

IUCN Nepal

Collaborative Management

OF PROTECTED AREAS IN THE ASIAN REGION



Proceedings of the Workshop on Collaborative Management of Protected Areas in the Asian Region

Organised by IUCN Nepal and IUCN Asia Regional Biodiversity Programme, in collaboration with WCPA South Asia, Department of National Parks and Wildlife Conservation, HMG Nepal and the King Mahendra Trust for Nature Conservation, Nepal.

Held at Royal Chitwan National Park, Sauraha, Nepal. May 25-28, 1998



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Edited by Krishna Prasad Oli



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FOREWORD – COUNTRY REPRESENTATIVE, IUCN NEPAL

Over 3000 protected areas (PAs) in the South and South East Asian region cover more than 1.5 million sq.km and are the largest components of land use allocated for conservation and sustainable use of natural resources therein. The majority of PAs in the region are managed by government, while a few are managed in partnership with resident communities.

Protected areas are vast reservoirs of natural and cultural resources. In many countries they serve as the watersheds of major river systems (for example, the Kanchanjanga Conservation Area and Mt. Everest National Park in Nepal) and are essential for maintaining ecological integrity and fulfilling human needs. Protected areas are increasingly threatened by the pressure for agricultural land and resource utilisation. In many situations, conflict between the resident communities and park authorities are becoming routine in PA management, sometimes even making PAs the hotspots of conflict.

Protected areas are now increasingly accessible due to modern infrastructure, exposing the neighbouring communities to both opportunities and threats. Improved infrastructure has increased accessibility to markets and has brought other economic opportunities such as tourism of the PAs. However, it has also encouraged the migration of people from other areas.

Management techniques for protected areas are also evolving. IUCN–The World Conservation Union is a pioneer of the modern protected area system, and advocates increased partnerships among stakeholders as the most desirable approach in PA management.

IUCN, in collaboration with its members and partners, has been bringing different partners and stakeholders together to discuss these issues. In the course of such efforts, a regional workshop on collaborative management of PAs was held in Muree, Pakistan in 1996. Subsequently, a workshop on the same subject was conducted at the Indian Institute of Public Administration in February 1997. The World Commission on Protected Areas (WCPA) of South Asia also organised a workshop in Colombo, Sri Lanka in May 1997. This workshop further promoted the idea of collaborative management and identified it as a priority under the Regional Action Plan for protected areas in South Asia.

A workshop was held at Royal Chitwan National Park, Nepal in May 1998 to discuss collaborative management in the Asian context and review the related legislative framework, strengths, weaknesses and institutional capacity. Participants from 13 countries, representatives from donor communities, IUCN members and partners in the region gathered to share experiences and information and analyse PA management practices in the respective countries. By publishing the proceedings of this workshop, IUCN Nepal aims to share the region's successful experiences.

I am grateful to all the participants for their valuable contribution to the workshop, which was successful in highlighting the issue of collaborative management of PAs in the Asian region. I believe the countries represented have fully benefited from each others' experiences.

I take this opportunity to thank BMZ, Government of Germany and SDC, Government of Switzerland, for providing financial support for the workshop.

The organisation of the workshop and preparation of the proceedings were made possible by the unstinting efforts of many individuals, most importantly: Krishna P. Oli, Anish Bania, Scott Perkin, Andrew Ingles, Robert J. Fisher, Kishore Rao, Jeff McNeely, Grazia Borrini-Feyerabend, Ashish Kothari, Listya Kusumawardhani, Rusalina Idrus, Sejal Worah, Arup Rajauria, Jai Pratap Rana, Rabi Bahadur Bista, Uday Raj Sharma, Srijana Singh and Nirmalee Pallewatta. Krishna P. Oli coordinated the editing and production of this document for publication. I would also like to acknowledge support from Rosemary Thapa for editorial help and from Mr. Upendra Shrestha for the layout and design of this publication.

Dr. Ambika Prasad Adhikari
Country Representative
IUCN Nepal

FOREWORD – REGIONAL BIODIVERSITY PROGRAMME, IUCN

IUCN holds a special interest in the collaborative management of protected area landscapes. When implemented effectively, collaborative management arrangements can not only lead to more sustainable conservation of biodiversity, but also to the more equitable use of natural resources. Collaborative management is therefore directly related to the fulfillment of IUCN's mission - to "conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable."

At the regional level, the South and South East Asia Regional Biodiversity Programme seeks to further IUCN's mission by supporting the implementation of the Convention on Biological Diversity. The Convention's objectives give equal emphasis to biodiversity conservation, sustainable use and the equitable sharing of benefits. In Article 8 (In-situ Conservation), the Convention calls upon the Parties to undertake a series of actions that are of direct relevance to collaborative management, including the following,

- To "promote....sustainable development in areas adjacent to protected areas"
- To "respect....and maintain knowledge...and practices of indigenous and local communities...relevant for the conservation and sustainable use of biological diversity"

Similarly, Article 10 (Sustainable Use) calls upon the Parties to "protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation...."

In light of these considerations, it is a pleasure to welcome this volume of proceedings from the Workshop on Collaborative Management of Protected Areas in the Asian Region. One of the great strengths of the workshop was the diversity of the stakeholders who took part – including government officers, community activists, policy makers, NGO representatives, and researchers. This diversity of opinion is reflected in the report, which provides valuable information in the form of a detailed, country-by-country assessment of the status of collaborative management in the region. However, it also goes beyond conventional workshop proceedings in providing a set of specific recommendations and guidelines for the development of a regional programme to build capacity in collaborative management. It is my hope that the proceedings will be of interest and assistance to collaborative management practitioners throughout the region, and that they will also help to catalyse the regional capacity building programme that was envisioned at Chitwan.

Finally, I would like to express my gratitude to SDC and BMZ for their support of the workshop; and to IUCN Nepal; the King Mahendra Trust for Nature Conservation; WCPA South Asia; and the Department of Wildlife Conservation and National Parks, His Majesty's Government of Nepal, for all the time and effort that went into the workshop's organisation. Krishna Oli of IUCN Nepal deserves particular credit for preparing the proceedings.

Scott Perkin
Head, IUCN Regional Biodiversity Programme
Colombo, Sri Lanka

SOME WORDS FROM THE WORLD COMMISSION ON PROTECTED AREAS, SOUTH ASIA

The World Commission of Protected Areas (WCPA) is one of the six Commissions of IUCN – The World Conservation Union. WCPA is a worldwide network of over 1300 experts drawn from nearly every country, working together to promote the better planning and management of protected areas of all kinds.

The work of WCPA is organised around 15 regions worldwide. Since 1994, there has been a separate South Asian region, which was carved out of the larger South and South East Asian region. The South Asian region comprises the countries of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. WCPA South Asia has mobilised its nearly 200 members in the region to work towards promoting the interests of protected areas. The mission of WCPA is to promote the establishment and effective management of a worldwide, representative network of terrestrial and marine protected areas, as an integral contribution to the IUCN mission. The four strategic objectives of the WCPA are:

- To help governments and others plan protected areas and integrate them into all sectors
- To strengthen the capacity and effectiveness of protected area managers
- To increase investment in protected areas
- To enhance WCPA's capacity to implement this programme

In order to carry forward the WCPA's mission and achieve strategic objectives at the regional and national levels, WCPA South Asia has facilitated the preparation and implementation of a Regional Action Plan for Protected Areas in South Asia (RAPSA). RAPSA reviews the state of protected area coverage in each of the seven countries of the region, assesses the management of protected areas and makes recommendations for strengthening the coverage as well as management of individual protected areas. RAPSA also identifies four priority projects to be pursued within the region in collaboration with various partners and other relevant organisations and institutions. One of the priority projects relates to the conduct of a "Regional Workshop on Community Involvement in Protected Area Management." The justification for this is that although community involvement in protected area management in the region is essential to strengthen PA management, current experiences are limited. The aim is to build upon some of the initiatives already taken in the region as well as learn from the experiences of the Asian region as a whole. The objective of the workshop was to bring together involved people in different countries to share experiences/projects; analyse successes and failures in field experience; discuss policy/legal measures; enable implementation, including funding; look at the mechanism of participation; identify institutions; organise capacity building; benefit sharing, information flow etc.

I am happy that this proposal saw the light of day in the shape of the workshop on "Collaborative Management of Protected Areas." Apart from WCPA South Asia, the other lead agencies identified for this workshop were the Department of Wildlife Conservation and National Parks, His Majesty's Government of Nepal, the King Mahendra Trust for Nature Conservation and IUCN, Nepal. The organisation of the workshop was facilitated through the IUCN Regional Biodiversity Programme for South and South East Asia.

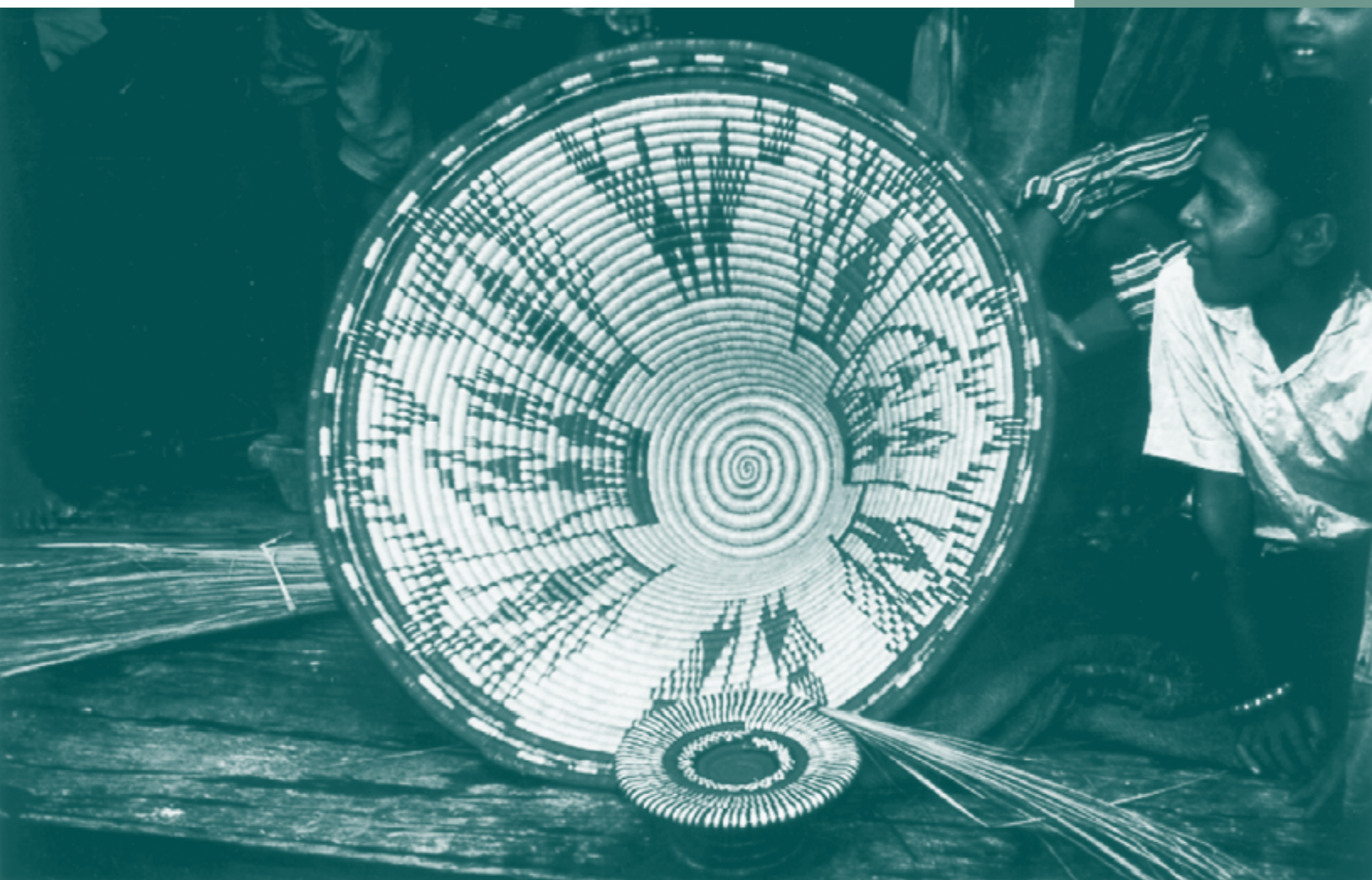
I am delighted that the very meaningful and productive deliberations of the workshop on Collaborative Management of Protected Areas in the Asian region has been put together in the form of these proceedings through the efforts of IUCN, Nepal and, in particular, Krishna Oli. The proceedings not only contain the full background information about the workshop, but outline valuable conclusions and recommendations for future action to carry forward the collaborative management agenda in the Asian region as a whole. Viewed from the WCPA perspective, the real success of this workshop will lie in the actual implementation of the various ideas and strategies at the field level, particularly in the South Asian region.

Kishore Rao
Vice-Chairman
World Commission on Protected Areas (IUCN), South Asia
May 28, 1999

LIST OF ABBREVIATIONS

ACAP	Annapurna Area Conservation Project
BCN	Biodiversity Conservation Network
BMZ	German Federal Ministry for Economic Cooperation and Development
BZ	Buffer Zone
CBD	Convention on Biological Diversity
CM	Collaborative Management
CPAWM	Centre for Protected Areas and Watershed Management
CPPAP	Conservation of Priority Protected Areas Project
DCF	Development and Conservation Fund
DoF	Department of Forestry
EU	European Union
FOMACOP	Forest Management and Conservation Project
GAA	German Agro-Action
GET	Global Environmental Trust Fund
ICAD	Integrated Conservation and Development
IIPA	Indian Institute of Public Administration
IUCN	IUCN–The World Conservation Union
JFM	Joint Forest Management
KMTNC	King Mahendra Trust for Nature Conservation
LKMD	Village Community Development
LSFCP	Lao-Swedish Forestry Cooperation Programme
NBCA	National Biodiversity Conservation Area
NGO	Non-governmental Organisation
NIPAP	National Integrated Protected Areas Programme
PA	Protected Area
PDI	Population Development International
PDR	People's Democratic Republic
RCC	Regional Coordination Centre
RECOFTC	Regional Community Forestry Training Centre
SDC	Swiss Agency for Development and Cooperation
UNESCO	United Nations Education, Scientific and Cultural Organisation
WCPA	World Commission on Protected Areas
WWF	World Wide Fund for Nature

Cottage industry product made by the buffer zone
community of Royal Chitwan National Park, Nepal
Photo: Ekaram



WORKSHOP PROCEEDINGS

The golden monitor lizard, an endangered reptile
Photo: Alton Byer



1. INTRODUCTION

As in many other parts of the world, protected areas (PAs) such as national parks and nature reserves form the cornerstone of Asia's efforts to conserve biodiversity. They have also been the focus of a range of conflicts, the most common being instances of local communities trying to make a living and official agencies attempting to 'protect' the area. In many Asian countries, policies related to protected areas do not yet recognise that biodiversity conservation and people's livelihoods could co-exist for mutual benefit. In fact, conservation policies have often alienated people from their rightful territories. Centralised, top-down approaches to conservation have often ignored the fact that local communities depend largely on the resources to be conserved; these policies have also tended to ignore traditional beliefs and knowledge, many of which have enormous significance for conservation.

The current policies, legislation and practices of conservation cannot be sustained if local communities are constantly in conflict with park authorities. Add to this the growing aspirations of rural people for active participation in decision-making processes, and the critical need to build and develop understanding and trust between the two parties for future conservation efforts becomes clear.

Building partnerships among local communities, government agencies and other stakeholders is emerging as a major conservation strategy. These partnerships may be in the form of benefit-sharing arrangements, which build on community knowledge, develop capacity among all stakeholders and even lead to sharing of responsibility in PA management. In some Asian countries, PA management strategies are slowly changing, and a number of collaborative management initiatives have shown signs of success. The emergence of the internationally known Joint Forest Management Concept (JFM) in India in the 1970s and the promulgation of the more recent Buffer Zone Management Regulations of Nepal are good examples. In Royal Chitwan National Park in Nepal, a buffer zone has been created around the protected area to enable local communities to use the resources. Because the PA is a popular tourist destination site, about 30% to 50% of the annual revenue raised can be ploughed back into community development projects in the buffer zone. Many similar initiatives which emphasise the participation of local communities and other stakeholders are evolving within this region. It is worthwhile noting that this approach is not entirely new. Examination of traditional forms of natural resource management from many parts of the world will reveal that communities have long been the custodians, the users, as well as the conservers of their particular resource.

Despite these efforts, however, there remains a significant lack of basic understanding about the process of participatory management in the Asian context. The identification of 'legitimate' stakeholders, effective integration of traditional and modern knowledge about natural resource management, and the initiation of negotiation processes with the stakeholders themselves are some of the practical problems of collaborative management. On the one hand there is insufficient information for planners concerning approaches to participatory management, and on the other there is even less information accessible to the most directly affected stakeholders (that is, local communities).

In most countries of the region, local capacity in terms of knowledge, skills and institutions is inadequate to support collaborative management methods. As the concept of participatory management in its modern context is new to most Asian

countries, there is an urgent need to develop local capacity to formulate, implement, monitor and evaluate effective collaborative management approaches. Policies that foster the practice of participatory management are either ineffective or lacking in most Asian countries. Appropriate policies and legislation to support participatory management are crucial to supporting future conservation practices.

2. BACKGROUND TO THE WORKSHOP

"Collaborative management" (also referred to as co-management, participatory management, joint management, shared management, multi-stakeholder management or round table agreement) is used to describe a situation in which some or all of the relevant stakeholders in a protected area are involved in a substantial way in management activities. In the collaborative management process, a partnership is developed with other relevant stakeholders that specifies and guarantees their respective functions, rights and responsibilities with regard to the protected area (Borrini-Feyerabend, 1996).

In the Asian region, several encouraging initiatives which bring together local communities and other stakeholders have emerged as strategies for conservation. Some of these initiatives were discussed at a regional workshop entitled "Collaborative Management for Conservation: Exploring the Opportunities in Southern Asia," held in Pakistan in May, 1996. A complementary workshop was held at the Indian Institute of Public Administration (IIPA) in New Delhi, India in 1997. Subsequently, a draft proposal, "Towards Participatory Management of Protected Areas in the Asian Region" was prepared in 1997 by the Social Policy Group at IUCN-Headquarters and IUCN Nepal, with input from the Asia Chapter of the IUCN Inter-Commission Working Group on Collaborative Management.

The World Commission on Protected Areas (WCPA), South Asia, also held a workshop in Colombo, Sri Lanka in May 1997, which further emphasised the idea of collaborative management of protected areas. It identified a regional CM initiative as one of four priority projects under the Regional Action Plan for Protected Areas in South Asia. The WCPA workshop identified specific needs and opportunities to carry forward a regional initiative on participatory management. It stressed that:

- such approaches would be better understood in the Asian context;
- awareness of the benefits of CM should be raised;
- policies and legislative reforms in support of CM should be pursued;
- the capacity of key individuals and institutions in the region to undertake CM should be strengthened.

The regional workshop, "Collaborative Management of Protected Areas in the Asian Region," was the first phase of an initiative which aims to achieve the broad objective of mobilising and sharing the experiences of countries in the region on collaborative management of protected areas and developing an effective networking strategy. The workshop was held in Royal Chitwan National Park in Nepal from May 25 to 28, 1998.

3. OBJECTIVES OF THE WORKSHOP

- to enable countries in the region to share and learn from collaborative management experiences to date;
- to discuss and review the draft project proposal, "Towards Participatory Management of Protected Areas in the Asian Region";
- to discuss the modalities of future partnerships.

The workshop took place under the auspices of IUCN's Regional Biodiversity Programme. It was organised jointly by IUCN Nepal and the King Mahendra Trust for Nature Conservation (KMTNC), in association with the Department of National Parks and Wildlife Conservation (DNPWC), Nepal and in collaboration with the World Commission on Protected Areas (WCPA), South Asia and the Collaborative Management Group of IUCN. Altogether, 59 participants took part in the workshop, representing Bangladesh, China, India, Indonesia, Lao-PDR, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka and Thailand, as well as various donor agencies and NGOs. (Annex 7)

4. OPENING SESSION - DAY 1 (MAY 25, 1998)

An inaugural session officially launched the workshop on May 25, 1998. The Chief Guest for the occasion was His Royal Highness Prince Gyanendra Bir Bikram Shah. The Director General of DNPWC, Dr. Uday Raj Sharma, welcomed the Chief Guest, the delegates and the participants.

In his welcome address, Dr. Sharma pointed out that one of the unique features of Nepal's conservation programme is its recognition of the needs of local people. Dr. Sharma talked about recent breakthroughs in the collaborative management of Nepal's protected areas and expressed his appreciation to donor organisations and KMTNC for assisting the department in implementing its programmes in protected area management.

Dr. Ambika Prasad Adhikari, Country Representative of IUCN Nepal, pointed out that the practice of management of protected areas has entered a new and different phase, involving interaction between park authorities and local people. He remarked that the perceptions of those working under the government and those of other stakeholders are often in conflict, and that this workshop was an exploratory exercise in bringing the different stakeholders onto the same side. Dr. Adhikari hoped that during the workshop the participating countries would exchange, compare and contrast their experiences and identify regional priorities. Participants would also review the constraints, opportunities and priorities for collaborative management, and come up with a programme that suits the national agenda and utilises regional networking and learning.



Dr. Adhikari pointed out that the participants of the workshop would review and revise the draft proposal for a regional collaborative management initiative, to ensure that the proposal encompasses the concerns of the countries in the region. Finally, he thanked KMTNC, DNPWC and WCPA for their help in organising the workshop.

Dr. Scott Perkin, Senior Programme Officer (Biodiversity), referred to the emphasis that IUCN's Regional Biodiversity Programme places on collaborative management approaches in South and South East Asia. He remarked that the primary reason for this emphasis is to address the increasing conflicts between government agencies and local communities and to promote equitable sharing of benefits, as called for under the Convention on Biological Diversity. Dr. Perkin expressed his hope that the workshop would produce concrete action programmes to build regional capacity in collaborative management. He stressed the need for a change in attitude and the importance of building trust through mutually beneficial partnerships. He thanked the organising members of the workshop as well as SDC and BMZ for providing the necessary funding.

Mr. Kishore Rao, Vice-Chair for WCPA South Asia, presented an overall picture of WCPA and its objectives. He remarked that one of its main activities is to promote the implementation of Regional Action Plans for Protected Areas, and noted that the action plan for South Asia had recently been finalised. The main recommendations of the plan are as follows:

- To involve local institutions in protected area management
- To ensure that local level institutions are capable of ensuring equitable benefit sharing and conflict resolution
- To involve NGOs and other institutions in establishing linkages between local communities and protected area authorities
- To share experiences of protected area management of India and Nepal with other countries in the region
- To establish protected areas under IUCN's categories V and VI to enable PA managers to involve communities in management and conservation

Mr. Rao concluded by stating that WCPA South Asia would facilitate the process through its regional membership, partners and the IUCN network.

Mr. Keshav Devkota, Chairman of the Buffer Zone Development Council of Royal Chitwan National Park, provided information on the concept of buffer zone management, the Buffer Zone Management Regulations and the Buffer Zone Development Council. He explained that the user committees within this council prepare plans and programmes according to their needs and priorities and implement these with technical and financial support from KMTNC and UNDP. Separate funds have been established to address the issue of human injury from wild animals and to provide rewards for information about poaching activities and the poisoning of animals.

Mr. Rabi Bahadur Bista, Special Secretary to the Ministry of Forest and Soil Conservation, referred to the Biodiversity Action Plans that are being prepared for Nepal's forests, protected area systems, inland water systems, the mountain region and agriculture. He talked about the possibility of extending existing PAs, maintaining corridors between the forests of protected areas; collaborating with neighbouring countries and international agencies, NGOs and universities; and

establishing partnerships with local communities. He reiterated the importance of developing the buffer zone, through the establishment of a decentralised resource management authority and the incorporation of traditional resource use and management systems. Mr. Bista also talked about establishing a Biodiversity Trust Fund for Nepal.

The Honorable Bhakta Bahadur Rokaya, State Minister of the Ministry of Forest and Soil Conservation, maintained that the involvement of stakeholders is a prerequisite for successful protected area management. He mentioned that the Master Plan for the Forestry Sector, Nepal, has emphasised community participation in forestry programmes and cited the example of community forestry as a successful model of people's participation in natural resource management in Nepal. He pointed out that the National Parks and Wildlife Conservation Act of 1973 and its successive amendments were a turning point in PA management, where the strategy shifted from a purely wildlife management effort to a collaborative approach. He concluded that the workshop would be a significant step in developing a regional plan for participatory management of PAs in this region and expressed his hope that valuable regional linkages would be established.



His Royal Highness Prince Gyanendra Bir Bikram Shah, (left) in his inaugural address, underlined the complexity of environmental challenges in the region and the need for a comprehensive management agenda. His Royal Highness reiterated that a conservation strategy must involve the affected communities in the decision-making process with regard to their needs, and particularly in the allocation of resources.

His Royal Highness presented a global perspective on the relationship between natural resource use, food demand and ecosystems, pointing out the disparities between developed nations and developing nations in terms of food production and supply. His Royal Highness defined sustainable development as a process of change whereby resource application, investment management, technological evolution and organisational changes are consistent with present and future needs.

His Royal Highness expressed his skepticism about the idea that economic progress can only happen at the expense of biological diversity and suggested that development policies should address the issue of species depletion at source. Protected Areas should serve the dual purpose of economic development and habitat protection.

His Royal Highness highlighted the changing role of the King Mahendra Trust for Nature Conservation, from research to programme implementation. In this regard, His Royal Highness drew attention to the involvement of KMTNC in the development of a collaborative management system for the Annapurna Conservation Area in western Nepal, as well as the Trust's involvement in community forestry programmes in the Baghmara and Kumrose communities

adjacent to the Royal Chitwan National Park.

His Royal Highness said that the present workshop would strengthen regional biodiversity conservation since it gives institutions and countries an opportunity to share experiences and lessons. Further, this gathering would be important in closing the communications gap which has prevented countries and institutions in the region from realising common goals.

His Royal Highness urged governments to incorporate policies, plans and programmes that are economically and ecologically sustainable and indicated that regional arrangements would be necessary to deal with trans-boundary environmental issues. His Royal Highness suggested establishing an independent network among NGOs and scientists to assess and report on critical regional issues, and highlighted the important role that women, local and indigenous communities and an informed public must play in order to achieve the goals of sustainable development. His Royal Highness concluded by sharing his hopes that the workshop would produce constructive deliberations and pragmatic strategies for conservation in the region.

Dr. Jagadish C. Pokharel, Member of the National Planning Commission, who chaired the inaugural ceremony, presented the concluding remarks. In his speech, Dr. Pokharel stated that if this gathering of representatives from more than 11 countries could come up with resolutions on collaborative management, it would be a positive step towards developing regional initiatives. He emphasised the need to include all stakeholders in managing protected areas for long-term sustainability and suggested an 'incremental path' for eventual total control by the local people. He pointed out that the approach in the Eighth and the Ninth Five-Year Plans has been to include all stakeholders so that the benefits are shared among them. He urged the workshop participants to consider sustainability and poverty alleviation in their deliberations over management of protected areas. He concluded his speech by thanking the organisers and wishing all the participants a pleasant stay.

Mr. Jai Pratap Rana, Member Secretary of KMTNC, thanked all the distinguished guests for their time at the inaugural function. He expressed his gratitude to the Chief Guest, His Royal Highness Prince Gyanendra Bir Bikram Shah, for inaugurating the workshop and to Dr. Jagadish C. Pokharel for chairing the inaugural session.

The inaugural session was officially concluded and the day ended after a dinner reception hosted by IUCN Nepal. (All speeches can be found under Annex 3).

5. TECHNICAL SESSION - DAY 2 (MAY 26, 1998)

Welcome and introductory address: Ambika Prasad Adhikari

Facilitator: Poorna Kanta Adhikari

The objective of the session was "to develop an understanding of the status of collaborative management in the region, with a particular focus on strengths, constraints and priority needs." A working definition for collaborative management of protected areas was agreed upon. It was decided that collaborative management of natural resources refers to the arrangements for management which are negotiated by multiple stakeholders and based on a set of rights and privileges (tenure) that are recognised by the government and widely accepted by resource users; and the process



for sharing power and responsibility among stakeholders to make decisions and exercise control over resource use.

The four prerequisites of collaborative management (CM) are: the involvement of two or more separate parties (multiple stakeholders); agreement between the government and resource users about tenure of resources; a negotiation process which allows the participation of those affected; and meaningful participation in negotiations resulting in some power to influence the results.

Participants were then divided into three sub-regional groups, as follows: group 'A' comprised China, Nepal, and Pakistan; group 'B' comprised Bangladesh, India and Sri Lanka; group 'C' comprised Indonesia, Lao PDR, Malaysia, Philippines, and Thailand . There were 16, 11 and 9 participants in each group respectively. (Annex 5)

Within each group, country papers were presented (all country papers can be found at Annex 2) so that baseline information on the status and needs of collaborative management in each country could be assessed. A matrix was prepared for each country to summarise strengths, key constraints and priority needs.

In the matrix analysis, the following four categories of issues were addressed:

- understanding the process of participatory management;
- enhancing capacity, including knowledge, skills and institutions;
- building mutual trust between various stakeholders; and
- developing supportive laws and policies at national and sub-national levels.

Following the completion of the country matrices, sub-regional matrices were prepared for each sub-regional group and presented to the plenary in the afternoon session for discussion.



5.1 ASSESSING COLLABORATIVE MANAGEMENT: COUNTRY ANALYSES

SUB-REGIONAL GROUP 'A' - CHINA, NEPAL AND PAKISTAN

CHINA

Country Paper – The paper begins with an outline of China's biodiversity and goes on to discuss the current status and main problems of the management of Chinese Nature Reserves. The remainder of the document details the importance of international cooperation in the planning and management of Chinese Nature Reserves with regard to problems, prospects and priority projects for such cooperative efforts.

Strengths, Constraints and Needs Analysis – Strengths include the fact that the Chinese government recognises the need for people's participation in PA management, that all national PAs have management plans, that there is already a good knowledge base, and that effective local government structures exist for resource management. The paper also highlights the availability of rural extension services to communities.

Constraints include the multiplicity of institutions; the dearth of trained staff; and the poor communication between state agencies, communities, park authorities and other state organisations.

It is important to enhance capacity through training in park management, better inter-agency coordination and communications, increased awareness, and a national policy framework on PAs.

NEPAL

Country Paper – This paper discusses the existing types of collaborative management in various parks and reserves and the current legislative framework for promoting CM. It focuses on the Buffer Zone Management Regulations and Conservation Area Management Regulations of 1996. The paper sets out priority measures to strengthen CM and concludes by stating that Nepal needs to sharpen its policies and legislation to be more effective. It also draws attention to the important role which can be played by community-based nature tourism in the country.



Strengths, Constraints and Needs Analysis – The strengths of CM in Nepal are recognised as the wide acceptance of the concept of participatory management and the incorporation of traditional knowledge and practices into the CM process. The presence of supportive policies and legislation is the highlight of collaborative management in Nepal.

Among the constraints are poor coordination, communication and cooperation; different interpretations of CM among key stakeholders; insufficient resources; issues involving land tenure in buffer zones; and a lack of any legal provisions for involvement of the community in park management.

The needs analysis highlights the importance of obtaining support and resource mobilisation through international agencies, clarification of the roles and responsibilities of various stakeholders, and the development of guidelines for buffer zone management.

PAKISTAN

Country Paper – The paper describes the extent and status of protected areas and the major constraints to effective management of PAs in Pakistan. It goes on to explain the current status of CM in the country and sets out the principal constraints to promoting its practice. The paper contains short descriptions of seven case studies which incorporate elements of CM and asserts that the way ahead for CM in Pakistan is through ensuring enabling policies, legal reform, capacity building and regional cooperation. It states that CM is not only a means of achieving successful

collaboration and biodiversity conservation, but is also a way of helping defuse current regional tensions.

Strengths, Constraints and Needs Analysis – The encouraging results of the country's first attempts at CM are constrained by inadequate resources and expertise, insufficient empowerment of communities, and the authoritarian approach of the state. The capacity of both authorities and communities needs to be built. The responsibility for PA management should be divided amongst communities and the benefits from PAs shared equitably.

SUB-REGIONAL GROUP 'B' - BANGLADESH, INDIA AND SRI LANKA

BANGLADESH

Country Paper – This paper describes the collaborative management of protected areas in Bangladesh through four case studies. Policies and legislation relevant to the management of PAs are discussed briefly and the constraints to more effective management of PAs using a participatory approach are laid out. The paper concludes that development and conservation issues in Bangladesh are at present firmly tied to external donor assistance, at times hindering the implementation of PA management strategies. The paper also states that people living in a protected area should themselves be involved in its management.

Strengths, Constraints and Needs Analysis – The strengths of collaborative management in Bangladesh include the growing recognition of the CM process, the government's acceptance of the concept of CM, increasing trust among stakeholders and an evolving policy and legal framework that is supportive of collaborative management. Key constraints identified are insufficient awareness of CM among stakeholders, lack of understanding and cooperation between various government agencies, inadequate specialised institutions and a scarcity of trained personnel.

Requirements include more effective awareness-raising about CM, motivational activities to encourage the adoption of CM, trained personnel, institutional reorganisation and support services. The government also need to build its own confidence by fulfilling commitments within previously agreed time limits.

INDIA

Country Paper – The first paper, the country's official view, traces the recent history of people's participation in resource management within protected areas in India. The experience of translating the policy into action with the involvement of local people in PA conservation is discussed. Special attention is given to the Protected Area Ecodevelopment Strategy which is "an incentive-linked in-situ biodiversity conservation programme that fosters conservation-oriented community development programmes." Several case studies of eco-development in operation are described briefly. The paper states that the level of experience and established procedures on collaborative management in India have the potential to develop into demonstration sites for the mutual benefit of regional practitioners of co-management.



The second paper discusses the on-going Kalakad Mundanthurai Tiger Reserve project based on the ecodevelopment approach.

The third paper is an NGO viewpoint. It was discussed briefly at the meeting and was fleshed out afterwards by the author. It traces the current official conservation policy to its roots in the princely and colonial era, pointing out that in recent times this policy has become increasingly participatory. The paper argues for full participation and the admission of the stakes of local communities. It asserts that more radical changes are needed than are presently envisaged in ecodevelopment strategies. These include assigning tenurial rights to local people, securing protected areas against destructive industrial interests, providing benefits from conservation programmes to local people, involving people centrally in planning and implementation of conservation programmes, building on community knowledge and institutional structures, and learning from the many informal and formal community-based conservation programmes already being carried out in India. It presents the idea of Joint Protected Area Management as an additional approach to the ones already practiced and gives an outline of what this would entail.

Strengths, Constraints and Needs Analysis – India's strength in collaborative management lies in its fairly lengthy history of the CM process and its facilities for training personnel. Policies and programmes that support CM as well as the devolution of power to village communities through constitutional amendments have been carried out. Constraints include lack of documentation of the CM process, inadequate sharing of experiences, fixed perceptions of stakeholders, lack of power sharing and inadequately trained district and field-level staff. Greater interaction and transparency of operations between state agencies and local institutions, innovative funding mechanisms, utilisation of traditional knowledge and more efficient funding mechanisms are required for better CM practice in India.

SRI LANKA

Country Paper – The history and categories of PAs in Sri Lanka are explained and the relevant policies discussed. The paper sets out the PA management plan of the Forest Department and the Department of Wildlife Conservation, and presents some recent examples of community participation in natural resource management involving protected areas. Some 'lessons learnt' that should be considered in future CM efforts are also listed.

Strengths, Constraints and Needs Analysis – Strengths identified in Sri Lanka include the relatively good understanding of the CM process by the state and local communities, the availability of some institutions capable of implementing CM, the availability of scientific data on flora and fauna, and some policies supportive of collaborative management. Insufficient understanding of CM processes, undue dependence of CM initiatives on external funds, inflexible management structures, relatively few trained staff, a lack of documentation and analysis of past CM efforts, poor coordination between stakeholders and a dearth of specific policies for CM are some of the recognised constraints. Accordingly, needs include attitudinal change at the state and community level, the development of mechanisms to ensure the sustainability of CM initiatives from the initial stages, training and skills enhancement, and policy and legislative reforms.



SUB-REGIONAL GROUP 'C'- INDONESIA, LAO PDR, MALAYSIA, PHILIPPINES AND THAILAND

INDONESIA

Country Paper – The general status of collaborative management and the various types of partnerships that exist between the government, international/local NGOs and private companies are explored in this country paper. The principal constraints, priority measures to be addressed and suggestions for the future of CM in Indonesia are also discussed.

Strengths, Constraints and Needs Analysis – Current strengths are the increasing numbers of NGOs and individuals involved in participatory methods of managing



PAs, and the existence of some government organisations capable of implementing CM. A number of strategies and laws are also supportive of CM. Different perceptions of CM among stakeholders, a lack of knowledge dissemination, differing perceptions in the translation of policies, and laws that do not specify how to involve NGOs are among the constraints. Needs include increased cooperation among stakeholders, the establishment of multi-stakeholder fora to reach agreement on participatory management, and preparation of guidelines to carry these out.

