (in million) living in poverty
Afghanistan*	31.0	70	21.7
Bangladesh**	143.8	44	63.2
Bhutan**	0.753	36	0.27
China***	1321.8	12	158.6
India**	1 079.7	26	280.7
Myanmar	47.3	25****	11.8
Nepal**	24.8	38	9.42
Pakistan**	149.7	34	50.9
	2,798.85		596.59

Data Sources: * Human Development Report 2003:199, ** SAARC 2005:15, *** Ravallion and Chen 2007:8, **** The World Fact Book Central Intelligence Agency, USA

Challenges

Mountain-focused policies that protect and conserve the natural environment, sustainably manage resources, and improve the overall quality of life to meet future needs and create opportunities for multiple and beneficial uses of natural resources are as critical as ever. Significant progress has been made in several countries of the region towards sustainable management of land, forests, rangelands, and watersheds through adoption of effective community-based management systems. Developing policies and programmes that can provide incentives for good stewardship of natural resources faces numerous challenges. Some of these are as follows.

Unclear property rights

In the eastern Himalayas where community ownership of resources is common, the issue of tenure and customary rights of local people is not clear. In many parts of the region, forest and rangelands that were nationalised during the colonial period, or which had been centrally managed, are continuing under a state command-and-control type of management and ownership. Although, traditionally, local people have been using these resources to earn their livelihoods, prevailing laws and regulations make their customary use illegal. In some cases, only limited use rights are allowed by the government as special privileges, which in itself creates disincentives for sustainable management of natural resources. Insecure resource tenure not only encourages unsustainable resource use (the ‘Tragedy of the Commons’ syndrome), it also creates conflict between local people and government agencies. This

indicates that colonial legacies are not only prevalent in policies and laws, they remain dominant in practice in the institutional norms and cultures which implement these policies and laws.

Lack of clear policies and legislation regarding participatory natural resources management

Although, in principle, most of the countries of the region have adopted the basic framework of participatory natural resource management, the initiative is not yet properly supported by necessary policies, Acts, programmes, and their implementation. For example, although India adopted a policy of Joint Forest Management (JFM) in 1988, which has seen widespread implementation, it has yet to be incorporated in the Forest Act to help facilitate JFM's adoption, formalisation, and integration into the normal operations and work planning procedures of the Forest Department. The rights and concessions, as well as benefit-sharing arrangements, also need to be institutionalised and put into a legal framework rather than kept under the banner of administrative decisions. Actual tenurial rights conferred by JFM remain extremely limited in comparison to more successful community forestry in other countries. The JFM programme has introduced a number of innovations in resource expansion which can be used by community forestry programmes in other countries. Similar situations prevail in Pakistan, Bangladesh, and Bhutan, although the policies are gradually changing.

Dominance of technocracy and bureaucracy

Sustainable natural resource management requires the participation of local people and involvement of community-based institutions and actors, traditional and grassroots organisations, and civil society in the policy-making process to establish a broad-based framework for resource management. In many countries of the region, formal mechanisms are yet to be developed to involve local communities and civil society in the decision-making processes (Ahmed and Mahmud 1998). The bureaucratic and/or technocratic approach still dominates the process, and social, traditional, and indigenous processes and practices are given a passive role.

Differing socioeconomic and political systems

Political and social contexts shape policy processes and outcomes in fundamental ways. Wide differences in social settings and governance systems, and disparities in economic standing in the Himalayan region make it difficult to develop a common regional strategy and options for policy change. In order to ensure success the policy reform process must take into account the history, context, political environment, and logical basis for the need for change.

Lack of thematic integration

Many of the problems concerning natural resources faced by the regional member countries (RMCs) have complex and multi-faceted causes (deforestation, construction of infrastructure, soil erosion, land degradation, climate change, among others) which require a broader framework and an integrated approach, and transdisciplinary¹ approaches. ICIMOD's

¹ A transdisciplinary approach takes ideas, theories, concepts, and methods which exist above the separation of disciplines and apply them to transcend disciplinary boundaries.

programmes are contributing to poverty alleviation by developing integrated and innovative solutions that address: a) degradation of natural resources especially forests, rangelands, water, soils, and biodiversity; b) low productivity from agriculture by focusing on rural income diversification; c) improving community-based responses to natural disasters and climate change; d) reducing social and gender inequality and exclusion; d) improving knowledge packaging and targeted dissemination using advances in ICT; and e) forming strategic alliances and partnerships for policy advocacy and change.

Opportunities for influencing policy

Notwithstanding these bottlenecks and hurdles, there is a significant shift towards participatory planning and management of natural resources in the region. A major policy change currently underway in India, for example, is legislation in the form of a Land Rights bill now in Parliament which provides usufruct rights to local people. The Government of Pakistan has developed a Joint Forest Management-oriented policy, and the North Western Frontier Province is implementing an integrated natural resource management project. The Royal Government of Bhutan is developing a water policy and enacting laws for better managing water resources. Nepal recently developed a non-timber forest product policy for the sustainable use and management of NTFPs. The Government of Bangladesh also recently passed a Social Forestry Act which facilitates participatory forest management. Likewise, the State Government of Uttarakhand, India, is playing a pioneering role in revitalising the system of community forest management known as the 'Van Panchayat'. There are also moves to develop policies on environmental services, carbon trading, and climate change.

