

Integrating Conservation for Sustainable Development: Activities of IUCN in Nepal

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Abstract

Integration of conservation activities with various programme is essential for sustainable development in the country like Nepal. The existing poverty and fragile geological structure are major factor hampering effective conservation of bio-diversity conservation. Therefore to overcome this problem, IUCN-Nepal under the umbrella framework of PNPWC has been implementing its conservation activities through various demonstration projects in Tinjure-Melke, Tinjure-Jaljale, 1 km Siwalik of Eastern Nepal and Doti district of Far Western Development region. The present paper tries to focus IUCN-Nepal's activities to implement national strategies and action plans through implementing various activities. These activities were largely planned with public consultation of concerned project site, project personnel and donor agencies.

Key words: *Ecosystem, Bio-diversity, Biotic pressure, Sustainability, ecology, Mountain environment, Conservation.*

Background

The Himalayan Kingdom of Nepal is endowed with a wealth of natural resources. Much altitudinal change across a short distance gives Nepal's biogeography a variety that encompasses lush moist forests and sparse alpine deserts to luxurious grasslands in the lowland Terai. The Himalayan Kingdom is also home to some of the world's most rare animals. The Royal Chitwan National Park and Sagarmatha (Mt. Everest) National Park have been listed as World Heritage sites owing to their natural and cultural richness.

Within Nepal's 147,000km² is to be found the greatest altitudinal range for any country on earth, from the lowlands of the Terai (<100 masl) to the highest point on earth (Mt. Everest at 8,848m). Although Nepal covers only 0.1 percent of the earth's land area, it is home to more than 2 percent of all known flowering plants, 8 percent of all bird species, and 4 percent of all mammalian species (*see annex 1*).

Conservation and sustainable use of biological resources has emerged as a major challenge in Nepal. The continued degradation of the natural resource base and corresponding loss of biodiversity are major concerns. Forests continue to be degraded and habitats altered by conversion into farmland resulting in the isolation of many protected areas from their surrounding landscapes.

The purpose of this article, drawing largely upon the IUCN Nepal experience, is:

- To provide basic information regarding development/implementation of national strategies and action plans;
- To advocate a scientific approach to determining national priorities for conservation and sustainable use of biological diversity; and,
- To draw attention to measures that must be adopted to meet obligations under the Convention on Biological Diversity.

Introduction

Conservationists the world over are aware that biodiversity conservation needs to be a matter of common concern for the international community. Conservation is not a one-day task and demands continuous and collaborative efforts to lessen the ever-increasing human pressure on precious and finite natural resources.

Nepal embarked upon the modern era of wildlife conservation with the enactment of the National Parks and Wildlife Conservation Act in 1973. The Department of National Parks and Wildlife Conservation (DNPWC), under the Ministry of Forests and Soil Conservation, was established to conserve, restore, and manage the rich and varied fauna, flora, and landscape of the country. The policies and programmes that have since been formulated and implemented have always been innovative, dynamic and effective. The relentless efforts and commitment of His Majesty's Government in biodiversity conservation endeavours have received international recognition and support from all quarters.

The progress in the establishment of protected areas in Nepal is impressive. Within two decades, the number of protected areas had increased from 5 in 1970s to 16 in 2000, covering 4376 sq km in the 1970s, 11,092 sq km in 1980s and 26,696 sq km (or 18.14% of Nepal's total land area) by the 1990s. In terms of physiography, the High Mountains and the Himalayas account for 81 percent of the total PA system, while the Terai and the mid-hills account for 18 percent and 1 percent respectively (*see charts below*).