LAO PDR

Country Paper – This paper explains that collaborative management of PAs in Lao-PDR is of recent origin (the protected area system was only established in 1993) and that it is, to a large extent, dependent on foreign aid. The issues central to CM (including legal aspects) are discussed although efforts in PA management are still in their early stages. The paper presents existing CM initiatives and suggests a list of sites for action research.

Strengths, Constraints and Needs Analysis – The political structure in Lao-PDR allows for consultation with villages on PA management, and a cordial relationship between authorities and local communities exists. There is an interest in CM approaches, with basic legal provisions for CM having been made. Constraints include the fact that most CM initiatives are largely dependent on foreign sources of funds and that at the local level, both CM and national policies and laws are poorly understood. In addition, community-authority contacts rarely go beyond the level of consultation. Identification of processes that involve local people, the setting up of conservation units within the forestry sections of provinces, and the translation of national policies into locally applicable versions are all recognised needs.

MALAYSIA

Country Paper – An overview of protected area management, policies and legislation is presented in this country paper, and the interactions between people and protected areas in Malaysia are described. The National Biodiversity Policy (launched in April 1998) acknowledges the role of communities in conservation, management and utilisation of biodiversity. Three pioneering examples of CM initiatives are included in the country paper.

Strengths, Constraints and Needs Analysis – The presence of existing initiatives on CM, the ability of NGOs to work with the government, the fact that there are NGOs already engaged in community conservation issues, and the many sites for CM action research are identified as strengths in the field of collaborative management in Malaysia. The habit of separating conservation and community development, the lack of specific institutions, poor inter-agency coordination, an absence of CM 'success stories' within the country and the general inadequacy of supportive legislation are perceived as constraining factors. General capacity building, inter-agency coordination, improved mechanisms for information sharing, building local models of conservation and community development, and a supportive legislative framework are considered essential in order to achieve successful collaborative management of Malaysia's protected areas.

PHILIPPINES

Country Paper – Policies and legislation pertaining to PAs and the collaborative management effort are set out in this country paper. The National Integrated Protected Area System (NIPAS) Act of 1992 is described which led to the formation of Protected Area Management Boards in which processes of CM are accommodated. The levels of involvement of CM in PA management, operational mechanisms in PAs and the constraints of involving communities in the management of PAs are discussed. The paper concludes by pointing out that the CM approach is relatively new to the Philippines, that the country is still at the stage of implementing various strategies of the NIPAS law and that it has much to learn from other countries.

Strengths, Constraints and Needs Analysis – The Philippines has a high level of awareness about CM along with national programmes on the Integrated Protected Areas Network and Conservation of Priority Protected Areas. The government recognises the role of NGOs in conservation and has put in place laws to support legal instruments. However, there are also problems such as inadequate resources (including insufficient numbers of technically qualified people), a lack of transparency, and the vested interests of certain groups that work against conservation. Other issues include inadequate implementation of policies, and a lack of complementarity between some laws. It is necessary to build the capacity of various stakeholders in PA management, to reorient government officials toward CM approaches and to review the existing laws rather than merely enforcing them.



THAILAND

Country Paper – The country's conservation measures and legislation are described in this paper, along with an overview of Thailand's national parks and the problems encountered in their management.

Strengths, Constraints and Needs Analysis – There is provision for deciding on PA issues on a case by case basis in Thailand; but there is poor understanding of CM among stakeholders, little trust between the government and other stakeholders, weak knowledge and skills (especially among government staff) and no supporting policy or legal framework. There is a need for positive examples of CM in operation, local committees for management of protected areas, stakeholders who can trust each other and can work together, and the establishment of a legal framework.



5.2 SUB-REGIONAL ASSESSMENT

In the afternoon session, the findings of sub-regional groups were presented to the plenary for discussion. Only two groups were able to complete their sub-regional assessment in the form of matrices: Group 'B' (Bangladesh, India and Sri Lanka) and Group 'C' (Indonesia, Lao-PDR, Malaysia, Philippines and Thailand).

GROUP 'B'-BANGLADESH, INDIA, SRI LANKA

There appears to be an increased confidence among various stakeholders in these countries as a result of continuing projects and dialogue between the government and communities. All the countries have some policies and laws to support the CM process. The concept of CM is accepted and a degree of local capacity in terms of trained staff, organisations and scientific expertise does exist. However, there are rigid perceptions of CM and mistrust between some stakeholders. Powerful groups with vested interests have also hampered conservation. More specific provisions are required to promote CM. There is a general lack of institutions and institutional capacity in terms of skilled human and financial resources.

In the case of India, there is reasonably good institutional capacity for implementing CM programmes. For example, institutions such as the Wildlife Institute of India are involved in developing capacity for implementing CM or in carrying out ecodevelopment. There is, however, poor documentation about CM processes and experiences. Government agencies have not made sufficient effort to coordinate or share relevant information on CM.

Overall, a change in attitude is needed from all stakeholders. Training, networking, and sharing of experiences are required. Additional policies and legislative reforms are also needed.

GROUP 'C'- INDONESIA, LAO PDR, MALAYSIA, PHILIPPINES, THAILAND

There seems to be a working relationship and some degree of trust between the government and other stakeholders in all the above-mentioned countries. There are varying degrees of supportive policies and legislation in each country and co-

management initiatives have been introduced with NGO involvement. External funding from international donors could be solicited.

However, the concepts and processes of CM are not well understood. Information sharing and coordination are poor and institutional capacity, in general, is inadequate.

The major needs identified by this group include increased interaction among various stakeholders, re-orientation of existing management structures, more joint activities between partners, and the need for local success stories.

Sub-regional matrices (groups 'B' and 'C')

Group 'B'

Bangladesh, India and Sri Lanka

Strengths	Constraints	Priorities
<p>Mutual Trust Trust is building due to ongoing projects and dialogue</p>	<p>Rigid perceptions of stakeholders</p> <p>Vested power groups</p> <p>Poor links between conservation and livelihood/ quality of life/ development programmes</p> <p>Interruptions/delays in government programmes and funding create greater mistrust</p>	<p>Greater interaction among stakeholders on an equal plane</p> <p>Transparency in functioning (govt/NGO)</p> <p>Emphasise local institutions</p> <p>Achieve equity</p> <p>Timely fulfilment of commitments by all stakeholders</p>
<p>Supportive Policies Some existing policies and laws and ongoing changes</p> <p>Devolution of power to villages- constitutional amendments (India)</p>	<p>Inadequate specific provisions for CM (tenure, participating institutions)</p> <p>Inappropriate development policies and programmes</p> <p>Unsustainable consumerism</p> <p>Inadequate implementation</p>	<p>Specific enactments/legal reforms for CM</p> <p>Re-orientation of development policies towards sustainability</p> <p>Incentives for sustainable lifestyles, disincentives for destructive consumerism</p> <p>Effective implementation mechanisms</p>
<p>Building Capacity Some existing capacity among staff</p> <p>Some NGO and scientific expertise</p>	<p>Inadequate human resources</p> <p>Lack of training facilities, esp. field staff, NGOs, community district administration</p> <p>Inadequate funding flows</p> <p>Rigid funding conditionalities</p> <p>Inadequate inter-department coordination</p>	<p>Enhanced training</p> <p>Recruitment of adequate personnel</p> <p>Institutional re-organisation</p> <p>Innovative/flexible funding mechanism</p> <p>Acknowledgment of traditional knowledge</p> <p>Sustainability of funded projects (donors)</p>
<p>Understanding of CM Process Acceptance of new CM concepts</p> <p>History/ongoing attempts-govt. community initiatives</p> <p>High literacy rates supportive of understanding (Sri Lanka and parts of India)</p>	<p>Attitudinal inflexibility</p> <p>Lack of process documentation</p> <p>Lack of experience sharing and access to information</p> <p>Lack of initiative in some sectors of government</p>	<p>Change of attitudes</p> <p>Process documentation</p> <p>Sharing of experiences</p> <p>Awareness and motivation building</p>

**Group 'C' South East Asia
(Indonesia, Lao PDR, Malaysia, Philippines and Thailand)**

Strengths	Constraints	Needs
Some level of working relationships /trust (Except in Thailand)	Superficial understanding of concept and processes	Increased interaction between different stakeholder groups
Supportive policy and legislation (in varying degrees)	Poor information sharing (lack of transparency)	Re-orientation of existing management authority (except Lao)
NGO support (except Laos)	Lack of capacity	More joint activities between partners
Ongoing co-management initiatives	Lack of information and coordination	Local "success stories"
External donor/international priorities (opportunity)	Not enough trust to shift authority	
	Varying degrees of policy/legislative support	

5.3 REGIONAL ASSESSMENT

During the plenary discussion, the common regional constraints and priority needs for carrying out collaborative management were identified along with common characteristics. A regional matrix containing regional constraints and priority needs was developed and the common key constraints and needs were put into the following categories.

Group "A" (China, Nepal, Pakistan)

Group "B" (Bangladesh, India, Sri Lanka)

Group "C" (Indonesia, Philippines, Lao PDR, Malaysia, Thailand)

ENABLING ENVIRONMENT

Constraints	Needs
1 Lack of mutual trust	Motivation/attitudinal changes
1.1 Institutional resistance (govt/NGO)	
2 Lack of trust between government and stakeholders	
2.1 Lack of specific reference to collaborative management in legislation	
3 Supportive laws and policies - <i>Common constraints</i>	Specific policies/laws enabling CM (including tenure empowerment)
- lack of specific CM legislation	
- conflicting development policies and programmes	Encourage/empower national grass roots' NGOs to counter vested interest groups
- attitude towards local communities	•Compatible development policies and coordination in/around PAs
3.1 Weak political commitment	•Participation of communities in policy/law development
3.2 Vested power groups strong in some situations	•Pressure groups
3.3 Lack of inter-country coordination due to legal policy differences	
3.4 Poor understanding of how local communities manage resources. Often assumes that their practices are "bad" or "inappropriate"	•Make suitable amendments to incorporate aspects of CM and implement it judiciously
	•Review/amend/create CM legislation
	•Improved cross-sectoral coordination
	•National campaigns
	•Develop and share awareness programmes
	•Harmonise management strategies through sharing experiences (exchange of visits)
	•Consistent PA policy should be developed
	•Expeditions and enactment of CM-friendly legislation
	•Demonstrate/convince that CM is more cost effective in the long run

RESOURCES

Constraints	Needs
<ol style="list-style-type: none"> 1. Inadequate financial resources 2. Mobilisation of fund flow; i.e. institutional sustainability 	<ul style="list-style-type: none"> • More foreign aid/long term funding • Seed fund • Trust funds with some local funding commitment • Availability of adequate financial resources • Greater economic resources and funding re-orientation • Develop innovative financial mechanisms to ensure long-term sustainability

CAPACITY

Constraints	Needs
<ol style="list-style-type: none"> 1. Lack of plans for capacity building poor research, documentation, dissemination 	<p>Strategies for capacity building</p> <p>Priority needs</p> <ul style="list-style-type: none"> - improved action oriented research/process - documentation/dissemination
<ol style="list-style-type: none"> 2. Inadequate technical know-how <ul style="list-style-type: none"> - General lack of capacity - Lack of trained field staff (PA) - Design process, superficial - problems in implementation - Lack of orientation for CM (all stakeholders) 	<p>Develop technical capacity</p> <p>Regional cooperation in technical expertise exchange</p> <p>Incorporate in the design</p> <p>Formation of an integrated training scheme</p>
<ol style="list-style-type: none"> 2.1 "A" Training Needs - <ul style="list-style-type: none"> - PALM - PRM - COMM. ORG. - CONFLICT MANAGEMENT - GENDER ISSUES 2.2 "B" Training Needs - <ul style="list-style-type: none"> People Financial Management Community Organisation Natural Resource Management 	<ul style="list-style-type: none"> - Creation of local (new) institutions and strengthening of existing ones. - Provision of appropriate training to collaborating partners - Training extension, management etc. - Specialised training/awareness programmes (for all stakeholders) - A manual of collaborative management - Building institutional modalities for collaborative management - Increase staff recruitment - Establish partnerships and strengthening existing partners
<ol style="list-style-type: none"> 3. Poor enforcement of existing laws 	

PLANS AND AGREEMENTS

Constraints	Needs
<ol style="list-style-type: none"> 1. Poor coordination between concerned institutions 2. Scant local input 3. Lack of institutions, linkages, communication between stakeholders 	<p>Strengthened coordination</p> <p>Increasing participation of local people</p> <ul style="list-style-type: none"> - Formal agreements between stakeholders with clear rights/responsibilities/powers - Provide forum for more open communication/conflict resolution - Clear definition of roles/responsibilities and accountability - Greater linkages, communication, dialogue between stakeholders - Increasing regular meetings/workshops among stakeholders
3.1 Lack of accountability	<ul style="list-style-type: none"> - Ensure checks and balances, enhanced accountability and maintain transparency at all levels - Improve quality of interaction
3.2 Lack of clarity/agreement re. rights/powers and responsibilities	
<ol style="list-style-type: none"> 4. Issues of resource ownership/tenure/rights (<i>de jure/de facto</i>) example land tenure dispute 	<ul style="list-style-type: none"> - Empower the community - Public hearing

INFORMATION

Constraints	Needs
<ol style="list-style-type: none"> 1. Absence of success stories <ul style="list-style-type: none"> - inadequate process documentation and dissemination - inadequate information sharing 	<ul style="list-style-type: none"> - Demonstration projects
1.1 Poor documentation	<ul style="list-style-type: none"> - Enhancing and promoting process documentation
1.2 Absence of action research, different stakeholders' experiences isolated from one another	<ul style="list-style-type: none"> - Greater action research and exchange of experiences
1.3 Insufficient dissemination of information	<ul style="list-style-type: none"> - Better documentation and dissemination information
<ol style="list-style-type: none"> 2. Lack of inadequate monitoring/indicators <ul style="list-style-type: none"> -Inadequate documentation of experiences -Lack of interactive exchange of experiences -Lack of acknowledgment of ecological environmental economic/cultural value of natural resources 	<ul style="list-style-type: none"> - Monitoring and evaluation - Promote experience sharing - Maintenance of transparency - Insure checks against corruption
3.1 Transparency	
3.2 Corruption	

CONSTRAINTS

Enabling Environment

Factors such as policies, legislation and political will contribute to the success of collaborative management. There seems to be a large degree of distrust between the government and other conservation stakeholders. Policies and laws that support the collaborative management of protected areas seem to be weak and specific legislation dealing with collaborative management is lacking. In most countries, political commitment for CM in conservation is poor. In some cases, vested interests hinder conservation efforts.

Resources

The financial resources needed to implement collaborative management initiatives are inadequate and CM initiatives are largely dependent on external donor funding.

Institutional Capacity

In general, most countries in the region are short of technical know-how and trained staff for collaborative management. The field staff in protected areas lack adequate training. Knowledge of conflict management, gender issues, community organisations and participatory natural resource management is especially poor, while enforcement of existing laws is weak.

Plans and Agreements

Coordination and communication between related departments and between government agencies and other stakeholders is weak in most situations with the roles and responsibilities of governmental agencies remaining unclear.

Information

In most countries, there is a severe dearth of successful examples of collaborative management. Documentation of CM processes is also lacking and the level of information sharing is inadequate, as are indicators for monitoring the effectiveness of conservation programmes. Most authorities do not understand how local communities manage their resources, often assuming their practices to be "bad" or "inappropriate."



NEEDS

Enabling Environment

The attitude of the authorities in charge of protected areas must be changed. Only then will they be motivated to introduce policies and legislation that support collaborative management. In the process of formulating policies and legislation, participation from the local communities is an essential ingredient. Current legislation needs to be amended or new legislation introduced to specifically address issues of collaborative management. National campaigns and pressure groups are ways through which awareness can be raised and governments urged to practice co-management. Empowerment of local communities at the grass roots' level will help them to counter groups with vested interests whose actions ultimately work against co-management.

By sharing experiences within the country, management strategies can be harmonised and protected area policy made more consistent with national and regional goals.

Resources

Substantial financial resources are needed to sustain collaborative management efforts in the long run. Innovative funding mechanisms must be explored, such as developing trust and endowment funds using local funding commitments. Sources of foreign funding should be tapped.

Capacity

Most countries in the region need a means of building their technical capacity. Documentation of processes and dissemination of information within the country and the region must be carried out. Regional exchange of technical expertise needs to be included in the design of protected areas' management plans. An integrated training scheme will enhance the skills of all stakeholders. Existing training capacity in the region should be used, for which regional cooperation is necessary to make use of the existing training opportunities. In addition, new institutions must also be created to carry out specialised training and awareness programmes. A manual on building institutional modalities of collaborative management is needed for all concerned authorities and stakeholders.

Plans and Agreements

There is a need to strengthen, coordinate and formalise agreements between stakeholders. Their rights, responsibilities and powers should be clearly defined. A forum for open communication and conflict resolution is required to optimise participation from all stakeholders. More linkages, communication and dialogue among stakeholders are necessary. A mechanism to ensure checks and balances, accountability and to maintain transparency is vital.

Information

Demonstration projects of successful collaborative management practices must be set up. Documentation of CM processes and the establishment of networking mechanisms should be promoted to encourage exchange of experiences and information. There is a need for monitoring and evaluation of programmes in collaborative management.

After the discussions Arup Rajouria, Programme Director of KMTNC, presented a slide show on collaborative management in Royal Chitwan National Park. Dr. Uday Raj Sharma, Director General of the Department of National Parks and Wildlife Conservation (DNPWC), answered questions from the participants regarding the management of the buffer zone, which included the fixing of the buffer zone's boundary, and the means of discouraging outside migrants. Other questions addressed such issues as the need for controlling mechanisms to mitigate the negative impacts of tourism, alternative options to tourism as a source of income, and resettlement of villages from the park area before its establishment.

6. TECHNICAL SESSION - DAY 3 MAY 27, 1998

The objective of Day 3 was to review the draft project proposal, "Toward Participatory Management of Protected Areas in the Asian Region," and to agree on revisions (as needed) of its goals, strategy, objectives and activities.

To set the context for the discussions, several plenary presentations were made. Andrew Ingles gave a short presentation on the continuum of CM approaches, and Robert Fisher gave an explanation of "action research." The draft project proposal itself was presented by Krishna P. Oli and Ashish Kothari.

The sub-regional working groups then reviewed the draft project proposal in the light of strengths, weaknesses/constraints and priority needs identified on the previous day and revised the proposal accordingly. S.C. Sharma and Ajak Khan



Khattak chaired the morning and afternoon sessions respectively. Poorna K. Adhikari facilitated the sessions.

6.1 SUMMARY OF PLENARY PRESENTATIONS

In his presentation, Andrew Ingles explained the various internal and external factors such as monitoring and evaluation methods, markets, lessons, rights, laws, values and transparency that influence the success of CM; the question being how to promote and support the collaborative management of protected areas. Ingles presented a thematic approach for the continuity of the CM process with an emphasis on documentation. There is a continual linkage between the CM process, agreements and institutions. The key watchwords are plan, act, observe and re-evaluate. Indicators need to be identified for monitoring success and failure. Krishna P. Oli presented a summary of how the proposal was developed. Ashish Kothari summarised the goal and purpose of the project proposal.

Robert J. Fisher presented a paper on action research for collaborative management of protected areas. In his presentation, he emphasised the need for action research: a process of learning to act more effectively; generate relevant insights; combine repeated cycles of action-observation-reflection and planning; and involve a group focused on a particular issue. He presented a case study of collaborative management of a protected area in Uganda. (A joint paper, "Action Research for Collaborative Management of Protected Areas" was written and can be found in Annex 2).



6.2 TERMS OF REFERENCE (TOR) FOR WORKING GROUPS

The working groups were requested to:

- discuss the proposal as it stands and respond to the priorities identified;
- review and revise the goal, purpose, outputs and activities if necessary;
- comment whether any components should be added or deleted from the proposed regional programme.

Group 'A' agreed on the types of outputs and generated a list of preferred activities at the national and regional level. The group also accepted the outputs of the original proposal. Group 'B' revised the goals, purpose and output.

In the afternoon session, the working group presented the findings to the plenary. The general comments on the proposal from Group 'B' were as follows:

- the tone of the proposal was perceived as too strident and needed to be modified. The perspectives held by different stakeholders should be reflected in the proposal;
- the proposal should specify the suggested implementation modalities in greater detail. For example, what will be the criteria for choosing sites? How will activities be identified and implemented at the national level? Should there be National Steering Committees?
- ways of establishing linkages with ongoing regional initiatives should be examined.

In addition to these points, Group B suggested that the proposal should clarify that the outputs are not necessarily sequential, and that not all the listed activities will be relevant to all countries. Group B also noted that CM should be promoted as a conservation strategy – not only on the grounds of social justice and equity.

The group made specific revisions on the draft proposal. There was a slight change in the goal, purpose and phase-wise activities. For example, the goal was changed to achieve effective, sustainable and participatory management of PAs in the Asian countries. It was proposed that some parts of the phase-wise activities be moved into the background section. The titles of some of the proposed activities were changed. This has had an impact on the output of the revised proposal.

7. TECHNICAL SESSION - DAY 4 MAY 28, 1998

The objective of Day 4 was to agree on the final elements of the project proposal and the future steps to be taken. The potential for linkages with other regional initiatives and programmes was also explored.

Dr. Ambika P. Adhikari chaired the session, which began with brief presentations from a number of regional programmes.

7.1 REGIONAL INITIATIVES AND POTENTIAL LINKAGES

Rusaslina Idrus, South East Asia Coordinator, WWF-Malaysia, presented a paper on the People and Plants Initiative. The main objective of the project is to support ethnobotanists in i) studying and recording local knowledge of plant resources, and returning the results for the benefit of communities; ii) resolving contradictions between the conservation and over-exploitation of plant resources; iii) promoting sustainable methods of using wild plants; and iv) enhancing the value of plant resources to local people for subsistence and commercial ends. The initiative is a partnership between UNESCO, WWF and Kew Gardens.

James Cole, Environmental Coordinator and First Secretary, U.S. Embassy (Nepal), discussed the environmental interests of the United States in the SAARC region. He introduced the South Asia Regional Environmental Hub in Kathmandu, which will focus on environmental emergencies, water use management and cleaner energy. The hub will mainly work with governments, public sector agencies, international organisations, businesses, and NGOs.

Dr. Scott Perkin gave an overview of IUCN's Regional Biodiversity Programme for South and South East Asia. The goal of the programme is "to support the implementation of the Convention on Biological Diversity (CBD) in South and South East Asia." It is envisioned that the exchange of experiences and lessons learnt among the different countries will become an important element of the programme.

The programme places particular emphasis on capacity building; and seeks to complement and support the initiatives of IUCN's members, commissions, country offices and key partners. The programme also seeks to draw upon IUCN's special strengths, including its scientific expertise, its networking capacity, and its ability to bring government agencies and NGOs together in a common forum.

The main themes of the programme are: national biodiversity policies and plans; identification and monitoring of biodiversity; in-situ conservation; legislative



and regulatory mechanisms; education and awareness; and environmental economics. The programme is already active in nine countries and activities are planned in four others. The principal funders of the Regional Biodiversity Programme are the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Swiss Agency for Development and Cooperation (SDC).

Kirsten Hegener, Protected Area Management, Tropical Ecology Support Programme of Germany, presented an outline of the German Federal Ministry for Economic Cooperation and Development (BMZ) and GTZ. She noted that Germany is interested in collaborative management and innovative approaches to improve social acceptance of protected areas. Support is provided for pilot measures, consultancy activities and training.

Robert J. Fisher gave an overview of the activities of the Regional Community Forestry Training Centre (RECOFTC), Bangkok. In the Asia-Pacific region, RECOFTC provides training and other support for participatory natural resource management and offers courses in community forestry, conflict resolution (CR), community forestry extension, marketing tree and forest products, community-based tourism and participatory management of protected areas.

Sejal Worah, World Wide Fund for Nature, explained the activities of the Regional Coordination Centre (RCC), Bangkok. The activities of the RCC are mainly in regional training, materials, networking and support. Institutional linkages have already been established which could be helpful to other institutions wanting to build upon existing linkages. The Centre has a working relationship with RECOFTC.

Ashish Kothari, Member of the IUCN Social Policy Group, explained the global programme of IIED London, which includes six regions. The South Asian component seeks to review and assess the history of community involvement in conservation in South Asia.

The first phase aims to achieve a broad overview of the major issues, such as identifying local communities, appropriate institutions, stakes and benefits, policy and legal measures, the role of traditional knowledge, the impact of socio-economic inequities and the political economic context, and achieving sustainability. In the second phase, case studies and theme papers on the range of ecosystems; socio-cultural settings; initiative types; and protected and non-protected areas in Bangladesh, India, Nepal, Pakistan, and Sri Lanka will be compiled. In the third phase, a synthesis will be prepared to assess regional and global commonalities and differences.

The major outputs of this project will be i) an overview report with description and analysis; ii) case studies and thematic monographs; iii) other media (audio-visuals); iv) support to local participatory processes; v) networking (exchange visits, workshops, information exchange); vi) a documentation centre; and vii) a database of human resources and expertise, published and unpublished materials, policies and laws.

He stressed that mutual learning should be developed within the region and dependence on outsiders should be reduced by increasing synergies. The approach should be participatory, and should include community-level partners, with the government and the process itself receiving attention.

Seema Bhatt, Biodiversity Conservation Network (BCN) and Camille Richard, Rangeland Management Specialist, ICIMOD, briefly explained the organisational structure and activities of their respective organisations. Richard mentioned that ICIMOD has eight member countries in the Hindu-Kush region and long-term



linkages with many regional member country institutions. The Regional Rangeland Programme (RRP) has a strong biodiversity and protected area component.

A question and answer session followed the presentations.

7.2. FINALISATION OF PROJECT PROPOSAL

The goal, objectives and broad activities of the project proposal were finalised. It was agreed that the proposal should be comprised of five components, listed below.

The goal of the project will be, "to promote and strengthen collaborative management of protected areas in the Asian Region."

Outputs will include increased knowledge and understanding among key stakeholders about the processes of collaborative management.

Component 1 Supporting existing collaborative management initiatives

Objective A To enhance the capacity of key stakeholders at selected sites to plan and implement collaborative management.

Activities

1. Develop and implement capacity building strategies for key stakeholders to assist them in acquiring the necessary skills and knowledge for effective collaborative management
2. Provide necessary inputs to enable programmes and projects to use action research effectively
3. Provide additional technical and other support to selected collaborative management institutions as required

Objective B To build mutual confidence and trust among key stakeholders.

Component 2 Documentation and Analysis

Objective To identify and develop an understanding of factors that influence the success of collaborative management.

Activities

1. Analyse existing policy and laws relevant to collaborative management
2. Document and analyse experiences from selected action research sites

Component 3 Advocacy and Information Dissemination

Objective A To promote policies, laws and other enabling mechanisms to support the collaborative management process.

Objective B To share information about the philosophy, process and practice of collaborative management

Component 4 Monitoring and Evaluation

Objective A To improve implementation of activities through the development of an evaluative culture within the project.

Activities

1. Institutionalise the documentation of project experience and analysis
2. Undertake frequent, informal monitoring and evaluation of project performance, especially in the delivery of support to selected sites

- Objective B Assess the extent to which the project objectives are being achieved.
- Activities
1. Undertake special evaluation exercises on specific topics as required
 2. Facilitate an external mid-term and final review and evaluation

Component 5 Project Management

- Objective A Use project resources in an effective, efficient and responsible manner.
- Activities
1. Prepare annual plans and provide these to the PCC (Project Coordinating Committee) and project partners
 2. Provide detailed progress and expenditure reports to the PCC and project partners every six months

7.3 GROUP FORMATION

In order to finalise the project proposal and seek funding, a decision on the formation of a coordination group was made.

The terms of reference for the group were as follows:

1. Prepare a project proposal through a consultative process. This could be undertaken by preparing an initial proposal for a project; development phase and then preparing the full proposal;
2. Seek funding for the implementation of the above proposal;
3. Identify linkages with other regional initiatives;
4. Exchange information on human and material resources required for this initiative;
5. Priority should be accorded to Steps 1-3 and specifically, to preparation of the funding proposal.

Criteria for membership of the group were as follows:

1. Membership is voluntary;
2. Members should have resources to contribute to travel and communications;
3. They should have time to contribute to the project;
4. They should have institutional linkages with other relevant organisations.

The following criteria were considered to be "desirable" for members:

1. They should be well-networked;
2. They should have the potential to build support for a regional initiative on CM.

7.4 COORDINATION GROUP

Existing members agreed to continue being a part of the group. Listya Kusumawardhani and Rusaslina Idrus volunteered to represent South East Asia. Jeff McNeely was nominated to represent IUCN Headquarters and the Global Biodiversity Programme.

The final composition of the Coordination Group was as follows: Andrew Ingles (Thailand), Rusalina Idrus (Malaysia), Ashish Kothari (India), Listya Kusumawardhani (Indonesia), Jeff McNeely (Switzerland), Krishna P. Oli (Nepal), Scott Perkin (Sri Lanka), Arup Rajouria (Nepal), Kishore Rao (India), Uday Raj Sharma (Nepal), and Sejal Worah (Thailand). (Annex 6)

It was agreed that the Regional Coordinating Group would interact with the National Focal Points in each country. The National Focal Points would have the responsibility for ensuring that there is 'bottom-up' input, particularly in the absence of additional project development funds. These focal points would also develop their component of the programme and forward their suggestions to the Coordination Group.

7.5 CORE GROUP

From the Coordination Group, a Core Group was formed, made up of Andrew Ingles, Ashish Kothari, Krishna P. Oli and Scott Perkin.

It was agreed that IUCN Nepal would continue as the focal point for the initiative and that IUCN country offices would provide support to the National Focal Points.

7.6 CLOSING REMARKS

On behalf of the organisers, Ambika Prasad Adhikari, Country Representative IUCN Nepal, thanked all the participants for their time; and the effort, spirit and commitment that was shown in support of this regional initiative and so concluded the three-day workshop.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

1. There is general consensus that a regional project to support and promote collaborative management of PAs is necessary, so long as most activities are country-driven and implemented locally.
2. The CM approach is not well understood by many actors in conservation management.
3. It is necessary to learn from success stories in CM, to exchange information and network at the national and sub-national levels.
4. Institutional capacity concerning CM in terms of trained manpower, policies and legislation is inadequate in most countries.
5. The level of trust between the government and local communities and around PAs is low.
6. The existing project proposal "Towards Participatory Management of Protected Areas in the Asian Region" is too broad, both geographically and thematically, and does not provide a clear focus for implementation. Therefore it needs to be revised.

7. Since the region is large and diverse, a sub-regional approach may be required for project implementation.

8.2 RECOMMENDATIONS

1. The regional project should support planning and implementation of CM activities in or around protected areas to increase the chances of their success.
2. Action-research programmes in CM should be promoted.
3. Effective sharing of CM experiences should be practiced through improved documentation and dissemination of CM experiences.
4. Awareness raising and advocacy activities should be promoted.
5. Institutional capacity building should be given priority for more effective CM in protected areas.
6. Policies and legislation should be amended or created to enable CM.

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Traditional dance of the Tharu community in Chitwan Valley, Nepal
Photo: Ekaram



ANNEXES

A mugger crocodile resting on a sandbank
Photo: IUCN Nepal



COUNTRY MATRICES

Group 'A'
China, Nepal and Pakistan

CHINA

Strengths	Constraints	Needs
<ul style="list-style-type: none"> • Effective local government for resource management • Government recognises the need for people's participation 	<ul style="list-style-type: none"> • Problematic implementation of management plans due to multiplicity of government agencies and responsibilities 	<ul style="list-style-type: none"> • Awareness raising • Capacity building (community and authorities)
<ul style="list-style-type: none"> • Environmental education programmes for users and adjacent communities • Rural extension services provided to concerned communities 	<ul style="list-style-type: none"> • Lack of trained field staff • Differences in cultural and educational background between field staff and local communities 	<ul style="list-style-type: none"> • Need training in park management • Need better methods for collecting socio-economic data
<ul style="list-style-type: none"> • Some PAs have nature tourism programmes benefiting local communities 	<ul style="list-style-type: none"> • High level of poaching for high value products • No single agency responsible for PAs 	<ul style="list-style-type: none"> • Need more effective communication between people and park managers
<ul style="list-style-type: none"> • Decentralised governance (County, Province, State) • Good scientific knowledge of PA resources (biophysical and cultural) • All national PAs have management plans (on paper) 	<ul style="list-style-type: none"> • Poor communication <ul style="list-style-type: none"> - between remote parks-government agencies - between parks 	<ul style="list-style-type: none"> • Better coordination between agencies and government levels • Need for a national policy

NEPAL

Strengths	Constraints	Needs
<ul style="list-style-type: none"> • Wide acceptance of participatory management • Long-term experience and practice 	<ul style="list-style-type: none"> • Different interpretation among stakeholders • Optimising economic interests of comm. • Lack of information 	<ul style="list-style-type: none"> • Support from international agencies • Sharing experience and drawing common understanding • Resource mobilisation for international collaboration
<ul style="list-style-type: none"> • Traditional knowledge and practices • Some experienced personnel at all levels • Legitimisation of CBOs benefits CM • Long-term experience in collaborative mgmt. • Established institutions 	<ul style="list-style-type: none"> • Lack of community management capacity • No consolidation of knowledge and experience • Sharing of knowledge • Indigenous knowledge not adopted • Not enough staff and resources 	<ul style="list-style-type: none"> • Database development • Long-term commitment to CM among stakeholders • HRD, research and development • More extension of modalities
<ul style="list-style-type: none"> • Relationship of various stakeholders • Understanding among different stakeholders backed by policies 	<ul style="list-style-type: none"> • Private sector is not involved enough • No clear demarcation among stakeholders • Coordination, communication, cooperation 	<ul style="list-style-type: none"> • Roles and responsibility to be clarified
<ul style="list-style-type: none"> • Himalayan Park Regulation • Conservation Area Regulations • Provision of BZ revenue sharing 	<ul style="list-style-type: none"> • Land tenure ownership to the community • No provision in the act for community participation in park mgmt. 	<ul style="list-style-type: none"> • Development of guidelines

PAKISTAN

Strengths	Constraints	Needs
<ul style="list-style-type: none"> • Individual attempts • Process started • Some knowledge/experience gained 	<ul style="list-style-type: none"> • Inadequate expertise • Lack of awareness • Insufficient political will • Bureaucratic attitude of authorities 	<ul style="list-style-type: none"> • Awareness raising • Capacity building (community and authorities)
<ul style="list-style-type: none"> • Local institutions exist (in some areas) • Some knowledge exists • Individual expertise available • Individual attempts started • Results in a few cases are encouraging 	<ul style="list-style-type: none"> • Insufficient expertise • Limited resources (financial) • Conflicts over resource use and land tenure • Authoritarian approach, insufficient community empowerment • Lack of transparency 	<ul style="list-style-type: none"> • Community mobilisation • Institutional strengthening • Involvement of communities in planning and management • Empowerment of communities • Benefit sharing • Sharing of responsibilities by communities • Immediate notification of any event violating established regulations

Group 'B'
Bangladesh, India and Sri Lanka

BANGLADESH

Strengths	Constraints	Needs
<p><u>Understanding of the CM process</u></p> <ul style="list-style-type: none"> • Existing set up - official willingness 	<ul style="list-style-type: none"> • General public not being aware of the process 	<ul style="list-style-type: none"> • Action plan undertaken
<p><u>Capacity</u></p> <ul style="list-style-type: none"> • New concept accepted by the government as a management tool 	<ul style="list-style-type: none"> • Too much emphasis is put on administration • NGOs are yet to understand their role in motivating the people • Lack of understanding and cooperation between different govt. agencies about collaborative management • New concept - not all stakeholders are fully aware of the processes 	<ul style="list-style-type: none"> • Publicity programme to be undertaken by different agencies in the region.
<p><u>Trust</u></p> <ul style="list-style-type: none"> • Knowledge of the process gaining importance gradually • Awareness being created among policy makers, executing agencies, NGOs • Experienced personnel • Working towards achieving goals and objectives 	<ul style="list-style-type: none"> • Lack of specialised institutions • Inadequate manpower • Lack of adequate training facilities 	<ul style="list-style-type: none"> • Institutional reorganisation • Enhanced training programme • Recruitment of adequate personnel
<p><u>Supportive Policies</u></p> <ul style="list-style-type: none"> • In social forestry practice, distribution of crop shares has enhanced acceptability of the CM process with participants • Trust is gaining momentum. 	<ul style="list-style-type: none"> • Trust in govt. agencies by CM participants is not fully established • Motivational activities not adequate • Other ancillary activities such as an education and health programme for community needs to be developed 	<ul style="list-style-type: none"> • An education and health programme for communities needs introduction • Training and motivational activities to be undertaken • Government commitment to be fulfilled in time

- A forestry project has been undertaken and collaborative management accepted as a tool
- Forest policy embraces collaborative management
- Laws are in the process of revision and enactment
- Laws are not yet enacted

INDIA

Strengths	Constraints	Needs
<u>Understanding of the CM process</u> <ul style="list-style-type: none"> • History of CM in forest mgt. process (ecodevelopment, common initiatives) 	<ul style="list-style-type: none"> • Lack of process documentation and sharing of experiences 	
<u>Capacity</u> <ul style="list-style-type: none"> • Officer Training 	<ul style="list-style-type: none"> • Rigid donor conditions, field level staff, community organisation. NGO's/District Administration funding flow. Training, innovative funding, acknowledgement and use of traditional knowledge. 	
<u>Mutual Trust</u> <ul style="list-style-type: none"> • Ongoing dialogue, projects, processes 	<ul style="list-style-type: none"> • Fixed perceptions of stakeholders, vested power groups 	<ul style="list-style-type: none"> • Greater interaction, equity, transparency in govt./NGO/ local institutions
<u>Supportive Policies</u> <ul style="list-style-type: none"> • Estd. policies and programme, devolution to village community by constitutional amendments 	<ul style="list-style-type: none"> • Current laws inadequate (tenure issues, participation) 	<ul style="list-style-type: none"> • Inappropriate development and implementation of laws and policies, no effective implementation mechanisms