The successes of these approaches can be seen in Nepal, where policies have been formulated that devolve rights to local people and reorient the government forestry staff towards providing better technical services. Similar examples exist in rangeland co-management practices in China and in regional collaboration in other transboundary issues such as biodiversity conservation and flood control. Despite limited successes, a key challenge facing policy makers, development practitioners, and researchers in the region is how to scale up and develop policies that contribute in a significant way to alleviating poverty, reducing inequalities, and managing fragile mountain natural resources, thus contributing to realisation of the Millennium Development Goals. It is more complex to manage the natural resources sector than others because of the extremely intricate linkages between social and ecological systems.

The countries and states or provinces of the Himalayan region are continually looking for optimal policy options. ICIMOD's mission is to improve its response to this need to support the development of mountain specific policies that tackle mountain poverty and natural resource degradation problems. International organisations and the donor community are also supporting people-centred natural resource management perspectives taken up by ICIMOD. Civil society, community-based groups, and government line agencies in all the regional member countries have expressed keen interest in and support for participatory forest and marginal land management. There is an overall receptive policy environment that provides a valuable window of opportunity to meet the needs of policy makers and local

stakeholders. By helping them to explore new policies, approaches, and options, as well as to understand the social and environmental consequences of alternative courses of action, ICIMOD, as a non-political regional institution with more than two decades of experience in mountain development, uses its unique position to help address the mountain region's growing problems through experiential learning and mutual sharing.

ICIMOD's experiences and learning

The experiences gained through ICIMOD's work in community-based forest and natural resource management offers useful insights, lessons for packaging good practices, and direction to formulate certain broad policy recommendations. The key policy recommendations are as follows.

- **Devolve power to local communities.** While the very nature of 'participatory forestry' calls for community involvement in the process of planning, implementation, and decision making, experiences gained through our work (Statz et al. 2007; Rasul and Karki 2007) show that real devolution of power to local people has yet to happen. It is, therefore, imperative that power and authority be devolved to local forest user communities to promote participatory forest management.
- **Develop and strengthen effective community-based institutions.** In promoting community-based natural resource management practices, development of effective community-level institutions, clear rules, and regulations, and strong linkages between national, district, and community institutions is needed in order to develop appropriate mechanisms for sharing benefits, resolving conflicts, and providing financial incentives. An effective user group federation such as The Federation of Community Forest Users Nepal (FECOFUN) can play an important role in promoting participatory forest management. It is, therefore, recommended that community-based institutions for promoting participatory forest management be developed and strengthened.
- **Take positive action for disadvantaged groups.** The needs of the poor, women, and disadvantaged groups, are not automatically reflected in the management and operational decisions of user groups; these marginalised groups have little voice and capacity to negotiate with the social and political elite. Clear policy guidelines need to be developed and put in place in order to achieve inclusion of disadvantaged sections of the society in participatory forest management. A policy bias for the disadvantaged sections of society, for example, allocating a percentage of community forestry area for the poor and the disadvantaged, are recommended to create more opportunities for these marginalised groups.
- **Promote protection to active management, advance from subsistence to commercial production.** Although participatory forest management provides support to livelihoods, its role in improving the quality of lives of its participants remains limited as subsistence production remains the focus of the programme. Experience from this study suggests that forest protection is not enough to improve the quality of rural life. It is necessary to enhance productivity and facilitate the advance from subsistence to commercial production of timber and non-timber forest products as well as to promote ecological services. It is necessary to improve silvicultural and resource management practices to increase productivity, and for this, we must improve the technological capacities of user

groups. Necessary policy and institutional support such as training, credit, marketing, and business development services, needs to be put in place to facilitate a gradual shift from subsistence to commercial production.

- **Provide policy and institutional support.** Experience shows that decentralisation and giving local people the responsibility to manage the forests is not enough. Local people need new knowledge, improved technical skills, up-to-date information, and enabling support to manage forests and related natural resources more efficiently. The supporting role of NGOs and government agencies is crucial, particularly in the formative stages. Poor people, women, and other marginalised groups face a myriad of constraints to exercising their forest access rights effectively. Policy and legal support and an institutional framework should be in place, with mechanisms in place for post-project backstopping. Many good forest management and rural enterprise development initiatives are frustrated because of a lack of enabling policies and institutional environment. Therefore, appropriate policies and institutional support need to be put in place.
- **Create new economic opportunities and market linkages.** Forestry is a livelihoods-related activity for the mountain poor. To sustain participation in forestry-related activities and facilitate the move from subsistence-based activities to commercial enterprise, new economic opportunities need to be identified and market linkages harnessed and developed. New and promising areas of activity based on local resources need to be identified and developed. Certification of organic products can also be pursued. The potential for carbon financing as an incentive and instrument for reducing poverty also needs to be explored.
- **Develop an integrated approach.** The pursuit of forest management is consistent with sustainable development; it requires pursuing economic activities to improve the quality of life of mountain people without affecting the regenerative capacity of natural resources. Therefore, responsibility for forest management needs to go beyond forest departments. It is necessary to involve the relevant line agencies such as agriculture, livestock, soil, local government, and rural development, in promoting sustainable forest management. An integrated approach, therefore, should be used to promote holistic forest management.
- **Need for continued international support.** In countries of the Himalayan region participatory forestry is not only a means for better resource management and regenerating degraded forests, it is also an end goal in development activities and people's participation and empowerment are the main development goals of all the countries of the region. This is a daunting task. It is therefore important that international organisations, development agencies, and donor communities come together and continue to provide support to produce a synergistic effect on participatory forest management and strengthen the process.
- **Empower local forest user communities.** Special consideration needs to be given to empowering the poor, vulnerable, and socially excluded groups with new knowledge, information, skills, and technologies to manage forests effectively. The capacity of local organisations, government organisations, community-based organisations (CBOs), non-government organisations (NGOs), and service providers must be strengthened to equip them to address the challenges and harness the opportunities.