Conservation Threats and Underlying Causes

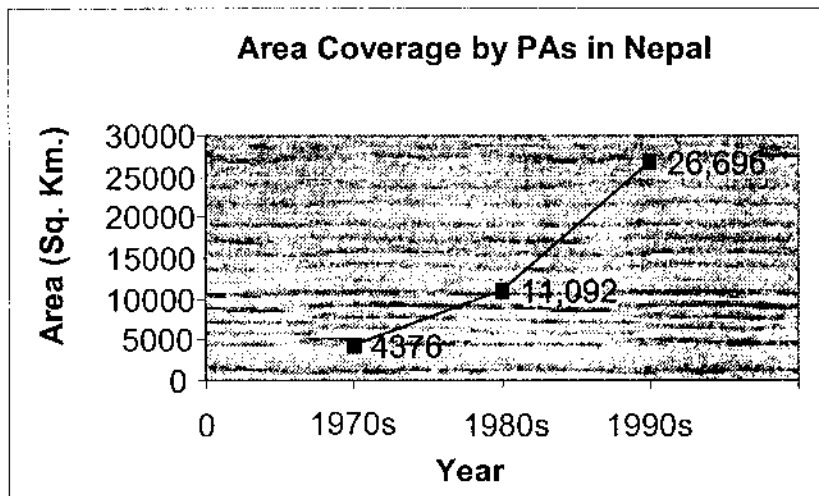
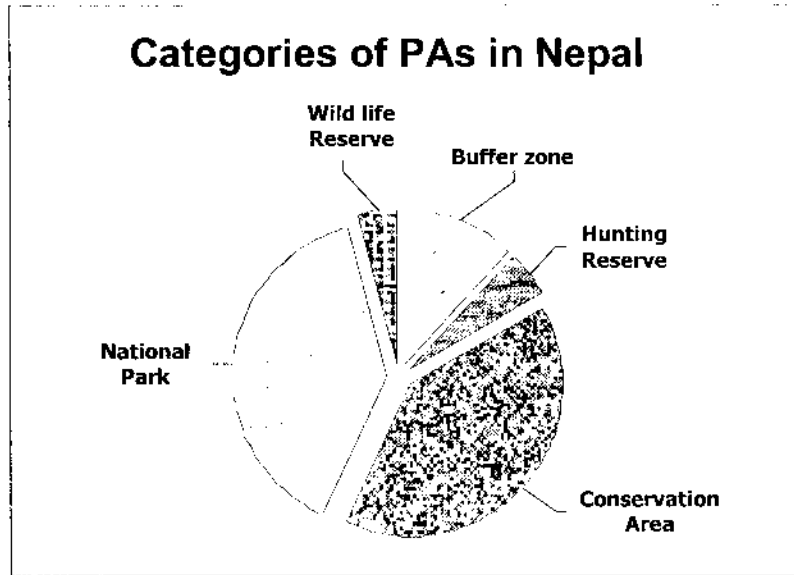
Nepal is rich in biological diversity but under the global economic rating it continues to be a 'least developed country' with a per capita GDP of \$200. The situation is further aggravated by the disparities between rural and urban areas; between ecological regions (the mountains, hills and the Terai); between geographic development regions; between ethnic groups; and, between men and women. Poverty is being identified as the key issue in every debate that is related to the environment and development.

Nepal faces some of the most serious conservation threats facing any nation in the world today. Due to its rather fragile geological structure, soil erosion and landslides are common phenomena. The rapidly growing subsistence population and livestock numbers put tremendous biotic pressure on the remaining forests. Owing to fragmentation of the pristine habitat and other human activity, the populations of tiger, rhinoceros, and elephant are threatened.

On the environmental front, Nepal confronts a series of problems. Population growth at an annual rate of 2.5 percent in a poverty-stricken country has aggravated environmental deterioration. Over 85 percent of the population of 23 million depend heavily on natural resources for their livelihood. Deforestation, decline in soil fertility, soil erosion, limited employment opportunities, and the problems of over-crowding and pollution are some of the major threats to Nepal's environmental security.

Growing congestion on popular trekking and mountaineering routes is leading to environmental degradation and loss of biodiversity. Excessive harvesting of biological resources (medicinal herbs, fodder, fibres, wildlife, orchids, and fuel wood) from the wild, and the overuse of commons such as rangelands, wetlands, rivers and forestlands for private use, has directly contributed to the loss of biodiversity. Environmental stress is also having an effect on human lives.