SRI LANKA

Strengths	Constraints	Needs
<u>Understanding of the CM process</u> <ul style="list-style-type: none"> • Relatively good understanding in some parts of govt. and communities, facilitated by high literacy rate 	<ul style="list-style-type: none"> • Inadequate flexibility in both attitudes and management structures to accommodate CM approach • Inadequate understanding of CM approach by communities, NGOs and other stakeholders • Approach collapses when external funds stop • Inadequate staff • Shortage of staff with CM skills • Inadequate inter-organisational linkages 	<ul style="list-style-type: none"> • Attitudinal change • Sustainability must be addressed up front (Fungsi CM approach) • Training and skill enhancement of GOs, NGOs, communities
<u>Capacity</u> <ul style="list-style-type: none"> • Availability of state institutions and NGOs • Scientific data on flora, fauna, socio-economics available • Lessons learned from previous initiatives 	<ul style="list-style-type: none"> • Poor coordination and correlation between databases • Poor documentation and weak analysis of past experiences 	<ul style="list-style-type: none"> • Coordination mechanisms need to be put in place • Proper documentation and information exchange required
<u>Mutual Trust</u> <ul style="list-style-type: none"> • Trust is building up around several forest areas 	<ul style="list-style-type: none"> • General level of trust is low • Poor sustainability of ill-planned projects leads to further distrust • Inadequate specific provisions for CM 	<ul style="list-style-type: none"> • Confidence and trust building through lessons learned. • Legislative reforms to provide for CM
<u>Policies</u> <ul style="list-style-type: none"> • Availability of supportive policies and legislation forest policy; DWLC (Dept. of Wildlife and Conservation) policy; laws 		

GROUP 'C'

Indonesia, Lao PDR, Malaysia, Philippines and Thailand

INDONESIA

Strengths	Constraints	Needs
<p><u>Understanding of the CM Process</u></p> <ul style="list-style-type: none"> • A lot of NGOs have implemented participatory methods • Increasing foreign assistance that requires participatory management 	<ul style="list-style-type: none"> • Different perception of the definition of participatory management • Lack of information dissemination • Lack of inter- institutional networking • high costs 	<ul style="list-style-type: none"> • Regular meetings, workshops to disseminate information and to reach agreement on participatory management • Establishing a multi-stakeholder forum of participatory management, strengthening existing fora/organisations
<p><u>Capacity</u></p> <ul style="list-style-type: none"> • Increasing membership of local NGOs supported by highly motivated researchers in various backgrounds (interdisciplinary) • There are govt. institutions at the grass roots' level the village development community. • Involvement of key leaders 	<ul style="list-style-type: none"> • Slow transfer of knowledge to the relevant stakeholders • Lack of/limited experience in participatory management 	<ul style="list-style-type: none"> • Carrying out integrated trainings and cross visits to other areas • Helping to strengthen the role of the village development community. • Increasing cooperation with other stakeholders
<p><u>Supportive Policies</u></p> <ul style="list-style-type: none"> • There are laws supporting participatory management, for example Act. No.5/90, Act No. 23/97 	<ul style="list-style-type: none"> • Differing perceptions when translating certain policies into action • Certain laws do not mention in detail how to involve other stakeholders, especially NGOs 	<ul style="list-style-type: none"> • To prepare guidelines to carry out participatory management by govt./ organisations

LAO PDR

Strengths	Constraints	Needs
<p><u>Understanding of the CM Process</u></p> <ul style="list-style-type: none"> • The established political process allows the consultation of villages 	<ul style="list-style-type: none"> • Village-authority contracts rarely go beyond consultation 	<ul style="list-style-type: none"> • Clarify what management processes and activities local people should have a part in
<p><u>Capacity</u></p> <ul style="list-style-type: none"> • Considerable CM ability and likelihood of financial support 	<ul style="list-style-type: none"> • Lack of functioning in management system in most protected areas 	<ul style="list-style-type: none"> • Conservation units within forestry sections of the provinces
<p><u>Mutual Trust</u></p> <ul style="list-style-type: none"> • The relationship between villages and the authorities is generally good 	<ul style="list-style-type: none"> • Mutual trust is not sufficient as a base to give local people real authority 	<ul style="list-style-type: none"> • Increase and improve the quality of interaction between villages and the authorities
<p><u>Supportive Policies</u></p> <ul style="list-style-type: none"> • The basic legal provisions for collaborative management exist, improvements are being worked on. 	<ul style="list-style-type: none"> • National plan is poorly understood at local level 	<ul style="list-style-type: none"> • Devise methods for drafting local implementations of national laws and enlist local people's participation

MALAYSIA

Strengths	Constraints	Needs
<ul style="list-style-type: none"> Existing NGOs working on community and conservation issues Existing supporting policies Existing supporting legislation (though limited) Existing initiatives on collaborative management (limited) Many potential sites for collaborative management action research Existing working relationships between government and NGOs 	<ul style="list-style-type: none"> Lack of capacity (skills, expertise) Lack of local success models Lack of supporting legislation Attitude - strict separation between conservation and community development Lack of resources, i.e. funding, human resources Lack of information sharing Lack of coordination between agencies 	<ul style="list-style-type: none"> Capacity building (training, tools, etc.) Local working models Supporting legislation (specific) Mechanism for information sharing Better coordination between agencies/ organisations

PHILIPPINES

Strengths	Constraints	Needs
<p><u>Understanding of the CM process</u></p> <ul style="list-style-type: none"> High level of awareness Programmes exist e.g. CDPAD, NPPAT, MPAS 	<ul style="list-style-type: none"> Not translated into actual implementation 	<ul style="list-style-type: none"> Capability building Hands-on approach
<p><u>Capacity</u></p> <ul style="list-style-type: none"> Promoting CM (e.g. DENR, NGO, PO) All available 	<ul style="list-style-type: none"> Lack of technical personnel in the field Limited number of knowledgeable persons Inadequate financial resources 	<ul style="list-style-type: none"> Training Financial support
<p><u>Mutual Trust</u></p> <ul style="list-style-type: none"> Participatory programmes Govt. recognises role of NGOs, POs 	<ul style="list-style-type: none"> Elements of mistrust still exist Lack of transparency Fear of displacement 	<ul style="list-style-type: none"> Need success stories Re-orientation
<p><u>Supportive Policies</u></p> <ul style="list-style-type: none"> NIPAS Act. R.A.# 7586 Local gov't code R.A.# 7160 	<ul style="list-style-type: none"> Non-reciprocity between NIPAS law and local gov. code on benefit RIN 	<ul style="list-style-type: none"> Review amendments

THAILAND

Strengths	Constraints	Needs
<ul style="list-style-type: none"> Law not detailed Allows case-by-case decisions by DG 	<ul style="list-style-type: none"> Poor understanding among all stakeholders Weak knowledge and skills, particularly amongst gov. staff Little trust between the government and the people No supportive policy framework Law not detailed 	<ul style="list-style-type: none"> Need for positive examples Need for policies to help foster trust Need for law to enable collaborative management

A member of the buffer zone community making a fence from grass harvested inside Royal Chitwan National Park
Photo: D.R. Dongol



COUNTRY PAPER – CHINA

THE PRESENT CONDITION AND FUTURE DEVELOPMENT OF CHINESE NATURE RESERVES

Prof. Li Bosheng[•]

1. The Current Situation and Problems of Chinese Nature Reserves

1.1 AN INTRODUCTION TO BIODIVERSITY IN CHINA

China lies in the east of Asia. It is 5500 km from north to south, and lies between latitude 3° 51' N and 53° 34' N. It is 5200 km from east to west, between longitude 73° 40' E and 135° 05' E. The total territory of China is approximately 9.6 million square kilometres with sea covering 4.73 million square kilometres.

Chinese domain is wide, containing both ocean and land. Most of China is located in the mid-latitude area, with 80% being in a semi-tropical and temperate zone. Nearly 70% of the country is mountainous. Because of the influence of the terrestrial monsoon, there are numerous rivers and lakes. China's environment is complex, with marked regional differences. Such conditions make it suitable for numerous species to live and multiply: indeed China is one of the world's twelve most species-rich countries. It houses approximately 30,000 species of spermatophyte, and 250 species of gymnosperm, ranking third and first respectively in species numbers worldwide. There are more than 6300 species of vertebrate, including 1244 species of avians, which represents 13.7% of the total avian species of the world. There are 3862 species of fish in China - 20% of the total fish species on earth. (There are also many endemic (special) species among these life forms, 667 species of vertebrate which represents 10.5% of the total species in China, 5 endemic families of spermatophyte including 247 endemic genera and more than 17,300 endemic species).

Based on preliminary statistics, there are 212 types of forest trees in China, 36 types of bamboo, 113 types of bosk, 77 kinds of meadow vegetation, 37 types of swamp vegetation, 55 kinds of grassland, and 52 types of barrett. The total vegetation count reaches 599 if the 17 types of alpine tundra and cushion-like vegetation are added.

Such statistics show that China holds an important position with regard to global biodiversity.

[•] Professor Institute of Botany, Chinese Academy of Sciences, Beijing

1.2 THE CURRENT SITUATION OF CHINESE NATURE RESERVES

China has a long history and has evolved a rich and complex culture. The population of China has now grown to 1.3 billion and China's abundant biodiversity, already seriously depleted by a long period of excessive consumption of resources, is now under severe threat from both the rapid development of the national economy and the increasing pressure on natural resources from population growth.

The Government of China began to establish Chinese nature reserves to protect biodiversity in 1956. This work stopped during the Cultural Revolution. Since 1978, when China's reform and open-door policy emerged, the Chinese government has been concentrating its energy on promoting the economy and social development. During the same period, because protecting the environment had been a fundamental national policy, China made a series of laws and rules for biodiversity protection. The construction of protected areas also moved ahead rapidly. By the end of 1997 there were 926 conservation areas, including 124 national conservation areas and 292 national forest parks. The total protected area in China is more than 8% of the total territory. The initial stage of an integrated system of national conservation areas and national parks is complete. The managers of these conservation areas and national parks number approximately 10,000. Important natural ecosystems and species are now afforded more and better protection.

1.3 MAIN PROBLEMS IN THE MANAGEMENT OF CHINESE NATURE RESERVES

Although the amount of Chinese conservation areas and national parks has increased rapidly, there are still many problems to be solved. Compared to other countries in the world, the management of protected areas in China is still in its infancy. The main problems are as follows.

Poor Management of Conservation Areas – There is no united management institution for China's conservation areas and national parks. At present, they are governed jointly by the Department of Forests, the Department of Agriculture, the Department of Geography and Mine Resources, the Department of Construction, the Ocean Bureau, the Bureau of Environment Protection and the Chinese Academy of Sciences. The Bureau of Environment Protection was appointed to formulate policies, laws, statutes, regulations and standards relating to the conservation area and to supervise their application. It was also nominated to time the district programming and the direction of construction. But in practice, because many departments take part in this work, conflicts often occur among them. This weakens the management of conservation areas and national parks and does not allow the application of a concerted management strategy.

Qualified Managers in Short Supply – As well as friction in the overall management of conservation areas, there is also a dearth of individuals qualified to look after conservation areas in China. For example, managers in the main departments of the Chinese Nature Reserve, the Office of Wild Animals and Forest Protection of the Department of Forests, and the Nature Protection Office of the National Environment Protection Bureau contain only about 20 individuals

respectively. Managers of other related departments and province-level protection institutions number even less.

More importantly, these personnel (especially those working in the field) are under-qualified for the job. There are 13,000 field managers in all the conservation areas, of which only 19% are technicians. As most of the conservation areas and national parks belong to the Department of Forests, many managers come from local forest centres where they have been working on felling and planting. Just 9.2% of managers come from colleges while 58.3% have primary and middle school education. Out of 7130 inquiries sent to forest managers in 159 conservation areas based on a questionnaire from the secretary of MAB, most managers had not taken professional training, did not know what modern management was and were unaware of the international management situation.

The main factors limiting improvements in the management of conservation areas in China are therefore the low number of properly qualified managers and the lower standard of conservation areas and national parks.

Insufficient Funds for Conservation Areas' Construction and Operation –

Sufficient and stable funds are necessary for the construction and routine upkeep of conservation areas and national parks. Problems in the management system tend to disrupt financial logistics. The conservation areas are forced to be largely dependent on uncontinuous funding, as was seen during the application for a one-off base fund to be used for the construction of the conservation areas belonging to the Department of Forests. The funds, usually diverted administrative funds, were found to be ephemeral. This makes it difficult for these units to achieve continuity in their work and is also the cause of the instability in these unit's management. Even more alarming is that some conservation areas and national parks engage in illicit business such as chopping down trees and selling the wood simply to raise money for their routine work.

Poor Communication – Many conservation areas and national parks are located in remote mountainous areas. Poor transport and communication infrastructure isolate them from the outside world. Meetings and briefings where they can interact with each other are limited. Communication between national conservation areas and their international partners is very poor, although the situation for conservation area management departments is somewhat better since they are able to take part in international conferences.

This communication blockage seriously restricts the development of effective management tools for the conservation areas of China.

2. The Importance of International Cooperation in the Construction of Chinese Nature Reserves

2.1 THE STATUTE BASE FOR CHINESE NATURE RESERVES TO DEVELOP WITH INTERNATIONAL COOPERATION

The legal system advanced rapidly after China's reforms and the open-door policy was brought into practice. The policy that the economy should proceed in accordance with environmental protection was established, with environmental

protection itself being confirmed as a basic national policy. A series of laws were formulated to translate this policy into practice. These included the environment protection law, and laws for the protection of forests, grasslands, fresh water, wild animals, fisheries and the ocean. Some related rules and regulations appeared at the same time, such as the Ordinance for Nature Conservation Areas, the Ordinance for Aquatic Product Resources Protection, the Management Measures for Forests and Wild Animals, the Management Measures for Oceanic Nature Conservation Areas, Contents of Special-protected Wild Animal Areas and so on.

It should be noted that many international conventions and agreements were first agreed to in China, for example, the Convention on Biological Diversity, the Searching Report on Protecting Chinese Biodiversity and the Action Project of Chinese Biodiversity Protection, carried out with the help of the World Bank and UNDP. Concrete promises were made to carry out the agreements with international cooperation. The Convention for Protecting World Cultural and Natural Heritage and the International Trade Convention of Endangered Plants and Wild Animals as well as 12 other related conventions were also first subscribed to in China.

These conventions and laws laid a solid foundation for China to build on international cooperation of conservation areas.

2.2 THE PRESENT CONDITION OF INTERNATIONAL COOPERATION FOR CHINESE NATURE RESERVES

Since 1978, international cooperation with regard to the setting up and management of Chinese nature reserves has been rapidly progressing. A series of international conventions have been agreed to between China and UNEP, UNDP, FAO and UNESCO in order to expand cooperation. Some other organisations, such as the Conciliating Team for Performing the Convention on Biodiversity, the National Committee of Man and Biosphere, the Scientific Committee of Endangered Species of China, the Bureau of Warm Terra in Asia, and the Chinese Committee of UNESCO were built to perform the obligations prescribed in these conventions. This was followed by a series of international activities, such as the effort to constitute the Chinese 21st Century Agenda, to build 19 areas of world natural and cultural heritage and to finish the construction of the Chinese Net System for Biosphere Conservation Areas of the World. So far, 14 national conservation areas have become members of the net system of world biosphere protection areas.

At the same time, working relationships were established between the government and non-government organisations related to international nature conservation such as the WWF, ICIMOD, WRI, ICF, and IBPGR etc. Some of these organisations set up their local and sub-headquarters in China. For example, WCPA/IUCN set up their East Asia Steering Committee, and the Institute of East Asia Nature Reserve, established a Monitoring and Training Centre. WWF also set up their office for developing projects in China, for example, the office of the East Asia Wetlands Project. Furthermore, they organised numerous international meetings such as the First Conference on National Parks and Protected Areas of East Asia, which was held in Beijing in 1993.

One especially important idea that resulted from the Conference of Protected Area's Management was to build a close relationship between protected areas having similar natural conditions. In 1995, Xifengolol Biosphere Reserve made an agreement to establish a sister relationship with the Australia Bookmark Biosphere Jrust

Grassland Nature Preserve. Visits, training and cooperative research between the two protected areas are being set up, with a view to expand cooperation and exchange of ideas to other fields, including business.

Nature reserves in China have a relatively short history and many problems are yet to be solved. The main issues are set out below.

Inadequate Policy and Legal Measures for Nature Reserves – Although the government has made many laws related to nature protection, a concentrated and complete law about the construction of nature reserves is still absent, and conflict and inappropriate action in this area is widespread. In China there are no laws relating to the execution of international agreements and no corresponding set of policies regarding the management of nature reserves.

Policy – Despite China's open policy regarding the protected area management system, there are still considerable problems in implementation. For example, for the efficient management of nature reserves, trained personnel are lacking. There is still resistance at the policy level for exchange of visits, ideas and in agreement signing.

Organisational Structure – Apart from some national level nature reserves, most have no particular management institution. Compared with other countries, international cooperation in China is small, with little project support.

Language – As mentioned previously, many of the rangers in protected areas cannot speak English, which hinders international exchange of ideas and country visits. English language training is the most urgent task we face if the management of protected areas is to be improved.

Financial Support – To develop international exchange and carry out international agreements, financial support should be sufficient. Usually funding comes from different levels of government agencies. However, in order to develop projects with international cooperation, funding difficulties must be overcome. Profits brought in by the nature reserve itself are small, and there is not enough financial support from the government and the private sector. There is also difficulty in applying for grants from outside the country due to the shortage of information and experience in applying for such.

Communication – So far, China's nature reserves do not possess a complete and integrated information network. Most individual reserves are in a poor situation. A very few have their own web site on the Internet. In order to develop international cooperation for the management of protected areas in China it is imperative that communications be improved.

3. The Importance of Developing Nature Reserves in China

In order to establish nature reserves; undertake effective biodiversity protection measures; increase institutional consciousness about ecology and the environment; and ensure the development of a sustainable society; the experiences of foreign

countries should not be ignored. Setting up nature reserves at an international level from the beginning would be especially useful, since legislation could be developed using the insights of countries more knowledgeable in protected area management.

The importance of China's nature reserves in terms of biodiversity conservation should be promoted in the international community: this will in turn attract financial and technical support from outside. Another possibility for international cooperation is the building of a climate monitoring centre in a local nature reserve which would be linked to the world climate change monitoring system.

In addition, it should be noted that China has a border of more than 20,000 kilometres, shared with other countries. The border area also includes approximately 20 nature reserves. Because of this, there is tremendous potential to initiate a trans-boundary protected area management system between the different countries. Such a management system would enhance the biodiversity of the area, at the same time enlarging its tourism and income-generating possibilities.

3.1 THE PROSPECT FOR INTERNATIONAL COOPERATION WITH CHINA'S NATURE RESERVES

China possesses a large number of diverse biological resources. A well organised biodiversity programme is invaluable in terms of the overall conservation effort. Because the present Chinese government's capacity to manage biological resources is inadequate, there is potential for international cooperation which is urgently needed. In the report "Research into the Biodiversity of China," which was approved by the Chinese Government in December 1997, several steps towards biodiversity protection were recommended. The government will undertake, i) development of relevant laws; ii) development of organisational structure; iii) personnel development; iv) policy development; v) technological development; vi) networking with national and international organisations.

3.2 EXISTING CONSERVATION AREAS ESTABLISHED WITH INTERNATIONAL COOPERATION

Due to the sheer size of the country and the emerging environmental problems, the limited financial support received from the government for the development of natural resources must be appropriately utilised, for example, for protecting environmentally sensitive areas, degrading areas, and areas where diversity is most at risk.

a. CHINA'S ECO-GEOGRAPHY

China has a special eco-geography, with two areas of particular interest, as described below.

Qing Hai-Tibet Plateau Area (including the Himalayan region) – The central Himalayan region has long been listed as an area worthy of special protection by IUCN. This mountain area has the highest average altitude in the world and is home to many species of flora and fauna. The Qing Hai-Tibet plateau is approximately 2.5 million sq.km in area, of which about 2.3 million sq.km are located in China. The

Himalayan mountains are 2400 kilometres in length with most of them being distributed in China.

Sub-Tropical Broadleaf Forest Area – There is an abundance of subtropical forest in the warm weather region between the Tropic of Cancer and south of the Long River in eastern China. This area has an unusually high species diversity and is the centre of a global evergreen forest belt which is strongly affected by the monsoon coming from the North East Pacific.

b. BORDER AREA

As mentioned before, China has a border of more than 20,000 kilometres with 15 neighbouring countries. These areas are priority zones for developing trans-boundary protection. It is hoped that these areas become a world protected area system and a part of the WAB nature reserve web.

3.3 PRIORITY PROJECTS FOR INTERNATIONAL COOPERATION

Taking into account the differing capacities and interests of foreign partners, some projects for possible participation are recommended below.

- a. Sample projects for developing trans-boundary protected area system.
 - Qomolangma Nature Preserve (Tibet Autonomous Region) China-Nepal
 - Daqu Lake Nature Preserve (Nei Meng Autonomous Region) China-Mongolia
 - Kanas Nature Preserve (Xinjiang Weiwuer Autonomous Region) China-Russia
 - Xingkai Lake Nature Preserve (Heilong Jiang province) China-Russia
 - Tashikuergan Nature Preserve (Xinjiang Weiwuer Autonomous Region) China-Pakistan
 - Gaoligong Mountain Nature Preserve (Yunnan Province) China-Mindanao
- b. International Cooperation with Sister Protected Areas
 - Xilinguole Nature Preserve (Neimeng Autonomous Region) China-Australia
 - Jiuzhaigou Nature Preserve (Sichuan Province) (China-Europe)
 - Gongga Mountain Nature Preserve (Sichuan Province) (China-Canada)
- c. Biodiversity Research Project
 - Motto Nature Preserve (Tibet Autonomous Region) China-ICIMOD
 - Qiangtang Nature Preserve (Tibet Autonomous Region) China-WWF
 - Ibis (Yang County) Nature Preserve (Shanxi Province) China-Japan
- d. Nature Preserve Management
 - Organ Construction China-Japan-GEF
 - Wuyi Mountain Nature Preserve (Fujian Province)
 - Xishuangbanna Nature Preserve (Yunnan Province)
 - Qin Mountain Nature Preserve (Shanxi Province)
 - Sheunongjia Nature Preserve (Hubei Province)

e. Training Programme

As discussed earlier, training programmes for both higher and lower level managers are necessary. Because current training programmes are inadequate, assistance could be sought from international organisations involved in conservation and development. Such organisations might include UNEP, WWF, UNESCO, GEF and IUCN. Training might include an ecotourism module.

f. Monitoring and Information Systems

There is a long history of monitoring of resource diversity and use in China. However, the system is far from adequate and a new information system for conservation must be developed. Existing institutions such as the China Nature Reserve Information Net and the China Biodiversity Information System (Chinese Academy of Sciences - GEF) should be upgraded.

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1. BACKGROUND

The conservation history of Nepal dates back to ancient times. The formal beginning of the conservation movement in Nepal saw a landmark piece of legislation, the National Parks and Wildlife Conservation Act (HMG/N 1973), which was enacted during the reign of the present day monarch, His Majesty King Birendra Bir Bikram Shah Dev.

The period prior to 1973 can be divided into two categories: the period of Rana rule, and the period after. During the era of the Rana regime, wildlife and their habitats remained relatively undisturbed due to low human population, malaria infestation in the Terai jungles and the rulers' interest in big game hunting. During the later period however, wildlife and their habitats in places such as Chitwan sustained heavy destruction. Eradication of malaria in the Terai opened up the lowlands for agriculture and for hill migrants to settle. The interest of the ruling classes in hunting - and especially that of the Royal family - nevertheless, did pave the way for the creation of many of today's national parks and reserves. The "rhino sanctuary" was established in Chitwan to protect the rapidly vanishing one-horned rhinoceros. But despite these efforts, because of the increased human population and especially because of increased livestock grazing in the protected forests including the rhino sanctuary, these wildlife-rich areas had already begun to lose their biodiversity value by the end of the 1960s.

The 1973 National Parks and Wildlife Conservation Act paved the way for a network of protected areas to be set up. Today, Nepal has eight national parks, four wildlife reserves, three conservation areas, one hunting reserve and two buffer zones, covering 16.5% of the country (Appendix 1). This network covers 2.4 million hectares with the majority of Nepal's major ecosystems being represented (see map, Appendix 2).

Most of the protected areas require compatible land-use patterns to be used in their vicinities so that they do not become islands amidst growing industrialisation and rapidly depleting natural cover. Buffer Zone (BZ) development is a new policy thinking that has emerged in Nepal's policy documents only recently, in the early 1990s. As traditionally understood, buffer zones are protective layers where land is partially restricted (MacKinnon et al., 1986: 90). Where there are no efforts to manage the mounting pressures on BZ resources, these layers can only be seen as a means of postponing the inevitable. But in Nepal, buffer zones have been deliberately developed to focus on the special needs of the local communities who are likely to be adversely affected by conservation measures. Nepal has adopted the "Impact Zone Concept" developed by Sharma and Shaw (1992). The concept calls for strict control of forests within the adjacent park or reserve, combined with intensified agriculture and forestry on public and private properties outside the park with the intention of increasing the production of natural resources that are in local demand.

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Therefore, buffer zones may not necessarily include only forest; they may encompass settlements, agricultural lands, village open-spaces, and many other land-use forms. This concept adheres to the principles that community development programmes should be mobilised in the buffer zone for the subsistence of local people so that the resources of the buffer zone can be managed to the maximum sustainable level (Sharma and Shaw 1992).

Policy documents prior to 1990 only subscribed indirectly to the traditionally understood idea of the buffer zone and not to the impact zone concept. Eventually the established idea of the buffer zone became ineffective as pressure started to mount and subsequently spilled into the park itself. The National Conservation Strategy (NCS) for Nepal (HMG/N and IUCN 1988) gave emphasis to sustainable use of land and natural resources on the land surrounding protected areas; but failed to propose necessary strategies for collaborative management of the buffer zone in order to protect the adjacent national park or wildlife reserve. The idea envisaged at the time was "to protect the park from local communities." These policy documents lacked the holistic vision that would have made the communities residing inside or at the edge of the protected area the true stakeholders rather than making them partners with liabilities (Sharma 1998).

2. COLLABORATIVE MANAGEMENT

Collaborative management of protected areas in Nepal can be visualised as a continuum of participation by local communities. At one end of the continuum there are protected area categories where local communities are the guardians of the land. They manage natural resources and businesses generated in the protected areas through the formation of self-made user groups. These categories are "Conservation Area" and "Buffer Zone." At the other end of the continuum there are national parks and reserves of lowlands where people's participation is limited to seeking the opinion of the managers before preparing any management plans or strategies. Nevertheless, even in these parks/reserves there is a ten-day window once a year where the local population are allowed to harvest grasses, reeds and selected shrubs yielding binding materials. For example, in Royal Chitwan National Park, according to one estimate, the total contribution to the local economy in the year 1989 was US\$ 605,831, the net contribution (i.e. minus the labour cost) being US\$ 325,166 (Sharma 1991).

The middle category on the continuum includes Himalayan national parks, where the Himalayan National Parks Regulations, 2036 (HMG/N 1979) has made special provision for the people living in the park enclaves to collect natural resources to fulfil daily necessities such as firewood, leaf litter, small pieces of timber and fodder. The regulations have allowed local people to continue to graze their domestic cattle on the park rangeland. However, no provision has been made for handing over parcels of the park's land for management by the community. Even so, communities can organise harvest or grazing plans consistent with the park's objectives. They can also help reduce the number of "outsiders" or even stop their entry into the park/reserve to harvest resources, and thus help reduce the exploitative pressure on the park/reserve. A successful example of collaborative management of protected areas has been displayed in Sagarmatha National Park where local youths were mobilised to clean trails and manage garbage by providing financial assistance to the local NGO. The funds were either raised locally or were

some part of the revenue generated from the park. The system of Shinge Nawa, a traditional method of grazing management has been revitalised in the management of the park's highland pastures. Similar efforts for the collaborative management of ecotourism programmes working with lodge owners in Langtang National Park is in progress.

In order to bring the spirit of collaborative management to the protected areas found lower on the scale of community participation (Figure 1), the Department of National Parks and Wildlife Conservation has decided to re-visit each of these protected areas and declare the village enclaves and the areas in the vicinity of the protected areas as buffer zones. The Makalu Barun Conservation Area (MBCA) has already incorporated a buffer zone into its protected area. The inhabitants of MBCA have had the opportunity and responsibility to protect Makalu Barun National Park the same as many other inhabitants living outside a park or reserve.

Figure 1. Level of Community Participation

Nil	Low	Medium - High
RBNP	MBNP	ACA
KWR	SWWR	MBCA
RCNP	SNP	BZ/RCNP
PWR	LNP	BZ/RBNP
RSWR	KNP	BZ/LNP
	SPNP	KCA
	DHR	

3. LEGISLATIVE PROVISIONS TO PROMOTE COLLABORATIVE MANAGEMENT IN NEPAL

The National Parks and Wildlife Conservation Act (HMG/N 1973) has provided a legal foundation for the establishment and management of conservation areas and buffer zones. The Act has also made provision for financing community development activities in buffer zones and conservation areas by ploughing back royalties accumulated from park-generated business such as tourism. Buffer zones receive 30% - 50% of the royalties, with 100% going to conservation areas.

3.1 BUFFER ZONE MANAGEMENT REGULATIONS (2052), 1996

The Buffer Zone Management Regulations and the forthcoming BZ development guidelines (under preparation) provide detailed mechanisms to mobilise people's participation for community development. The regulations also provide an opportunity for the BZ warden to design programmes compatible with national park management. Some highlights of the regulations are as follows:

- households in a distinct settlement (usually the size of Village Development Committee), called a "unit," are mobilised to form the user group;
- the user group forms a user committee. The UC has a minimum of nine members elected by user group members or their representatives;
- the user committees perform coordinating and supporting roles between

UGs and the BZ office to mobilise resources and design and implement programmes;

- the user committees facilitate the flow of the government revenue committed to community development (30-50% of the total revenue) to fund proposals submitted by user sub-groups, functional groups or similar groups;
- the BZ warden is the point of official contact for various UC offices spread over the buffer zone. The chair-persons of the UCs are the members of BZ Development Council of which the BZ warden is the ex-officio member secretary;
- the BZ Development Council decides proposals for funding. Some of the programmes decided for 1998 in the BZ of Royal Chitwan National Park are the setting up of relief funds to pay victims or their families sustaining wildlife related injuries or death, office expenses for UC, small-scale irrigation schemes, and income generating activities;
- the BZ Development Council also sets aside a share of its total annual allocation to be used as compensation for property losses from floods and landslides at the boundaries of the park or reserve;
- with technical support from the warden, user committees prepare operation plans for their units, specifying community development activities, protection of natural resources, and the use of forestry resources in the buffer zone;
- the BZ warden coordinates the activities of various line agencies operating in the buffer zone. The warden also provides written permission to government agencies before operating licenses or renewing of licenses to industrial enterprises can be granted by them;
- a BZ development plan is prepared by the warden in consultation with the local communities.

3.2 CONSERVATION AREA MANAGEMENT REGULATIONS (2053), 1996

The Conservation Area Management Regulations detail steps to seek community participation in the management of conservation areas. Some highlights are as follows:

- formation of a Conservation Development Committee (CDC) in each Village Development Committee (VDC). The CDC consists of 10-15 members and meets periodically to discuss and decide community development work for its area;
- the CDC prepares an operation plan for each five-year term for the sustainable development of their area. The plan specifies actions to achieve conservation of wildlife and other natural resources, their uses for community benefit, and overall development;
- the chief of the conservation area prepares a management plan for the entire area by compiling the CDC operation plans, ensures uniformity in actions throughout the area, and coordinates among the CDCs concerning common issues;
- His Majesty's Government can entrust the management of CAs to any legally formed institution committed to nature conservation. In such a case, the government maintains its liaison with the institution through the

DNPWC deputed Liaison Officer. The Liaison Officer is empowered with judicial functions for offenses committed in the CA as specified in the National Parks and Wildlife Conservation Act;

- some common programmes implemented by the CDCs include trail improvement, repair of suspension bridges, training for entrepreneurial skills development, conducting adult literacy classes, promotion of improved stove programme, installation of back-boilers and solar panels, and promotion of sanitary latrines.

4. PRIORITY MEASURES TO STRENGTHEN COLLABORATIVE MANAGEMENT OF PROTECTED AREAS IN NEPAL

4.1 CLEAR POLICIES AND PROCEDURES

Despite the fact that Nepal has been a pioneer in the collaborative management of protected areas, the minute details of its policies and procedures are not yet clear enough. The National Parks and Wildlife Conservation Act and the BZ Management Regulations need to be tuned to the modern user committee and must be made clear and easy to understand at the field level by the formation of BZ development guidelines.

In the case of Himalayan national parks, the ambiguities related to the following points must be clarified and their limits set by adopting clear policies and encouraging management by the communities.

- (a) Use of natural resources. Policies regarding the use of natural resources such as fodder, firewood, timber, medicinal plants and other non-timber forest products; as well as stone quarrying and exploitation of mineral resources must be standardised.
- (b) There should be provision for income generating activities such as deer farming; harvesting of non-timber forest products; apiculture and revenue from regulated hunting.
- (c) Preference should be given to local people for income generation activities, especially relating to tourism, by providing training opportunities, by raising awareness, and by making special provisions in the legislation.

4.2 FINANCIAL SHORTFALLS

Helping local communities in their development process by taking up revenue sharing arrangements is one of the strategies adopted for the long-term survival of national parks or reserves in their original states. However, not all protected areas generate adequate revenue to fund community development programmes. Of the 16 PAs in Nepal, only a few generate sufficient revenue to initiate these programmes in a significant way.

These PAs are Royal Chitwan National Park, Annapurna Conservation Area, Sagarmatha National Park, and Langtang National Park. International aid agencies have the opportunity to support the collaborative management programmes in the rest of the protected areas. Some donor agencies are involved, especially GEF, UNDP, USAID, WWF/Nepal, CARE/Nepal and NORAD.

4.3 PERSONNEL SHORTAGE AND TRAINING NEEDS

His Majesty's Government of Nepal must be prompt in approving additional positions to bring BZ and CA programmes to full fruition. Opportunities must be made available to enhance staff skills, to implement collaborative management programmes and prepare management and ecotourism plans.

On the other hand, the capabilities of user committees and conservation development committees should be improved in order for them to function effectively and be able to properly organise themselves in the form of groups, mobilising human resources to undertake income generating activities. The programme to build the capacity of user committees and CDCs is crucial, requiring financial and technical assistance to properly launch collaborative management programmes in and around the protected areas.

5. REGIONAL EFFORT REQUIRED

In the Nepalese context, the regional programme on collaborative management can be useful on two fronts,

- for locating funds for launching a collaborative programme in and around protected areas having insignificant revenue sources;
- in developing human resources, where special efforts should be made to bring regional experts in to conduct mid-level training programmes. Another approach would be to mobilise local experts to undertake training in collaborative management for the members of user committees, CDCs and other local NGOs. An equally important approach would be to provide opportunities to Nepalese experts to take part in similar programmes in the region and elsewhere, to learn as well as lend a helping hand to other countries interested in initiating similar collaborative management programmes.

6. PROTECTED AREAS FOR ACTION RESEARCH AND COLLABORATIVE MANAGEMENT

6.1 ANNAPURNA CONSERVATION AREA

The Annapurna Conservation Area is one of the most diverse protected areas of the world. It covers 6,729 sq.km, with more than 120,000 people of various ethnic backgrounds living in the conservation area itself (KMTNC 1996). Local people pursue traditional agriculture and trade. Most of these people are poor, but tourism has grown rapidly in the area. In 1997, about 50,000 trekkers visited the protected area. The PA, although gazetted in 1992, has been managed by the King Mahendra Trust for Nature Conservation (KMTNC) since 1986. KMTNC is a prominent Nepali NGO which has encouraged local participation in natural resource management. This is the only conservation area in Nepal managed by an NGO, which shows that it is possible for the local institution to identify and implement ecologically sustainable and economically viable activities resulting in effective integration between tourism, economic development and protected area management.

6.2 ROYAL CHITWAN NATIONAL PARK AND ITS BUFFER ZONE

Royal Chitwan National Park, established in 1973, covers an area of 932 sq.km. Its recently formed buffer zone covers an additional area of 750 sq.km. Located in Nepal's subtropical lowlands, it supports an impressive assemblage of birds, mammals and reptiles, including tiger, one-horned rhinoceros and gharial crocodile. The park is a popular tourist destination. In the year 1997, 96,000 tourists visited the park and annual revenues, largely from tourism, grew by 22.7% per year between 1985 and 1995. The park is guarded by a battalion of the Royal Nepalese Army and substantial penalties, including imprisonment, are offered to offenders.