- **Reorient state forest bureaucracies.** Finally, special attention should be given to re-orientating state forest bureaucracies away from traditional models that emphasise trees and production towards participatory forest management, placing special emphasis on local people dependent on forests and their livelihoods, and the overall socioeconomic development of communities living in forest areas.

Conclusion

Sustainable mountain development and management of natural resources require not only the active and sustained participation of local people dependent directly on those resources, but also improved tenure systems that allocate ownership in accordance with the rights and responsibilities of the users. The framework should pursue a people-centred and livelihoods-focused model in developing policies and strategies. Under this framework and in a setting of dynamic consultation, partners such as governments, NGOs, CBOs, and international organisations, should be consulted constantly to develop a partnership-based policy to inform and influence policy change. In order to address new, emerging issues, key players in the policy change process should constantly generate fresh knowledge and information and raise awareness to add value to the multiple stakeholder policy change process in sustainable natural resource management.

In conclusion, a policy development framework promoting community-based natural resource management is a long-term initiative. The process ICIMOD has adopted starts by raising critical research and development questions, setting up a participatory research and consultation framework, generating outputs fulfilling key indicators, assessing the adequacy and potential of the outputs to influence policy, and providing evidence to policy makers so that there is a good chance that a desired policy change will take place. The process is successful if the outcome of the change is tangible, traceable, and partners feel that the effort was worth it. The process is expected to go on as implementing one policy change cycle will generate a new generation of issues. A dynamic or iterative process has to be in place to address second generation issues as they emerge.

Bibliography

- Ahmed, J.; Mahmood, F. (1998) *Policy That Works for Forests and People: Changing Perspectives on Forest Policy, Pakistan Country Study*. UK: IIED
- Banskota, M. (2006) 'Policy and Institutional Reforms for Sustainable Mountain Development'. Paper presented at the ICIMOD Regional Policy Workshop in September 2006. Kathmandu: ICIMOD
- Chundawat, B.S.; Gautam, S.K. (1993) *A Text Book of Agroforestry*. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd
- FAO (2005) *The State of Food and Agriculture in Asia and the Pacific*. RAP Publication 2006/03 Rome: FAO
- UNDP (2003) *Human Development Report 2003: Millennium Development Goals: A Compact among Nations to End Human Poverty*. New York: Oxford University Press
- Kaosa-ard, M.S.; Rerkasem, B. (2000) *The Growth and Sustainability of Agriculture in Asia*. Hong Kong: Oxford University Press (China) Ltd

- Myers, N. (1995) 'Tropical Deforestation: Population, Poverty and Biodiversity.' In Swanson, T.M. (ed) *The Economics and Ecology of Biodiversity Decline: The Forces Driving Global Change*, pp. 111–122. Cambridge (UK): Cambridge University Press
- NNSD (2004) *Millennium Development Goals, Monitoring Report of Civil Society*. Kathmandu: Nepal Network for Sustainable Development(NNSD) Kathmandu, Nepal
- Planning Commission, Government of India (2006) *Report of the Task Force on the Mountain Ecosystem: Environmental and Forest Sector*. New Delhi: Planning Commission
- Partap, T.; Watson, H.R. (1994) *Sloping Agricultural Land Technology (SALT): A Regenerative Option for Sustainable Mountain Farming*. ICIMOD Occasional Paper No. 23, Kathmandu: ICIMOD
- Rasul, G.; Karki, M. (2007) *A Comparative Analysis of Participatory Forest Management Evolved in South Asia: Policy, Institutions, and Approaches*. Kathmandu: ICIMOD
- Ravallion, M.; Chen, S. (2007) 'China's (uneven) Progress against Poverty'. In *Journal of Development Economics*, 8:1-42
- SAARC (2005) *SAARC Regional Poverty Profile 2005: Poverty Reduction in South Asia through Productive Employment*. Kathmandu: SAARC Secretariat
- Statz J.; Kotru R.; Beukeboom H.; Rasul G.; Kerkhoff E.; Karki M. (2007) *Advances in Participatory Forest Management in South Asia, Learning from Field Experience in Bhutan, India, and Nepal, Talking Points 1/07*. Kathmandu: ICIMOD