The conflict between economic growth and conservation requirements for ecological sustainability requires a coherent policy and its effective implementation. The multiple flows of conservation's benefits must reach people at the community level. Community forestry, buffer zone management around protected areas, and community participation in conservation



areas, are already leading examples in this regard. However, the full potential contribution of natural resources to the national economy, with the empowerment of local people and institutions and improved livelihoods, has yet to be realised. It will require policy reform, legislation and use regimes, improved governance, strengthening of institutions, capacity building of government and civil society, and the active participation of all the stakeholders.

The Constitution of the Kingdom of Nepal 1990 mandates the state to mobilise natural resources and make arrangements for the special protection of rare wildlife, forest and vegetation. Further, the Ninth Plan (1997-2002) envisages the involvement of people in natural resource management through local institutions, non-governmental organisations, community-based organisations, users' groups, and the private sector.

An overview of IUCN initiatives on the biodiversity conservation front is attempted here in order to provide the current conservation status of Nepal's flora, fauna and ecosystems.

Government Policies

His Majesty's Government of Nepal has realized the importance of biodiversity conservation, especially since the Convention on Biological Diversity was signed in 1992 during the

Earth Summit in Rio. The priority areas in environment and sustainable development have been identified in the Tenth Five Year Plan (2002 - 2007). Policies on environmental protection planning, pollution control, environmental impact assessment and bio-conservation management have already been initiated through the Environment Protection Council headed by the Prime Minister. The establishment of an Environmental Data Bank has been on since FY 1995/96. The government intends to update existing rules and Acts relating to environmental protection. Funds have been allocated to establish an Environment Training Centre and Environment Laboratory. During FY 1996/97, the total funding earmarked for environment-related activities was approximately US\$180,000 (*Pyakuryal, 1996:17*).

Nepal's conservation policy has evolved over the last two decades from the archaic protective and species management approach to the inclusive collaborative and landscape approach used today. The National Parks and Wildlife Conservation Act (1973) provides a legal framework for wildlife conservation and management of protected areas in Nepal. The amendment of this Act in 1993 is a landmark in Nepal's conservation history, for it marked the shift in conservation management from a conventional to a collaborative one (where up to 50 percent of revenue generated from the protected area is ploughed back for integrated conservation and development programmes in the buffer zones). An amendment to the Act is planned to further invigorate the new conservation approach in the country.

The government has drafted a Bill for a Biodiversity Trust Fund with the objective of providing financial support for conservation of biodiversity in Nepal, with the focus on management of protected areas, including buffer zones, as well as conservation-related activities outside protected areas. The Trust Fund profile includes objectives, legal structure, process/modus operandi, governance, administrative mechanism, funding source and criteria for funding eligibility. Similarly, HMG/N has finalised the Biodiversity Action Plan, which will address, among others, issues of management planning, resource allocation and capacity enhancement of government machinery.

Nepal is signatory to the Convention on Biological Diversity (CBD), the Ramsar Convention and the Convention on International Trade in Endangered Species (CITES). The preamble to the CBD places special emphasis on addressing the needs of least developed countries and small island states. Nepal ratified CBD in September 1993. Article Six of the Convention calls on the contracting party to prepare a national strategy, plan or programme for the conservation and sustainable use of its biological resources. It recognises the importance of country studies and reports in the preparation of national strategies and action plans.

The Convention of Biological Diversity: Nepal's Response

The Heritage and Biodiversity Conservation Project (HBCP) of IUCN Nepal has generated a number of new initiatives and innovations through field surveys, pilot projects, and database development and publications. HBCP has been a major source of information and input for biophysical characterisation of Nepal and on habitat classification as a foundation for database development.

IUCN Nepal has collaborated with the Ministry of Forests and Soil Conservation (MoFSC) to establish and develop a national focal point for biodiversity. The Planning Division of the Ministry of Forests and Soil Conservation houses the National Biodiversity Unit that coordinates biodiversity conservation activities with relation to CBD implementation in Nepal.