The buffer zone has areas of high population density, having a total population of 242,000 spread over 128 village wards (PPP, 1997). One half of the buffer zone is still covered by forest (Banskota et al., 1997); 27.8% of the total forest in the buffer zone can be managed through community participation (Banskota et al., 1997). This gives the managers of RCNP and its buffer zone the opportunity not only to meet local needs for forestry products but also to pursue a community-based ecotourism programme. On the other hand, the park generates more than 40 million Nepalese Rupees each year, of which 30% - 50% is ploughed back into the community to finance development projects in the buffer zone.

To benefit the local people, the park is opened to villagers for 10 days each year to allow them to collect grasses, reeds and binding materials. The park is the only remaining local source of these materials. This programme benefits more than 60,000 villagers annually.

Royal Chitwan National Park and its buffer zone provide a tremendous opportunity to adopt a park-management philosophy in which local people become the guardians of the park while being benefited by the management of BZA natural resources and by the revenue generated in the park.

6.3 SAGARMATHA NATIONAL PARK

Sagarmatha National Park (SNP) includes the highest peak in the world (Mt. Everest, 8848 m) and several important cultural and religious sites. About 3,000 Sherpas reside in the park, grazing their livestock on the rangeland. Besides this, they depend upon park resources for their daily requirement of firewood, leaf litter, timber and other products. The region is now visited by more than 11,000 trekking tourists and 40 mountaineering expeditions each year. The park is protected by a company of the Royal Nepalese Army. The warden and the park staff ensure good park management.

The residents of SNP operate tourist lodges, tea shops and souvenir shops, with many of them involved in organising trekking and mountaineering expeditions. The community has quickly become affluent and cosmopolitan. However, this growth in development and tourism has been linked to significant environmental costs. The trees near the trails are gradually disappearing and grazing by pack animals has been damaging the highland.

Over-grazed pastures, and trail-side erosion have become severe in places. The problem of accumulating litter and pollution left by trekkers and mountaineers along the trails and on the mountain slopes needs to be addressed by park management, who must seek more active participation of local communities than is presently the case.

Although the park only receives a meagre budget, it generates handsome revenues through park entrance fees, up to 50% of which can be channelled back into community development. Mountaineering fees can be used to protect the fragile mountain environment. The Sherpas are relatively well educated and are motivated to maintain the pristine state of the Khumbu Region. These factors provide a good opportunity to promote effective collaborative management practices to benefit the park as well as the local communities.

7. CONCLUSION

Nepal has made a laudable effort to promote the collaborative management of protected areas. Efforts date back more than 25 years to when policy makers saw the necessity of recognising the needs of local people by allowing an annual harvest of thatch grasses, reeds, and binding materials from the lowland parks. The annual coordinating meeting organised by each park and reserve were an effective means of exchanging ideas and concerns between the management and the local communities. In a legislative sense, Nepal's commitment to take account of local people in conservation programmes is seen by the adoption of the Himalayan National Parks Regulations (1996), in which a restricted harvest to meet people's subsistence needs in forest products has been provided for. Breakthrough policies in Nepal's collaborative management of protected areas were seen when the Conservation Area Management Regulation and Buffer Zone Management Regulations were adopted after the 4th Amendment of the National Parks and Wildlife Conservation Act in 1993. These regulations not only gave the supreme responsibility of the management of conservation areas and buffer zone resources to local communities, but also adopted the concept of revenue sharing.

Nepal still needs to sharpen its policies and legislation to be more effective in the collaborative management of protected areas. The traditional parks and reserves must be expanded, adding areas as buffer zones so that the socio-economic needs of the local people are given due consideration in a manner compatible with the park's management philosophy. An approach such as this is the only way of creating a suitable environment for local people, especially in and around Himalayan national parks, to enable them to join hands as partners with the park management to make the conservation programme a grand success.

Proper management of community-based nature tourism can bridge the financial shortfalls in at least a few national parks where the meagre government budget and the small number of personnel will never be able to meet the demand for community development. The government will not be able, on its own, to initiate training programmes for UC/CDC members, a crucial component for the successful launching of collaborative PA management. Donors' assistance in designing and conducting training courses to enhance the skills of villagers will act as a catalyst for the collaborative PA management movement in Nepal. Parks and reserves earning less revenue should be targeted for financial and technical assistance so that these important protected areas are not left out of this vital process.

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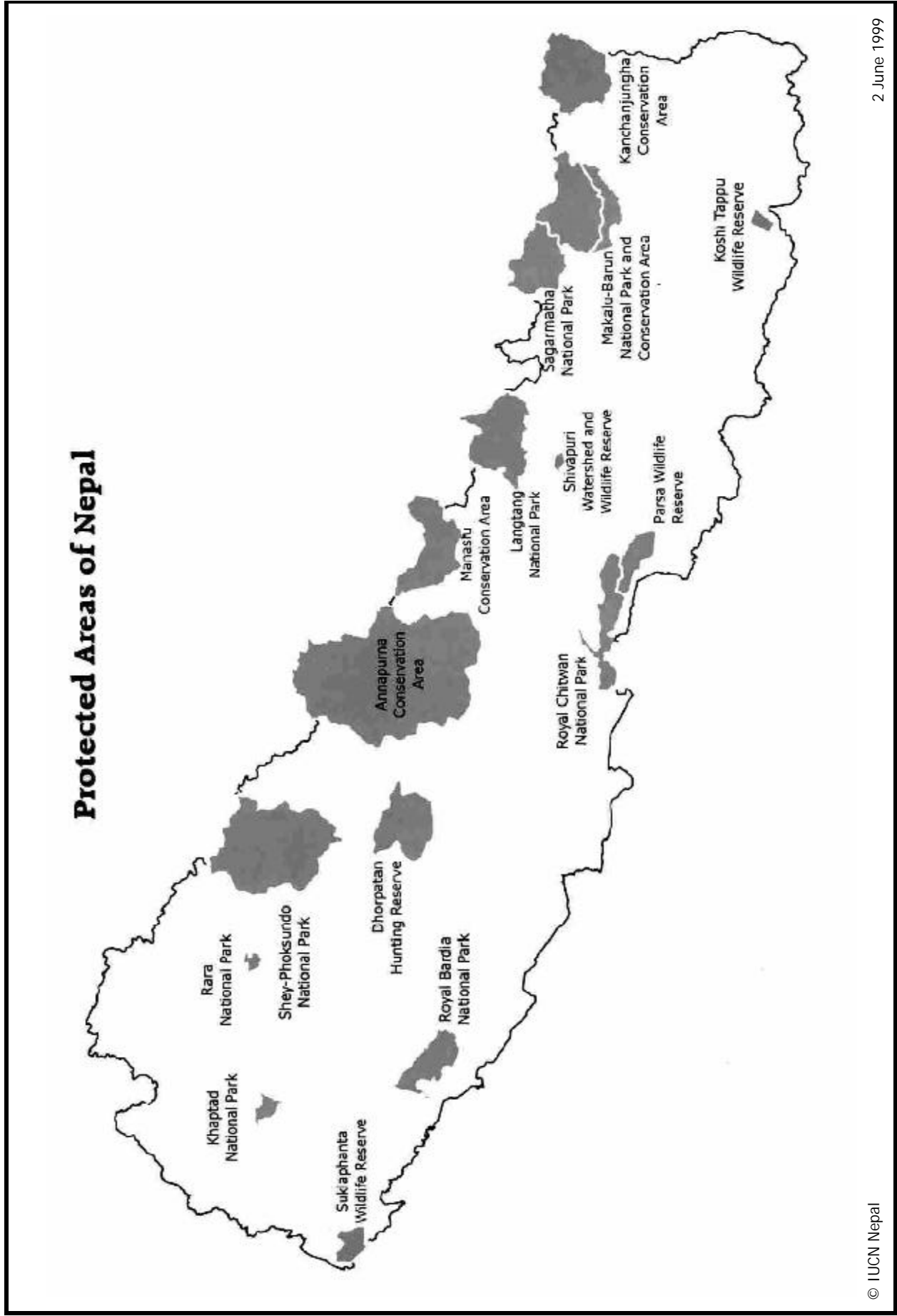
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APPENDIX - 1

Protected Areas of Nepal

SN.	Name of the Protected Areas	Area in sq. Km
1.	Royal Chitwan National Park (RCNP)	932
2.	Langtang National Park (LNP)	1710
3.	Sagarmatha National Park (SNP)	1148
4.	Rara National Park (RNP)	106
5.	Shey Phoksundo National Park (SPNP)	3555
6.	Royal Bardia National Park (RBNP)	968
7.	Khaptad National Park (KNP)	225
8.	Makalu Barun National Park (MBNP)	1500
9.	Royal Suklaphanta Wildlife Reserve (RSWR)	305
10.	Koshi Tappu Wildlife Reserve (KTWR)	175
11.	Parsa Wildlife Reserve (PWR)	499
12.	Shivapuri Watershed and Wildlife Reserve (SWWR)	144
13.	Makalu Barun Conservation Area (MBCA)	830
14.	Annapurna Conservation Area (ACA)	7629
15.	Kanchanjunga Conservation Area (KCA)	2035
16.	Buffer Zone of Royal Chitwan National Park	750
17.	Buffer Zone of Royal Bardia National Park	460
18.	Buffer Zone of Langtang National Park	420
19.	Buffer Zone of Shey Phoksundo National Park	1349
18.	Dhorpatan Hunting Reserve (DHR)	1325
	TOTAL	27,728
	Percent of the total country's land	18.84%

Source: Annual Progress Report 1998/1999, DNPWC (1999)



1. BACKGROUND

Pakistan occupies an area of 803,940 sq.km with a human population expected to reach 143 million by the year 2000 (World Bank, 1984). It has borders with Iran and Afghanistan to the west, China to the north, India to the east and the Arabian Sea to the south. Administratively, the country is divided into four provinces: Punjab, Sindh, North Western Frontier Province (NWFP), and Balochistan in addition to the Northern Areas and Federal Capital Territory. Nearly 60% of the land is mountainous, the rest being lowland. There are three physiographic divisions: the northern mountains, western highlands and the Indus plains. These range from sea level to the second highest peak in the world, K-2 (8,613 m). The climate is generally arid and subtropical. More than 75% of the land surface receives less than 250 mm (10") of annual precipitation. Temperatures are heavily influenced by the altitude, reaching up to 45° C in the southern desert areas during the summer and to below freezing point for several months in the northern mountain areas.

Pakistan has been divided into 12 major ecological zones (Roberts 1991). In these diverse ecological zones, a variety of species of flora and fauna are found. The habitat diversity in Pakistan is believed to be the consequence of the country's location on a transitional zone between two of the earth's major bio-geographical regions, the Palaearctic and the Oriental (Roberts, 1991). Pakistan has relatively low rates of national endemism (about 7% for flowering plants, 4% for mammals, 0% for birds, 23% for reptiles and 15% for freshwater fish) but the blending of elements from different regions has ensured a diverse flora and fauna (BAP, 1998).

According to the IUCN Red List (IUCN 1996), 105 threatened/near-threatened species are found in Pakistan, including 51 mammals, 42 birds, 11 reptiles and at least 1 fish. While Pakistan has some of the world's rarest animals and plants, these are now in danger of disappearing forever due to loss of natural habitat and over-use.

Natural resources in Pakistan have been utilised for centuries. In many cases, the local human population is heavily dependent on natural resources for their livelihoods. However, in recent times uncontrolled population growth coupled with unsustainable use and ineffective management is putting ever-increasing pressure on the country's natural resources. Just as more and more people may be part of the problem, they must also be part of the solution. The key to protecting the biological heritage of Pakistan lies in the involvement of local people and in the support provided by competent institutions for the conservation and sustainable use of biodiversity (BAP 1998). Efforts are now being made to give a proper role to communities for the management of natural resources.

2. PROTECTED AREAS SYSTEM IN PAKISTAN

2.1 EXTENT AND STATUS OF PROTECTED AREAS

Prior to 1966, Pakistan had taken no significant steps towards establishing a protected areas network (IUCN 1990). Protected Area (PA) designation peaked in the 1970s with three-quarters of Pakistan's current protected areas being designated in the decade between 1972-1981. Current wildlife laws provide for three categories of protected areas in Pakistan: National Parks, Wildlife Sanctuaries and Game Reserves.

Currently, 10.2% of the total land area of the Pakistan has been declared protected by the government in a total of 225 protected areas. These include 14 national parks, 99 wildlife sanctuaries and 96 game reserves, while 16 remain unclassified (BAP 1998). Most of the major habitat types are represented in the protected area system, however, there is lack of Category 1 protected areas (strict nature reserves).

Table 1: Summary of Protected Areas in Pakistan

Region/Province	National Parks	Wildlife Sanctuaries	Game Reserves	Not Classified	Total Protected Areas	Total Area Conserved (ha)	% of Total Area Protected
Azad Kashmir	1	0	8	0	9	51,998	3.91
Baluchisthan	2	15	7	7	31	1,837,704	5.29
Punjab	2	37	19	0	58	3,315,803	16.14
NWFP	3	6	38	5	52	470,675	6.30
Sind	1	35	14	4	54	1,307,575	9.27
Federal Territory	1	1	1	0	3	94,186	100
Northern Areas	4	5	9	0	18	2,092,180	2.97
Total	14	99	96	16	225	9,170,121	10.40

(Source: BAP)

Pakistan lags behind several regional countries (including Nepal, Sri Lanka and Bhutan) in terms of percentage of national land area coming under protection.

Total protected area is just one measure of the adequacy of the protected areas system. Other important factors include the size of the individual protected area (which relates to species-area and perimeter-area considerations), the design of their boundaries, and connectivity between the protected areas (IUCN 1998). Many of the protected areas are too diminutive and isolated to be effective. They have usually been designed and their boundaries drawn with little consideration of ecological principles. Many of them are small, and wide dispersion makes them isolated islands. Little attempt has been made to link the protected areas through a system of corridors.

A comprehensive protected area review has not been carried out. In the existing protected areas, not all vegetation types are adequately represented and many areas of high value for biodiversity remain outside the protected areas system. Most of the protected areas have been created haphazardly, often in the absence of any criteria for their selection. Many of the existing protected areas were selected on the basis of

one or more species, rather than overall biodiversity e.g.; Khunjerab National Park along the Pakistan-China border in the northern region was created specifically for conservation of Marco Polo sheep.

2.2. CURRENT MANAGEMENT CONSTRAINTS

In Pakistan, the protected areas are managed exclusively by government agencies. Provincial/territorial wildlife departments are responsible for the implementation of the concerned laws and policies for the management of protected areas. There are a number of important gaps and needs related to the management of protected areas in Pakistan (BAP 1998, PAMP 1997). These include the following:

- existing wildlife laws do not provide an adequate framework for protected area management and rigid enforcement of the laws has failed to adequately protect wildlife. The problem is further aggravated by the fact that, although protected area resource use is limited (or banned) for local communities, officials and influential persons continue to misuse their authority;
- poor relations between the authorities of protected areas and the local communities have resulted in conflicts mainly over the usufruct rights of the resources;
- most of the protected areas lack comprehensive management plans: where plans do exist they are rarely implemented;
- provincial wildlife departments, who are responsible for management, lack trained personnel. They also lack experience in engaging local communities and conducting the necessary socio-economic assessment required for effectively integrating and reconciling the dual goals of conservation and development;
- while wildlife departments manage PAs, they have no authority over management of adjacent areas ("buffer zones"). Consequently, development activities in the areas adjacent to PAs often conflict with biodiversity conservation;
- finally, communities rarely have any role in the management of the protected area.

Ineffective enforcement, poor planning and lack of community participation have hindered the progress of protected areas management and degradation of natural resources continues unabated. In many cases, no visible distinction can be made between a protected area and adjoining unprotected land in terms of status of habitats and wildlife populations. In some areas, communities are living even inside the protected areas; while in several cases conflicts between the authorities and the communities have emerged regarding the ownership of the land and user rights. These conflicts continue to hamper the effective management of protected areas.

3. COLLABORATIVE MANAGEMENT OF PROTECTED AREAS

In a collaborative management approach, some or all of the relevant stakeholders in a protected area are involved in management activities. Specifically, the agency with jurisdiction over the protected area (usually a state agency) develops a partnership with other stakeholders (usually including local communities and resource users)

which specifies their respective roles, responsibilities and rights in the protected area.

Lack of involvement of communities and resource users in the planning and management of the protected areas is a major constraint in achieving the long-term goals of protected areas in Pakistan. Depriving communities of their usufruct rights, which they were enjoying for years, results in the emergence of conflicts between communities and the authorities of the protected area. Most of the protected areas have been designated without consulting adjacent communities.

3.1. CURRENT STATUS

There are currently no protected areas in Pakistan where collaborative management is practiced in its true spirit. The existing laws have no provision to support joint management of protected areas. There are some cases where collaborative management efforts have been started and where local people are taking part in some of the management activities, having the right to use the resources to a certain level. Mainly, these initiatives are taken through notifications by the concerned government authorities and agreements between the communities and the authorities. A comprehensive legal review and the necessary amendments are required to make these initiatives sustainable. Collaborative management of natural resources is now practiced outside PAs and these initial efforts have been fairly successful. Through these efforts communities are managing natural resources in collaboration with the government and NGOs and are deriving economic benefits through the sustainable use of these resources.

3.2. PRINCIPAL CONSTRAINTS

3.2.1. Lack of legal coverage

Constitutionally, the responsibility for the conservation of wildlife is delegated to the provincial and territorial governments. Consequently, the jurisdiction of the protected areas in Pakistan is vested with the provincial and territorial governments. There are many laws and policies regarding the conservation of natural resources and management of the protected areas. Each provincial and territorial government has promulgated laws regarding wildlife in their respective areas, with these laws also extending to protected areas.

Existing wildlife laws have no provision for the collaborative management of protected areas. Current thinking on protected area management is that to be effective, the communities living alongside the area should have a hand in its management and should derive some benefits from the area. None of the three existing categories of protected areas in Pakistan allow participatory management by the communities. As a measure to provide benefits, "buffer zones" have been created around protected areas; but existing laws lack any clear provision for the establishment of these buffer zones and a mechanism for deriving benefits by the communities through sustainable use of resources. Lack of such provisions in the existing laws have created problems for the protected area authorities and in many cases has resulted in conflicts with the communities themselves.

3.2.2. Lack of trust between communities and the authorities

There is a general lack of trust among local communities and the government authorities managing protected areas. Since the local people who had usufruct rights in the area have not been involved in decision making (such as in the demarcation of boundaries) and planning for protected areas, they mistrust the authorities, and as a result violations of the protected areas' laws continue. Due to this lack of trust there is now a large rift between authorities and communities, which in many cases has resulted in conflict. Most staff working in the departments concerned have no clear vision or experience of collaborative management and find it difficult to delegate power or responsibility to rural communities.

3.2.3. Lack of awareness

Lack of awareness over the purpose and benefits of PAs among communities, the public in general and even the management agencies is another constraint for effective management. With a few exceptions, very little effort has been made by the concerned authorities to create awareness among the communities and as a result laws and rules become ineffective.

3.2.4. Insufficient resources

The total number of protected areas in Pakistan is relatively large, but the concerned departments have insufficient resources both in terms of staff and finances to effectively manage these areas. Only a few of these staff are well trained, while others cannot be adequately trained mainly because of financial problems. Because of the absence of trained staff and finances, the majority of the protected areas are without any management plans and the PAs which do have plans have no funds to implement them.

3.2.5. Lack of expertise

The approach of collaborative management is reasonably new in Pakistan, therefore expertise in this area is lacking in the concerned departments. There are currently a few projects outside PAs (see Section 4) where government staff are building their capacity to support collaborative management activities.

4. CASE STUDIES ON COLLABORATIVE MANAGEMENT

In recent years, there have been some initiatives designed to promote the concept of collaborative management between government agencies, non governmental organisations (NGOs) and rural communities both inside and outside PAs. A short description of these case studies is given below. The protected areas mentioned in these case studies could be potential sites for participatory action research. These PAs are suggested on the basis of their biological and socio-economic value, degree of threat to biodiversity, feasibility for intervention and initiatives on collaborative management. For a list of contacts for further information on these case studies, see Appendix 2.

4.1 KHUNJERAB NATIONAL PARK

In 1996, following six years of negotiations and conflict resolution by WWF-Pakistan, the Northern Areas Administration approved the Management Plan for Khunjerab National Park (KNP). An important feature of this plan is avoiding activities that are unacceptable to the local communities to avert any subsequent difficulties. The main plan activities include the total protection of threatened mammals such as Marco Polo sheep and snow leopards; restrictions on grazing in prescribed areas according to carrying capacity levels; making herders responsible for the protection of the wildlife species; free grazing in safe areas; compensation in kind for extinguishing grazing rights; 80% of jobs to be given to the local people; encouraging reduction of livestock; and a control over Khunjerab Border Security Force to limit poaching.

While the KNP Management Plan has been approved, there are currently no funds available to implement it. One of the communities in the buffer zone (Shimshal) has not accepted the plan and further work is necessary to resolve this problem and to address the lack of funding needed to implement the joint management activities proposed.

4.2. CENTRAL KARAKORUM NATIONAL PARK

The Central Karakorum National Park (CKNP) was established in 1993 in the Karakorum Mountain Range of Northern Pakistan. The central Karakorum area is internationally renowned for its world-class mountaineering and trekking opportunities. One of the primary objectives for declaring the area as a national park is to manage the impact of ecotourism and ensure community participation in these activities. Since its declaration as a protected area, various consultations have been made with the communities living adjacent to the park in the form of workshops, as well as individual meetings and dialogues. The area has a large number of adjacent communities and a participatory approach is essential for the planning process of this protected area.

A draft interim management plan for CKNP is being prepared by IUCN-Pakistan to support collaborative management of the park by the government and the communities situated around its core protected area zone. The communities' traditional usufruct rights will not be changed. For this purpose, the park will have a buffer or cultural zone around the core protected areas, of which all surrounding communities will be part. Park fees will be collected by the communities for the benefit of environmental conservation and sustainable park management. Sustainable resource use such as limited trophy hunting, trekking and mountaineering, livestock grazing and other resource uses will be regulated and monitored through active community participation.

A Park Management Board (PMB) will be established with a membership made up of representatives from all the stakeholders and authorities. It will supervise park management and set up new structures and systems wherever necessary. Each entry point community will prepare a Community Area Park Management Plan, taking into account the local culture, resource use rights and resource conditions. The PMB will approve these plans in consultation with the park administration, which will work closely with the communities and villages who are part of the cultural zone. Furthermore, the park administration will assist and empower custodian communities to implement Community Area Park Management Plans.

4.3. BIODIVERSITY CONSERVATION PROJECT

The UNDP/GEF funded pilot project "Maintaining Biodiversity in Pakistan with Rural Community Development" was initiated in 1995 and implemented by NWFP Wildlife Department in NWFP and IUCN-Pakistan in the Northern Areas. Through this project, communities of 15 project sites are provided with technical skills and empowerment to manage and derive economic benefits from the sustainable use of natural resources. Presently, empowerment is being provided through notifications. The NWFP Wildlife Department has declared project sites to be Community Game Reserves (CGR) and has designated community representatives as Honorary Game Wardens (HGW). In the Northern Areas, these kinds of notifications have been drafted and are being considered for declaration. Through this project the rules for the Northern Areas Wildlife Preservation Act, 1975 are being formulated, in which provisions for community involvement in PA management will be clearly highlighted.

The project has helped communities prepare Village Management Plans and Wildlife Conservation Plans to enhance local-level capacity for management planning. Local Village Wildlife Guides have been trained to monitor and protect wild resources on behalf of Village Organisations (VOs). District Conservation Committees have been constituted to provide a forum for villagers to discuss conservation concerns with officials from the local administration. To help communities pay for the cost of conservation, Village Conservation Funds (VCFs) have been established and provided capital jointly by the project and the communities from their savings. The communities have invested additional funds in the VCFs from their proceeds of limited trophy hunting of the Himalayan Ibex, initiated in 1997.

4.4. MOUNTAIN AREAS CONSERVANCY PROJECT

As a follow-up to the pilot project (4.3), a proposal for a seven-year full-scale project is currently being considered by GEF. The Mountain Areas Conservancy Project (MACP) aims to establish four large "conservancies" (covering about 16,000 sq.km area) in the northern mountain regions (including the Karakorum, the Hindu Kush and the Western Himalayas) of Pakistan to be jointly managed by the local communities and government. MACP will support the implementation of the Village Conservation Plans developed under a pilot phase and will sponsor the extension of efforts to cover additional valleys. The project sites will be clustered into ecologically viable units. Each unit will form a conservancy managed by the communities in partnership with the government and NGOs.

The project comprises a package of interventions to address the underlying causes of biodiversity loss in the region. The principal focus is on empowering the local communities to manage biodiversity, making them accountable for the quality of their resource ownership (MACP 1998). The empowerment of local communities will be made possible through necessary amendments in the wildlife acts of the concerned province/territory. The conservancies will be considered a new category of protected areas (e.g. IUCN Category IV) where conservation activities are conducted with greater involvement of the communities and where benefit sharing is practiced with the ultimate objective of conservation and sustainable use.

4.5. PROTECTED AREAS MANAGEMENT PROJECT

The Protected Areas Management Project (PAMP) proposal has been developed by IUCN Pakistan and WWF-Pakistan through an initial project funded by World Bank/GEF. This project will invest in three protected areas of Pakistan: Chitral Gol National Park (NWFP), Machiara National Park (AJK) and Hingol National Park (Baluchistan). The project will strengthen park management through a series of activities that engage and link local communities. In each of these protected areas, conservation will be enhanced through integrating each protected area with its local and regional socio-economic environment. This will involve implementation of a community-based management model for the national parks, as well as an appropriately targeted environmental education initiative. The project emphasises the need to reduce park-people conflicts by integrating local communities into park planning. This will be accomplished through community orientation and mobilisation; social assessment and allocation of micro-planning investments; formation of village-level and park-level conservation committees; and establishment of Village Conservation Funds (VCFs) similar to those established in the UNDP/GEF project (4.3).

The project will be implemented in two phases over five years:

- a twelve-month inception period where a set of interim management guidelines will be designed and implemented in each park to address the most obvious and urgent biodiversity conservation needs;
- four consecutive annual cycles in which successive versions of long-term management plans for each park will be reviewed at provincial workshops attended by all relevant stakeholders, then presented at a national consultative workshop, and where necessary, revised (PAMP 1998).

4.6. HIMALAYAN WILDLIFE PROJECT

The Himalayan Wildlife Project (HWP) has been implemented in the Deosai plains of the Northern Areas of Pakistan since 1993. The Deosai area was declared a National Park by the government of the Northern Areas in 1993 through a notification. The area is home to the single largest population of the Himalayan brown bear in Pakistan and a variety of other fauna and flora. The main objective of the project is to preserve wildlife and conduct research on the Himalayan brown bear. The project is currently financed by small grants from UNDP/GEF (HWP 1997).

HWP, in collaboration with the Northern Areas Forest Department, has taken the initiative in preparing a draft management plan for the park which defines management objectives and prescriptions to fulfill these objectives. The plan makes provision for the maintenance of local communities' grazing rights and has formulated a zoning system in the park in consultation with local people.

Although at present the communities are not directly involved in the management of the park, the project maintains close coordination with the local people to ensure their continuous interest and participation. HWP has also started community education and awareness programmes in the villages adjacent to the park and aims to gradually transfer the park's management to the Northern Areas Forests, Parks and Wildlife Department and to the local communities.

4.7. HAZAR GANJI-CHILTAN NATIONAL PARK

Hazar Ganji-Chiltan National Park (Baluchistan) was established in 1980 to protect the habitat of the Chiltan Markhor and to provide recreational and educational benefits to the people. Since its inception, the park has been managed by the Baluchistan Forest Department, but without a management plan. WWF prepared a draft management plan in 1997. The plan suggests that due to the tribal system and an absence of awareness and institutional capacity, the communities cannot be involved in the management of the national park at the moment. It is recommended that these capabilities should be developed through NGOs and government departments. The communities can then become involved in the management of the PA in the second phase after their institutional development. The plan also suggests new legislation, policies, and institutional linkages to promote community and government partnership in the future.

5. COLLABORATIVE MANAGEMENT - THE WAY AHEAD

5.1. ENABLING POLICIES

Failure of the existing system of managing protected areas has resulted in the urgent need for further involvement of potential stakeholders in the planning and management of protected areas/collaborative management. In Pakistan, several efforts are now being made to involve local communities in the management of protected areas. National policies reflect the need for co-management of natural resources. The recent success of collaboratively managed projects in the country and the region has prompted policy makers to start taking note of these approaches.

Pakistan National Conservation Strategy – Pakistan's National Conservation Strategy (NCS) was ratified in 1994 by the federal government. It emphasises public involvement in the planning and management of the natural resources. The NCS suggests promotion of community-based management systems, enforcement of existing appropriate legislation: preparation of management plans for major ecosystems and for the protected areas in particular.

Provincial Conservation Strategies – On the basis of the NCS, the provincial and territorial governments are also preparing regional conservation strategies. The government of NWFP has prepared the Sathad Provincial Conservation Strategy (SPCS) while work on the conservation strategies of Baluchistan and the Northern Areas is in progress. The SPCS, as a pioneer of the provincial strategies, encompasses the need for community involvement in the planning and management of natural resources very clearly. The SPCS contains in its recommendations on protected areas, a set of innovative, specific guidelines for community co-management. These recommendations are aimed at encouraging the formulation of protected area management programmes that embody measures to "encourage sympathetic and economic development which preserves the cultural identity of the resident communities living in or near the protected area" (GONWFP-IUCN 1997).

The following guidelines have been suggested in the SPCS regarding the protected areas:

- provision for a co-management structure, which enables the representation of the communities in decision making bodies;
- a mechanism for continuing community participation in the process;
- a formal mechanism for integrating policy coordination and decision making;
- a plan for protection of all elements of local culture, its documentation and appropriate interpretation;
- a mechanism for discussion and exchange of information between the protected areas staff and the communities;
- a plan which provides for appropriate benefits to the community from the establishment of the protected area, such as preferential treatment in procurement, local business and traditional occupations. Indirect benefits could include education and health services, training and related employment.

Biodiversity Action Plan – The Government of Pakistan is preparing a Biodiversity Action Plan (BAP) to meet the planning requirements of the Convention on Biological Diversity (CBD). The plan recommends activities and strategies for the conservation of natural resources. It also emphasises the involvement of local communities and a legal review of the laws concerning conservation. The plan's recommendations are as follows:

- the laws relating to communal ownership access to biological resources should be reviewed and revised so as to protect and encourage customary natural resource management systems;
- a comprehensive protected areas legislation should be developed, which provides for collaborative management systems involving government authorities, NGOs and local communities;
- a thorough protected areas system plan review must be carried out to identify existing gaps. On the basis of the review, a protected areas system plan for Pakistan should be prepared;
- the management of existing protected areas must be enhanced by developing collaborative management regimes, collaborative management plans for selected protected areas, and placing more responsibility with local and community authorities;
- the capacity of local communities are to be enhanced by providing technical assistance, training, awareness, and building bridges between the government and the communities;
- biodiversity must be conserved outside the protected areas; protected areas and adjacent buffer zones should not be treated as a single unit.

Wildlife Policy and Draft Model Provincial Wildlife Law – A draft wildlife policy has been prepared by IUCN and is currently being reviewed by the federal and provincial governments. The main feature of this policy is the involvement of local communities in the management of natural resources, especially in protected areas. A model Provincial Wildlife Law has also been framed on the basis of experiences in countries such as Zimbabwe and Namibia. This model law is currently under review by the concerned authorities and experts to make it more feasible for implementation in the context of the local situation. The model law comprehensively deals with wildlife management issues. It recognises that wildlife

is a provincial resource; accordingly, it places trusteeship in the hands of the state. However it is based on the understanding that wildlife is best managed by those who live with the resource. This is achieved by giving the occupiers a legally recognised status, that of appropriate authority. To facilitate this, a new category of protected areas is created (conservancy) as described in MACP (4.4). The conservancy areas are proposed as areas of sustainable use and are based on a system of management by the actual occupiers of the land.

5.2. PRIORITY MEASURES: LEGAL REFORM

The current policies support collaborative management of the protected areas. On the basis of these policies, extensive legal reform is required to implement them and make collaborative management possible. The provisions for involvement of the local communities through notifications are not sustainable. The wildlife acts of all the provinces/territories need amendments in this regard, which would help in involving local communities in the management of PAs. Provisions for involvement of the communities in the planning process, demarcation of the boundaries and in describing management prescriptions are necessary. The model provincial wildlife law is a good step forward in this connection, since it makes provision for extending the categories of PAs where the communities would be involved in management to a greater extent and in addition could derive economic benefits from the resources.

Awareness and Trust Building – There is a general lack of awareness regarding conservation and the value of protected areas. Efforts should be made to create awareness among the people regarding conservation through community education and awareness programmes. Participatory approaches in planning and management help greatly in enhancing awareness among people. The community-based conservation projects have succeeded in awareness raising mainly because they use participatory tools in the planning process. Awareness raising should also be started for personnel working in the concerned departments and the relevant law enforcing agencies. This will help the appropriate enforcement of rules and regulations.

A lack of trust between communities and government authorities has resulted in a major breach between them. To bridge the gap, participatory approaches in planning and management are very necessary. NGOs can play a major role in bridging this gap as they have significant experience of participatory methods.

Capacity Building of Staff – A lack of trained staff in the concerned departments is a major problem in the collaborative management of protected areas. As this is a new approach in Pakistan, the staff have little experience in this field. Most of the staff working in the departments are biologists or foresters who have no experience in social mobilisation and community participation. There is a need to improve the skills of the staff for tailoring the CM approach. This can be done through formal and informal training, exchange visits of the staff to areas where this approach is practiced and successful and information sharing. A regional programme might be a good source of capacity building for staff working in collaborative management.

Regional Cooperation – Most of the countries in the region have similar problems and issues regarding protected areas and collaborative management. However some countries (like Nepal) have considerable experience in collaborative management

supported by government agencies. Sharing "lessons learned" and developing "best practices" in the regional context would be useful initiatives. Exchange visits to areas where the approach is being practiced and to regional workshops would help the sharing of information and in developing a common strategy for collaborative management in the region. As such, this workshop is an important first step towards information sharing and developing a regional programme for collaborative management. The concept of trans-boundary "peace parks" can also foster regional cooperation and help defuse conflicts in some areas, in addition to conserving the biological diversity of the region.

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APPENDIX 1

CATEGORIES OF PROTECTED AREAS

Existing wildlife laws have provision for three categories of protected areas in Pakistan. These are National Parks, Wildlife Sanctuaries and Game Reserves.

1. NATIONAL PARK:

A national park is a comparatively large area of outstanding scenic merit and natural interest, wherein the primary objective is to protect the landscape, flora and fauna in its natural state and to which the public is allowed access for the purpose of recreation, education and research. Hunting, shooting, trapping, killing or capturing any wild animal within a three miles radius of the boundaries of the park is prohibited, as is the felling of trees and clearing of land in the park.

2. WILDLIFE SANCTUARY:

A wildlife sanctuary is an area set aside as an undisturbed breeding ground, primarily for the protection of all natural resources to which public access is prohibited or regulated. Forests may not be exploited in a wildlife sanctuary except for reducing fire hazards, epidemics, insect attacks or other natural calamities.

3. GAME RESERVE:

A game reserve is an area where controlled hunting and shooting is allowed on a permit basis. Private land may be declared as a private game reserve on the application of the owner, if the area has been dedicated by the owner for the purposes similar to a game reserve (IUCN 1990, BAP 1998). By definition, a wildlife sanctuary offers greater protection than a national park while a game sanctuary affords no protection to habitat but merely regulates hunting. As a result, the value of a game reserve for long-term conservation is limited.

