

Chapter 1

Introduction

Mountains are characterised by fragility, inaccessibility, and marginality. The cost of mismanagement and neglect in such areas is severe. In terms of highland–lowland relationships, mountain communities suffer from political and economic marginality with respect to lowland areas and centres of power. The needs and concerns of mountain people are not adequately reflected in policies and laws, particularly if such regions are part of a larger country.

The Hindu Kush–Himalayan region has a diversity of environments ranging from the subtropical to the arctic. The region is characterised by remoteness, isolation, fragility of environments, poverty, and shrinking resource bases. What is true of the Hindu Kush–Himalayan region is almost equally true of the Northwestern Himalayan Region of India (NWHRI), an area that constitute the States of Jammu and Kashmir, Himachal Pradesh and the hill areas of Uttar Pradesh. This is a region where industrial and commercial activities have a limited presence. More than three-quarters of the population depend on primary occupations for employment and

subsistence, most of which are directly or indirectly land-based. Therefore, land is an important resource. However, usually in mountain regions, most land is snow-covered, rocky, barren, uncultivable and non-usable. The remainder has to be shared by forests, grasslands, agriculture, horticulture and non-agricultural uses, e.g., urban settlements, roads, dams, industries, etc. In 1991, the NWHRI per capita availability of agricultural land was only 0.1 ha, while that of forest land was 0.3 ha. By the end of the decade, it will have fallen by nearly a further 20 per cent.

The issues addressed in this study relate to the evolution, implementation and impact of land policies in the mountain areas of NWHRI. Land management practices and responses to policy on resource quality and sustainability are examined. An attempt is made to quantify the symptoms of land degradation and diagnose its causes.

Choice of Issues for the Study

Land use and management depend on land policies. In the Himalayan region,

degradation of land is common. The present study is concerned with the links between policy, management, and degradation. The most important uses of land in the NWHRI are forestry, agriculture (with its allied sectors), grazing, foraging, and the setting up of special areas for the protection of biodiversity including flora and fauna (wildlife). There are also non-agricultural uses such as urbanisation, roads, and industries, but land needs for these purposes are, as yet, comparatively low. There are region-specific uses that can vary in importance from area to area. Another aspect of land use and management is control over and access to resources. Land can be government-owned; it can belong to communities; it can be possessed by individuals. Tenure titling, granting of access/usufruct rights and common-property land resource uses can affect sustainable land management. Therefore, the choice of issues for the study is as follows.

- Forestry
- Agriculture
- Land, property regimes (tenure, titling reforms and common property land resource management)
- Biodiversity (national parks and wildlife)
- In addition, the following region specificities have been chosen.
- Water resources (development, management and uses)
- Tourism

These policy areas have tremendous impacts on the livelihoods of people living in the NWHRI; their standards of living, quality of life, and their subsistence. They also have an important bearing on the well-being and sustainability of mountain lands and environments.

While this study has, to a large extent, been based on secondary data and discussions with experts in the NWHRI, it was

considered expedient to elicit the opinions and views of government officials, experts, NGOs, research institutions, and others working in the fields of land and water management, soil conservation, forest management, and protection of the environment. To facilitate this, a structured questionnaire was sent to selected individuals, organizations, and officials. The questionnaire, although structured, provided ample scope for giving free and frank views. Replies were obtained from a number of knowledgeable respondents—including academicians, foresters, administrators, research institutions, land/water scientists, and NGOs. The questionnaire was divided into five parts: general, forest, land holdings, common lands, and water. A brief summing up of the responses can be found in Annex 1.

National Conservation Strategy

Concern over the need to integrate environmental and developmental issues is a phenomenon only a little over two decades old. The quest for achieving a balance between the needs of growth and sustainability in the context of structural changes that will bring about a shift from an agricultural/rural economy to an industrial one demands overall policy guidelines. As a consequence, the National Conservation Strategy was published in India by the Union Ministry of Environment and Forests in 1992. The primary purpose of the policy statement was ‘to reinforce our traditional ethos and to build up a conservation society living in harmony with nature and making frugal and efficient use of resources guided by the best available scientific knowledge’.

The document examines environmental problems highlighting the fast-increasing demand on resources, poorly planned development, severe impacts on the health and integrity of natural resources, and the need to fulfill basic human needs. Severe

population pressures (human and animal), degradation of land and forest, loss of habitats, mounting water problems, urban sprawl and stress, rising pollution levels, and overall environmental degradation are emphasised in unambiguous terms. Recognition is given to the complexity of the problems and that it is 'difficult to delineate clearly the causes and consequences of environmental degradation in terms of simple one-to-one relationships. The causes and effects are often interwoven in complex webs of social, technological, and environmental factors'. Development has to be sustainable and models followed earlier need to be reviewed.