IUCN involvement in Nepal

IUCN involvement in Nepal dates back to 1970 when it supported National Planning Commission (NPC) in preparing the National Conservation Strategy for Nepal (HMG/IUCN, 1988). This was the first major endeavour to systematically develop an appropriate strategy for resource conservation in Nepal. This document emphasises strong linkages between sustainable development and conservation and the need for an integrated approach to resource management to enhance overall productivity and minimize the detrimental effects implicit in single-sector management. The strategy links human needs with four elements of conservation: wise use, protection, perspective and restoration.

Following NCS implementation, IUCN Nepal supported the government in preparing the Nepal Environmental Policy and Action Plan (NEPAP) during the Eighth Plan. After the NCS report, NEPAP happens to be the most comprehensive report on the environment in Nepal. NEPAP analyses the country's environmental issues in a multi-sectoral framework and sets forth policies, strategies and action plans for maintaining the country's natural environment, and the health and safety of its population and cultural heritage as economic development occurs.

The NEPAP identified priority actions for biodiversity conservation include:

- strengthening the Department of National Parks and Wildlife Conservations as the main institution responsible for these areas;
- ensuring adequate representation of Nepal's major ecosystems in the protected area system;
- involving local people directly in the management of parks;
- preserving endemic and endangered species and their habitats; and,
- promoting the role of private and public institutions in setting up a biological resource inventory and in developing conservation measures.

Using natural resource management sensibly

On the natural resource management front, IUCN Nepal has been mandated to work on ecosystem, biodiversity and species conservation issues through linking conservation with sustainable use.

The anticipated output of the Natural Resource Management Unit (NRMU) of IUCN is development of participatory management systems and practices for the conservation and sustainable use of natural resources. IUCN Nepal has been playing an important role in channelling field project experiences into national dialogue and influencing policies and programming priorities. In doing so, IUCN Nepal has in 2001 supported the government in:

- assessing proposed amendments to the Forest Act;
- reviewing forest restoration policy and practice; and,
- preparing a draft collaborative wetland policy

The pre-SBSTTA consultations were the first occasion for a national-level dialogue between public sector and civil society to strengthen a common voice in international fora. Feedback from participants reinforced that this is an important role that IUCN must continue to play.

The focus of NRMU is to coordinate the development and implementation of demonstration projects for integrated conservation of natural resources ensuring socio-economic benefits to local communities. Its major focus areas are:

- Support implementation of biodiversity policies, strategies and action plans
- Improve and advocate regulations and practice governing Invasive Alien Species
- Refine and advocate policy and practice for forest rehabilitation and restoration
- Enhance management and sustainable use of wetlands
- Improve linkages with regional and international programmes

Major Programme Achievements

- Supported implementation of biodiversity policies, strategies and action plans
- Developed the wetland ecosystem component of Nepal Biodiversity Strategy Action Plan
- Provided funding support for institutional development of National Biodiversity Unit (NBU) in the Ministry of Forests and Soil Conservation (MoFSC) (up to 2001)
- Contributed to capacity development by supporting participation of MoFSC professionals in regional training workshops;
- Provided technical assistance on legal aspects of the Biodiversity Trust Fund
- Organised national level consultations on different work programmes of Convention on Biological Diversity (CBD), Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), Invasive Alien Species (IAS)
- Assisted MoFSC in drafting:
 - national wetlands policy
 - bill on Access to Genetic Resources and Benefit Sharing (AGRBS)
- Initiated work to improve and advocate regulation and practices governing Invasive Alien Species
 - Preliminary review of existing laws and policies completed
 - Preliminary study on the status of IAS accomplished
 - Participatory inventory methodology developed following consultations
 - 3 awareness activities on IAS conducted
 - Participatory inventory and assessment planned and under progress
- Refined and advocated policy and practice for forest rehabilitation and restoration
- Conducted a national assessment of Nepal's policies and practices of forest restoration
- Documented six case studies of successful models of sustainable community management of natural resources in Nepal