APPENDIX 2

LIST OF ORGANISATIONS AND INDIVIDUALS WITH FURTHER INFORMATION

1.
 - i) Khunjerab National Park (KNP)
 - ii) Hazar Ganji-Chiltan National Park (HGCNP)

WWF-Pakistan Tel: +92 42 5862359-60
P.O.Box. 5180 Fax: +92 42 5862358
Lahore, Pakistan e-mail: anwar@wwf.edu.net
Sdnpk.undp.org
2.
 - i) Central Karakoram National Park (CKNP)
 - ii) Biodiversity Conservation Project
 - iii) Mountain Areas Conservancy Project (MACP)
 - iv) Protected Areas Management Project (PAMP)

Biodiversity Unit Tel: +92 51 270686-7
IUCN Pakistan Fax: +92 51 270688
H 26, St 87, G-6/3 e-mail: Kent@iucn-nrg.sdnpk.undp.org
Islamabad, Pakistan
3.
 - i). Himalayan Wildlife Project (HWP)

Vaqar Zakaria Tel: +92 51 276113-8
Center One, St 15, Fax: + 92 51 924484
Khayaban-e-tqbal e-mail: vzakaria@hbp.sdnpk.undp.org
F-7/2, Islamabad, Pakistan

APPENDIX 3

PROPOSED SITES FOR PARTICIPATORY ACTION RESEARCH

1. Central Karakorum National Park (CKNP), Northern Areas
2. Khunjerab National Park (KNP), Northern Areas
3. Chitral Gol National Park (CGNP)
4. Machiara National Park (MNP), Azad Kashmir
5. Hingol National Park (HNP), Baluchistan

Proposed Site	Brief Description of Criteria	Socio-economic Value	Degree of Threat	Feasibility for Interventions	CM Initiative
CKNP	<p>The CKNP has a unique mountain ecosystem with a number of high mountains and glaciers. It provides a habitat for many threatened mammal species such as the Snow Leopard. Provides world-class mountaineering and trekking opportunities.</p>	<p>The local communities are heavily dependent on the pastures for grazing their livestock and for fuel-wood collection. The government and the tourist agencies earn a high amount of revenue while local people are dependant on tourism for their earnings.</p>	<p>Overuse of pastures and indiscriminate killing of wild animals and birds are the major threats to natural resources. Environmental degradation (pollution) on the high mountain glaciers and on their routes pose a major threat to the uniqueness of the area.</p>	<p>The local communities are aware of conservation due to activities of NGOs in the area and many collaborative activities are in progress. A preliminary management plan has been prepared which provides guidelines for future activities.</p>	<p>An interim management plan has been drafted, which calls for Community Protected Area Management Plans for each custodian community to manage the resources in their vicinity by themselves. Some of the communities are already involved in collaborative management of natural resources through various projects being implemented in the area.</p>
KNP	<p>KNP is home to many threatened species like the Marco Polo sheep, the blue sheep, the snow leopard and many wild species of flora and fauna.</p>	<p>The local people are heavily dependent on the park and adjoining areas for grazing livestock. The area is also famous for tourism. The Karakorum Highway, which passes through KNP, forms a link between Pakistan and China. Trade between the two countries is carried out across this highway.</p>	<p>Grazing of livestock in the park and especially in the core zone. Poaching and killing of animals by Khunjerb Border Security Force. Conflicts between the authorities and the communities.</p>	<p>The community has reached an agreement with the government. The management plan has been prepared and approved, but not yet implemented.</p>	<p>Creation of a buffer zone which is totally managed by the local communities who accrue benefits from the sustainable use of natural resources. There is an agreement between the FA authorities and the local communities which gives them some provisions for collaborative management. The proposed MAMP in the adjoining areas of the park aims at co-management of the resources through empowering the communities.</p>
CGNP	<p>CGNP is a relatively pristine example of Himalayan dry coniferous vegetation, and is the habitat for several threatened mammal species. It is also part of an important migratory bird flyway.</p>	<p>Conservation of CGNP is of substantial economic value to Chitral town and to valley bottom agriculture and flood control in the vicinity. Fuel wood collection and grazing (through illegal) still contributes to human subsistence. Prospects for the development of ethno-tourism.</p>	<p>Habitat degradation at the FA periphery due to unsustainable use has posed threats to several ungulates and predators. Urgent need to address illegal hunting and falcon catching within the park.</p>	<p>The FA consists of a well-defined topographic unit and the disposition of the government and the local communities' attitude towards conservation is positive. Activities of NGOs involving local communities in the region have raised awareness about conservation in the region.</p>	<p>The FA is one of the sites for the World Bank PAMP project where conservation initiatives will be started in collaboration with local communities. Preparation of a management plan and its implementation will be carried out with community involvement. Participatory Action Research is being implemented.</p>
MNP	<p>MNP is an excellent representative of Himalayan forest eco-type and is located within the range of at least five globally threatened bird and mammal species.</p>	<p>The proximity of MNP with Muzaffargarh, with its pristine environment and species diversity, makes it a good prospect for the development of ecotourism.</p>	<p>Major threats include government-sanctioned logging, over-utilisation and inappropriate management of the forests.</p>	<p>Favourable topography with good natural boundaries and commitment to conservation at the regional and local levels. General positive predisposition of the local communities.</p>	<p>The FA is one of the sites for the PAMP project where conservation initiatives will be started in collaboration with the local communities. Through this project, the preparation of a management plan and its implementation will be carried out with community involvement.</p>
HNP	<p>Includes a diverse spectrum of coastal, lowland and mountain habitats which support a range of endemic plants and several threatened animal species.</p>	<p>The human population is politically stable but may pose a short-term threat in the form of illegal trade; although this is likely to decrease with infrastructure development in the FA.</p>	<p>The status of several vertebrate species is uncertain. The marsh crocodile is near to extinction and commercial fishing is a threat to the Dalmatian Pelican and breeding population of green turtles.</p>	<p>The physical condition and disposition of custodian communities are a potential problem for intervention and the development of a sustainable ecotourism industry.</p>	

COUNTRY PAPER – BANGLADESH

by Syed Salamat Ali
Md. Ghulam Habib

1. BACKGROUND

Bangladesh, a part of the Indo-Malayan realm, is blessed with a good number of natural areas that could be managed as protected areas to conform with international norms as advocated by IUCN–The World Conservation Union for the protection, preservation/conservation of unique biodiversity and physical features.

1.1 LOCATION

Lying between 20°14' and 26°38' north latitude and 88°6' and 92°41' east longitude, Bangladesh is bordered in the north, west and northeast by India, in the southeast by Myanmar and in the south by the Bay of Bengal. Biogeographically it is in the Paleo Tropical-Indo Malayan region, consisting of the Gangetic flood plain, the Brahmaputra valley and a continuation of the Assam hills. In terms of biomass there are tropical evergreen and semi-evergreen forests, moist sal forests, inland wetlands and coastal mangrove areas.

1.2 ECOLOGICAL ASPECTS

Bangladesh has an estimated four million hectares of fresh water bodies and 66,400 sq.km of coastline and continental shelf. The inland wetlands are a highly dynamic ecosystem that are influenced by recent and past alterations in the land use of wetlands, the terraces that border them and the adjoining landscape including the whole catchment area. The freshwater wetlands of Bangladesh are highly complex due to their location at the geotechnically active part of the confluence of the three great rivers, the Brahmaputra-Jamuna, the Ganges and the Meghna, with their numerous tributaries and distributaries.

The Ministry of Environment and Forest is the national steward of the environment, with the executing wings under the ministry being the Forest Department and the Department of the Environment.

2. PROTECTED AREAS OF BANGLADESH

Currently, Bangladesh has 14 notified protected areas covering an area of 225,362 ha of land and involving four distinct biogeographic zones, such as:

- tropical evergreen and semi-evergreen forest
- moist deciduous forest
- mangrove forest
- reedlands or wetlands

Areas declared as protected areas are all within the forest ecosystem and the land is under the management of the Forest Department.

The list and statutes of the protected areas are given in Table 1, below.

Table 1: List of Wildlife Sanctuaries (WS), National Parks (NP) and Game Reserves (GR) of Bangladesh.

SL. NO.	Name	Area(Ha)	Year Established/ Gazetted	Legal Status
1	2	3	4	5
1.	Sundarbans East WS	31,226	1960/1996	Notified in the Government gazette under "The Bangladesh Wildlife (Preservation) (Amendment) Act 1974".
2.	Sundarbans South WS.	36,970	- / 1996	-as above-
3.	Sundarbans West WS.	71,502	- / 1996	-as above-
4.	Rema-Kalenga WS.	1,795	- / 1996	-as above-
5.	Char Kuri-Mukri WS.	40	- / 1981	-as above-
6.	Pablakhali WS.	42,087	1962 / 1983	-as above-
7.	Himchari NP	1,729	- / 1980	-as above-
8.	Bhawal NP	5,022	1974/1982	-as above-
9.	Modhupur NP	8,436	1962/1982	-as above-
10.	Teknaf GR	11,615	- / 1983	-as above-
11.	Chunati WS	7,761	- / 1986	-as above-
12.	Lawachara NP	1,250	- / 1996	-as above-
13.	Rampahar - Sitapahar WS.	3,026	-	Kept aside as a wildlife sanctuary for preservation of fauna and flora.
14.	Hazarikhil WS	2,903	-	-as above-
	Total:	2,25,362		

3. COLLABORATIVE MANAGEMENT OF PROTECTED AREAS IN BANGLADESH

3.1 ELEMENTS OF COLLABORATIVE MANAGEMENT OF PROTECTED AREAS

Conventional management methods in protected areas have been in practice for a long time. However, national management principles have been given topmost priority, with the interests of local people and the adjacent community attracting little or no attention. In many cases, local people and communities sacrificed their self-interest, and lost access to resources. The collaborative management system of protected areas, involving local people, local bodies, government officials and NGOs is expected to safeguard the interests of local people along with the area's natural resources. In order to have effective collaborative management there must be a good understanding and a sense of partnership between government officials, autonomous enterprises, people's groups and NGOs. Further, if more than one government agency is involved in a particular protected area's management, there should be a sound central government policy with proper guiding principles, so that no differences of opinion arise at any step of the planning and execution of activities. The appropriate social, legal, technical and economic models will have to be developed to achieve this goal of understanding. The models developed must

address the needs of the participating groups, agencies and individuals.

Mechanisms of collaborative management place emphasis on the voluntary involvement of the people, without which no participation is sustainable. Strong and sustainable participation involves social, institutional and technical elements.

3.2 COLLABORATIVE MANAGEMENT IN A GOVERNMENT-OWNED FOREST AREAS

There are provisions for collaborative management of PAs under a new project called the Forestry Sector Project (1997-98 to 2003-2004) undertaken by the Forest Department of Bangladesh. Of course, these provisions are still in project proforma and are yet to be put to use in the field.

This is for the first time any forestry project has been formulated to manage PAs using a collaborative management system in government-owned forest areas. Under this arrangement, management plans based on sound ecological principles will be developed for selected PAs. An area of about 43,440 ha will be brought under participatory conservation and management. In these areas, habitat and wildlife protection will be improved and an estimated 7,200 ha of buffer zones will be established for collaborative management and sustainable use by local people.

Buffer zone development will include participatory woodlots, agroforestry plantations, linear strip plantation and homestead planting. Assistance in the development of the local handicraft industry, conservation awareness through extension and training in seedling production, and skills development will be provided.

Important activities will include base line surveys and consultations between the Forest Department, NGOs, LCOs and meetings with communities living within and around the forest land.

The objectives of the survey will be to: (i) understand in detail the present use patterns, (ii) explain the strategy and purpose of the National Park and buffer zone concept, (iii) obtain the opinions and preferences of people for the new zoning strategy and various options for their participation and land use within the buffer zone.

The aim of the planning will be to meet the people's needs and ensure the participants' ownership. The conservation management plan, models and management strategy will be developed in consultation with the participating communities.

Recently, under the FRMP project financed by the World Bank, management plans for 13 protected areas have been written and are awaiting government approval. Already GEF and ADB have shown interest in Sunderbans and a biodiversity conservation project in Sunderbans is in the process of preparation. Through the Forestry Sector Project ADB has agreed to finance the management of some protected areas. The Rema-Kalenga Wildlife Sanctuary, and West Bhanugach National Park (Lawachara) will be considered.

4. REMA KALENGA WILDLIFE SANCTUARY AND ASSOCIATED BUFFER ZONE

Case Study - 1

The sanctuary was originally established in 1981 and was then expanded in 1996, bringing the total protected area to 1795 ha.

4.1 LOCATION AND AREA

The sanctuary is located at 24°05' north latitude and 91°37' east longitude in the Madhabpur and Chunarughat Thanas in the District of Hobigonj. The sanctuary covers an area of 1,795 ha. The legal status of the forest is "Reserved Forest."

4.2 FLORAL ATTRIBUTES

Most of the forest where the top canopy is being removed are degraded primary forest composed of evergreen and semi-evergreen tropical plant species. The important species are *Artocarpus chaplasha*, *Dillenia pentagyna*, *Dipterocarpus* spp., *Burserra serrata*, *Schima wallichii* and others. Shrub species include *Macaranga roxburghii*, *Adhatoda zeylanica*, *Leea crispa* etc. Bamboo species include *Bambusa polymorpha*, *B. tulda*, *B. longispriculata*, *Melocanna baccifera*, and *Daemonorops jenkinsiana*. Grasses such as *Saccharum spontaneum*, and *Cynodon dactylon* occur. Floral composition inside the sanctuary is shown in Table 2a.

Species, Genus and Family Abundance – The Rema-Kalenga Wildlife Sanctuary contains a considerably large floral diversity. According to the biodiversity survey conducted by the Bangladesh Centre for Advance Studies, the sanctuary contains about 69 vascular plant species of 60 genera and 45 families. Table 2a) summarises the abundance of species, genus and families of plant species in the sanctuary.

Table 2a. Species, Genus and Family Abundance in the Rema-Kalenga Wildlife Sanctuary.

Species, Genus and Family	Trees	Shrubs	Bamboos	Grasses	Climbers	Herbs	Total
Species (no.)	39	12	3	5	7	6	69
Genera (no.)	30	11	1	5	7	6	60
Families (no.)	23	9	1	1	7	4	45

Source : Bangladesh Centre for Advanced Studies Report (1996).

Table 2b. List of the Common Floral Species in the Rema-Kalenga Wildlife Sanctuary

Trees	Shrubs
<ul style="list-style-type: none"> • Artocarpus chaplasha • Dillenia pentagyna • Bursera serrata • Castanopsis tribuloides • Dipterocarpus turbinatus • Elaeocarpus floribundaas Clerodendrum inerme/Sitka • Garcinia cowa • Heterophragma adenophyllum • Vitex altissima • Vitex peduncularis • Albizia odoratissimus • Bauhinia acumi nata • Bombhax ceiba • Callicarpa arborea • Dillenia scabrella 	<ul style="list-style-type: none"> • Maharanga roxburghii • Adhatoda zeylanica • Leea crispa • Schima wallichii • Careya arborea • Cordia dichotoma • Clerodendrum infortunatum • Urena lobata • Dracaena spicata • Eupatorium odoratum • Mitragyne parviflora • Xeromphis spinosa

4.3 FOREST TYPES

Both high and low forest types are found within the sanctuary area, the high forest type is generally dominated by Artocarpus chaplasha, Dipterocarpus tarbinatus, Elaeocarpus florifundas, and Dillenia pentagyna. Low forest type is composed of mixed species such as Garcinia cowa, Bauhinia, spp. and others. The undergrowth is made up of seedlings and tree saplings along with herbs and shrubs.

4.4 IMPORTANT SPECIES FAUNA

Important mammal species in the sanctuary include Muntiacus muntjack, Sus scrofa, Hylobates hoolock, Macaca mulatta, Selenarctos thibetanus, Felis caus and others. Bird species include Nectarinia zeylanica, Psittacula alexandri and Gallus gallus. Some reptile species found in the sanctury are Mabuya carinata, Chrysopelea ornata and Cuora amboioensis. The most important reptilian species is Varanus bengalensis. The Rema-Kalenga Wildlife Sanctuary contains a large number of animal species. A study conducted recently in 1996 shows that there are 53 animal species of 44 genera and 31 families. A list of common faunal species is shown in Table 3.

Table 3: List of Common Animal Species Found in the Rema-Kalenga Wildlife Sanctuary.

Most Abundant	Less Abundant
MAMMALS	
1) <i>Muntiacus muntjak</i>	1) <i>Callosciurus pygerythrus</i>
2) <i>Sus scrofa</i>	2) <i>Canis aureus</i>
3) <i>Herpestes auropunctatus</i>	3) <i>Herpestes urva</i>
4) <i>Cervus unicolor</i>	
5) <i>Hylobates hoolock</i>	
6) <i>Lutra lutra</i>	
7) <i>Macaca mulatta</i>	
BIRDS	
1) <i>Nectarinia zeylonica</i>	1) <i>Amauornis phoenicurus</i>
2) <i>Psittacula alexandri</i>	2) <i>Anthracoceros malabaricus</i>
3) <i>Gallus gallus</i>	3) <i>Anthus novaeseelandiae</i>
4) <i>Hypothymis azurea</i>	4) <i>Arachnothera langirostris</i>
5) <i>Streptopelia chinensis</i>	5) <i>Ardeola grayii</i>
6) <i>Dicrurus aeneus</i>	
7) <i>Acridotheres fuscus</i>	
8) <i>Acridotheres tristis</i>	
9) <i>Aegithina tiphia</i>	
10) <i>Alcedo atthis</i>	
REPTILES	
1) <i>Mabuya carinata</i>	1) <i>Lissemys punctata</i>
2) <i>Chrysopelea ornata</i>	2) <i>Rhabdophis subminiata</i>
3) <i>Cuara amboioensis</i>	3) <i>Varanus bengalensis</i>
4) <i>Gekko gekko</i>	
AMPHIBIANS	
1) <i>Bufo melanostictus</i>	1) <i>Rana tigrina</i>
2) <i>Rana cyanophyctis</i>	2) <i>Dicaeum cruentatum</i>

4.5 HABITAT TYPES

Four habitat types are identified in the sanctuary, namely: high forest, low forest, cultivated paddies, grasslands and water bodies, (manmade lakes and marshes).

4.6 PHYSICAL FEATURES

The sanctuary is generally made up of rolling hills with small valleys. The hilly areas falling within the sanctuary are composed of upper tertiary rocks in which sandstone is prevalent. The soil is fertile, sandy loam.

4.7 CLIMATIC CHARACTERISTICS

The Rema-Kalenga wildlife sanctuary is within the Tropic of Cancer. Rains are frequent and heavy during the monsoon season. Annual average rainfall is 2,650 mm. (Average for the period from 1991-1996).

Average minimum and maximum temperature (for the period 1990-1994) has been recorded at 19.7°C and 30.3°C respectively.

4.8 EXISTING LAND USE AND ECONOMIC ACTIVITY WITHIN THE WILDLIFE SANCTUARY

The collection of bamboo and fuel wood, paddy cultivation, grazing of cattle and the unauthorised felling of timber and wood for fuel are the main economic activities. The poaching of game animals is another threat. These activities have been a long-standing problem for the proper managements of the sanctuary. There is a tea garden near the sanctuary, which has a large number of labourers and is a good source of employment. Unfortunately, many of these labourers involve themselves in poaching animals and encroaching on protected land.

4.9 THREATS TO THE SANCTUARY

- cattle grazing and movement along tracks, periodical firing and loss of underground and natural regeneration
- hunting with guns and traps
- excessive cutting and collection of bamboos
- felling of larger trees and timber trafficking
- clearance of under-storey trees to plant fodder trees
- unauthorised cultivation

4.10 METHODS AND APPROACHES

There are some villages established inside the sanctuary where cultivation already takes place. Therefore, cultivation and sustainable use will be permitted within limited areas. Step by step, cultivation within the sanctuary area will be reduced and the loss of the cultivators will be compensated for with the participatory development of plantations. Participatory buffer zone plantations will be enhanced.

The Rema-Kalenga Wildlife Sanctuary will receive support from the project through collaborative management. It is expected that when the users and the encroachers become involved in management, habitat damage will be stopped and past damage will be gradually repaired. Limited infrastructure for education and ecotourism will be supported. In addition, the remainder of the area will be managed collaboratively. This will help to protect biodiversity in old plantations through enrichment planting.

Existing users and encroachers would be assisted in achieving sustainable incomes through the use of natural forests and participatory use of existing plantations.

4.11 BENEFITS LIKELY TO ACCRUE

- preservation of flora and fauna for biodiversity and as a gene bank
- environmental education, ecotourism and recreation
- continued production of bamboo, fuel wood and timber from the buffer zone
- sustainable livelihood for users
- watershed protection

Table 4. Responsibilities of Stakeholders in Rema-Kalenga Conservation Area

Forest Department	NGOs	User Group/Cooperative	Individuals
prepare management plan	assist in forming user groups and cooperatives	harvesting and marketing support	leasing agreement
tenurial lease arrangements with users	training	leasing agreement	labour provision
land demarcation, survey mapping	identify participants	management/self-policing of members	protection of forest
supervision	leasing agreement facilitator	division of benefits	agreement to limit use of wildlife sanctuary
provide staff to protect wildlife sanctuary and to manage buffer zones	education and awareness raising on the aims of the wildlife sanctuary and the need to protect the environment with local people both living inside buffer zone and outside	operation of tree fund for replanting in agro-forestry/woodlots	develop sustainable land use systems in buffer zones which are less environmentally damaging
active management to restore natural forest habitats in buffer areas adjoining sanctuary	training in wildlife conservation and conservation area management	coordination of visitor services provided by participant communities	
develop conservation and environmental information, education and research centre	regular monitoring surveys to be used in planning and monitoring active management measures		
develop visitor facilities	credit		
technical advice			

Table 5. Main Activities

Year	Activity	Who
1.	Continue baseline surveys of existing habitats, wildlife, local communities and their forest resource use patterns, (including proposed areas) and report on this. (Monitoring continues for duration of project).	FD with assistance of suitably experienced NGO or consultant
	Consultations with users, and outline plan for use of parts of sanctuary and buffer areas	FD, NGO, users
	Gazette enlarged wildlife sanctuary	FD, GOB
	Prepare and finalise management plan	FD with NGOs, users
2.	Sanctuary boundary demarcation and regular patrols of sanctuary, particularly to protect from cross-border exploitation	FD
	Conservation staff training	see section 8.6
	Establish user groups	NGOs, users
	Define user rights by zone, and start action research to increase returns to users	user groups, NGOs, FD
3.	Start participatory renovation of failing plantations in buffer zone for participatory management	participants, FD
	Reduce grazing pressure inside sanctuary through agreements with users and use of alternative plantations	FD, NGOs, participants
	Limited visitor facilities: improve resthouse, nature trail information for visitors	FD, participants, user groups
	Start active management to restore habitats in parts of buffer zone	FD, participants
4.	Continue last year's activities, maintain facilities, trails etc	all
5.	Continue last year's activities, maintain facilities, trails etc	all
6.	Continue last year's activities, maintain facilities, trails etc	all
7.	Continue last year's activities, maintain facilities, trails etc	all
	Repeat of baseline surveys and evaluation of wildlife sanctuary and buffer zone management impacts so far	NGOs, FD

5. LAWACHARA NATIONAL PARK (WEST BHANUGACH RESERVED FOREST) AND ASSOCIATED BUFFER AREAS

Case Study - 2

In the Forestry Sector Project funded by the Asian Development Bank there is provision for management of the newly constituted Lawachara National Park over an area of 1,250 ha of West Bhanugach Reserved Forests. Infrastructure for education and ecotourism, active management to restore habitats, training of staff and management of the buffer zone are included.

Participation will remain restricted to existing long-term users or encroachers, and no new settlements within the reserved forests will be permitted. West

Bhanugach Reserved Forests covers about 2,600 ha. Out of this, about 1,350 ha will form a buffer zone managed for production in ways sympathetic to biodiversity conservation. In some areas participatory systems of agro-forestry and forest use will be developed with the existing users and encroachers to give them a which, it is hoped, will prevent them from encroaching upon the park area.

5.1 LOCATION

The National Park and buffer area fall within three beats under one range of Kamalganj Police Station in Moulovi Bazaar District.

5.2 JUSTIFICATION

Recent study reports that there are 237 bird species in Lawachara Reserved Forests, almost all from the proposed National Park. This is 34% of the total avifauna of Bangladesh. Six species of primates have been recorded.

This is the most accessible hill forest in Sylhet Forest Division, and is a good location for ecotourism and environmental education.

5.3 SHARING FOREST BENEFITS

The forest is an important source of income for local people as well as for the Forest Department. People living in and around the forest are to be involved in its management. Because the people receive benefits from the forest, they cannot be excluded without compensation in one form or another for their livelihood. This will be achieved by participatory management of the buffer zones with balanced biodiversity conservation and income generation and can reduce timber and improve plantation maintenance, justifying participants' share of products. Ecotourism can also generate income. The whole area needs a coordinated management plan.

5.4 METHODS, APPROACH AND TECHNOLOGY

- a management plan will be prepared in participation with local people, conservation experts and NGOs;
- for the management of the National Park and buffer zone, regulations will be prepared based on agreement with the local people;
- boundaries will be defined and marked;
- staffing will be strengthened;
- ecological awareness will be enhanced;
- visitors' facilities will be provided;
- adequate management measures will be taken to restore damaged habitats for biodiversity conservation;
- participatory development of woodlots will be undertaken;
- sustainable firewood/bamboo harvesting practices will be implemented in the buffer zones to compensate for loss of access to the National Park.

5.5 ACTIVITY PROGRAMME

- a visitors' centre with information and displays on the history of the park and its plants and wildlife will be created;
- facilities for educational groups and research will be set up;
- colour marking and maintenance of nature trails will be done;
- there will be a visitors information centre on ecotourism;
- accommodation facilities will be developed;
- programmes for training local people as guides will be established to teach about the forest and its wildlife.

5.6 BENEFITS TO BE ACCRUED

- flora and fauna will be preserved. Biodiversity and a gene bank including plants of medicinal values and trees which may have unknown potential economic uses will be maintained;
- the intrinsic value of plants to current and future generations will be established;
- environmental education ecotourism and recreation for current and future users will be promoted;
- continued production of bamboo, fuel wood and timber from the buffer zone will be ensured;
- Users' livelihood will become sustainable;
- the watershed will be protected.

Table 6. Responsibilities of Stakeholders in West Bhanugach Reserved Forests

Forest Department	NGOs	User Group/Cooperative	Individual
prepare management plan cooperatives	assist in forming user groups and	harvesting and marketing support	agreement to limit use of national park
tenurial lease arrangements with users	identify participants	leasing agreement	labour provision
staff to protect national park	train participants	management/self-policing of members	protection of forest
supervision	leasing agreement facilitator	division of benefits	leasing agreement
boundary and land demarcation, survey, mapping of zones	education and awareness raising on the aims of the national park and need to protect the environment with local people both living inside and outside buffer zone	operation of tree fund for replanting in agro-forestry/woodlots	develop sustainable land use systems in buffer zones which are less environmentally damaging
management to restore natural forest habitats inside national park	training in wildlife conservation and national park management, visitor education	coordinate visitor services provided by participant communities	
develop conservation and environmental information, education/research centre	regular monitoring surveys to be used in planning and monitoring active management measures		
visitor facilities	credit		
technical advice			

Table 7. Main Activities

Year	Activity	Who
1	Baseline surveys of existing habitat, wildlife, local communities and their forest resource use patterns (monitoring continues for duration of project)	FD with assistance of qualified NGO or consultants
	Consultations with users	NGO, users
	Prepare buffer zone outline plan and review national park boundary	FD, NGO
	Gazette national park	FD GOB
2	Finalise management plan	FD with NGOs, users
	National park boundary demarcation	FD
	Conservation staff training	FD, NGOs, universities
	Set up interpretive/environmental education centre	FD with NGOs
	Mark nature trail	FD
	Participatory renovation of 50 ha of failing plantations in buffer zone for participatory management	participants, FD
	Define user rights by zone, and start action research to increase returns to users	user groups, NGOs, FD
3	Participatory renovation of 50 ha of failing plantations in buffer zone for participatory management	participants, FD
	Start improved agroforestry in areas occupied by encroachers	NGOs, participants
	Develop visitor facilities with local people in buffer zone	participants, user groups
	Prepare visitor information materials, to be coordinated for Srimangal area ecotourism and tourism promotion	FD, NGOs, local organisations
	Start restoring habitats if found necessary in national park and conversion of 127 ha to long rotations	FD, participants
4	Continue restoring forest habitat if required, convert 15 ha to long rotations, maintain facilities, trails etc	all
5	Convert 71 ha to long rotations, continue last year's activities, maintain facilities, trails etc	all
6	Continue last year's activities, maintain facilities, trails etc	all
	Repeat of baseline surveys and evaluation of national park and buffer zone management impacts so far	NGOs, FD

6. PROTECTED AREAS UNDER NATIONAL CONSERVATION STRATEGY STUDIES

Under NCS Phase III supported by NORAD and IUCN, implementation of the NCS programme began, which emphasised the need for sustainable use of natural

resources to protect the integrity of natural ecosystems and their ecological balance through the participatory approach.

The NCS selected four core areas in four ecological zones under Implementation Phase I and conducted case studies to prepare management plans for the core areas involving local people and to safeguard their interests. The core areas identified are Tanguar Haor, Narikeli Jingira (or St. Martins Island), Chalan Beels and the hilly areas between Chunati and Teknaf.

6.1 REASONS FOR STUDY

Two core area case studies have been selected for discussion, these are Tanguar Haor and Narikeli Gingira. Tanguar Haor is an area of outstanding conservation value, being one of the last near-natural freshwater wetlands in the country and is identified as a premier wetland in the Directory of Asian Wetlands (Scor 1989). It is also recognised as a Ramsar Site.

Narikeli Ginjira, or St. Martin's Island, is located on the southern-most tip of Bangladesh. It is the only coral bearing island and is threatened due to anthropogenic impact.

Both areas are inhabited by people. The management of the land is not vested with the Ministry of Environment and Forests. There are many indications that the natural resources of Tanguar Haor are being depleted: fish populations are steadily declining, the visits of winter migratory birds are dwindling and swamp forest has all but disappeared, leaving only slightly over eight hundred damaged trees. The once-common Bangal Rose (*Rosa chinophylla*) has been reduced to one or two last strongholds; conflicts over resources have mounted and disputes that were once settled by mutual understanding and agreement now lead to outbreaks of violence.

In St. Martin's Island, over-exploitation of coral resources and increase in the human population are threatening the marine ecosystem. Boat anchorage, population from urban sources, pollution from agricultural practices, fish drying, siltation and unregulated tourist activities are all destroying the island's unique ecosystem (Ahmed 1995).

7. TANGUAR HAOR

Case Study - 3

7.1 AREA PROFILE

Located at 25-5 - 25-12 ' North and 91-07 ' East, one third of the haor lies in Tahirpur and the other two thirds is in Dharmapasha Thana of Sunamgonj District, Sylhet Division. Tanguar Haor consists of a group of 50 beels. The rivers that form the natural boundaries of the haor are the Patni River to the east, the Ghasia River to the south and the Moheshkoa Khal to the west. To the north and northeast, the haor borders higher ground that gradually merges into the Meghalay Hills of India. The total area of haor is 9,727 hectares and the 50 beels cover 25% - 30% of the haor at the end of the dry season. It is located at an altitude of only 2.5 - 5.5 metres above sea level. Nutrient-rich water comes from the Baulai-Surma river system and through

four streams draining water from the Meghalaya Hills. The haor basin has a typically tropical monsoon climate, with an average annual rainfall ranging between 5,000 - 6,000 mm (NERP 1993d). The area is located within the Bengal Basin which is tectonically active with some areas undergoing subsidence, causing the formation of a few synclines. Floodwater tends to stagnate in the synclines (Huq & Kamal, 1993). This basin is formed as a result of a sedimentation process which is subsiding at a rate of 1-2 mm per year (NERP, 1993c). Most of the haor is covered by an alluvial pan with poorly to imperfectly drained soil which is a highly mottled brown, of a loamy sand to loamy clay type, with a strong acidic reaction.

7.2 PLANT AND ANIMAL SPECIES

The number of plant species available in the haor include 11 free floating species, 5 suspended species, 38 anchored species 20 rooted species, 116 emergent species, 5 climbers and 8 swamp forest species.

A vast number of invertebrates including freshwater sponges, coelenterates, arthropods, annelids and molluscs are present in the haor area, 12 varieties of butterflies have been recorded. Nuruzzaman recorded 141 fish species (1997) which included bighead carp, Thai silver carp, African magur, grass carp, mirror carp and tilapia. In addition, 11 amphibian and 34 reptile species have been recorded, the latter including 6 species of turtle, 7 species of lizard and 21 species of snake. A total of 208 bird species have been recorded at Tanguar Haor, of these 92 are waterbirds, 31 are reed or passerine, 15 are birds of prey, 68 birds belong to village groves and 98 are migratory. The mammal population is represented by 31 species, of which the tree mouse, house mouse, popistrelle, brown rat, black rat and the white tailed shrew are common. Population density at 480 people per km is low compared to the national level of 728 per km. There are 820 villages within and surrounding the haor with a population of 23,395 people. The average household size is 5.8 persons, and the average household head is aged 44.5 years. The birth rate is high with 30% of the population below 10 years.

7.3 RESOURCES

The resources of Tanguar Haor can be broadly categorised as water resources, fish resources, grazing, collection of grasses/reeds, wood resources, and bird hunting and trapping. Fishing rights to all 50 main beels have been leased by the Department of Land. The leaseholder by virtue of his fishing right now controls the water and other resources of the area.

7.4 HAOR MANAGEMENT PLAN

Based on this information the NCS Implementation I chalked out a management plan for the haor.

The strategy of the management plan involves,

- participation of local villagers in commercial fisheries;
- providing access to local villagers for non-commercial fishing, grazing, duck keeping, grass and reed collection;
- establishing regulations to limit use of natural resources;
- community development projects to improve health and create

- awareness about the alleviation of rural poverty;
- monitoring the changes due to implementation of project activities.

The objectives of the management plan are,

- to promote sustainable management of the haor ecosystem and its natural resources;
- to develop methodology for wise use of haor resources aiming at their judicious use and maintaining them in the same state for use by future generations;
- to identify unsustainable forms of resource use and to phase out, eliminate or find alternative strategies;
- to formulate a working strategy which is feasible, pragmatic and socially acceptable;
- to develop a model which can be replicated.

The main stakeholders identified to carry out implementation suggested in the plan are,

- Ministry of Environment and Forest (MOEF) - lead agency;
- MOL - represented by the deputy commissioner;
- Directorate of Fisheries (DOF) - responsible for fish management;
- Forest Department (FD) - responsible for forests and wildlife management;
- national NGO - responsible for developing resource use, awareness campaigns, monitoring and socio-economic activities as well as a poverty alleviation programme;
- international environmental NGO - to assist in obtaining funds and performing extended monitoring and evaluation;
- monitoring team - a body under the chairmanship of DC having representatives from DOF, FD, MOL and NGOs.

In addition, the local community and representatives of the leaseholder will also be involved.

The long-term goal of the management plan is community-based management and to allow benefits accruing from the resources be enjoyed by local people in perpetuity on a sustainable basis.

8. NARIKEL JINJIRA (ST. MARTIN'S ISLAND)

Case study - 4

8.1 AREA PROFILE

Narikel Jinjira, as it is locally known, is located on the southernmost tip of Bangladesh, roughly between 20° 34' - 20' 30' north and 92° 18' - 92 21' east, separated from the mainland by a channel that is about 9 km wide. The island is located in the northeastern part of the Bay of Bengal and while it is located within the tropical belt, its weather is heavily influenced by the sub-tropical monsoon climate. The average monthly temperature ranges from 27.6°C in January to 32.7°C in May. Relative

humidity ranges from 67% in February to 90% in July. The climate is mild from October to February with increased rainfall. Little information on oceanographic conditions is available. Surface circulation in the Bay of Bengal is wind-driven. From November to March, strong winds from the northeast set up strong anticyclone gyre (Vernal, 1991). The system reverses during the southwest monsoon. Surface seawater temperature is tropical (20°C to 30°C). Surface nutrient concentration (phosphate to nitrite) in the Bay of Bengal is generally low, varying from 0 to 1 Emboli/1 (Verlaan, 1991). This is likely due to high surface productivity as reflected by massive *Trichodesmium* bloom around Narikel Jinjira (Tomascik, 1997) and the high productivity of benthic macrophytes.

8.2 LAND TENURE

Most of the land today is owned privately and thus the local communities are in a position to ensure that a protected area programme will fail unless their concerns are met in an appropriate way. (Davey, 1996). Interviews with locals and a review of documents reveals that the first settlement took place in the 1880s.

8.3 FLORA

At the time of settlement the island was covered with rainforests and had an abundance of teak. In the 1920s hardwood was sold to adjacent Burma for construction purposes and boat building. Land conversion started in the 1940s and continues today. The lagoon converted in the 1960s when the mangrove vegetation also degraded.

8.4 SOCIAL ASPECTS

People of the island live in relative isolation with few amenities. Basic facilities such as education, sanitation, health care, communication and so on are lacking. This has resulted in community hardship and poverty. The people of the island have a very strong sense of land ownership. The natural resources in and around the island are rapidly diminishing and the ecological balance of the island is threatened due to anthropogenic impacts.

8.5 INTERVENTION NEEDED/MANAGEMENT PLAN

Sustainable development of Narikel Jinjira requires a multisectoral, coordinated management plan formulated by an intersectoral body with the active involvement of the local people. The plan should take into consideration (a) conservation (2) controlled development and (3) rehabilitation.

8.6 ZONING

Zoning is an important component of the Marine Protected Area (MPA) Management Plan, as it defines five zones within Narikel Jinjira according to their unique geological features. The island is famed for its coral, which is not found in any other part of Bangladesh. The subtidal habitat supports a highly productive and diverse algal bed as well as seagrass beds. The island contains a variety of unique habitats

and a number of rare and endangered species of coral. No study has yet been carried out to assess the biogeographical importance of the habitat and the surrounding communities. Narikel Jinjira is divided into five zones for management purposes: (a) general use zone (b) buffer zone (c) coral appreciation area (d) turtle nesting resources, and (e) coral sanctuary. All coastal areas outside the designated protected areas fall inside the general use zone. The primary function of the general use zone is to allow traditional uses to continue without restrictions, other than the ban on illegal activities.

The development of offshore fisheries through micro-credit is another option. The buffer zone offers continuation of traditional or established uses and activities as long as they are not damaging to the environment and incompatible with management objectives. The buffer zone is to provide protection to the core areas. The coral appreciation zone includes a number of lagoons on the northwest coast of Uttarpara.

Coral sanctuaries and the core zones will be managed as wilderness areas. The super tidal, intertidal and subtidal habitats found around Siradia have been designated as core zones.