The policy statement lists various regulatory and promotional measures that have already been taken: laws relating to wildlife, water and air pollution, forest conservation, and environmental protection; and, establishment of various institutions (Departments of Environment, Science and Technology, central and state Pollution Control Boards, Forestry Board, Indian Grassland and Fodder Research Institute, Forest Survey of India, National Wasteland Development Board, etc.). It states that a new forest policy was adopted in 1988. Various programmes for land and soil improvement have been initiated. Environmental impact assessment procedures have been prescribed. Research and training have been intensified and awareness campaigns launched.

It outlines the agenda for achieving sustainable and equitable use of resources, preventing future deterioration of life-support systems, restoring ecologically degraded areas, minimising adverse environmental impacts of development projects, conserving and nurturing biological diversity, and protecting scenic landscapes, wildlife habitats, and areas of cultural heritage. It underlines 'participation of people in programmes for environmental

improvement', prior environmental clearance for projects that are large or located in ecologically sensitive areas, and incorporation of safeguards in 'policies', planning, site selection, choice of technology and development, industry, mineral extraction, and processing, energy, forestry, transport, and human settlement. Priorities for action include population control, integrated land and water management, pollution control, conservation of biodiversity, meeting biomass requirements of the rural poor, etc.

The statement concedes that the 'objectives of conservation and sustainable development will require integration and internalisation of environmental consideration in policies and programmes of development in various sectors'. It lists in some detail the measures required to be taken in the following sectors: agriculture, irrigation, animal husbandry, forestry, energy generation and use, industrial development, mining and quarrying, tourism, transportation, and human settlements. International cooperation has been stressed and so has the need for strengthening institutions and legislation. Training, research, environmental education, role of NGOs, and resource-accounting have been identified as important inputs. It has also been stated that women at the grass root level should be actively involved in conservation programmes and constructive partnerships established between the central and state governments.

Since agriculture, forestry, biodiversity, land and water resources, and tourism are the themes of this study, the main strategies for these sectors are listed here.

Agriculture

- Sustainable farming (including animal husbandry)
- Plant protection policies (use of biofertilizers and biopesticides)

- Integrated nutrient supply
- Restrictions on diversion of prime agricultural lands to other uses
- Land use according to land capability
- Upgrading animal stock, restoration and protection of grazing lands, encouragement of stall-feeding and rotational grazing, regulation of animal population
- Conservation of water and energy in agriculture
- Encouragement of appropriate crop-rotation patterns
- Strengthening of rural local bodies to ensure decentralization and optimal resource management

Forestry

- Preservation and restoration of forests
- Increase in forest/tree cover through social forestry and afforestation programmes
- Increase in productivity of forests
- Meeting of fuelwood, fodder, wood products, and small timber needs of rural/tribal populations in consonance with carrying capacity of forests
- Restriction of non-forest uses on forest land; and, where unavoidable, insistence on compensatory afforestation
- Afforestation of common-property land resources by local communities
- Encouragement of tree-farming
- Involvement of local communities/NGOs in afforestation

National Parks and Wildlife

- Formation of National Wildlife Action Plan
- Forty-five per cent coverage of the country by national parks and sanctuaries
- Establishment of biosphere reserves and protected areas

Water Resources

- Efficiency increases in water use, water conservation, and recycling
- Provision of drainage as an integral component of irrigation
- Watershed management through catchment treatment
- Focus on a decentralized network of small irrigation projects
- Formulation of a National River Action Plan
- Conjunctive use of water

Tourism

- Promotion of sustainable growth of tourism based on carrying capacity
- Development of tourism in harmony with the environment without affecting the lifestyles of local people
- Strict regulation in sensitive areas such as hill slopes, islands, coastal stretches, national parks, and sanctuaries

In developing the national policy statement it seems care has been taken, by and large, to incorporate and integrate objectives and strategies of other sectoral policies developed at the national level. Even so, some priority areas have been missed. For example, there is little mention of land reform or management of common-property resource lands within villages. The joint forest management concept has not been referred to, although policy guidelines in this regard were issued in 1990. Similarly, reduction of non-productive cattle is not included. Discouragement of monocultures should have been underlined. Deconcentration of tourist locations, especially in the hills, could have received attention. That environment as a subject be intrinsically included in the general educational curricula should have been clearly stated. There is no emphasis on the need for reducing the population growth rate.

