

## **Chapter 6**

# **National Parks and Protected Areas**

### **6.1 Wildlife Policy**

Nepal's wildlife policy aims to conserve forest ecosystems, wildlife habitats, and genetic resources through the establishment of national parks, wildlife reserves, gene banks, zoos, and botanical gardens (MPFS 1988). Policy claims that the country has taken up its share in preserving representative Himalayan ecosystems, but it also recognises that in the process of establishment of protected areas the local people have lost their traditional sources of forest produce. The idea is to compensate the loss by developing alternative sources.

There are many programme components that are mentioned in the Master Plan for the Forestry Sector 1988. These are as follow.

- Development of infrastructure that blends with nature and character of the protected area
- Building good relationships with people living adjacent to protected areas through:
  - conservation education

- developing alternative sources of forest products
- better habitat management
- paying greater attention to population dynamics
- better management of visitor use and tourism
- ensuring the protection of natural and cultural values

To support these thrusts, policy documents state that legislation concerning protected areas and genetic resources will be improved; the Department of National Parks and Wildlife Conservation's management capacity will be strengthened; training and logistical support to field staff will be increased; resource surveys and studies will be conducted; and management plans will be formulated to account for the needs of people in adjacent areas, the proper handling of visitor use, and the preservation of natural and cultural values. Table 6.1 summarises the country's major policies on national parks and protected areas as enshrined in the MPFS and NEPAP.

**Table 6.1: Policies and Action Plans Related to National Parks and Protected Areas**

Policies	Action Plans	Responsible Agencies
Strengthen the capacity of DNPWC to act as the main institution responsible for protected areas	Reassess the role of the army as park protectors to minimise 'people-park' conflicts; develop an alternative protection force	DNPWC, RNA
	Commission a study to resolve the problems of overlapping jurisdiction in protected areas and to recommend a simplified procedure for handling various activities affecting protected area management	DNPWC, MTCA, DOT
Ensure adequate representation of Nepal's major ecosystems in the protected area system	Review the representatives of the existing protected area system	NPC, MFSC, MOA
Involve local people directly in the management of parks	Develop mechanisms for benefit-sharing with people whose livelihoods are adversely affected by parks	DNPWC
	Effectively harness the efforts of NGOs to test and develop appropriate models of park management	DNPWC, NGOs
	Set up a Task Force to prepare guidelines for the development of management plans	DNPWC, NGOs
	Enact and enforce necessary legal and regulatory measures to implement major international treaties and conventions, as well as to control illegal wildlife trade within the country	MFSC
Preserve endemic and endangered species and their habitat	Promote tourism in protected areas, consistent with conservation objectives	MFSC, MTCA
	Identify and take action to protect marshes, wetlands, and water bodies significant to biodiversity conservation	MFSC, MWR, NEA
	Develop management plans to conserve biodiversity, while providing for people's basic needs	DNPWC, NGOs
	Mount a study to assess the status of biological diversity of endemic plants and animals, both terrestrial and aquatic, occurring outside protected areas on farmlands, pastures, rangelands, forests, rivers, lakes, and ponds	MFSC, MOA, NARC
Promote private and public institutions for biological resource inventory and conservation	Collate and disseminate data on biodiversity from various existing databases and establish a national biodiversity database	DNPWC, MFSC, NARC, DOB, TU, NGOs
	Identify and strengthen institutions responsible for research, education, and training in biological resource management	DNPWC, TU, NGOs*

\* See Annex 4 for further details on various donor-funded projects

Source: EPC (1993, 40)

Biodiversity conservation is one of the major components of the national parks and wildlife conservation system. The term biodiversity involves a complexity of meanings and levels. Biologists usually consider it from three perspectives, namely, genetic, species, and ecosystem diversity. In this study, biodiversity means species diversity, which refers to the number of species in a site or habitat.