Suggestion

As stated earlier, the most pressing need in the management of the Narikali Jinjira as a marine protected area is to create a central authority represented by all stakeholder departments of the government, representatives of local interest groups, as well as NGOs; all with clear and well-defined responsibilities. There must be a productive working relationship between different government organisations and suitable technical manpower in the government departments represented. Adequate funds with provision for institutional strengthening and human resource development should be made available. Since land ownership on Narikel Jinjira is a major issue, the setting up of a special agreement with the local community to allow effective conservation management of the protected area is of prime importance and should be tackled first.

9. POLICIES AND LEGISLATIONS

Policies and legislations of relevance to the conservation and management of the environment and protected areas are listed below.

9.1 FOREST ACT 1927 AND AMENDMENT OF 1990

This act has empowered the government to declare,

- any forest land or wasteland as reserved forests (Section 4);
- any forest land or wasteland as protected forests (Section 29);
- any village community may be assigned by the government the right of the government to or over any reserved forests, to be called village forests;
- the government may make rules for regulating the management of village forests.

9.2 BANGLADESH WILDLIFE (PRESERVATION) (AMENDMENT) ACT 1974

This is the follow-up Act of the Bangladesh Wildlife (preservation) order 1973 promulgated under Presidential Order 23 of 1973. This act provides for the establishment of national parks, wildlife sanctuaries and game reserves under Section 23 of the act. Section 24 of the act provides for the creation of private game reserves. The owner of such a private game reserve may exercise all the powers of an officer authorised by the government to carry out all the functions related to the act.

According to the provisions of Section 3, the government may appoint honorary officers to assist the officers whenever it feels necessary. According to Section 4, the government may appoint a wildlife advisory board. The board is supposed to approve important wildlife management decisions.

There are three schedules in the act.

The first schedule is divided into two parts - part one furnishes the names of animals (crustaceans to mammals) which can be hunted on an ordinary hunting permit. Part two gives the name of the species which can be hunted on a special permit. Presently, however all hunting and shooting is prohibited by executive order.

The second schedule gives the provision of a certificate for possession of wildlife or trophy.

The third schedule gives the names of the prohibited animals which are not to be hunted or trapped.

9.3 BANGLADESH ENVIRONMENT POLICY 1992 AND IMPLEMENTATION PROGRAMMES

The policy has attached due importance to the conservation of nature and biodiversity along with the conservation of the country's forests and environment. Forest extension activities through participatory approaches have gained support in the policy.

9.4 BANGLADESH ENVIRONMENT CONSERVATION ACT 1995

The act promulgated in 1995 gives provision to environmental issues in the country along with the setting up of new management bodies.

According to government policy, the sanctioning authorities should ensure that project proposals contain adequate environmental safeguards, although it is very seldom that these are strictly observed.

9.5 NATIONAL ENVIRONMENT MANAGEMENT PLAN (NEMAP)

Completed in 1994, NEMAP focused on identifying key environmental issues and conserving and improving the environment. The institutional issues covered by NEMAP envisages people's participation in decision-making.

9.6 TERRESTRIAL WATER AND MARITIME ZONES ACT

This act provides for the establishment of conservation zones to protect maritime resources from indiscriminate exploitation, depletion or destruction.

9.7 NATIONAL FOREST POLICY 1994

This is an amendment of the National Forest Policy 1979. As in the Forestry Sector Development Plan, people's welfare has been taken into consideration in this policy.

The important policy statement here is that attempts will be made to bring approximately 20% of the country's land under the afforestation programmes of the government and the private sector by the year 2015.

Private initiatives will be encouraged to implement tree plantation and afforestation programmes on available land. Item No. 8 of the statements of the National Forest Policy states that the priority protection areas are habitats which encompass representative samples of flora and fauna in the core areas of the national parks, wildlife sanctuaries and game reserves. Attempts will be made to increase the amount of protected areas to 10% of the reserved forest land by the year 2015.

Ecotourism related to forest and wildlife is recognised as a forestry-related activity and will be promoted.

The benefits of forestry sector development will be equitably distributed among the people whose livelihood depends on forest resources. Scope for people's participation in afforestation programmes will be developed and in the planning process the opinions and suggestions of forest users will be incorporated.

9.8 FORESTRY MASTER PLAN

The Forestry Master Plan prepared with the assistance of the Asian Development Bank and UNDP as per the recommendation of the 20 years' perspective Forestry Master Plan of 1994 has been framed. Revision of the Forest Act to ensure people's participation is now under active consideration by the government.

9.9 RE-NAMING OF WILDLIFE ACT

To ensure people's participation in the management of protected areas and biodiversity maintenance, the Wildlife Act of 1974 called for a revision of the act, re-naming it the "Protected Area Management and Wildlife Protection Act."

9.10 FORESTRY SECTOR PROJECT (1997-98—2003-2004)

This is largely a forestry development project including participatory aspects of protected areas.

10. ADMINISTRATION AND MANAGEMENT

The Forest Department, as well as implementing the functions related to forest management, also carries out all the functions pertaining to wildlife management, including protected area management (PAM). Functions are carried out in the field by

the Divisional Forest Officers (DFOs). With the creation of two divisions, one at Chittagong and the other at Khulna, under a project called the Forest Resource Management Project, the two divisional forest officers of the two newly created divisions are carrying out some of the activities of protected area management. The activities of the DFOs of these two divisions are not yet well defined and demarcated in the field. The two DFOs are functioning under the territorial Conservators of Forests.

In the Forest Department there was previously a post called Conservator of Forest Wildlife Circle, under the Chief Conservator of Forests. In a bid for administrative reform, the circle was abolished in 1983. A scheme entitled "Development of Wildlife Conservation and Management Project" began operation in 1993 with the creation of a circle called the Wildlife Circle and a post entitled Conservator of Forests. This structure was terminated with completion of the project in June 1997, and now the jobs of wildlife management are looked after by the territorial DFOs and two DFOs under the Environment Project.

11. COOPERATION WITH INTERNATIONAL AGENCIES AND CONVENTIONS

Bangladesh is a party to the following international conventions, treaties and protocols related to the environment and wildlife management.

Table 8. International Treaties, Conventions and Protocols and their Status in Bangladesh

	Convention/Treaty/Protocol	Status	
		Signed(date)	Ratified(date)
1(a)	Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar 1971 (Popularly known as the Ramsar Convention)		20-4-92
(b)	Protocol to Amend the Convention on Wetlands of International Importance Especially as Water Fowl Habitats, Ramsar 1971		
2.	Convention Concerning the Protection of World Cultural and Natural Heritage, Paris 1972	03-8-83 (Accepted) 03-11-83 (ratified)	
3.	Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973 -popularly known as CITES)	20-11-81	18-02-82
4.	Convention on Biological Diversity, Rio de Janero 1992	05-6-92	20-3-94
5.	International Convention to Combat Desertification, Paris 1994	21-6-94	Ratified by the cabinet during Oct., 1995.

12. CONSTRAINTS

- restocking of the forests through clear felling and burning and then artificial regeneration by a few indigenous and mostly exotic species played negative roles in wildlife management and protected area management systems. This process has however been slowed down in present times;
- in the past, very low priority was attached to protected area management. Because of the low priority being given to this, a meagre amount of funds was made available for this purpose, there being a lack of specific fund allocation for wildlife management;
- a dearth of personnel well-trained in technical aspects related to wildlife and protected area management;
- a lack of independent, self-reliant management;
- insufficient planning, research, inventory evaluation and monitoring systems regarding wildlife and environmental matters;
- little financial assistance in management;
- inadequate emphasis on education and training for protected area management;
- no proper publicity, motivation or persuasion, resulting in very little participation and cooperation from local people;
- general poverty of the people living in and around the protected areas;
- an absence of control on random use of insecticides and pesticides.
- little or no attention being paid by the industrial managers to discharging industrial wastes into river systems or water bodies;
- an absence of coordination between different government agencies;
- failure on the part of the Forest Department to give proper importance to wildlife and thus forestry officials are not being serious about the subject;
- absence of appreciation about specialised jobs;
- age-old disposition of the surrounding population for hunting is posing a serious threat to wildlife;
- people near the forests are not very concerned about protection, people from distant areas also carry out poaching;
- habitual poachers receive protection from influential persons;
- encroachment by way of illegal habitation and illegal clearing and cultivation along with illicit removal of forest trees. Timber and firewood being removed illegally for years have caused depletion of the forest and wildlife;
- influential and monied timber traders represent a strong vested interest to which many yield;
- unemployed people living near the protected areas carry out cutting and collection of fuel wood which is their daily means of earning a livelihood;
- unauthorised dwellers or encroachers numbers are so high it sometimes becomes difficult or impossible to carry out any plan of conservation and management regarding habitat and wildlife protection;
- low technical capability of the personnel engaged in management;
- the idea of participatory forestry development is well established, but the idea of protected area management is new and yet to be implemented to determine how it functions;

- except for those working on the the credit programme, NGOs (national or local) are yet to show their success in implementing and monitoring any project related to protected area management;
- funds to finance any protected area management programme are difficult to obtain either from national or international donor sources;
- the local community pay for the major cost of conservation through having lost the right to resource access. Benefits generally go to non-locals. It is difficult to compensate the local people who gather resources using their own labour from their immediate vicinities to earn their daily livelihood.

13. CONCLUSION

Conservation and development activities are tied securely to donor assistance. The donors' dictates sometimes create hindrances in implementing the management prescriptions of PA capacity building, which with all its complexities requires the appropriate steps to be taken with the stakeholders themselves. Often, programmes and policies alter due to tightening of strings and changes occur in the field of execution.

The training of officials from the implementing agencies, (including government personnel and NGOs) as well as the community at large; inter-agency relations; and a commitment to work are the others essentials needed to make the participatory approach to protected area management a success. Political commitment to protect and preserve the heritage of the nation in the face of the population explosion is vital.

People living inside the protected areas either legally or without authorisation pose a threat to sound management initiatives. The following options may be considered to provide a solution to this problem.

- (a) The number of households and the people therein should be inventoried and registered;
- (b) an understanding might be reached with them whereby they will help in conservation and management in lieu of certain benefits given to them. After such an understanding is reached, they may be issued a certificate. Periodically, the performance of the certificate holder will be inventoried and the appropriate action taken;
- (c) to provide credit, a fund may be created. The occupants will be given credit for finding an alternative livelihood. This will surely reduce poor people's dependancy on protected areas for land and other resources;
- (d) the occupants may be resettled in a suitable buffer zone with housing, a water system, access to roads, schools, markets and other facilities. This type of relocation approach, along with the credit fund, will be attractive to local people, who will themselves be involved in the processes of development activities.

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APPENDIX 1

INSTITUTIONS AND INDIVIDUALS INVOLVED IN PROTECTED AREA MANAGEMENT IN BANGLADESH

INSTITUTIONS

Bangladesh Forest Department
Headed by the Chief Conservator of Forests
Bana Bhaban, Gulshan Road
Mohakhali, Dhaka-1212

Directorate of Fisheries
Headed by Director General
Mathshya Bhaban, Kakrail, Dhaka.

Department of Zoology
University of Dhaka, Dhaka-1205.

Department of Botany
University of Dhaka
Dhaka-1205.

Life Science Institute
University of Jahangir Nagar
Savar, Dhaka.

Department of Zoology
University of Chittagong
Hathajari, Chittagong.

Wildlife Society of Bangladesh
C/O. Department of Zoology
University of Dhaka
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1. INTRODUCTION

In the context of protected areas (PAs), the term collaborative management (or co-management) refers to joint decision-making by all stakeholders on policies guiding the management of these areas. Some have argued that co-management must go beyond mere consultation and participatory planning and should entail a conscious and official distribution of responsibility, with formal vesting of some authority. The current literature on the subject promotes the concept almost as a panacea to resolve all the prevailing interface conflicts between PA authorities and the local resident populations.

The need for integrating local people's interests into the policies and programmes of PA planning and management cannot be denied or disputed. However, many advocates of co-management view it as a part of wider social agenda, and raise related issues of social justice, self-determination, and democratisation. In pursuing an over-socialised viewpoint, the essential need for integrating environmental and human concerns is frequently lost sight of. Consequently, the social agenda eclipses and overrides all concern for nature. Therefore, clarity has to be introduced into the PA co-management concept, particularly in relation to its application in different country and site-specific situations. This paper seeks to review the various policy, legislative and management initiatives for local people's participation in PA conservation in the Indian context through the ecodevelopment approach, and presents a perspective further building upon the experience.

2. THE CONTEXT

India's PA network comprises 84 national parks and 447 sanctuaries, covering about 150,000 sq.km, which is nearly 4.5% of the country's geographical area. Most PAs are small, below 500 sq.km in size, and subjected to a variety of resource-use pressures from nearby human and livestock populations. The people too have to contend with wild animal depredations and reduced access to biomass resources. Although much of the use of such forest-biomass resources is livelihoods to sustain people's the distinction between bonafide and commercial use has become progressively more blurred with rapidly growing populations and increasing resource demands. Conversely, because they are mostly located in the forested, interior regions, these people have also been deprived of even the most basic amenities of life and the benefits of rural development programmes. This further accentuates their dependence on the forest resources for their sustenance and subsistence. The resulting vicious cycle of resource dependence and resulting degradation has contributed to the continuing impoverishment of these peoples. It is ironic that some social policy personnel advocate the perpetuation of such a

precarious existence and of keeping the people alienated from the mainstream, ostensibly in the interest of preserving traditional knowledge and lifestyles.

India's PAs belong mainly to two categories, national parks and sanctuaries, which correspond to categories II and IV respectively of the IUCN classification. Under the Indian law dealing with PAs, consumptive use of wildlife resources is prohibited. Livestock grazing is, however, allowed within a sanctuary in a regulated manner. Proposed changes in the relevant law provide for all vegetation extracted from a PA as a result of habitat management efforts to be made available to the local communities. The foundations of co-management in PAs in India were, in fact, laid as far back as the 1970s when enlightened managers initiated small-scale mitigatory efforts in some areas (e.g. Kanha National Park).

Simultaneously, another innovative resource management strategy was evolved by the Indian Forester, which is known today as the Joint Forest Management (JFM) concept. The experience gained under this programme, which now extends to over 1.5 million ha. of forest land in 10 states, has provided many useful lessons for co-management of PAs, particularly in relation to aspects of participatory, institutional and usufruct sharing arrangements.

3. THE RESPONSE

Realising the importance of gaining the support and involvement of local people in the PA conservation effort, the Government of India incorporated it as an important objective in the National Wildlife Action Plan (NWAP), which was formally adopted in 1983. NWAP continues to guide all major programmes for wildlife and PA conservation in the country. The relevant objective calls for the development of appropriate management systems for protected areas, with due regard to the needs of the local people and ensuring their support and involvement. Further, the action required under this objective is "to ensure compatibility between the protected areas and their surroundings," and "the latter should be identified as Special Areas for Ecodevelopment (SAEDs), where conservation-oriented community development programmes should be undertaken." A listing of some priority projects to realise the identified objective follows this; "identify the surroundings of protected areas for ecodevelopment and undertake community development programmes through concerned agencies to elicit the support and involvement of the local people." In doing so, the recommendations of the task force of the Indian Board for Wildlife, set up for this purpose, should be kept in view.

It is noteworthy that concurrently with the development of the NWAP task force was appointed by the Indian Board for Wildlife (the highest advisory body on wildlife which is headed by the Prime Minister) to recommend measures for eliciting public support for wildlife conservation. These recommendations were also built into NWAP. Thus, people-oriented conservation became a firm basis for wildlife conservation policy in the country.

The task force recommended that while protection must be enforced in the core-buffer complex of the PA, the multiple-use surrounds should be subjected to rapid multilateral ecodevelopment capable of enhancing the agricultural, pastoral and forest productivity of the area to provide supplementary alternative resources. The suggested measures call for the need to identify and recognise SAEDs around PAs in terms of their ecological and administrative requirements. While controlling usage with a conservation bias, the measures suggested provide higher per capita

inputs in SAEDs in ecocodevelopment involving soil conservation; afforestation; forestry practices compatible with needs of local people and wildlife; improved dry farming techniques; micro-minor irrigation; pasture and fodder development; and improved but compatible animal husbandry, energy alternatives, etc.

The ecocodevelopment approach is predicated on the conviction that resources must be created or provided outside the PAs to enable the local communities to sustainably meet their requirement of fuel, fodder and timber, and that their other livelihood concerns must also be addressed. It seeks to encourage people to be self-reliant instead of continuing their dependence on a diminishing resource.

4. THE EXPERIENCE

Having adopted the enabling policy, in 1991 the Government of India launched a centrally sponsored scheme of extending financial assistance to the states for PA ecocodevelopment. The basic components of the scheme include undertaking fuelwood and fodder plantation in community and private lands; promoting the use of fuel efficient stoves and other alternative energy sources; extending health and veterinary care; drinking water and irrigation facilities; preventing and mitigating wildlife damages, etc. The scheme also supports the promotion of alternative livelihood practices, including training for this purpose, so that a biomass dependent livelihood is gradually done away with. Concomitantly, capacity building of PA agencies for ecocodevelopment planning and implementation is being carried out through regular training programmes being offered at the Wildlife Institute of India.

The centrally sponsored PA ecocodevelopment scheme has so far been extended to some 80 PAs, but due to resource constraints, the interventions have been on a relatively small scale. A recent independent evaluation of the scheme has not only established this limitation but has also advised against spreading the available resources too thin. Therefore, plans are afoot during the current year to resolve this problem by more intensively covering a smaller number of areas and by coordinating targeted inputs from various government agencies and sources. PA ecocodevelopment is now also a component of several externally aided forestry projects that are being implemented in the different states.

The Government of India has recently launched an ambitious ecocodevelopment project with World Bank assistance. The project covers seven PAs and is partly funded through a grant from the GEF, credit from the IDA, contributions from the central and state governments, and beneficiary communities. The project planning and design process at each site has involved extensive consultation with a large number of village communities, NGOs, local and state level institutions and organisations. This has resulted in strengthening of village groups and formation of village ecocodevelopment committees to sustain and formalise the participation of local people in detailed micro-planning for ecocodevelopment and monitoring of various project activities.

There has been unqualified acceptance of the ecocodevelopment programme by the people in every area that it has been introduced. PA ecocodevelopment supports and reinforces the developmental aspirations of communities, who are eking out a marginal existence in the forest hinterland of the country. A complementary, centrally sponsored scheme, Beneficiary Oriented Tribal Development Scheme (BOTDS) supports voluntary village relocation from PAs for rehabilitation in outside areas where all rural development benefits can be extended to them. Unfortunately,

adequate financial resources are currently lacking to cover all the PAs and villages, which need to be brought under the umbrella of the ecodevelopment programme. Nevertheless, tangible benefits have accrued to the communities wherever the ecodevelopment scheme has been introduced.

In the Sunderbans Tiger Reserve for example, the ecodevelopment programme comprises ecologically sustainable livelihood practices such as aquaculture, apiculture, horticulture and farm forestry, for which vocational training is also being given. Energy alternatives, energy saving devices, drinking water facilities, primary health, and veterinary services are being extended. For this purpose, 16,000 families have been organised into 27 forest protection and 13 ecodevelopment committees. Conservation of the core area has resulted in substantially higher fish and honey yields in the buffer areas, bringing tremendous benefits to the local villagers.

Ecodevelopment committees have been constituted in all the 32 villages on the fringe of the Jaldapara Sanctuary for executing activities. The work undertaken includes: construction and deepening of irrigation canals, introduction of drinking water schemes, formation of village approach roads, construction of dug wells for irrigation, planting of areca nut palms and silk-cotton trees to act as a buffer and to yield a commercial crop, promotion of handloom weaving as an alternative vocation, etc. The people have responded to these initiatives with great enthusiasm and have successfully enforced PA protection regulations.

At Bharatpur, the value of grass fodder alone, which is harvested from the Keoladeo National Park and supplied to the local people, is estimated at US\$ 100,000 annually. A large number of people from the local community are also engaged in tourism and the related service sectors. This is in sharp contrast to the situation of conflict in the mid-1980s. Even in the Manas Tiger Reserve, which has witnessed unprecedented ethnic disturbance in the region, an ecodevelopment strategy has been initiated to gain the confidence of the local community. The package of measures include provision of drinking water facilities, construction of irrigation channels and village roads, organising health care camps, training of tourist guides, and forming of eco-clubs in local schools. Local community leaders and organisations are actively contributing to this effort.

Any number of such examples can be cited from around the country, but that is not the intention here. The validity of the PA ecodevelopment approach is clearly recognised and established. The concept however, continues to evolve, as experiences are fed back to improve and strengthen various aspects of the programme. At the same time, it retains enough resilience to adapt itself to different site-specific situations. To exemplify this and to demonstrate the element of people's participation, two brief case studies are presented from recent experiences.

5. CASE STUDIES

The Kalakad-Mundanthurai Tiger Reserve of Tamil Nadu State is located in the Western Ghats of India, which is a biodiversity hot spot. Contiguous forest surrounds the PA on all sides, except towards the east, where 145 villages are located in a 5km zone. These have a population of about 100,000 persons and 130,000 heads of cattle and buffalo, and are heavily dependent on PA resources for fuel, fodder and timber.

The concept of ecodevelopment was introduced to these villages by the PA management, along with modest goodwill investments of the villagers' choice such

as a hand pump for water supply, desiltation of a stream, repairing a school or temple building, and providing a public address system and library. As a result, village forest committees (VFCs) were formed in 100 villages, who worked with the ecodevelopment teams to identify and prioritise village needs through the preparation of ecodevelopment investment plans. These investments are linked to agreements for reducing the use of PA resources. Investments have been made for raising fuel wood and fodder plantations, adopting fuel-saving devices such as cow dung-based gas plants and more efficient wood-burning stoves, and creating alternative employment. The latter includes activities such as dairy and poultry farming, tailoring, coconut leaf weaving, and setting up small business ventures. The villagers also contribute 25% of the total investments by way of labour inputs. The VFCs operate a joint account with a Forest Department representative, and funds are released only with the approval of a two-thirds majority of the villagers participating in the microplan to ensure transparency.

Because of the project, forest encroachment has already decreased dramatically. Preliminary evidence suggests that the PA ecosystem is starting to recover; plant life is regenerating and animal populations reproducing. The relationship between the PA authorities and the people has transformed from one of adversaries to collaborators. The project has secured the trust of local people and built their confidence so that they can take charge of the development and implementation of village microplans. The state government has given its full support and has established a special high-level committee to expedite issue resolution under the project.

In the case of the Kuno-Palpur Sanctuary in Madhya Pradesh, the project covers both village relocation, rehabilitation and ecodevelopment investments. The sanctuary, which has an area of 345 sq.km is located in the dry deciduous forests of the Vindhyan hill ranges. It has been chosen as the best site for creating a second home for the Asiatic Lion. The main project activities include habitat restoration, augmentation of prey populations, ecodevelopment and village relocation. Nineteen villages, comprising 1,525 families, lie scattered throughout the sanctuary. These villages have no approach road, the nearest market and bus point is 35 km away, and there are no electricity, educational, health or other facilities available to them. Presented with the option, the villages readily agreed to relocate to a site on the periphery of the park, where infrastructural and other facilities are available. A cabinet sub-committee of the Madhya Pradesh Government independently verified and certified that the villagers had themselves volunteered to relocate.

The rehabilitation sites, as well as sites for individual villages, social groupings, and locations of habitation and cultivation areas were all selected by the villagers themselves. Each family has been given 2 ha of cultivable land and a 5,600 sq.ft housing plot. Every individual of 18 years and above has been treated as a family under this project, including landless persons, which dramatically increases the individual land holding in this predominantly agricultural tribe. Phase I of the project, currently under implementation, covers 663 families. The relocation site comprises four blocks of protected forest (3,721 ha) and is of high agricultural productivity. Village Development Societies have been formed to ensure the participation of villagers in every stage of planning and implementation of the entire project.

The agricultural land has been demarcated, cleared and deep-ploughed for cultivation and stop dams are under construction on the two rivers bounding the

relocation site to create water bodies for installing lift irrigation systems. Block plantations of fuel wood and fodder species are being raised. In the habitation areas, drinking water hand-pumps have been installed at the rate of one for every 50 families, building materials of choice supplied, and electricity transmission lines extended. Transportation of all dismantled building materials will also be done from the relocated villages to the new sites and the houses built by the villagers themselves. Approach roads, with bridges and culverts have been constructed to provide access to public transportation all year round. In addition to the existing medical centre, a 20-bed hospital has been constructed along with a school building. Hostel facilities will also be created at the relocation site

Ecodevelopment benefits are also being extended to 19 villages located within a zone of 5 km from the periphery of the sanctuary. These include, fuel wood plantations, pasture development, irrigation facilities, a drinking water supply scheme, prophylactic immunisation of cattle, periodic medical camps, the supply of solar cookers, and construction of a community cow-dung gas plant. Chicks have also been distributed to some of the interested villagers for raising chickens for sale. Implementation of the project has been characterised by exemplary inter-departmental coordination. The District Rural Development Agency, the State Land Development Corporation, as well as the State Agriculture, Electricity, Public Works and Veterinary Departments have all contributed to the execution of various components of the project.

6. CONCERNS

Although it needed time to take off, eco-development has now been established as a strategy for biodiversity conservation within PAs, by linking it with the livelihood concerns of the forest dependent communities. A definite momentum has been created, which has to be maintained by timely deployment of adequate financial resources in the selected areas. One strategy, which has been adopted for supplementing the funds available for eco-development, is to facilitate inter-sectoral coordination. On-going afforestation, rural development and other relevant schemes have to be integrated and targeted to the eco-development sites for maximum synergy. This approach has been planned for six PAs on a pilot basis this year. Based on this experience, the appropriate institutional arrangements will be formalised to implement the strategy on a larger scale in the coming years.

Another concern is that of capacity within the PA agencies to implement eco-development, which is largely a rural development type programme. While training is being provided to the officer levels, it is the lower staff that provides the actual interface with local communities. Much more capacity building effort is required to orient them to the task. On-site training through visits to eco-development implementing sites would be particularly valuable. However, it is gratifying to note that Forest Department personnel have excelled themselves in the district rural development agencies in many states and are in great demand. The experience gained in such assignments is proving to be an asset for eco-development work. In most large PAs implementing eco-development, a separate officer has been assigned this responsibility under the overall supervision of the PA manager. This is essential so that the latter is able to devote adequate time to core conservation work within the PA.

Sustainability of the systems established and assets created under the PA ecodevelopment programme has to be ensured. This can happen only when there is a high level of participation and ownership of the project by the local people. This is a responsibility of the village ecodevelopment committees, for whose formation and functioning guidelines have been established. It is proposed that the constitution of PA advisory committees is mandated by changes in the law. Proposals for amending the PA legislation also include two additional categories of PAs, the Community Reserve and the Conservation Reserve, which would correspond to categories V and VI of the IUCN classification. These changes would provide the necessary legal framework and facilitate people's participation in ecodevelopment planning and implementation.

7. CONCLUSION

India has charted a certain course of eliciting people's participation in biodiversity conservation within PAs through the ecodevelopment approach. The PA ecodevelopment strategy is an incentive-linked in-situ biodiversity conservation programme, which fosters people's participation in planning and implementation, through reciprocal agreements between local communities and PA authorities. It provides an opportunity for PA managers to help people in return for their contribution towards conserving biodiversity in the PA. Enabling policies and programmes are available and well-established. Suitable legislative changes are also in the offing to further strengthen this effort. Experience gained in various site-specific situations and contexts is being used to fine-tune different aspects of the programme. We are also seeking to build on this experience through resource mobilisation and capacity building efforts.

Against this background, collaborative management of PAs has to be seen as a means to an end and not as an end in itself. It should not be viewed as a tool for pursuing a human rights agenda as some groups are appearing to do. From the Indian perspective we find no value in identifying specific action research sites within the country for a regional collaborative project, because of the already available field experience and established procedures. The PAs where ecodevelopment is being implemented have the potential to develop into demonstration sites from which other countries in the region could benefit. Mutual sharing of experience can take place among the practitioners. The PA agencies are already learning by doing and would need to proceed along the established path for consolidating the ecodevelopment experience.

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COUNTRY PAPER - INDIA

ATTEMPTS AT REDUCTION OF ANTHROPOGENIC PRESSURE ON RESOURCES OF KALAKAD MUNDANTHURAL TIGER RESERVE THROUGH ECODEVELOPMENT STRATEGY.

by Dr. V.K. Melkanani
A. Venkatesh

1. BACKGROUND

Kalakad Mundanthural Tiger Reserve (KMTR), the 17th Tiger Reserve in the country, is one of the largest natural forests and harbours a variety of altitudinal climax forest communities. The very location of the reserve in the Western Ghats, one of the most important biogeographic regions in India and recognised as a biodiversity "hot spot" of the world, makes it unique in its tropical forest conglomerations and extremely rich floral/faunal diversity both in terms of species richness and endemism. This area has less ecological dry months than any other area in the Western Ghats and hence experiences a more typical tropical evergreen forest regime. The Agasthiarmalai Hills, which fall within the reserve, are considered to be one of the five centres of plant diversity and endemism in India (IUCN). At least 150 endemic species and plants occur in the Agasthiarmalai Hills. The reserve proudly treasures some of the state's most precious untouched forest, exceptionally rich in plant and animal diversity and therefore, a priority area for conservation.

2. PRESSURES ON THE RESERVE

The periphery of the Tiger Reserve experiences pressures from grazing, removal of small timber and firewood, non-timber forest products and the illegal felling of timber trees. The area is also prone to forest fires. The pressures on the reserve come from about 145 hamlets comprising approximately 25,000 households situated within 5km of the eastern boundary of the reserve and the 3 colonies of the State Electricity Board, whose workforce and their families (nearly 10,000 persons) are housed inside the reserve. There are several small estates, and five kami habitations on the Kalakad Mundanthural Tiger Reserve. The villagers living on the periphery of the park practice rain-fed agriculture, which is usually their most important source of livelihood. Crop damage mainly by wild boars (and at times from elephants) is a constant problem.

3. INITIATION OF ECODEVELOPMENT STRATEGY

Under the World Bank-assisted FREEP Conservation of Biodiversity model pilot project which addresses "people-PA and PA-people" mutual negative interactions, ecodevelopment strategies have been attempted since 1995 that aim to involve local

people in conservation efforts through a better understanding of their problems and enable them to appreciate the necessity of conservation for a better future. The project also aims to provide those depending on the forest for their livelihood with alternate resources and livelihood opportunities through various income generating activities and to develop target villages in such a way that the conservation of the ecological resources of the reserve is sustained.

4. PARTNERS IN ECODEVELOPMENT

The Forest Department, local non governmental organisations and village community members are the partners collaborating in the project, appreciating each others' concerns and constraints and attempting to carry out various activities aimed at implementing project objectives.

NGO workers have been an active force in the project from day one of the micro planning and implementation activities. The partners have been working in effective collaboration and coordination with each other to build capacity in the village forest committee (VFC) members. The following local non government organisations have been collaborating in the project.

1. Vivekanandan Kendra, Kanyakumari.
2. Avvai Ashram, Sivasailam.
3. SCAD, Cheranmahadevi.
4. CAST, Kalakad
5. Arumbugal Trust, Tirunelveli
6. SWAN, Veeravanallur
7. WEDS, Melaseval, Tirunelveli
8. Arasan Rural Development Society, Kalakad.
9. AUSSI, Veeravanallur.

4.1 CREATION OF LOCAL LEVEL ORGANISATIONS

To shoulder the responsibility of conservation at the local level, VFCS have been constituted in nearly 105 villages along the fringe areas of the reserve. These local level organisations called village forest committees (VFCS) were developed to function as a viable body at the village level, having a high level of communication and understanding with the village community. All VFCs are registered under the Tamil Nadu Societies Act 1975, and in fact each VFC becomes a statutory local organisation. The various activities as envisaged in the village ecodevelopment micro plan are taken up directly by the VFC with the forest department and local organisations facilitating and guiding the VFC in shouldering the responsibilities. Funds are deposited directly into the joint account of the VFC.

4.2 CONTRIBUTION OF THE COMMUNITY

For undertaking any activity, VFC members pay 25% of the cost of all activities through labour and cash. In order to continue in the committee as members, each member pays Rs. 1/- to the committee as a monthly membership contribution. This has encouraged the people to see themselves as the "owners" of the committee.

4.3 ACHIEVING RECIPROCAL COMMITMENTS

People-PA and PA-people mutual negative interactions are debated in the VFC. The micro planning team then helps the VFC members to identify the measures/actions necessary to reduce these negative interactions. Agreed reciprocal action is incorporated into the micro plan, which is implemented by the committee after entering into a memorandum of understanding with the Forest Department. The micro plan has 3 main strategies to deal with such negative interactions. These are: biomass generation in and around the villages, efficient use of fuel, and income generation activities for the forest dependents. These strategies have been designed to ensure that an adequate resource is created for people's use outside the reserve, that the use of wood as a depleting resource is optimised and that new alternatives are tried and tested. Last but not the least, the project aims to reduce people's dependence on rapidly depleting natural resources.

5. SUSTAINABILITY OF ECODEVELOPMENT PROJECT

The challenge to any ecodevelopment project is its ability to last beyond the end of the project period. In order to become self-sustaining, the VFC has been advancing assistance with simple 12% interest to VFC members for undertaking alternative income generating activities. While selecting these, adequate care is taken to see that the villagers have expertise in the field they choose, or else suitable training is imparted to them. Normally small, traditional micro enterprises have been chosen to ensure their viability and secure a sustainable income for forest dependents.

So far, 8.6 million rupees have been credited to the various VFCs. Eighty-five VFCs have advanced more than 6.6 million rupees as assistance for the undertaking of alternative income generation activities to assist the forest dependents. The committees have successfully recovered all the assistance advanced along with interest due. This was the achievement which attracted the participation of more villagers who had a strong belief that the programme would benefit them directly. The assistance is now available at their doorstep in the village itself. The VFC closely monitors the activities undertaken by the forest dependents and ensures that the assistance is paid back in installments as agreed upon during micro planning. It seems possible that with these efforts, each VFC will have a sizable capital base available at the closure of the project. With a high level of awareness creation it will be possible to sustain efforts well beyond the project period. Training and workshops will continue to be organised during the project period on issues concerning the management of revolving funds, accounting procedures, leadership building and motivation in order to equip the VFC members with the tools to shoulder future responsibilities.

6. IMPACT OF THE PROJECT

1. The direct reduction of resource dependency of 2000 forest dependents has been achieved.
2. Out of the assistance of 6.6 million rupees, given for alternative income generation activities to 85 VFCs, the successful recovery of installments enabled the VFCs to provide assistance for a further 500 more forest dependents, which indicates the onset of a revolving fund mechanism.

3. Grazing in the forest has been reduced by more than 50% mainly through the disposal of scrub cattle, a change to stall feeding and exchanging scrub cattle for improved breeds.
4. Greater awareness has been created among the target villages about the need to conserve the forest and its biodiversity.
5. The training and workshops provided so far on the themes of leadership qualities, micro planning implementation, accounting procedures and the revolving fund mechanism has helped in the capacity building of VFC members.
6. Trends have started emerging wherein the people in target villages are readily opting for alternate, non-conventional energy use.
7. Various self-help groups such as women and youth organisations and expert groups on cattle purchase have started emerging in the target villages to cope with the new challenges in micro plan implementation.
8. The continued increase in the number of VFC members after the beginning of implementation of the micro plan indicates that the people have developed a strong belief in ecodevelopment strategies.

7. CONCLUSION

Our past tells us that there are two major factors leading to the loss of forests and their riches, and which continue to take their toll of our forest resources today. These are the "need" and "creed" of the various individuals and societies in and around the resource. The eco-development approach, which creates a strong contingent of friends concerned with cause and action around the line of the PA, has ample scope to reduce the problems associated with the needs of of individuals and societies. A committed contingent of trusted partners along the periphery of the PA has the scope to provide support and intelligence to PA staff to successfully control action, thus curbing the negative pressures arising due to the creed of the individuals and societies in and around the PA. The success of this venture depends on how far we can imbibe a sense of belonging and concern among the people who are partners in our joint efforts towards the conservation of our resources

COUNTRY PAPER – INDIA

TOWARDS PARTICIPATORY CONSERVATION IN INDIA: NATIONAL SCENARIO AND LESSONS FROM THE FIELD*

by Ashish Kothari

PART 1: THE NATIONAL SCENARIO

1.1 INTRODUCTION

For the last few decades, legal and administrative protection to ecosystems and species has been the main strategy for wildlife conservation in India. The declaration of national parks, sanctuaries, and other categories of protected areas (PAs) under the Wildlife (Protection) Act 1972, has resulted in the protection of a large number of areas from certain destruction by commercial, industrial, or biotic forces. Legal protection against hunting and capture, given under the same act to listed species has also helped to safeguard threatened and rare flora and fauna. Related legislation such as the Forest (Conservation) Act has also helped to curb the diversion of natural habitats for non-conservation purposes.

But increasingly, chinks in the armour of this strategy are being exposed. Public and political support for conservation is falling across the board; state governments are trigger-happy about sacrificing notified areas for so-called developmental activities; illegal hunting and tree-felling has been hard to curb in many areas; and conflicts between wildlife officials and local people living in and around PAs are becoming more common. Several species whose existence had been relatively well-secured over the last two to three decades are once again facing the threat of extinction. It is clear that unless there are significant attempts to respond to such issues, including changes in the policy and legal direction of conservation, wildlife will remain in deep trouble.