Important deficiencies are effective implementation of policies, enforcement of laws and regulations, and inadequacy of public-hearing systems. The legal framework has been considerably strengthened and, in recent years, judicial interventions have had a salutary effect on compliance with environmental laws and regulations. The public interest litigation system, which has expanded in scope, has resulted in interventions in favour of land, forests, environmental protection, and pollution abatement. In the 1990s, the government issued a comprehensive Policy Statement on Abatement of Pollution that emphasized the setting up of stricter standards for pollution levels, integration of environmental concerns across the board in various sectors, departments, agencies and levels, the addressing of non-point pollution issues (e.g., runoff of agricultural inputs such as pesticides and fertilizers), biomass production enhancement, environmental audit and public partnerships.

The Ministry of Environment and Forests was set up in 1980 as a focal agency for environmental policies and programmes. Objectives of the ministry encompass environmental law and policy, pollution monitoring and control, conservation of natural resources, management of forests and wildlife protection, environmental awareness and education, and promotion of research. There are six regional offices. Every state has a Pollution Control Board and there is a Central Pollution Control Board. However, there are severe implementation and compliance gaps. This is partly because there is a shortage of manpower and resources and partly because of lack of cooperation and coordination with other departments, agencies, and organizations at both central and state levels.

Area Definition and Statistical Profiles

The northwestern Himalayan region of India (NWHRI) consists of the States of Jammu and Kashmir, Himachal Pradesh and the Uttar Pradesh hills—an area of 331,495 sq.km. Its population, according to the census of 1991, was 11.9 million people. Relevant statistical indicators for India can be found in Annex 2.

Jammu and Kashmir is one of eight special-category states that, on account of geographical and economic considerations, have been given this status for development funding and other purposes. The state's economy is largely agricultural. The industrial base is extremely narrow. Most mass consumption items are imported. Apart from agriculture, the main economic activities are carpet/s hawl weaving and production of handicrafts, horticulture, and tourism. The state has experienced militant activities during the last decade. Unemployment is high. Tourist traffic to the Kashmir Valley has dwindled sharply, although it has risen in Jammu Division. Horticulture is doing well and so is production of handicrafts and woollen goods. Forests have suffered from illegal felling in recent years. There is considerable potential for hydro-electric energy that has remained largely untapped.

Himachal Pradesh has a predominantly agro-horti-pastoral economy. Geographic and climatic conditions are suitable for growing a wide variety of fruit and cash crops such as disease-free seed potato, off-season vegetables, ginger, vegetable/flower seed, mushrooms, and other high-value crops. The increase in fruit production has been remarkable. Tourism, woollen goods, and crafts are important components of the economy. Forest cover is inadequate and of low quality. The state has an immense potential for hydel power—estimated at 20,000MW.

The hills of Uttar Pradesh are part of India's most populated state. The economy of the region is agrarian with industry contributing marginally. Forest cover is about 44 per cent of the area and a little less than one-third is 'open forest with canopy cover of less than 40 per cent'. Pressure on forests is severe from both human activities and animal grazing. Agriculture in the uplands is marginal. The area under horticulture is on the increase. Tourism is an important economic activity.

Table 1 gives socioeconomic details of the NWHRI.

Administration, Policy and Stakeholders

Before independence, the bureaucracy of the country enjoyed a great deal of authority and power in policy-making and implementation. After independence, especially from the mid-1960s on, the role of bureaucracy in policy formulation declined sharply. People, including political, social, and academic thinkers and policy-makers, are now inclined to acknowledge that voluntary associations, non-governmental initiatives, and decentralized, democratic institutions provide important alternatives and supplementary means to state action for empowering the citizen. For this purpose, community mobilisation and community coalitions are necessary. In 1992, amendments to the Indian Constitution provided for empowered, democratic institutions of self-governance at village, block, town, city, and district levels. This indicates a determination to move towards decentralized public arenas for deliberation and decision-making so that people gain greater control over their lives. The most difficult task is to operationalise these intentions. There are numerous stakeholders—central and state governments, political parties, social collectives, entrepreneurs and investors, external donors, scientific and research

organizations, NGOs, and the common man. Policy planning and implementation become a series of interactions to be managed with care, and carried out with openness, width and depth of discourse, and honesty of purpose so that governance becomes transparent, responsive, and accountable and results in higher levels of satisfaction and better quality of life for all those who comprise the nation.