There is growing evidence of the erosion of biodiversity in Nepal. Currently, 26 mammals, nine birds and three reptiles have been legally classified as endangered. It is estimated that ten species of highly valuable timber, six species of fibre, six species of edible fruit trees, four species of traditional medicinal herbs, and some 50 species of little known trees and shrubs would be lost for ever. In addition, the habitat for 200 species of birds, 40 species of mammals, and 20 species of reptiles and amphibians would be severely affected (*ibid*, 36).

HMGN's main efforts in biodiversity conservation have involved an extensive network of national parks and protected areas developed over the past two decades, covering 2,105,100 ha, almost 14 per cent of Nepal's total land area. The protected area network includes eight National Parks, four Wildlife Reserves, three Conservation Areas, one Strict Nature Reserve and one Hunting Reserve.

HMGN's policies on biodiversity conservation include improvement in the relationship between the local communities and park management, demarcation of the core areas inside parks for strict conservation and buffer areas for sustainable resource management, promotion of tourism in conformity with resource conservation and environmental protection, and involvement of the local bodies and private organizations in the

preservation and maintenance of natural and cultural heritage resources.

In order to implement the policy, HMGN has developed a legal framework and the following is the legislation related to protected areas.

- The National Parks and Wildlife Conservation Act 2029 (1973), amendment in 1983
- National Parks and Wildlife Conservation Regulations, 2030 (1974), amendment in 2035 (1979), in 2042 (1986), in 1995 (Buffer Zone Management Rules 1995)
- The Wildlife Reserve Regulations 2034 (1978), amendment in 2042 (1986).
- Forest Rules 2051 (1995)

At least in theory, HMGN has realised that long term management of protected areas depends on the cooperation and support of local people and ensuring the economic development of the local communities. The habitation areas surrounding the national parks have been classified as Buffer Zones and a necessary amendment in the National Parks and Wildlife Conservation Act 1973 has been made in National Parks and Wildlife Regulations 1995 for sharing the revenues of a national park with the local communities living within the Buffer Zone.

Apart from the national policies related to protected areas, Nepal, as a state, is a signatory and member of a number of international conventions and organizations related to wildlife and environmental conservation (see Box 6.1).

## **6.2 The Status of Nepal's Protected Areas**

Nepal has established a network of protected areas, since it is recognised to be one of the biologically richest countries in

### Box 6.1

#### INTERNATIONAL CONVENTIONS TO WHICH NEPAL IS A PARTY

- Plant Protection Agreement for Asia and the Pacific Region, State Party in 1965
- UNESCO Man and Biosphere Programme (MAB), State Member in 1974
- IUCN - The World Conservation Union, State Member in 1974
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), State Party in 1975
- World Heritage Convention, State Party in 1978
- World Conservation Strategy, Contributor, 1981
- International Centre for Integrated Mountain Development (ICIMOD), State Member in 1983
- International Tropical Timber Agreement, State Party in 1983
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention), State Party in 1987
- Convention on Biological Diversity (ratified in 1993) Signatory in 1992
- WWF Nepal Programme, Signatory in 1993
- South Asian Cooperative Environmental Programme, State Member in 1994
- Framework Convention on Climate Change, Signatory in 1994

Source: DNPWC

the world. The percentage area under protection is also high in comparison with many other countries. With only 0.1 per cent of the world's total area, Nepal contains over two per cent of flowering plants, eight per cent of birds, and four per cent of mammalian species (see Table 6.2).

The National Park and Wildlife Conservation Act 1973 provides for five categories of protected area to help achieve the conservation of ecosystems and genetic resources. As defined in the Act, these are as follow.

- **National Park:** An area set aside for conservation, management, and utili-

sation of flora and fauna together with the natural environment. There are eight National Parks in the country.