A centralised, bureaucracy-dominated approach to conservation is doomed to failure in the new circumstances that India finds itself in. Firstly, new macro-economic policies, responding to the globalisation process that is sweeping the world, are essentially in contradiction to conservation and sustainable use of natural resources. The same government which declares a PA is now willing to sacrifice it at the altar of 'development' and 'economic growth'. Second, a new political dynamic has empowered state parties and governments much more than before, and the central government is unable to wield its environmental clout as previously. Third,

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government controls are generally loosening under the impact of the private corporate sector, both domestic and foreign, which has far more ability to influence policies now than just a few years ago. Fourth, local communities everywhere are no longer willing to take things lying down; they want, and rightly so, a voice in making the decisions that affect their lives. This relates as much to top-down development processes as to conservation measures taken by governments. Privatisation and decentralisation are powerful forces, and they militate against the form of centralised control that conservation and natural resource management has enjoyed over the last century or so.

The conservation movement has yet to organise itself to respond to these new challenges. In a sense, this failure has a lot to do with history: in the past, urban conservationists found favour with a tiny section of the political elite which was sympathetic to wildlife conservation and able to wield power with state governments. However, little attempt was made to make the movement broad-based, so that when the political support at the top ended, conservationists were suddenly left out in the cold. All the conservationists at the Wildlife Institute of India, the Bombay Natural History Society, the Salim Ali Centre for Ornithology, the World Wide Fund for Nature, Sanctuary Magazine, the Ranthambhor Foundation, Wildlife First, Kalpavriksh and myriad other organisations, brilliant and dedicated as they are, now find themselves helpless against the forces mentioned above. Urban-based conservation helped India's wildlife to buy time; that time is now running out, and a new orientation is needed if the gains made in the last few decades are to be sustained.

The only thing that can save the conservation movement is to move away from its elitist base to a much broader base of local community members, academics, NGOs, and sensitive government officers. Together, these constituents can defeat the destructive forces engulfing natural habitats; divided, they will be powerless.

Is this possible? To answer this question, I will briefly go into the history and contours of the current situation, below. •

1.2 IGNORING PEOPLE'S NEEDS, RIGHTS, AND KNOWLEDGE

Conventional conservation policies and programmes in India have been characterised by an amazing ignorance or deliberate neglect of the integral relationship between rural communities and natural habitats. The majority of the country's population still depends directly on natural resources for some or other crucial element of their survival. This is even more true of PAs than elsewhere, for the simple reason that they are predominantly inhabited by highly ecosystem-dependent people. A study by the Indian Institute of Public Administration in the mid and late 1980s revealed that 69% of surveyed PAs had human population living inside, and 64% had rights, leases, or concessions to extract fuel and fodder, to graze, or to carry out other activities (Kothari et.al. 1989). The situation has not substantially changed, given that in the last decade or so not so many people have been moved out of PAs, nor have so many adjacent communities been provided

• These aspects are explored in more detail in Kothari, Singh and Suri 1995; Kothari 1996; Rangarajan 1996; and Tucker 1991.

alternatives. A rough extrapolation of the same data suggests that there are at least three million people living inside PAs, and several million more using them from adjacent settlements. Official policy never came to grips with this reality, with the result that legal and administrative structures of restriction and denial of access to resources were imposed on every area which became a PA. While actual displacement of communities has fortunately not been very prevalent, curtailment of rights to resources has been commonplace. Simultaneously, restrictions on hunting (perhaps usually justified from the conservation point of view) have denied communities a means of self-defense against wild animals which attack livestock or humans and damage crops.

As short-sighted was the neglect of the enormous knowledge of ecosystems and wildlife that India's local communities had and in many cases, still have. This knowledge and the associated practices of prudent resource use and conservation, has been documented by several people (Gadgil, Berkes and Folke 1993, Sen 1992, Deeney and Fernandes 1992, Gokhale 1997, Ramakrishnan 1984) and will not be recounted here. One senior wildlife official recently stated that it is untrue that such knowledge is neglected, for officials often rely on local people to tell them about plants and animals and ecological factors. However, community knowledge is not merely fragments of information which are used when convenient and discarded when not, and which are in any case rarely acknowledged when used (as for instance is happening in the ecodevelopment process in Great Himalayan National Park, see Baviskar 1998). The relevance of traditional knowledge of biological resources needs to be understood in the context of the social and cultural milieu of the community as a whole, and within the context of its relations with its surrounding habitats. Official policy has not given this entire context the respect it deserves; rather, the knowledge and its milieu were considered essentially antithetical to the conservation objective, and therefore even where pieces of traditional knowledge were used in conservation programmes, the community as a whole continued to be alienated from its natural context. Almost never were community members (even the much-celebrated Bishnois, or the Irulas, or other communities which official wildlife pamphlets pay lip-service to) asked to be a part of any decision-making or planning. As we will see below, this attitude continues to characterise even more progressive official policies of recent times, such as ecodevelopment.

The combined result of the above aspects of conservation strategy has been the following.

1. Communities, even those which continued to practice sustainable or conservationist resource use, are increasingly alienated from natural habitats, resulting in a break-down of traditional practices, erosion of knowledge, and loss of the desire to protect resources from degradation (the "sarkari tiger" syndrome).
2. Hostility towards official conservation efforts and officials is manifested in a range of responses including: non-cooperation (e.g. during fire or illegal timber cutting incidents); outright violence against officials (e.g. against the former director of the Ranthambhor Tiger Reserve, Shri Fateh Singh Rathore); deliberate destruction (including poaching and setting fire to forests); undermining of regulations by obtaining political and other patronage (Saberwal 1998); and demands for denotification of PAs.

What is particularly tragic is that many instances of curbing human uses, and the general prescription to eliminate all human uses (except, for some strange reason, tourism) from national parks, is based on the mistaken assumption that all such uses are detrimental to biodiversity conservation. Evidence from various parts of the world suggest that limited human use may not only be possible to absorb within ecosystems, but that in many cases it may enhance local biodiversity levels; and indeed that many of the so-called 'pristine' wildlife habitats that we want to preserve in their 'virgin' character (the Amazonian forests, the American prairies, the African savannah, freshwater wetlands in India) actually owe their current levels of diversity partly to a long history of human use (Gomez-Pompa and Kaus 1992, Bush and Colinvaux 1994, Adams and McShane 1992, Arhem 1985, Saberwal 1998); and further, that cessation of human activities (including grazing and fire) from such ecosystems could actually reduce biodiversity levels and even make the habitat worse for the species sought to be conserved (Ali and Vijayan 1986, Vijayan 1990, Naithani et.al. 1992, Pandey and Singh 1992, all citing cases from India). It would of course be dangerous and foolish to extrapolate from these examples and suggest that all human use is compatible with biodiversity conservation, but surely they do indicate that a blanket policy either way is unscientific and potentially detrimental to conservation objectives.

1.3 CONFLICTS AND COOPERATION

The current conservation scenario is confusing in its complexity, making any generalisations hazardous. Look at the following examples:

- In some areas, local villagers/communities are totally rejecting the official concept of PAs and consequently are even willing to sacrifice the forests and wildlife for immediate gains. In Narayan Sarovar Sanctuary of Gujarat (western India), many villagers have welcomed the recent denotification of the sanctuary to make way for a cement factory. Such local communities have invariably realised no benefits from the establishment of the PAs around them. If anything, it has only meant livelihood insecurity and lost opportunities because of lack of commercial development. This phenomenon has received a major boost due to the recent haphazard and insensitive process of settlement of rights that have been launched in all states, as a result of a Supreme Court order in a case that WWF-India is fighting. In Udaipur district, a sarpanch has filed a case asking for the denotification of the Phulwari ki Naal Sanctuary, arguing that the settlement process violates his rights.
- Commercial forces are invariably very strong and often influence industrial states to reverse their own conservation measures. In 1991, the government of the Himalayan state of Himanchal Pradesh denotified the Darlaghat Sanctuary to make way for a cement factory; the same purpose drove Gujarat to denotify the Narayan Sarovar Sanctuary in coastal Kutch. In 1994, Karnataka gave fresh mineral prospecting leases inside the evergreen forest habitat of the Kudremukh National Park. In July 1998, the news came that permission had been granted to the Atomic Minerals Division to prospect for uranium inside the Nagarjunasagar-Srisailem Tiger Reserve.

- In many areas, having realised the critical importance of these resources for their livelihood, and dissatisfied with the Forest Department managing it, the local people on their own or sometimes with the help of sympathetic forest officers or NGOs are struggling to conserve these areas. For instance, in Sariska Tiger Reserve in Rajasthan, villagers have fought against mining, using the help of forest officials and the Wildlife (Protection) Act and are going all the way to the Supreme Court to seek redressal. Inhabitants of two villages in the Alwar district of Rajasthan have declared 1,200 hectares of forest as the Bhairodev Dakan 'Sonchuri', and have promulgated their own set of rules and regulations which allow no hunting, and are zealously protecting the area against any outside encroachments. In Jardhar village of Tehri Garhwal, as in many other settlements of the Western Himalayas, forests and high-altitude pastures have obtained strict protection from the communities associated with the Chipko Movement.
- At several places, bold forest officers and NGOs are also standing in the way of destructive commercial interests. For example, at Radhanagari Sanctuary, part of the evergreen forests of Maharashtra, local forest officers dug up the road leading to a proposed mining site, local NGOs campaigned to get the mining lease cancelled, and a Bombay-based NGO obtained a stay order on further mining. NGOs and politicians have successfully stalled attempts to use the Bhitarkanika Sanctuary in Orissa (home to the world's largest nesting sites of the threatened olive ridley sea turtle) for trawling jetties.
- Many governments, or individual officers, are realising that either the survival needs of communities must be allowed to be met from PAs, or acceptable alternatives must be provided in place. In Uttar Pradesh, a government order has made it possible for villagers around Rajaji National Park to once again legitimately collect bhabbar grass for rope-making (though the park management has not been so forthcoming in implementing this). In many states, ecodevelopment activities have offered livelihood opportunities to villagers. In Tamil Nadu, the Kalakad-Mundantharai Tiger Reserve is experimenting with innovative ways of reaching financial and developmental benefits to villagers in the adjacent areas.

While some of these examples show a continuation of serious conflicts, others show the existence of significant opportunities for more effective conservation in the future. There are many instances of conflicts being resolved, dialogues opening up new partnerships, communities protecting habitats under their own steam or with support from officials, forest officers entering into informal arrangements with communities for conservation and access to livelihood resources, and so on.

1.4 WHY A CHANGE?

At this stage, let us review the major reasons why Indian conservation strategies must change to being far more participatory than they are at present.

1. Substantial dependence for survival and livelihood resources continues in

a majority of natural habitats, including most PAs; it is impossible, even if the government had the good intentions, to resettle or provide non-ecosystem based alternatives to the several million people with such dependence.

2. People have a right to the resources on which they have traditionally depended, especially when their access to such resources pre-dates official conservation efforts.
3. The wildlife wing or department continues to be given miserly treatment by governments, with serious shortages of funds, human resources, equipment, and training.
4. Public and political support for conservation has declined considerably, and politicians are unlikely to see the need for change unless a substantial part of their electorate were to demand it.
5. Considerable knowledge and experience about natural habitats and wildlife exists even now with traditional communities; this is fast eroding, and needs to be protected, respected, and built on for conservation programmes.
6. Serious new challenges have come from the commercial-industrial world, especially in the 'liberalised', 'globalised' context, and it is only through committed partnerships between local people and outside conservationists/officials that these challenges can be addressed.

1.5 ECODEVELOPMENT: IS IT AN ADEQUATE RESPONSE?

Wildlife and forest officials have not been blind to the above situation. In the last few years, realisation of the impossibility of saving wildlife in the midst of hostile and hungry humans has grown considerably. Perhaps the single most ambitious official response has been ecodevelopment. Advocated as a strategy even as far back as the National Wildlife Action Plan (1983), ecodevelopment aims to provide alternative livelihood options to villagers, thereby weaning them away from dependence on natural ecosystems. Typical ecodevelopment inputs include employment opportunities like dairying, horticulture, handicrafts, etc., energy-saving devices such as more efficient stoves; and market linkages such as roads and transportation. A central government scheme has been disbursing funds for ecodevelopment to various states since 1990. In addition, the World Bank in association with other groups has funded ecodevelopment in several reserves (notably the Great Himalayan National Park and Kalakad-Mundantharai Tiger Reserve over the last four years) and has recently has approved a Global Environment Facility (GEF) loan to implement ecodevelopment in another seven PAs.

There is, unfortunately, no systematic account available of the earlier attempts at ecodevelopment. Last year when asked at a Planning Commission committee meeting for any monitoring that had been done of these efforts, only vague answers (such as the number of smokeless chullahs distributed) were forthcoming. Some accounts are available of the work carried out in the Great Himalayan Park and Kalakad-Mundantharai. NGO accounts of the former suggest that ecodevelopment inputs (pressure cookers, roads, etc) do not match the requirements of the poorer sections of the villages, and that there is little evidence of the work having benefited the park (Baviskar 1998). On the other hand, official and donor accounts in the latter

suggest that people's livelihood status in many villages has improved, pressure on the PA has come down, and financial management by village committees has been successful (World Bank n.d.; Melkani 1998). The GEF-funded project is still too new to judge; officials and some NGOs who worked on it claim that it was built up in a far more consultative manner than previous conservation programmes, while some other NGOs and communities claim that essentially it was still planned in a top-down manner. The truth is probably somewhere in the middle.

But while it is undoubtedly a serious effort at tackling the conservation-people conflict, and certainly more people-oriented than conventional conservation programmes, ecodevelopment has a great distance to go if it is to become a truly participatory form of conservation. In particular, it will have to confront the following major weaknesses.

1. Since the major objective remains that of reducing people's 'pressure' on natural habitats (with the mistaken assumption that all human activities in the area are necessarily negative), the dominant model is still one of 'separation' or 'exclusion' rather than 'integration' or 'inclusion'. In other words, ecodevelopment advocates would still much rather alienate local communities from the natural habitats which are sought to be officially protected (giving rise to the risk that their stakes in its conservation may actually go down), rather than find ways to integrate their livelihood needs and their traditional practices into the conservation of the area. This risks being a short-lived, unsustainable form of gaining people's participation.
2. Ecodevelopment largely restricts itself to peripheries of PAs, or to the immediate surrounds of their settlements within PAs. Though it is sometimes claimed to be a means of involving people in PA management, ecodevelopment is not a model of participatory planning and management of the PA as a whole. Even the new ecodevelopment project, funded by GEF, separates the "improved PA management" component exclusively carried out by existing bureaucracies, from the "village ecodevelopment" component which involves villagers in planning and implementation (World Bank 1996).
3. Ecodevelopment largely limits itself to working within the existing framework of law, essentially the Wild Life Act and related legislation (though some of its proponents, e.g. Kishore Rao of the Ministry of Environment and Forests, do advocate some changes in this framework). Thus even where it talks of only allowing "voluntary displacement" (as directed by the World Bank, which, after its Narmada and other fiascos, is now mortally scared of the charge of forcibly evicting people from their lands), it does not attempt to create the legal and administrative conditions within which people would be able to stay on if they so wished, and be given the powers and responsibilities for effective conservation and sustainable use.
4. There is very little attempt to build on available local community institutions, knowledge, and practices, even though some conceptual documents related to ecodevelopment suggest this as a part of the strategy. Typically (though not always), official agencies have come in asking villagers to create institutional structures in formats pre-determined by the government, and the use of traditional knowledge has

been restricted to PRA mapping exercises and building up ethnobiological checklists (see, for instance in the case of Great Himalayan National Park, Baviskar 1998).

5. Though the GEF project talks about 'leveraging' the inputs (including finances) of other government agencies working in and around the identified PAs, available accounts suggest that this has rarely happened. State governments have not bought into the idea, and have therefore made little attempt to reorganise their plans and allocations in such a way that all official agencies would cooperate with wildlife officials in providing conservation-oriented developmental inputs. Indeed, it can be argued that if this was seriously done, it would eliminate the need for World Bank or any other foreign funding, since the amount of money available in various government welfare and developmental schemes is far more than is given by foreign aid agencies.
6. It is not yet clear whether the strategy of diverting people's pressure by providing alternatives does actually help wildlife conservation. Some conservationists have argued that rapid development of the peripheries of PAs could attract many more people from further away to come in, thereby increasing pressure. Even if this does not happen, there is the issue of introducing lifestyle changes which make villagers more like the resource-guzzling consumers that we in our cities have become. Like us, their immediate impact on the nearby ecosystems may decrease, but their indirect impact on ecosystems locally or elsewhere will only increase to unsustainable levels. There is also the danger of making people even more dependent on government or NGO doles rather than encouraging them to become self-reliant. It is not clear whether the ecodevelopment thinking and implementation is seizing on the opportunity of showing the world an alternative development path based on sustainable, self-reliant rural lifestyles.
7. Finally, and perhaps most importantly, ecodevelopment does not attempt to reverse the historical process of state take-over of community lands, and the common (though not universal) denial of rights and tenurial security over resources for local people. It has taken the important step of involving people in planning the development inputs they want, but these inputs are still predominantly handouts from government, and there is a continued denial of the revival of people's resource rights within and around PAs. Evidence the world over suggests that handouts are not an adequate stake for communities, and that one of the most effective long-term stakes is tenurial security over livelihood resources, with appropriate responsibilities built in.

To be truly participatory, and therefore more sustainable, ecodevelopment needs to build in the following elements.

1. A model of conservation which admits (while not taking for granted) the possibility of integrating human uses within conservation values, and evolves alternatives only where this is not possible.
2. The full participation of local communities in the planning and management of the entire conservation area (except remote areas with no human populations or influence, or areas with new populations who are

disinterested in conservation)

3. Readiness to question and continuously evolve legal and policy measures to respond to conservation and livelihood requirements.
4. The building of available local knowledge and institutions, supplemented with formal knowledge and institutional structures from outside where necessary.
5. Re-organisation of local, state, and national planning to coordinate the activities, personnel, and funds of various government agencies, and orient them towards conservation and sustainable resource use.
6. Creation of ways to utilise or evolve sustainable livelihoods which can be based largely on local resources (related to point 1).
7. Provision of long-term stakes in the conservation and sustainable use of habitats and wildlife by reviving resource rights and tenurial systems, with appropriate powers and responsibilities, with suitable checks and balances to avert misuse.

In theory, ecodevelopment could build these elements into its future planning. Indeed, World Bank officials or Indian consultants who have been questioned about their support to ecodevelopment have said that the GEF project has built-in processes of self-correction. However, given that many of the above issues require far more planning, organisation, and re-orientation amongst all stakeholders, it is doubtful that they can be built into a process that is already going ahead full-steam, and where the reins are still held by the government.

Perhaps it would be possible for these aspects to be built in for future ecodevelopment projects, such as the new one which the Government of India is considering for submission to the GEF (for 40 more PAs). However, if indeed such changes were made, the result would be a very different creature; it would be some form of joint or participatory management of natural habitats and species. That, perhaps, is what many NGOs and community groups are asking for, and what we shall explore in more detail in Section 2.

1.6 TOWARDS A NEW PARADIGM

Non-official responses to the crisis facing India's wildlife and the conflicts mentioned above have ranged from an advocacy of more stringent, military-like protection of habitats and species (the 'animal rights' lobbyists), to strident voices arguing that people's rights should prevail over wildlife interests (the 'human rights' lobbyists). Somewhere in between these two extremes has been a group of people who argue that both wildlife and human rights are critical, and that given appropriate changes in attitude and policies, this could well be achieved.

A series of dialogues and other events during the 1990s have helped considerably in building bridges between hitherto warring factions, and this has been further aided by the perception of a common enemy, the rampant 'development' process which bulldozes both natural habitats and local communities. In two successive consultations between wildlife conservationists and social activists (1997 and 1998, at Bhikampur, district Alwar, Rajasthan), a common declaration was adopted, asserting the need to protect both wildlife and human rights, to oppose forcible displacement in the name of conservation, to protect threatened species even against use in traditional practices, and to use other means

to both conserve wildlife and ensure sustainable livelihood rights. The plea for joint or participatory management of PAs was strongly made at these and other meetings, as was the appeal to jointly monitor and check poaching, timber smuggling, encroachment, etc.

PART 2 : LESSONS FROM THE FIELD: TOWARDS PARTICIPATORY CONSERVATION

It is one thing to realise and advocate the need for people's involvement, and quite another to actually make it happen. What are the circumstances, the grounds and policy conditions, under which it would work? Is it relevant everywhere, for all habitats and species? What precisely is meant by participatory/joint management, and what processes are needed to achieve it? What are the major hurdles and opportunities in its path?

As group of people affiliated to the Indian Institute of Public Administration and Kalpavriksh, we have carried out a series of case studies, and been involved in work on the ground, relating to people's participation in conservation. While the case studies have been conducted in India, lessons have also been learnt from other countries of South Asia, and currently we are helping to coordinate field studies in Pakistan, Nepal, Sri Lanka, and Bangladesh. In addition, we have been involved in the series of consultations and workshops mentioned above, and in responding to the periodic crises that natural habitats (including PAs) and resident communities face in various parts of India.

This involvement over the last few years, in addition to the experience of a number of other groups and individuals, has provided a number of critical lessons which need to be heeded in our quest for participatory conservation methods. These lessons are described below.

2.1 RESEARCH/INFORMATION/MONITORING

Despite decades of existence, India's protected area network and other natural habitats remain considerably understudied. Information on several individual areas (including PAs) and many species, is severely lacking, and it is no wonder that management is more often than not piecemeal and haphazardly planned.

There are several specific aspects to this:

- (i) A historical understanding of the area or species to be conserved is needed. This would include assessment of the changes in ecological conditions, land and water use, political and economic relations, legal status, and other parameters over at least a brief historical period. Given that these factors have given rise to the current situation of conflicts and opportunities in and around each of the areas, such an understanding is clearly of paramount importance.

More focus on historical research, including the oral history of local community members is needed. Often information or knowledge of this does exist but needs to be gathered together and analysed adequately.

- (ii) An ecological understanding of the area, especially the impacts of various human activities on elements of local biodiversity and on the ecosystem as a whole, is also weak in most areas, especially amongst the managers of PAs. Indeed, on enquiry we have found that the vast majority of management decisions, including those designed to curb human use, have been made on the basis of assumptions and generalisations, not solid research or evidence from site-specific circumstances. That is perhaps why, research (especially long-term) has often shown these decisions to be mistakes, and to have caused unintended negative consequences. The ban on grazing in some reserves (e.g. Keoladeo National Park and Valley of Flowers National Park; see Ali and Vijayan 1986; Vijayan 1990; Naithani et.al. 1992), the deliberate setting of fire in some circumstances or its complete stoppage in others, are examples of this. One does not thereby deny the role of decision-making on the basis of quick indicators or even intuition, but then conservationists (including wildlife officials) must be willing to constantly put these decisions to test, and remain agreeable to changing their prescriptions if found to be wrong.

Much greater emphasis on ecological assessments, involving both local people and outside scientists, is needed. Simple and short-term indicators and methods which can be used should be popularised, to supplement long-term and in-depth studies.

- (iii) The indigenous/local community knowledge base, where relevant, needs to be built upon in the management of these areas and species, including in the research mentioned above. Understanding of such knowledge (in its full context, as explained in Section 1.2 above) is often very low amongst the officials managing PAs and other areas (with exceptions such as at Melghat Tiger Reserve where Korcu tribal knowledge has been studied by forest staff). Even though local communities are rapidly losing their traditions, we have found considerable evidence of the continuation of their knowledge base, especially amongst the elderly members (e.g. in Kailadevi Sanctuary of Rajasthan, Dalma Sanctuary of Bihar, Melghat Tiger Reserve of Maharashtra, tribal and non-tribal communities in many Reserve and Protected Forests of the country, fishing communities in the Andaman and Nicobar Islands, Lakshadweep, and others). Given that we have in our studies only scratched the surface (anthropologists admit that even after years of study, they often do not fully understand the knowledge/practices of a community in its full context), what is potentially available amongst the villagers is probably quite substantial. This knowledge could be critical in better management of the area, especially if more participatory processes have to be built up, though it is not contended by us that this knowledge alone would be adequate for the purpose. But in order for it to be of use, it must first be better understood by the formal sector, respected for its own worth, and protected against misuse (see also below, on benefit-sharing relating to indigenous knowledge). It will require a major educational effort to instill in officials of the Forest Department an attitude of learning from local people.

Mutual learning exercises between forest staff, local villagers, and NGOs are urgently needed, especially to understand local and other forms of knowledge in their own contexts, and to use these in synergistic ways.

- (iv) Access to available information must be enhanced for all stakeholders. At Kailadevi Sanctuary (Rajasthan), for instance, it was found that even the front (ground) staff of the Forest Department were ignorant about the nature of the massive ecodevelopment plan that had been launched for the PA; and the villagers had simply not heard of it. And it is not only government information that is accessible; in the case of Dalma Sanctuary (Bihar), we found that a detailed study on the elephant conducted in the sanctuary by the Bombay Natural History Society was not available from the officials in charge of the area. A copy was finally obtained and sent to them. Moreover, what little information exists for such areas is often in English or the state language and therefore inaccessible to the local villagers.

A system of sharing all information, especially amongst the various stakeholders, is urgently needed; there is no justification for any governmental or NGO document being withheld from the public.

There must also be greater networking and sharing of information amongst personnel managing protected and other areas, especially those who could learn from each other's experiences. Exchange visits of personnel and community members would be one effective way of sharing. Relevant management plans, research reports, and other documents from one conservation area should also be more easily available to another area than is currently the case.

- (v) Universal acceptance of available information has to be attempted. This is currently absent. For instance, Gujjars and NGOs working in Rajaji refuse to accept the official figure of the number of sedentary and migratory Gujjars in the area, while officials scorn NGO figures. Very often, even formal ecological research by independent people has not been accepted by wildlife managers, resulting in valuable data being left unused. The process of negotiation between stakeholders in Rajaji, currently underway, includes some such research (Rathore 1997), and will hopefully yield data which are more universally acceptable.

There is a need for a participatory method of conducting research and investigation, which would yield information which is acceptable to all.

- (vi) Monitoring of ecological and social parameters in and around conservation areas and relating to protected species needs to be instituted as a systematic management activity. It is very poorly developed in India's protected areas (not to mention in other areas of conservation significance), with the exception of the periodic census of some animal species in PAs, some biodiversity monitoring (such as in a few PAs in

Maharashtra), and some ecological monitoring in ecosystems outside PAs (e.g. some JFM areas). What this also means is that we have only rough indicators of whether or not conservation programmes are being successful; we know that tiger and elephant populations have gone up (or at least had until this decade), but we do not know if in the process some other lesser known species may have declined or increased in the same habitat. In Dalma, Kailadevi, Rajaji, and many other PAs, some mega-species are annually counted, but there is virtually no other monitoring. Even many externally aided ecodevelopment programmes have this weakness; some attempts are being made to plug monitoring into the new GEF-funded project, but it is too early to tell if this is effective. With an inadequate database, it will in any case be difficult to judge the impact of management and ecodevelopment plans. Such monitoring should assess the impacts of human activities and management strategies on the ecological status of the PA and surrounds, and on the social and economic conditions of the local communities. Advocates of community participation in conservation also, of course, need to build such monitoring, into their activities to ensure that the switch to community controls does not endanger the ecological status of the area.

Long-term monitoring and evaluation programmes need to be instituted in conservation areas. However, since such comprehensive monitoring may be unrealistic in many immediate situations, there is an urgent need for some good qualitative and quantitative indicators (including some that may emerge from local knowledge) to be used, and for simple monitoring procedures with local community involvement to be put in place.

2.2 STAKEHOLDER DIALOGUE

A basic problem plaguing India's conservation programmes seems to be the absence of any form of dialogue among the various stakeholders, and in particular between wildlife authorities and local communities. What little interaction that does exist, is heavily one-sided, with the Forest Department being dominant or confrontationalist. The result is that each group is rather misinformed about the others' positions, justifications and circumstances. For instance, many officials are sharply critical of traditional resource uses of villagers, and do not understand the cultural significance of the event; on the other hand, villagers universally label the Forest Department as corrupt and inefficient, and are not fully conversant of the pressures under which department staff must work.

Regular and open dialogue, with neither side assuming the position of supremacy, could considerably ease tensions between wildlife officials and local communities. This has become clear from the experiments at achieving a more participatory process carried out in various places, whether initiated by officials, NGOs, or community members. These include Rajaji National Park (Rathore 1997), Kalakad-Mundanthurai Tiger Reserve (Melkani and Venkatesh 1998), Kailadevi Sanctuary (Das 1997), Dalma Sanctuary (Christopher 1997) and dozens of JFM areas (Poffenberger and McGean 1996). By no means, however, is this process a panacea, since there are also deep differences in attitudes and motivations which cannot be

resolved only through talking; but at least talking and listening is the first step towards such resolution.

Clearly, forums for such dialogue, both informal and formal, are amongst the earliest steps that need to be taken in each of India's protected areas where conflicts are taking place. It must also be stressed that the dialogue should be consciously open to all stakeholders (with an appropriately special focus on resource users and conservers, especially local communities), and should not be a mere formality that government agencies go through because a donor requires it.

2.3 INSTITUTIONAL STRUCTURES

The current centralised, top-heavy institutional structures for conservation of natural habitats and species are clearly unable to fulfil their responsibility for the reasons mentioned in Section 1. Serious changes in this system have already been made with reference to forest lands under JFM (Poffenberger and McGean 1996), or village lands in the case of some ecodevelopment projects (e.g. Kalakad-Mundantharai Tiger Reserve, see World Bank n.d.). However, there is still considerable resistance to such changes in the case of standing forests (especially reserve forests), PAs, and protected wetlands or marine areas. Some changes are beginning even here; e.g. the Forest Department has recognised Van Suraksha Samitis in Kailadevi Sanctuary. Several striking aspects of the present conservation effort follow.

- (i) Far more openness is needed in the official system to recognise existing institutions amongst local communities, and strengthen them in order to meet the needs of conservation and livelihood security. In the case of Dalma and Kailadevi Sanctuaries, for instance, there are extremely innovative structures established by the villagers in the form of Forest Protection Committees, which are obvious candidates for devolving management functions such as patrolling, fire prevention and control, and catching or reporting offenders. To some extent, the forest department appears to recognise this, but it also lacks the flexibility to allow for local variations in the structure and functioning of these bodies. So in Kailadevi, it has started its own Van Suraksha Samitis, which (with a single exception) appear to work less effectively than the villager-initiated Forest Protection Committees (Das 1997). In Dalma, as in many other areas under ecodevelopment or other schemes, the Forest Department has started or proposes to start ecodevelopment committees, since it feels that this is the only structure permitted under current government programmes and laws. Unfortunately, such government-initiated institutions have to conform to uniform guidelines and format (e.g. having a forest officer as a major functionary), which may or may not suit the local conditions.

A potentially powerful opportunity for utilising local institutions for conservation and resource management, is the 73rd Constitutional Amendment related to panchayati raj bodies. In particular, the extension of this amendment to scheduled (tribal) areas through a specific

enactment in 1996, has opened up the possibility of devolving more resource controls to communities while ensuring conservation responsibility and accountability. It is not yet clear how the provisions of these enactments relate to PAs or other government lands such as reserve forests, but certainly they can be used to promote community-based conservation. By the same token, they can also be used by those with vested interests to subvert conservation programmes, so it would be well worth the while of conservationists to study and utilise the amendment's potential before the enemies of wildlife do so.

There is a need to understand existing community structures much better, and to build on their diversity and strengths as far as possible rather than displacing them with new, uniformly structured institutions. The recent constitutional and legal changes decentralising decision-making functions to village-level bodies can be creatively used, though they also have the potential of causing great damage if misused.

- (ii) To involve people at more than their village scale, there is a need for **institutional structures covering the entire conservation area or substantial parts of it**. At the moment, even where village-level committees have been set up under JFM or ecodevelopment schemes, the overall management of the conservation unit or protected area remains exclusively in the hands of a government agency, with no formal involvement of the local communities. While an immediate change in such a process may not be feasible, as a first step, advisory bodies comprising various stakeholders should be established for each of these PAs. This proposal has already found partial acceptance in the new draft of the Wildlife (Protection) Act which is currently under consideration by the Central Government; it provides for advisory bodies in the case of sanctuaries.

Eventually, however, there needs to be a gradual shift towards joint or participatory management institutions, which involve the Forest Department and local communities as equal partners in decision-making and implementation. These would, of course, only be relevant where local communities have a substantial stake in the conservation and/or sustainable use of the area or species in question. We have even suggested such a joint structure for the ongoing procedure of settling people's rights, which is being urgently and rather haphazardly carried out by state governments (primarily district collectors) under direction from the Supreme Court. It is only through such a participatory process that a fair and sustainable settlement will be worked out.

- (iii) Most tricky, but absolutely crucial, is the need for institutional structures to ensure regular coordination within and amongst the various governmental departments which have a bearing on the habitats or species sought to be conserved. In all the PAs and other areas studied so far, we found a severe lack of interaction and joint planning between the forest department on the one hand, and other government agencies on

the other hand. The serious shortage of water inside the Kailadevi Sanctuary (a severely drought-prone area) must have been common knowledge with the forest staff, yet the district administration appeared unaware of the situation in several villages when we were conducting research in 1997. In Dalma, the Bihar Irrigation Department appeared to have taken decisions (e.g. the alignment of the Subarnarekha canal) without consulting the sanctuary authorities; the classic case of mining in the Sariska Tiger Reserve is of course well known. In the case of many areas, e.g. at Kailadevi, there are also significant complaints of a lack of coordination within the Forest Department itself, between the wildlife wing and the territorial wing.

As mentioned above (Section 1) in the case of ecodevelopment, it is our contention that if all government agencies working in an area were to coordinate their activities according to a regional land/water use plan, within which were nestled areas earmarked for conservation, there would be little need for foreign funding. And if this is not done, conservation will in any case be difficult, as development plans will keep pulling in directions away from those set by the wildlife agencies. Such coordination was for a few years achieved by an enterprising district officer in the case of Melghat Tiger Reserve (Pardeshi 1996), and in the case of the forests in Harda district by an equally enterprising forest officer (Rathore 1996), so there appears little reason why it cannot be done elsewhere.

An interesting example from the forests of central India illustrates that, here too, people's empowerment and participation may be one potential key to achieving inter-governmental coordination. In the village of Mendha-Lekha, Gadchiroli district, villagers are so well-organised and self-empowered that they can call all government departments to the village and organise a joint meeting to pool their funds together (Pathak, pers. comm., 1998).

There is a need for a clear state governmental order, issued to all its agencies working in and around PAs, that they must coordinate their work in the larger interest of conservation and meeting people's livelihood requirements. Appropriate empowerment of people's institutions and the use of NGOs and other agencies as watchdogs can also help to achieve this.

2.4 BENEFIT-SHARING MECHANISMS AND RIGHTS

The realisation that in the absence of tangible benefits emanating from the PA, local communities are not likely to become a strong support base for the area, has resulted in the search for innovative mechanisms of generating and sharing the benefits. Perhaps the most powerful stake is the continued and guaranteed access to survival resources, including biomass, as a matter of traditional right and not merely concession by the state. Linked to this is secure tenure over land and other resources; not, however, to unsustainably sell off to the highest bidder, but to assume the responsibility for conservation and sustainable use.

Conservationists have conventionally believed that PAs cannot yield

substantial benefits for local people, hence they are unlikely to have the incentive to participate in conservation (e.g. Singh 1996). This view is based on the assumption that (a) biomass resources are the primary benefits that local people require and which it is not possible to give since (b) human activities would inevitably degrade ecosystems. Therefore, the conclusion is, protected areas must generally be off-limits to human use. Neither of these assumptions is necessarily valid. As stressed in Section 1.2, some forms and levels of human use do not cause irreversible damage to biodiversity, and indeed may even locally enhance it, though it would be dangerous and invalid to extrapolate this to all activities and all ecosystems. Moreover, substantial benefits may accrue from non-biomass based use of the PAs, even though biomass resources will remain a major component.

A rough list of possible benefits that a PA can yield includes:

- Subsistence
 - fuel
 - fodder
 - non-timber forest products
 - timber
 - fish/other aquatic produce

- Economic/livelihood
 - forest/aquatic/grassland produce
 - value enhancement of traditional products
 - employment
 - returns from commercial use of local knowledge/resources
 - tourism revenue
 - compensation for wildlife damage/opportunities lost
 - development inputs

- Social/cultural/political
 - protection of cultural values
 - social recognition
 - empowerment/control

It stands to reason that if these are possible within a PA, they are certainly also possible in the case of wildlife habitats outside the PA system. Indeed, many JFM and wetland areas provide adequate proof that a range of biodiversity can coexist with sustained generation of benefits for local populations.

In our work in the field, some striking features have emerged in relation to benefits.

- (i) Access to regenerating and protected biomass resources is seen by local people as being critical. In Kailadevi and Dalma, villagers stress this as a traditional benefit; in Rajaji, they are more vocal in arguing that such access should be considered a customary and legally defensible right. The provision of bhabbar grass to villagers around Rajaji, by order of the Chief Wildlife Warden of Uttar Pradesh on May 8, 1995 (Vania 1997), though not amounting to such a right, is nevertheless a welcome step in that it recognises the need to share the resources of the PA as benefits to local

communities. So is the order of 26 June 1996, of the West Bengal government, under which ecodevelopment committees are to be set up for PAs, and resources within the PAs can be shared with villagers in return for conservation functions (Government of West Bengal 1996).