NRM Field Projects

Purpose: To develop knowledge base on:

- Integrating conservation with poverty, gender and equity issues
- Experimenting various collaborative approaches of conserving biodiversity hotspots and ecosystems
- Gaps between natural resource management policies and their actual implementation

NRM Unit: Overall Performance

In general,

- Enhanced coordination and working relationship with relevant GOs/NGOs;
- Facilitated biodiversity conservation related national dialogues and consultations;
- Ensured coordination between NRM field projects and NGOs/service providers/like-minded organizations.

NRM Programme Influence

- Rhododendron gene-pool conservation and maintenance of corridor habitat in Tinjure- Milke-Jaljale (TMJ) received government priority under the Nepal Biodiversity Landscape Project (NBLP) full-scale GEF project design;
- Conservation of TMJ area got high priority in 3 District Development Committees' (DDC) 5-year periodic plans;
- Local government in Ilam effectively coordinates between line agencies, NGOs and the Ilam Siwaliks beneficiaries, provides matching conservation funds annually and is gradually taking over the conservation ownership.

Partnership with service providing agencies (GO/NGO/private sector) in IUCN projects has contributed significantly to awareness/empowerment, skill development and capacity enhancement, linking conservation with sustainable use and development

Major Gaps

The major challenges/ gaps in linking/ integrating conservation with development are:

- Ensuring inter-sectoral and multi-disciplinary approach to planning and implementation of development initiatives from all sectors through policy and legislative reforms;
- Finalising the Nepal Biodiversity Strategy Action Plan (NBSAP) for Nepal and legally constituting a Nepal Biodiversity Steering Committee empowered to streamline biodiversity issues in all developmental sectors and programme implementation;
- Incorporating biodiversity concerns into environmental guidelines;
- Establishing Biodiversity Trust Fund for planning and implementation of conservation projects/research and studies; and,
- Designing cost-effective methods/capacity enhancement and use of existing institutions for Biodiversity/Indigenous Knowledge registration at Village Development Committee level.

Lessons learned

- Building community capacity is a long-term process and long-term commitment is required for this to happen in a sustainable manner.
- Field projects are testing community-based conservation models for replication and three years is barely enough to establish and/or build rapport with local institutions and initiate conservation and sustainable use measures.
- Testing the assumptions within these models, especially the links between incentives and conservation behaviour, requires time.
- Creating alternative and environmentally-sustainable economic opportunities is critical to long term resource conservation, but the timeframe for support must reflect the timeframe for benefits to be reaped from such income generating activities (5-7 years for some NTFP species). Otherwise it is difficult to make the link between economic benefit and conservation.
- Monitoring is an integral part of learning and ongoing planning. Building local capacity in monitoring is a means to strengthen local involvement in analysis and decision-making and is essential for strengthening local ownership of the development and conservation process.
- Demonstration projects are an essential way to test new approaches (technical and institutional). The broader impact of these demonstrations occurs when these models are extended to other regions in a sustainable way and when they influence national policy.
- Operating at macro and micro levels lends credibility to our policy recommendations. Working at the meso level means we can create sustainable institutions to implement national policies.
- Integrating cross-cutting issues such as gender equality, poverty reduction, capacity building and governance in all our programming leads to more sustainable and equitable development.

Conclusion

Nepal is striving hard to safeguard its natural wealth and biodiversity while contending with challenges of population pressure, poverty and resulting environmental degradation. The setting up of protected area systems and government regulations to protect rare, endangered and threatened flora and fauna, has contributed immensely to protecting globally significant wildlife and their habitats. However, the need to improve socio-economic conditions through conservation, sustainable use and equitable sharing of benefits is more obvious than ever. It is now important that natural and social scientists take coordinated action to assist the government and public in achieving conservation and sustainable use goals.