- **Wildlife Reserve:** An area set aside for the conservation of animal and bird resources and their habitat. There are four Wildlife Reserves.
- **Conservation Area:** An area managed for the sustainable development of human and natural resources. There are three Conservation Areas.
- **Strict Nature Reserve:** An area of ecological significance set aside for scientific study. Makalu Barun is the only protected area in Nepal in this category.
- **Hunting Reserve:** An area set aside for the management of animal and bird

**Table 6.2: Size of Nepal's Biodiversity in the Global Context**

Categories of Plants and Animals	No of Species	
	Global	Nepal
Ferns	>10,000	450
Angiosperms	>2,20,000	5,160
Birds	9,881	844
Mammals	4,327	181
Reptiles	6,300	100
Amphibians	4,184	43
Bony fishes	>18,150	185
Source: BPP (1995)		

resources for hunting purposes. There is one Hunting Reserve.

In addition, HMGN has designated Sivapuri area near Kathmandu valley as a Protected Watershed and Wildlife Reserve based on the National Park and Wildlife Conservation Act 1973 and the Soil and Watershed Conservation Act 1983.

Table 6.3 shows the list of 16 protected areas (eight national parks, three wildlife reserves, three conservation areas, one watershed and wildlife reserve, and one hunting reserve). In these areas, Nepal contains the habitat of 100 species of mammalian, 850 species of birds, three species of large reptiles, out of which 26 mammalian, nine birds, and three reptile species are listed as totally protected in Nepal (MPFS, 1988).

There are hundreds of villages lying around the protected areas. People living in the vicinity of the park are very poor and entirely dependent on the land and forests in the area. Villages in this region are subsistence economies based primarily on agriculture and secondarily on the collection and consumption of different forest products. Fuelwood and varieties of construction wood are collected on a regular basis as an important income generating activity. Several types of grass are used by local populations from the park area on a regular basis. Forest plants and herbs also serve as important sources of medicine. Thus the establishment of the Park has profound implications for their lives. Villagers have traditionally used forests of protected areas, although the forestland of the park is under government ownership. Although local villagers are highly dependent on resources, their scale of influence in park management is limited. Instead, since the establishment of protected areas, many villagers have been prosecuted for obtaining forest and wildlife resources from within its

boundaries. In 1996/97, for example, eight people were prosecuted and put into jail, and two were killed by wild animals (DNPWC 1997). Many studies show that there are many conflicts between park authorities and local populations and damage caused by wild animals to local populations adjacent to protected areas is very common (see for example, Mueller-Boeker [1991]; Sharma [1991]; Wells and Hannan [1992];, Heinen [1993]; Nepal and Weber [1993]; Studsrod and Wegge [1995]; Shrestha [1996]).

However, to resolve the conflicts between the adjoining communities and the park authorities, and based on the National Parks and Wildlife Regulations 1995, some areas of five National Parks have been declared buffer zones for protected areas (see Section 6.4).

### 6.3 Policy Implementation

There are various projects that are working in development, management, extension, and research in protected areas. The major projects are as follow (also see Annex 4).

- Buffer Zone Management Programme
- Global Environment Facility (GEF)
  - Makalu Barun National Park and Conservation Area Project
  - National Biodiversity Action Plan
  - King Mahendra Trust for Nature Conservation (Training Project)
  - Biodiversity Conservation Project in Nepal
- Parks and People Project (PPP)
- Bardia Integrated Conservation Project (BICP)
- WWF/N supported Institutional Strengthening programmes
- Black Buck Conservation Project
- Musk Deer Research Project
- Gharial Breeding Centre
- Kanchanjanga Protected Area Project
- Northern Mountains Conservation Project (NMCP)