Politics and administration play a role in both policy formation and execution. Policy-planning mechanisms or institutions are needed to enable the political executive to formulate policy with knowledge and competence. In India, policy planning on a continuous basis remains to be institutionalised; *ad hoc* arrangements exist. The Planning Commission plays some role, and, from time to time, policy documents do emerge through the setting up of *ad hoc* expert groups. Some ministries have policy-planning cells but these, scholars say, act more as research units. Some non-governmental initiatives in policy analysis and research have also emerged. Many policies develop from political considerations: the imperatives of elections, and the compulsions of coalition governments. Many are responses to the demands of populism. There is a powerful need for institutionalising policy formulation. This is now a priority area for reform in governance and administration.

The gap between formulation and implementation of policies is another problem. No amount of good policy-making can or does survive the transition through bad implementation. This is where decentralization, intermediation, and institutional community partnerships can help to make the transition smooth and successful. Successful policy planning and execution demand a two-fold approach: building capacities and motivation for constructive group dynamics and dialogue amongst stakeholders; and, empowering

Table 1: Selective Statistical Profiles of the NWHRI			
	Jammu and Kashmir	Himachal Pradesh	Uttar Pradesh hills
Geographical area (sq.km.)	222,240	55,670	53,585
Reporting area (sq.km.)	45,045	33,675	53,585
Average annual rainfall (mm)	Varies from year to year and location to location. Range of 100–2,750mm.		
Population (1990-91)			
total population	7,719,000	5,171,000	5,926,000
density (persons/km. ²)	171	93	116
decennial growth (1981-91) (%)	28.9	20.8	22.5
sex ratio (per thousand)	925	974	955
urban population (%)	21.1	8.6	21.74
rural population (%)	78.9	91.4	78.30
Literacy rate			
total (%)	27 (1981)	64 (1991)	50(1991)
male (%)	34 (1981)	75(1991)	76 (1991)
female (%)	16 (1981)	52 (1991)	44 (1991)
State income (million IRs)	52867 (1995-96)	40251(1995-96)	n/a
Per capita income (IRs)	6181 (1995-96)	7784(1994-95)	5874 (1995-96) (for the whole of UP)
Worker distribution			
main workers (%)	33	n/a	42
agricultural (%)	17	n/a	23
household, industries, services, manufacturing (%)	2	n/a	0.3
other (%)	48	n/a	34
Land use			
legally recorded area under forest (1997) (sq.km.)	20,182	37,591	34,249
actual area under forest (1997) (sq.km.)	20,440	12,520	22,660
net sown area (1990-91) (ha)	731,000	582,800	669,100
area under non-agricultural uses (1990-91) (ha)	303,000	193,200	136,500
net irrigated area (1990-91) (ha)	298,000	99,500	233,600
cropping intensity (1990-91)	146	169	164
smallholdings (less than one ha) (1990-91) (%)	34	64	70
total livestock population	8,700,000 (1992)	5,080,000 (1992)	4,240,000 (1988)
number of cattle	3,050,000 (1992)	2,150,000 (1992)	1,920,000 (1988)
number of sheep/goats	4,710,000 (1992)	1,190,000 (1992)	1,260,000 (1988)
area under horticulture (ha)	180,300 (1991-92)	170,800 (1991-92)	179,200 (1993-94)
production of fruit (tonnes??)	780,000 (1991-92)	460,000 (1991-92)	470,000 (1993-94)
Power (electricity)			
installed capacity (MW)	394 (1996-97)	n/a	n/a
villages electrified (%)	96 (1996-97)	100	77 (1995-96)
consumption per capita (kVA)	n/a	n/a	228 (1992-93)
Food production			
total food grains (tonnes)	1,508 (1996-97)	1,340,000 (1991-92)	1,515,000 (1993-94)
productivity of wheat (kg/ha)	1,699 (1996-97)	1,540 (1996-97)	1,758 (1993-94)
productivity of rice (kg/ha)	1577 (1996-97)	1,610 (1993-94)	2,004 (1993-94)
productivity of maize (kg/ha)	1,490 (1996-97)	2,110 (1993-94)	1,254 (1993-94)
No. of districts	14	12	12
No. of tehsils*	50	24	34
No. of development blocks	92	69	89
No. of villages	6758	16,916	15,117
Motorable roads (km.)	12,981 (1995-96)	16,213 (1992-93)	15,000 (1995-96)

Sources: Government of Jammu and Kashmir, n.d.; Government of Himachal Pradesh, n.d.; Government of Uttar Pradesh, n.d., 1996; FSI, 1997; Ministry of Agriculture, n.d.

* A *tehsil* is a sub-district

communities through broad-based, participatory local organizations capable of accessing local resources and taking on management functions.