The main challenge to conserving the biodiversity of Nepal lies in finding ways and means to bring substantial economic returns from the use of biodiversity. Opportunities to these ends lie in the superlative scenic beauty of mountain environments, the broad spectrum of the country's habitat diversity, the dynamism of regenerating forests and agriculturally active land, the immense power potential of hydro-electricity, and of course, the sturdy people who have adapted to harsh environments and their ability to steward precious resources.

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Annex I

Nepal's Protected Wildlife Species

Scientific Name	Local Name	Common Name	Status	
			IUCN	CITES
Mammals				
<i>Ailurus fulgens</i>	Hobrey	Red Panda		I
<i>Antelope cervicapra</i>	Krishnasar	Black Buck	V	III
<i>Bos gaurus</i>	Gauri Gai	Gaur	V	I
<i>Bos mutus</i>	Yak	Wild Yak	E	I
<i>Bubalus arnee</i>	Ama	Wild Water Buffalo	E	III
<i>Canis lupus</i>	Bnanso	Tibetan Wolf	V	I
<i>Caprolagus hispidus</i>	Hispid Kharayo	Hispid Hare	E	I
<i>Cervus duvauceli</i>	Bara singhe	Swamp Deer	E	I
<i>Elephas maximus</i>	Hathi	Asiatic Elephant	E	I
<i>Felis lynx</i>	Lynx	Lynx	E	II
<i>Hyaena hyaena</i>	Hundar	Striped Hyacna	E	
<i>Macaca assamensis</i>	Assame Rato Bandar	Assamese Monkey		II
<i>Manis pentadactyla</i>	Salak	Chinese Pangolin		II
<i>Moschus chrysogaster</i>	Kasturi	Himalayan Musk Deer	E	I
<i>Ovis ammon</i>	Nayan	Great Tibetan Sheep	I	I
<i>Panthera tigris</i>	Bagh	Royal Bengal Tiger	E	I
<i>Panthera uncia</i>	Hun Chituwa	Snow Leopard	E	I
<i>Pantholops hodgsoni</i>	Chiru	Tibetan antelope		I
<i>Parolofelis nebulosa</i>	Dhranshe Chituwa	Clouded Leopard	V	I
<i>Platanista gangetica</i>	Sauns	Gangetic Dolphin	V	I
<i>Prionailurus bengalensis</i>	Chari Bagh	Leopard Cat		II
<i>Prionodon parolioler</i>	Situ	Spotted Lingsang		I
<i>Rhinoceros unicornis</i>	Gainda	Greater one-horned rhinoceros	E	I
<i>Sus salvanius</i>	Paudle Bandel	Pigmy Hog	EXN	I
<i>Tetracerus quadricornis</i>	Chaula	Four-horned Antelope		II
<i>Ursus arctos</i>	Himali Rato Bhalu	Brown Bear		I
Birds				
<i>Buceros bicornis</i>	Thulo Dhanchesh	Great Pied Hornbil		I
<i>Catreus wallichii</i>	Cheer	Cheer Pheasant	E	I
<i>Ciconia nigra</i>	Kalo Saras	Black Stork		II
<i>Ciconia ciconia</i>	Seto Saras	White Stork		II
<i>Eupodotis bengalensis</i>	Khar Mujur	Bengal Florican	E	I
<i>Grus grus</i>	Saras	Common Crane		
<i>Lophophorus impejanus</i>	Danfe	Impeyan Pheasant		I
<i>Syphoetides indica</i>	Sano Khar Mujur	Lesser Florican		II
<i>Tragopan satyra</i>	Munal	Crimson horned Pheasant		III
Reptiles				
<i>Gavialis gangeticus</i>	Ghadijal	Gharial	E	I
<i>Python molurus</i>	Ajingar	Asiatic Rock Python	V	I
<i>Varanus avescens</i>	Sun Gohoro	Golden Monitor Lizard	I	