**Table 6.3: National Parks and Wildlife Reserves in Nepal**

Name and Year of Establishment	Physiographic Region/Location	Special Feature	Area (sq. km.)
Royal Chitwan National Park (NP), 1973	Terai-Siwalik. Sub-tropical Inner Terai lowlands of South-Central Nepal. Chitwan, Makawanpur and Parsa districts	World heritage known for one horned Rhino	932
Sagarmatha NP, 1976	High Mountain. Khumbu region of Nepal. The park includes the highest peak in the world. Solukhumbu district	World's highest peak world heritage site, musk deer	1,148
Royal Bardia NP, 1976	Terai-Siwalik. Mid-far Western Terai. Bardia district	Dense Sal forest, elephant	968
Langtang NP, 1976	High Mountain. Central Himalaya. Rasuwa district	A great variety of vegetation types within a short aerial distance, Red Panda	1,710
Rara NP, 1976	High Mountain. NorthWest. Mugu and Jumla district	The largest lake in Nepal	106
Khaptad NP, 1984	Mid-mountain region of Far-Western Nepal. Bajhang, Bajura, Doti and Achham districts	Renowned for medicinal plants, rolling plateau of extensive grasslands	255
Shey-Phoksundo NP, 1984	High Mountain region of Western Nepal. Dolpa and Mugu districts	Highest waterfall in Nepal, snow leopard	3,555
Makalu-Barun NP, 1992	High Mountain region of Eastern Nepal. Situated in the Sankhuwasabha and Solukhumbu districts. Bordered by the Arun River on the east, Mt. Everest on the west.	Snow leopard and Red Panda	1,500
Makalu-Barun Conservation Area (CA), 1992		Area managed to fulfill the objectives of a buffer zone	830
Annapurna CA, 1992	High and Middle Mountain region of mid west Nepal. Situated in Kaski, Lamjung, Myagdi, Mustang and Manang district.	World's deepest gorge, the Kali Gandaki, most scenic landscape	7,629
Kanchenjunga CA	High mountain region of Eastern Nepal. Bordered by Sikkim and Tibet.	NA	NA
KoshiTappu Wildlife Reserve (WR), 1976	In the floodplains of the Terai of Sapti-Koshi in Saptari and Sunsari districts of eastern Nepal.	Known for wild buffalo	175
Parsa WR, 1984	Siwalik hills of central Nepal. Occupies parts of Chitwan, Makawanpur, Parsa, and Bara districts.	Known for tiger habitat	499
Royal Shukla Phanta WR, 1977	In the Terai region of Far-western Nepal in Kanchanpur district.	Largest herd of swamp deer	305
Shivapuri Watershed and National Park, 1984	Mid-mountain region near Kathmandu Valley. Occupies parts of Kathmandu, Nuwakot and Sindhupalanchok district.	Watershed area for Kathmandu city	144
Dhor Patan Hunting Reserve (HR), 1983	Mid-western high mountain. Adjoins Rukum, Maygdi and Baglung district in the Dhaulagiri Himal range.	Known for blue sheep.	1,325

Source: DNPWC (1998)



Despite the rhetoric of buffer zone concepts, the chief activities of national park management in Nepal have been limited to demarcation of boundaries, providing visitor permit licences, penalising park offenders, and protecting flora and fauna. The Government spends considerable sums of money in the deploying the army for policing and administration. Increasing numbers of army personnel, radios, weapons, vehicles and watch towers are sought by park management. This exerts considerable financial pressure on the Government, obliging it to look for increased foreign assistance. In 1996/97 the annual expenditure of the DNPWC was NRs 88.4 million. Ironically, this expenditure is being used to keep people out of the parks, people who could have been their best protectors. The interrelated socioeconomic aspects, particularly the role that national parks play in supporting local livelihood systems, have been neglected in park management.

Since the local people living in and around the park are seen as the principal 'threat' to forests and wildlife, the major concern of park authorities in Nepal has been to curtail the prevailing level of 'human interference'. People have been displaced from their settlements or denied access to resources such as the fuelwood and food products within parks. Often it has meant increased economic insecurity for many social groups and generated extreme antipathy towards official conservation measures. Furthermore, government and park authorities all seem to overlook the interrelated social costs of the expansion of national parks and protected areas. For example, the result of trying to maintain tight control over forest resources in parks is that local people in adjacent areas become compelled to overuse land and other natural resources existing outside forest boundaries. The community development programmes launched by the Park and People Project (PPP) are so small

that they cannot compensate for local people's daily needs for forest products. In fact, as a result of this situation, more land may become degraded rather than less (Ghimire 1994).

Even in the Park and People Project area a typical perception that has been found among park officials is that local people are involved in illegal exploitation of forests and poaching due to 'the lack of environmental awareness driven by poverty'. This opinion seems to have found favour with government organizations, despite evidence that local people are aware of the impacts of environmental degradation, and that it is their lack of control over natural resources that decreases their incentive to manage the forests sustainably.

Conservation practice in developing countries, including Nepal, is still aimed at key species by neglecting local people's needs. Dudley (1992) describes this practice as merely a glamorous contemporary clothing to neo-colonial conservation ideologies and practice. Pimbert (1993) acknowledges that most of the species important for the maintenance of ecological processes (the inconspicuous organisms) are located in human-managed ecosystems such as agricultural and forestry land, which therefore lie outside protected areas, with (presumably) greater species' diversity.

As in other developing countries, protected areas in Nepal are established primarily for the protection of large animals. It is also evident from the fact that most of the studies and research are being carried out on the habitat and behaviour of large animals (for a detailed bibliography see Maskey and Rajbhandari 1997). However, in recent years, the preservation of biological diversity and the maintenance of ecological processes are also seen as crucial functions of the national park areas. The role of national parks in developing

tourism, particularly with a view to generating foreign exchange earnings and providing income and employment opportunities for local people, is also commonly emphasised. There are an increasing number of tourists every year (see Table 6.4). However, the amount of benefits generated by tourism at the local level is negligible (Kadt 1976).

Local residents who live in the vicinity of protected areas are the important group of

people affected by conservation measures, because of their geographic proximity, cultural and historical associations, and the likelihood that they will continue to live in the area, despite the fact that their livelihood is adversely affected following the establishment of protected areas. There are conflicts between park authorities and local populations.

### 6.4 Various Stakeholders and Park Management

**Table 6.4: Number of Tourists Visiting Nepal's Protected Areas**

Year	No of Tourists
1994	83,024
1995	90,086
1996	1,11,211
1997	1,52,252
Source: DNPWR (1997)	

There are many interest groups that are directly or indirectly involved in the management of protected areas. Each group has contested interests in biodiversity conservation. Table 6.5, for example, outlines the major interests involved in managing biodiversity in protected areas. It identifies groups and their main areas of interest and influence, relating their interest

**Table 6.5: Interest Groups and Stakeholder in Protected Areas**

Group	Interests/Aims	Means
Local people	Livelihood maintenance; use of protected areas for subsistence needs, minor trading of products; thatch, fodder, building materials, fuel, wild foods, plant medicines, hunting, and fishing	Subsistence farming, minor marketing; legal and illegal extraction of resources from protected areas
Migrant farmers	Livelihood maintenance; use of protected areas for subsistence needs: thatch, fodder, fuel, building material	Cash farming plus subsistence; legal and illegal extraction of products from protected areas
Local entrepreneurs	Profit; commercial; range of small enterprises - tourist and non-tourist based	Small business enterprises, buying and selling to tourists
Tourist concessions	Profit commercial; expansion; some revenue may be earned overseas; control tourists staying in protected areas overnight	Tourism revenues; concessions from government
Government conservation agencies	Conserving wildlife and facilitating tourist development	Enforcing park boundaries; imposing fines
Conservation pressure groups	Conserving biodiversity but with considerations for livelihoods	Lobbying, publicity
International conservation groups	Conserving biodiversity; limited interests in human welfare	International legislation, lobbying
Source: Adapted from Brown (1998)		



in biodiversity to the types of values that they capture or gather from biological resources of the park. For each group, this analysis demonstrates the means by which the group acts in its own interests.