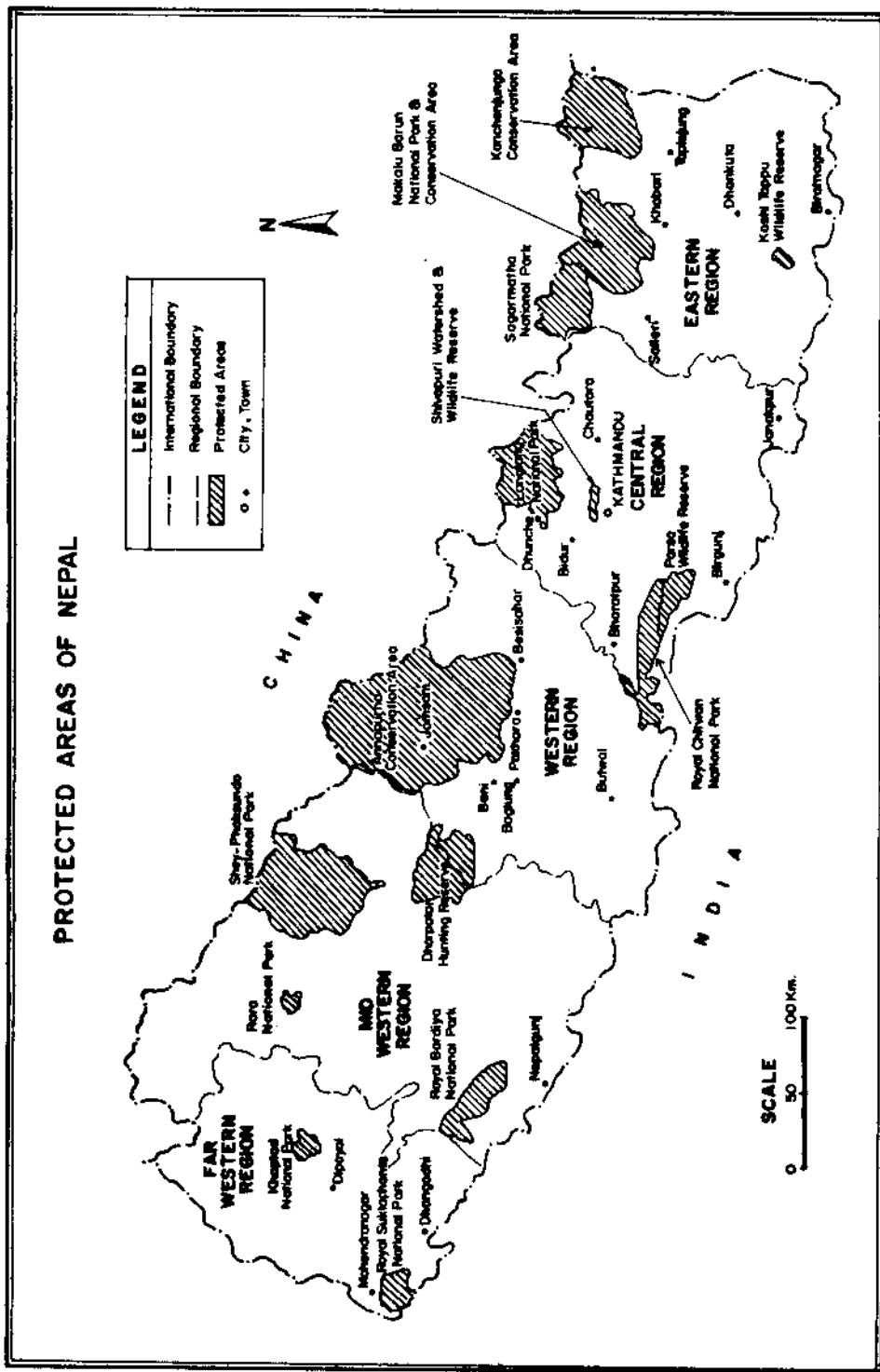


Fig-1

Note:
 V-Vulnerable, E-Endangered list, EXN-Extension list, I-Intermediate
 I-Appendix I category, II-Appendix II category, III-Appendix III category