## **6.5 Policy Impact**

The social and economic impacts of conservation on local households and institutional impacts on government organization are of vital consideration in evaluating the role of protected areas in the lives of local populations. In many places, the park's creation has resulted in households losing access to certain areas of land they previously used for obtaining forest products (Ghimire 1994). At the government organization level, despite Nepal being a signatory to a number of international conventions on which wildlife policies are based, functioning of the bureaucracy is as usual. The actions of National Parks and Wildlife Officials have been according to conventional bureaucratic routine, norms, and values. Project documents are generally prepared by foreign consultants who do not know the sociocultural context and many legislations are often used as showcases.

As an illustration, this section briefly reviews the impacts of two projects implemented in the areas of national parks and conservation areas. This review is based on the documentation available from secondary sources,

### **6.5.1 Annapurna Conservation Area Project**

ACAP is an integrated conservation development project that attempts to link biodiversity conservation in protected areas with social and economic development in surrounding communities (over 40 thousand mostly poor rural farmers). The aim of the project is to protect and conserve nature and natural resources through

integrated community and tourism management. It is being implemented by the King Mahendra Trust for Nature Conservation (KMTNC), a Nepali NGO established through an act of parliament.

Over 30 thousand foreign trekkers visit this area each year, and this has led to the development of hundreds of lodges and tea shops along the trails. Where tourism has become important to the local economy, it has also led to serious environmental problems. The forests have been cleared to provide fuelwood for cooking and heating for visitors. Expanding agriculture, growing water pollution, poor sanitation, and increased litter on trekking routes are the major environmental impacts resulting from the establishment of the conservation area.

The project claims to have made significant progress in motivating local populations to participate in natural resource management decisions in order to mitigate the adverse environmental impacts mentioned above (KMTNC 1997).

As Brandon and Wells (1992) report, the project has been able to generate significant amounts of revenue from tourism. However, it has not been distributed evenly among the local communities. The principal beneficiaries have been the lodge owners and tourism-related business entrepreneurs.

### **6.5.2 Park and People Project (PPP)**

The main aim of the project is to enhance the capacity of the local communities and the DNPWC to jointly manage the five *Terai* National Parks and their buffer zones and to improve the socioeconomic conditions of the people living in the adjoining VDCs.

Royal Chitwan National Park (RCNP), Royal Bardia National Park (RBNP), Koshi Tappu Wildlife Reserve (KTWR), Parsa

Wildlife Reserve (PWR), and Royal Shukla Phanta Wildlife Reserve (RSWR) have been declared the Buffer Zones for the protected areas (see Table 6.6).

The UNDP-funded Park-People Project (PPP) has been implementing various activities in the parks and surrounding buffer zones, and these activities have broadly been categorised as buffer zone development, park management, and eco-tourism (DNPWC/UNDP 1996). By 1997, the project has covered 43 VDCs out of 91 VDCs in the buffer zone, covering about 86,000 people. The main objectives of the project are broadly divided into two.

- To enhance the capacity of the Department's staff and local communities around the protected areas to ensure

effective and sustainable management of parks and buffer zones

- To facilitate local people's initiatives in socioeconomic improvement (PPP 1998).

The project implementation strategy includes organizing rural communities into User Groups, enhancing their skills and providing opportunities for undertaking income-generation activities, community savings, and access to credit. The PPP (1998) claims that many local communities have benefitted from its activities in community development, income generation, and community forestry. However it is early to make any conclusions about its long-term socio-environmental impact.

**Table 6.6: Buffer Zone in Nepal's Protected Areas (in sq. km.) (by December 1997)**

Protected Areas	Total Area	Area in the Buffer Zone	No. of VDCs in the Buffer Zone	VDCs Covered by PPP	Pop. in Buffer Zone ('000)	PPP Beneficiaries ('000)
RCNP	932	750	34	14	242	27
RBNP	968	460	16	6	69	10
KTWR	175	136	13	9	172	12
PWR	499	367	17	5	126	10
RSWR	155	153	11	9	74	27
Total	2729	1866 (68%)	91	43 (47%)	683	86 (13%)

Source: PPP (1998, 8)