In many areas, conservation actually increases the biological resources (fish, fodder, medicinal plants, etc) which local communities can harvest, yet sometimes they are not quite aware of this. In Sunderbans Tiger Reserve, for instance, fish stock in the surrounding areas has reportedly increased due to protection of breeding grounds inside the reserve. A lack of awareness of such benefits could be simply because they do not have actual access to these regenerating or multiplying resources; or it could be because although access is available, the connections with the conservation programmes are not evident. This happens, for instance, with the increase in water availability as hydrological cycles improve with the conservation of forests. In such situations conservation authorities and NGOs could play a significant role in highlighting the connections, thus also building a stake amongst local communities.

The sticky issue that remains is one of whether the access so granted should be a legal right or merely a concession offered by the government. As in Rajaji, communities everywhere are saying that they do not want to be at the mercy of a fickle government, which one day will allow access and the next day ban it (e.g. the grazing issue in Keoladeo National Park, Rajasthan). They would much rather take on conservation responsibilities if they are guaranteed some security of access, in other words tenurial rights. Perhaps unknowingly, they are reflecting a lesson that has been learnt the world over (and, for that matter, in JFM in India), viz. that resource rights are a much surer stake in conservation and sustainable use than uncertain access dependent on the whims of more powerful authorities.

Whatever the kind of benefits that accrue to local communities, it seems imperative that these be considered not as acts of charity by the government, but as a matter of rights for people who have otherwise 'sacrificed' for the PA. Resolving issues of resource tenure and rights is critical if a long-term stake in conservation is to be created amongst local communities. Undoubtedly, conservation responsibilities must go in tandem with these rights, a point that many local communities themselves will stress. Awareness about the connections between conservation and benefits is critical for all stakeholders.

- (ii) Though in relation to countries like Kenya, India's returns from wildlife tourism are miniscule, nevertheless they are substantial in some PAs and non-PA areas (e.g. mountains). Without at this stage judging the ecological or social advisability of these levels of tourism, it is a shame that the revenue being earned from it does not go back to the PAs or the local communities. Reportedly this is now being considered in the case of Keoladeo National Park, Rajasthan (where detailed studies have shown the potential of benefiting the local villagers from this source of income;

see, for instance, Murty 1996). India would do well to learn from experiments such as the Annapurna Conservation Area Project in Nepal, where local communities and NGOs are completely managing the enormous trekking tourist flow, and generating very substantial returns from it.

It is high time that the country made the financial and administrative changes that are needed to return wildlife tourism benefits to local communities and wildlife authorities for use in conservation and livelihood generation activities. Appropriate checks may be needed to ensure that this does not become an encouragement to increase tourism beyond the ecological and cultural limits of the area.

- (iii) Villagers themselves often have very innovative ideas for benefit-sharing. One such idea mooted by villagers of Kailadevi as part of a resolution adapted at an IIPA-sponsored workshop, was that the penalties imposed by the Forest Department on offenders whom the Village Forest Protection Committees (FPC) help to catch should be returned to the village. In addition, the issue of compensation for damage by wild animals to crops, livestock, and humans needs to be urgently addressed, both to improve the rates of payment and the efficiency with which it is paid. This is a universal demand from affected communities all over India. A suggestion made by the Kailadevi villagers in this regard was to accept the recommendations of the FPC with regard to individual compensation claims, rather than insisting that a doctor or official certifies the damage, a process which not only consumes time but also often forces villagers to bribe officials to obtain a favourable report. Another innovative attempt is being made by some NGOs (such as the Corbett Foundation and the WWF through its Tiger Conservation Programme), which quickly detects cases of livestock kills and pays compensation equivalent to the difference between the market rate and what the government provides, or gives vehicles to the Forest Department to quickly reach villages reporting such cases (see Tigerlink Vol. 4 No. 2, September 1998).

Benefit-sharing (or cost-sharing) plans should be rooted in local ideas and technologies where available, enhancing these or introducing external ideas and technologies if necessary, as supplementary to what is locally available.

- (iv) Benefits linked to natural resource related to local people's knowledge and innovations are a part of the global debate on biodiversity. The protection of indigenous knowledge through appropriate community and individual intellectual property rights, and the generation of benefits from the use of this knowledge, are now being considered all over the world, especially in the wake of the Convention on Biological Diversity. The convention mandates countries to protect such knowledge, seek permission from its holders before using it, and undertake the equitable sharing of any benefits that come out of such use. India too is considering National and State-level Biodiversity Funds, which could be used to give incentives to communities and individuals who promote conservation

and sustainable use. There are several possible methods of doing this (Nijar 1995; Shiva 1997; Gupta 1997; Pathak and Kothari in press), which should be considered for use in conservation programmes.

Researchers in the formal sector should be particularly aware of such issues. Academics get extremely upset if someone takes their information or ideas without due acknowledgment; indeed, the person can even be sued for plagiarism. It is strange then that the same yardsticks are not applied by most of us when using local people as guides, informants, etc.; how many Ph.D. dissertations, research reports, forest working plans, PA management plans, and other such documents actually name each of the local villagers who has provided information that has gone into these documents?

Benefits and incentives linked to the knowledge and innovations of local communities, as relevant for conservation, should be seen by conservationists as a potentially powerful tool to employ. To do this, however, they will need to support far greater respect for this knowledge, and the legal means of protecting it from misuse and expropriation by outsiders. Researchers must evolve some code of conduct for use of such knowledge, ensure that it is properly acknowledged, and return some degree of benefits arising from its use to the original holder.

- (v) Even the basic survival and developmental needs of communities which are seemingly unconnected to wildlife conservation requirements are equally vital to address. Indeed, it may well happen that some rural areas which were earlier neglected by the government now receive some attention because of the establishment of a PA or conservation scheme in their region. In Kailadevi, the serious deficiencies in water which are faced by villagers may be alleviated if current trends are an indication: both NGOs and government agencies (including the district administration and the forest department) are investing time and money in water harvesting structures, and communities are re-organising themselves to participate in this. The institutional capacities and partnerships which are thus built up may ultimately also help in conservation. To some extent, ecodevelopment also aims to do this.

Conservation agencies and advocates must therefore go beyond their narrow confines and look into broader issues of livelihood and development if they are to earn the support of local communities. The sort of inter-governmental and inter-sectoral coordination mentioned in Section 2.3 above would also help considerably in this.

- (vi) Finally, and this is a point that social activists are often loath to admit, many benefits being derived by communities from PAs may already be causing irreversible damage to ecosystems or species. Others that are being demanded may do the same. There is therefore a critical need for assessment of all such unsustainable activities, and the search for on-site or other alternatives (ranging from modifications in these activities, to completely unrelated alternatives) where they cannot possibly be in harmony with the conservation objectives of the area. Ecodevelopment activities are essentially aiming at this. Both the assessment and the

search for alternatives, however, are likely to be much more effective if conducted in a participatory manner; otherwise, they run the risk of either being biased or inaccurate, or being rejected by the affected communities. In several successful community-based conservation efforts, activities have been curtailed when villagers have been convinced that they are destructive.

Human activities relating to benefit-generation must be assessed for sustainability (whether they are not causing irreversible damage to the area or species sought to be conserved), and alternative benefits devised where they are not sustainable. These assessments and development of alternatives should be done in a participatory manner with the affected communities.

2.5 INTRA- AND INTER-COMMUNITY DYNAMICS

Both social activists and conservationists often assume the local community to be a homogenous entity. In India, it is far from that, especially in non-tribal areas. Official programmes of involving people in forest regeneration (JFM) and PA conservation (ecodevelopment), as also many NGO projects, have generally failed to disaggregate the community by class, caste, and gender. Even when they are aware of it, these agencies have been reluctant to address the rather thorny issues of inequities and power play within and between communities, hoping that general prescriptions for community participation will sort these problems out on their own. But this does not happen.

In particular, the way in which inequities in social status, political power, economic standing, and other attributes influence conservation, does not appear to have been well-studied. Exceptions include Sarin (1996) and Baviskar (1995). We have been especially mindful of this factor while studying the potential for people's participation in protected areas. Some important results which have emerged are as follows.

- (i) Women continue to be disprivileged in conservation programmes, both in those initiated by communities themselves as also in officially-sponsored ones. For instance, women are generally unrepresented in the Forest Protection Committees of Kailadevi, though in Dalma they are at times represented, which may be a reflection of the generally more equal status of women in tribal societies. In Kailadevi, women complained that the forest protection work of the FPCs (which were male-dominated) caused greater hardships for them, at least in so far as fuel wood collection had become harder (though they also admitted that fodder shortage had eased as a result of the forest protection). Most villagers, including men, agreed that there was a need for greater women's participation in decision-making, but they also strongly felt that this could not be achieved merely through formal reservation of seats in the local institutions (as has already happened with village panchayats in many parts of India). There was a need to build women's capacity to speak confidently and make their opinions matter, which, given the centuries of male domination in the area, will not be an overnight development. This is of course also true of the forest department and other line agencies of the government; Sarin (1996) reveals that out of 2576 Indian Forest Service officials in the

country in 1995, only 72 (i.e. 3%) were women. The ratio is probably even worse in the case of the wildlife wing, since it is not considered 'safe' for women to take the kind of field-based jobs that are required.

There is clearly a need for more women's involvement in decision-making in the local and wider level institutions, both governmental and non-governmental.

- (ii) Landless people, lower castes, minority communities, and other disprivileged sections within a community are often left out of the decision-making process. However, in some other cases, there have been conscious attempts on the part of the village community to have representation of all these sections in the decision-making body. Villagers themselves increasingly realise the need to resolve the inequities in representation at decision-making bodies, and also admit that government or NGO intervention may at times be necessary to make this happen. In the tribal villages of Dalma, the problem appeared less acute, possibly because of the inherently more equitable and homogeneous societies they are characterised by.

Indifference towards this issue could doom the conservation effort in the long run, for people left out of the process are likely to consciously or accidentally undermine it. In the Great Himalayan National Park, Baviskar (1998) reports that the ecodevelopment process does not really relay benefits to the poorest sections of the villages, those who in fact are most dependent on the park's resources. Such people will continue to "steal" into the park for survival and livelihood, and chances are they would abandon whatever sustainable use practices they may have earlier employed in the quest to "cut and run" as fast as possible.

Such issues can of course also be misused by politicians and others for populist purposes, and it often becomes very tricky to determine whether majority or minority views should prevail.

Sustained dialogue, coupled with conservation and development efforts need to be especially mindful of the needs of the disprivileged sections, taking care both to involve them as central partners and to ensure that their just share of benefits accrue to them.

- (iii) Inter-community inequities could also strongly influence the success or failure of people's participation in conservation attempts. Both in Kailadevi and Dalma, the forest protection efforts of some villages were often thwarted because adjacent villages did not undertake the same responsibility, and allowed their forest patches to be degraded/cut down, with detrimental effects on the protected patches. This brings into focus the need for larger level coordination bodies which can mediate between different villages, between villages and the protected area authorities, and among other stakeholders. The Baragoan ki Panchayat (council of 12 villages) in Kailadevi, created to bring together people of 12 villages who have a common interest in forest protection, is one such example.

In all conservation areas where people's participation is being sought or is desirable, larger-scale forums or bodies which can link up various communities and institutions need to be established.

2.6 INTRA- AND INTER-DEPARTMENTAL DYNAMICS

It is interesting that while the inequities and differences within and between local communities are increasingly being focused on by researchers, the internal dynamics of the government is not yet well-studied, much less seriously tackled. While we too have not examined this in detail, even casual observations are adequate to indicate that the problems are severe.

- (i) There is little vertical interaction among the various levels of the PA authorities; the experience of the ground situation being gained by the frontline staff (forest guards, foresters, daily wagers) has no systematic way of getting to the 'higher' officials; and there is little reverse flow of the policy/programmatic priorities being fixed by the latter. In Kailadevi, the project team found that very little was known amongst the frontline staff about the ecodevelopment scheme. Scattered and individual efforts to redress this situation (e.g a meeting on ecodevelopment between senior and frontline staff, and some villagers, held on 26-30th November, 1996) are exemplary in all these areas, but they do not add up to any systemic response. Recent management planning exercises in Dalma and ecodevelopment planning exercises in Kailadevi, and the stakeholder meetings being organised in Rajaji, are giving an opportunity to partially increase vertical interaction, but it is too early yet to tell if they will result in a systemic change.

Forest and wildlife authorities will have to devise ways of increasing the flow of information and ideas amongst the different rungs of the agencies, and throw out the stiflingly hierarchical atmosphere that the British colonial rulers taught their Indian counterparts.

- (ii) At the same time, horizontal coordination among the various wings/divisions of the forest department is also seriously deficient. There were, for instance, complaints by the wildlife staff in Kailadevi about the programmes of the territorial staff around the sanctuary, which, they claimed, had an adverse impact on the habitat. The wildlife officials also appeared to feel less powerful compared to their counterparts in the other wings of the department. In many states, even PAs have not been fully handed over by the territorial wing of the department to its wildlife wing, sometimes because it is felt that the latter does not have the resources to manage them, but more often because the former simply does not want to relinquish control.

The forest department needs to take a hard look at its own internal coordination amongst various wings/divisions, and devise innovative ways to build more synergy to reach the goal of conservation.

- (iii) Finally, coordination between the forest department and other departments/agencies of the government is far from satisfactory, as noted above. In the case of Dalma, forest officials complained of the lack of support from the police in tackling offenders, e.g. illicit liquor brewers. Lack of coordination between the forest department and the civil administration on the provision of water sources to villages inside

Kailadevi, and on the problem created by the migratory graziers, was also prominent.

There is therefore a need for serious introspection by the forest department on their internal problems, and by the state governments on the need for inter-departmental coordination, followed by appropriate restructuring to improve coordination and motivation.

This could include, for instance, interactive workshops between the senior and frontline staff of the wildlife wing, held in neutral surroundings where participants could be more open and frank; and similar workshops and joint practical exercises among the various wings of the forest department and among the various government departments active in the area.

Other needs are well-known, though not yet fully addressed, and include the training of conservation staff in wildlife/habitat management and better facilities for the ground staff and for their families.

2.7 ROLE OF OUTSIDERS

Apart from local communities, conservation authorities and some other government agencies, a critical role is being played by other organisations and individuals, including NGOs. In many of the areas we have been involved with, local or national NGOs have been instrumental in mediating between villagers and wildlife officials, gathering data, helping local communities to organise for their rights, and keeping a weather eye on local activities. Independent experts have also helped to make scientific assessments, though, although as mentioned above, the research done till now is far from adequate.

Given the important role played by such 'outside' parties so far, one question naturally arises: in any process of participatory or joint management, what should the role of these parties be? Should it be in a controlling and decision-making capacity, equivalent to that of the government and the local communities, or should be more advisory? While a certain flexibility may be required in deciding on a case by case basis, it is our opinion that the role of such parties should be mainly advisory and mediatory. This is because NGOs (as distinct from community-based organisations like the FPCs) have no direct stake in the resources, nor any formal responsibility, nor any formal accountability to anyone. They cannot claim to represent the communities (though they can, and do, act as central supporters), as this would only perpetuate a system in which villagers themselves continue to be sidelined. However, groups or individuals who are very active/knowledgeable may be co-opted onto the overall multi-stakeholder management body (as advocated in Section 2.3).

Wildlife authorities need to be far more open than is currently often the case to external intervention and mediation where this is constructive. However, caution is also needed against agencies and individuals who have vested interests in continuing conflicts or using local people as covers for exploitative activities, as for the instance the fish mafia appear to have done in the case of Pench National Park, Madhya Pradesh.

2.8 LEGAL MEASURES

Many of the steps described above are possible within India's current policy and legal framework governing conservation. For instance, the Uttar Pradesh order concerning grass harvesting from within PAs (including within national parks which are supposed to be devoid of human presence), was passed using the Wild Life Act's provisions concerning management activities which are beneficial to wildlife: it was argued that grass harvesting would help in fire prevention.

However, these spaces within current legislation only go a certain distance. There is inadequate legal mandate, and indeed a barrier, where it comes to steps such as setting up joint management committees for PAs and other areas, or providing tenurial rights (or custodianship) to people in national parks even if conservation would be better served by this. Settlement procedures for rights remain vague, and large loopholes exist with regard to the entry of large development and commercial projects into conservation areas. Perhaps most importantly, the laws prohibit the sort of flexibility which would allow their constructive and creative use for a variety of ecological and social situations.

Both the Wildlife (Protection) Act and the Forest Act are currently (late 1998) under review, and citizens have strongly urged the government to make the changes necessary to facilitate participatory conservation. This has also been argued in the context of the proposed Biodiversity Act (being promulgated as a follow-up to India's ratification of the Convention on Biological Diversity), and the panchayati raj legislation.

Broadly, three kinds of thrusts are required in the new legislation (Kothari 1997):

- Strong provisions against the use of conservation areas and threatened species for industrial or large-scale commercial purposes;
- provisions empowering local communities to participate in management of such areas; and
- provisions enabling resource-dependent communities to receive, as rights, appropriate benefits from such areas, in a way that is not detrimental to their conservation value.

Also suggested is a larger system of PA categories (renamed 'conservation areas' since they are not strictly protectionist), which would allow the flexibility of accommodating different kinds of ecological and social situations without compromising conservation values or livelihood rights. Bhatt and Kothari (1996) have suggested four additional categories to the two existing ones of national parks and sanctuaries: strict nature reserve, resource reserve, biosphere reserve, and community reserve. A summary table of these is attached as an appendix 1.

Of these, the categories of biosphere reserves and community reserves are particularly important. The concept of biosphere reserves has the potential for harmonising conservation and human livelihood objectives over large land/waterscapes, but has not really been applied to its full advantage in India. Community reserves would provide a legal backing to communities who are trying to protect their sacred groves, catchment forests, village tanks, etc., but would keep control in their hands.

We would argue that with such an expanded set of categories, and using a much more inclusive range of conservation areas (see below), India's PA network

could increase to well over 10% of its landmass (over double the present area). This could in fact also include over 1% of its landmass as totally inviolate areas, jointly decided on by government agencies and local communities, and including uninhabited islands, forests with no human use, sacred landscapes, etc.

2.9 THE LARGER CONTEXT OF LAND/WATER USE

Most habitats of wildlife significance in India are not only themselves inhabited by humans, but are also surrounded by human settlements, private lands, and developmental infrastructure. What happens in these adjoining areas has a significant bearing on the ecological status of the wildlife habitat; e.g. the enormous fuel wood demand from Jamshedpur (Bihar) appears to be putting an unsustainable pressure on Dalma Sanctuary's forests (Christopher 1997). In addition, economic and social policies and programmes at the state, national, and international level can also have strong impacts on the PA. The decision to make a major dam at Tehri town, in the Garhwal Himalaya of Uttar Pradesh, has had a detrimental impact on far-away Rajaji National Park, as people to be displaced by the project have been resettled in the middle of the elephant corridor adjacent to the Park. In India as a whole, the ongoing phase of 'liberalisation', has led to demands to denotify or alter the boundaries of several PAs, to enable commercial-industrial activities in these areas (Kothari et.al. 1995). The entire coastline and marine areas of India are threatened by plans to increase the export of fishery products (entailing the spread of polluting aquaculture and destructive trawlers), and to locate tourism, shipping facilities and industries here.

While national and international forces cannot be tackled at the level of each conservation area, there is an urgent necessity, and possibility, of carrying out integrated land use plans for the whole region within which a critical wildlife habitat is embedded. One idea is to declare the conservation area and its surrounding region as a special management unit, and set up an institutional structure to build up a detailed land/water use plan and manage the whole area in this way. This is somewhat akin to the Special Area Development Authorities set up in many parts of India, but with an orientation towards conservation in this case. Examples of participatory management from across the world reveal that such an approach is increasingly being taken by many countries (Suri 1997). In the Indian situation, this option may still be tried only several years from now, since major structural changes in the way the government functions will have to be made. A few test cases, however, can be taken up almost immediately, provided the state/central governments are ready to back the experiment to the full. To a certain extent, tiger reserves are attempting this, by handing over a substantial buffer area around the designated national park or sanctuary to the wildlife authorities; however, coordination amongst government agencies active within this area has not yet been very heartening, and community involvement remains very weak. This reveals that what is also needed is a close re-examination of the impacts of several state/national policies and programmes on the ecological health of wildlife habitats in India.

In addition, it is vital to get away from the almost exclusive protected area focus of conservationists. True, representative and rich biodiversity sites need special attention, but this is not an excuse to neglect the need for conservation in non-PA sites. As is well-known, considerable wildlife (including many of the 'flagship' species of Indian conservation, the so-called charismatic mega-fauna) is found outside PAs,

including in human-dominated ecosystems, and its only protection is what the Wildlife Act provides rather ineffectually, or what local people themselves are providing. A range of incentives to local communities where these species exist, or encouragement of beliefs and practices which allow them to thrive, would perhaps be the most effective way of protecting such wildlife.

Altogether, closer examination of the various external factors influencing wildlife habitats and species and steps to tackle these factors are urgently needed. This includes, as mentioned above, strengthening the Wildlife (Protection) Act against destructive industrial-urban influences and projects.

Eventually, it would be critical to ensure some level of conservation across the entire range of human land/water uses, rather than focus exclusively on a small percentage of biodiversity-rich areas.

3. CONCLUSION: HURDLES AND OPPORTUNITIES

India's conservation policy and programmes are moving increasingly towards more participatory processes. Rather than resist such a move, we (as conservationists) must see this as an opportunity to do what we have not been able to do for decades: make the conservation movement truly broad-based and grass roots' oriented rather than restricted to a small and increasingly ineffective elite. Indeed, it is only if we see village communities as conservationist in their own right, albeit with often different motives, and only if we see the legitimacy of their rights to survival and livelihood resources, will we be able to make conservation a sustainable effort. Some compromises may appear necessary (by both urban conservationists and local communities) to make these new alignments and strategies possible: some wildlife habitats may be lost, some communities may have to give up cherished traditions (such as mass hunts in areas with considerably depleted wildlife). But in the long run, a range of options in which co-management and community-based conservation figure prominently, offers a much surer vision of conservation than we have built over the last few decades.

The basic assertions made above can be summarised as follows.

1. The conventional method of protecting wildlife, especially the creation of PAs, has undoubtedly saved many habitats and species from destruction, but has also caused severe hardships for local communities dependent on these habitats and species.
2. The alienation of these communities from their resource base, which has been the result of exclusionary conservation policies and strategies, is both unjust and shortsighted, for wildlife cannot survive in the midst of dispossessed and hostile populations. A strategy of exclusion is in any case unviable, given the extent of dependence of several million people on wildlife habitats and the impossibility of finding alternative lands and resources for all of them.
3. People, especially those who have traditionally subsisted on local resources, have a continuing right to these resources, except where they are causing irreversible ecological damage, in which case viable alternatives have to be provided.
4. Official and non-governmental conservation agencies are becoming increasingly ineffective, in the face of declining political support and

mounting 'developmental' pressures. Such agencies have inherent limitations of human, financial, and technical resources.

5. Both wildlife and local communities are threatened by a third party: the urban-industrial sector which is bent on gobbling up natural resources as raw material and rural dwellers as cheap labour. Only a partnership between conservationists and communities/social activists, and the empowerment of ecosystem-dependent communities, can withstand this destruction, as can be seen at dozens of sites across India.
6. Changes are therefore needed in conservation policy, law and administration, to allow for a much more participatory system, one which is respectful of both the needs of wildlife and the rights of humans. Such changes will have to bring in several factors previously ignored or only weakly integrated: relevant community knowledge and practices; customary laws and local institutional structures; vertical and horizontal integration within government agencies; land/water use planning in a regional context within which special areas for wildlife protection are supplemented by incentives for conservation across the spectrum of human resource uses; mutual learning sessions amongst various stakeholders; open access to information, and so on.
7. Decisions regarding conservation should be based much more on ecological, historical, and socio-economic research than is currently the case, research that is participatory and integrates the informal paradigms of local communities with the formal approaches of ecologists and wildlife scientists.

There are, undoubtedly, several hurdles to cross in achieving such a redirection of conservation strategy. These include:

- the rapid erosion of community knowledge and practices;
- loss of sustainability due to increases in human and livestock population and changes in lifestyle;
- social inequities at various levels;
- continued resistance from those who have power to share it with those who do not;
- severe distrust between government officials and local people;
- inappropriate development paths and national laws/policies;
- political interference;
- corruption; and
- lack of capacity amongst all stakeholders.

But for each of these hurdles, there are also examples of people having overcome them to create opportunities, such as:

- revival of community-level knowledge, practices, and institutional structures relevant to conservation (such that, according to one recent estimate, upwards of 2.5 million hectares of forests are being protected by communities in India today);
- voluntary reduction of livestock numbers and/or regulations on free grazing by many communities;
- willingness to accept family planning if adequate incentives are available and where women are empowered;

- decentralisation opportunities created by recent constitutional amendments;
- informal and formal arrangements between communities and government agencies/officers for conservation and sustainable livelihood options;
- challenges to destructive development processes (the coastal ecosystems would be far more degraded were it not for the widespread agitation by traditional fisherfolk against the introduction of trawlers and aquaculture);
- politicians taking up the cudgel on behalf of conservation (e.g. to save Bhitarkanika and Balukhand Sanctuaries in Orissa from 'development' projects);
- reduction in the incidence of corruption where people's organisations have empowered themselves; and
- increasing awareness and capacity amongst different stakeholders to handle the complex job of managing natural resources.

The opportunities are there, and if the urban conservation community can respond adequately, and in time, to seize these opportunities, it will help to forge a new path of conservation. If it does not, it risks becoming increasingly redundant as larger forces take over.

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APPENDIX 1

EXPANDED SYSTEM OF CONSERVATION AREA CATEGORIES FOR INDIA

(For explanatory notes, see Bhatt and Kothari 1997)

Protected area category	IUCN category	Objectives	Features	Management structure	Stake of local community	Management activities	Examples
I. Strict Nature Reserve	I	Absolute protection to species or habitats	Totaly or almost totally natural, no human habitation in or adjacent to reserve, and no human use; small size	Central or state agency, with advisory committees of independent experts	Not relevant	Only protection no human intervention including tourism; restricted research and monitoring	Most A&N sanctuaries, Silent Valley, Core areas of several current parks
II. National Park	II	Conservation of species or habitats with minimal or very low intensity human activity	Largely natural; small (a few families) or no human habitation inside; some use by transient humans; small to medium size, except where large uninhabited area is available	Conservation Area Management Committee of government officials, independent experts, local community representatives	Employment; in Park activities; bona fide survival rights of resident populations; tourism revenue	Minimal management (mostly protection); research and monitoring of activities, including of parks; bona fide resource uses; very restricted tourism; awareness programmes	Nanda Devi, etc. (about 50% of current national parks)
III. Sanctuary	IV	Conservation of species or habitats by manipulative management	Largely natural habitat; moderate to no human settlements (few dozen families each, largely traditional); moderate to no use by outside humans; medium to large size	Conservation Area Management Committee of government officials, local community representatives and independent experts	Bona fide and essential livelihood rights within protected areas, conservation objectives; employment; tourism revenue etc.	Essential intervention for protection and regeneration, and reversal of negative influences; research and monitoring of resource uses, etc; awareness programmes	Over 50% of current protected areas, including national parks (excluding strict A&N ones)

Protected area category	IUCN category	Objectives	Features	Management structure	Stake of local community	Management activities	Examples
V. Resource Reserve	VI	Sustainable resource use with conservation of identified habitat elements and species	Human-influenced or regenerated areas; substantial human settlement; medium to large size	Largely local community and assistance from government agencies	Bona fide and livelihood (including economic) needs; employment; tourism revenue, etc	Sustainable resource extraction; research and monitoring on impacts of resource use; checks on commercial exploitation; awareness programmes	Many Reserve and Forest Management areas; CRZ; river catchments
V. Biosphere Reserve	V	Conservation of mosaic of complementary land/water uses, natural and human ecosystems; encouragement of traditional land-use systems, including agriculture	Mix of natural and human-influenced ecosystems; substantial human settlements (rural); very large size	Regional management boards, with all relevant government agencies, local community and NGO/expert representatives	Sustained livelihood and cultural security support to traditional activities; ecologically sensitive livelihood options as alternative to large-scale commercial ones	Interventions to protect and regenerate ecosystems and species; safeguard corridors; encourage traditional resource uses; ban on large-scale developmental / commercial activities	Most existing Biosphere Reserves
VI. Community Reserve	None	Protection of landscapes, ecosystems, and species as practiced by local communities	Largely natural, minimal human or low intensity human intervention; mostly small, some large size	Largely natural, minimal Local community body	Protection of cultural / religious values and ecosystem functions	Mostly protection; controls on limited resource use, with safeguards against outside commercial forces	Sacred groves; Tanks like Kokrebellur; Chipko-protected areas

COUNTRY PAPER - SRI LANKA

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1. INTRODUCTION

1.1 GENERAL

Sri Lanka is an island located near the southern tip of peninsula India, with a total land area of 65,601 sq.km, a shoreline of 1600 km and an economic zone that extends up to 320 km beyond the coastline. The total cultivated land in the country and the natural forest cover were 39% and 24% respectively in 1992. The total estimated population was 18.5 million with a annual growth rate of 1.4% in 1995.

1.2 TERRAIN

The island consists of broad coastal plains surrounding a central mountainous area rising to a highest elevation of 2524m. These mountains are the catchments for 103 major rivers.

1.3 CLIMATE

As a result of altitudinal changes, three thermal zones have been recognised; namely the hot low-country, warm mid-country and the cool up-country. The mean annual temperature in the low-country is 27°C (wet zone) and 30°C (dry zone). In the montane (up-country) region, the mean monthly temperature varies from 13°C to 16°C with night temperatures occasionally dropping to 5°C-0°C. However, seasonal variation of temperature is more or less uniform throughout the country.

1.4 PRECIPITATION

There is considerable variation in rainfall. Two monsoonal (southwest; from May to August; and northeast from mid-October to January) and two inter-monsoonal periods can be recognised. The southwest quarter of the island is an area of high rainfall increasing from the coast to the hill country (from 2500 mm to 6000 mm). Over large areas elsewhere the rainfall varies between 1000 mm and 2500 mm. Only a narrow strip on the northwest and on southeast coasts receives a mean annual rainfall of between 750mm-1000mm. However, due to high evaporation a large area of land features a water deficit.

[•] Forest Department
[♦] Department of Wildlife Conservation
[✧] March for Conservation (NGO)

1.5 SOILS

Although 14 great soil groups have been recognised in Sri Lanka, reddish brown earth occupies the whole dry zone and semi-dry intermediate zone while the predominant soil in the wet zone and semi-wet intermediate zone is red yellow podzolic soils.

1.6 ECOSYSTEMS

The variation of rainfall and altitude has resulted in a wide variety of ecosystems that include tropical lowland rainforest, montane forests, dry monsoon forests, wet and dry grasslands and inland wetlands, in addition to the coastal ecosystem such as sea grass beds, coral reefs, estuaries and lagoons and the associated mangrove swamps.

2. PROTECTED AREA NETWORK OF SRI LANKA

2.1 HISTORY OF PROTECTED AREAS

The history of conservation of protected areas in Sri Lanka dates back to 246 BC from the time of Emperor Asoka of India whose son Arahata Mahindra brought Buddhism to the island. The conversation that Arahata had with King Devanampiyatissa, the then-ruler of the island resulted in the declaration of that area of the island as a sanctuary which today we believe to be the first state-initiated sanctuary in the world. After that, many ancient rulers of the island issued regulations prohibiting the killing of animals in and around their kingdom and declared important forest areas as reservations i.e. Udawattekelle and Sinharaja.

It has been discovered that Sri Lanka traditionally had a well-developed system of natural resource management, kept in place with the help of civil society. Areas in the central highlands with natural forest were set aside for soil and water conservation, while the flat, dry zone was developed and provided with irrigation through a cascade system of tanks (reservoirs). The catchment areas of the tanks were left alone and therefore formed a good habitat for flora and fauna. The population density was high in the dry zone during the reign of the Sinhala Kings until the 16th century. The management of the tanks and associated reservations required strong community participation and organisations which were maintained through traditional and concessionary rights etc. granted to the communities which depended on these resources.

In the recent past, protection of natural forest habitats began with the establishment of the Forest Department in 1887. Several categories of forests were declared, out of which some were afforded protected status. Until the introduction of the Fauna and Flora Protection Ordinance in 1937 all these protected areas were controlled under the Forest Ordinance of 1907.

A separate institution known as the Department of Wildlife Conservation was created under the Fauna and Flora Protection Ordinance (of 1937) in 1948. Although some of the forest reserves were legally declared as long ago as 1835, the first Sanctuary (Yala, 414 sq.km, now a national park under the DWLC) was declared in 1898 under the Forest Ordinance of 1885. The objectives of setting up Yala were to:

- i. co-ordinate forest operations with conservation of indigenous fauna and flora;
- ii. conserve the supply of water and prevent soil erosion.

The recent history of wildlife conservation in Sri Lanka reveals that most of the protected areas of the DWLC were set up to protect and regulate game i.e. animals hunted for sport notably by the British colonial rulers of the country. This practice is now outlawed. Wildlife conservation has now evolved towards enhancing economic benefits to humans through the protection of animals and their habitats and most recently has concentrated on the explicit conservation of the biological diversity of Sri Lanka.

2.2 POLICIES

2.2.1 National Forest Policy (1995)

The current forest policy was formulated and approved by the government in 1995. Its main objectives are:

1. to conserve forests for posterity, with particular regard to biodiversity, soils, water and their historical, cultural, religious and aesthetic value;
2. to increase the tree cover and the productivity of the forest to meet the needs of present and future generations for forests products and services;
3. to enhance the contribution of forests to the welfare of the rural population and strengthen the national economy with special attention paid to equity in economic development.

The present forest policy in Sri Lanka further states that all the forest areas are to be managed in a sustainable manner in order to ensure the continued existence of important ecosystems and flow of forest products and services. It also recognises and respects the traditional rights, cultural values and religious beliefs of people living in and adjacent to forest areas.

This forest policy clearly indicates collaborative management and protection of natural and plantation forests through the building of partnerships with local people or rural communities and other stakeholders. These partnerships should create a system whereby the sharing of benefits generated through forests is possible. Lands just outside the protected areas will be leased out to rural communities and other stakeholders. In addition, the policy on rehabilitation of degraded forest land also benefits local people. Community based organisations and other non-governmental organisations are to be supported in their forest based rural development activities such as cottage industries, ecotourism etc.

Looking at the existing forest policy in Sri Lanka, it is evident that there are more than adequate provisions for collaborative management of protected areas and for benefit sharing activities. This is further strengthened by the Forestry Sector Master Plan (FSMP) of 1995, which provides the strategies for the implementation of this policy.

2.2.2 Policies of the Wildlife Department

The 1990 policy document of the DWLC includes the following objectives:

- to formulate a manifesto of varied objectives which would suit each reserve declared for protection;
- to reassess scientifically all existing protected areas and new areas identified for protection and examine ways and means of meeting the objectives of these areas, their ecological stability and the needs of the people;
- to identify potential human uses of protected areas which are compatible with the objectives of the area, regulate and control their activities on a sustainable basis;
- to permit multiple use of protected areas in accordance with its sustainability without affecting the ecological stability of the area;
- to demarcate zones of activity to achieve the specific objectives of the protected area along with other sustainable uses.

2.3 CATEGORIES OF PROTECTED AREAS

2.3.1 Forest Department

Until the early 1970s there were no forest areas managed by the Forest Department for total protection except the natural forests situated above an elevation of 5000 ft. However, with the initiation of United Nations (UNESCO) Man and Biosphere programme (1975) sites with natural forests in different climatic zones have been identified as a biosphere reserves for total protection.

There are 41 sites covering an area of 72,760 ha selected under the MAB programme throughout the country. Two of these, namely Hurulu Forest Reserve (512 ha) and Sinharaja Forest Reserve (8864 ha) have been recognised as international biosphere reserves. Sinharaja was first identified as a MAB reserve, and then declared a National Heritage Wilderness under a new act called the National Heritage Wilderness Area Act (No. 3 of 1988). In 1989 Sinharaja Forest was recognised as a World Heritage site by UNESCO.

2.3.2 Protected Areas under the Forest Department

Category	Number	Area (ha)
International Biosphere Reserves	2	9376
National Biosphere Reserves	38	63384
Conservation Forests	32	73272
World Heritage Area (Sinharaja)	1	111187 .
Selected Mangrove sites	29	3500
Total		160,719

2.3.3 Protected Areas under the Department of Wildlife Conservation

Since the establishment of the Department of Wildlife Conservation (DWLC) in 1948 under the Fauna and Flora Protection Ordinance (1937) all the National Reserves and Sanctuaries declared under the Forest Ordinance have been brought under management of this department.

Protected Areas under the Department of Wildlife Conservation (In decreasing order of the level of protection) •

Category	Number	AREA (ha)
Strict Natural Reserves	3	31575.4
National Parks	13	499790.6
Nature Reserves	2	32548.5
Jungle Corridors	2	10360
Sanctuaries	52	245070.7
Total		819345.2

Due to the importance afforded originally to protecting game, most (95%) of the PAs under the DWLC were created in the dry zone despite the fact that the wet zone of the country holds approximately 95% of the floral biodiversity and over 70% of faunal biodiversity in its rainforests with the highest proportion of endemic species. The wet zone also has the highest population pressure in the country and the fastest expanding urban centres, including the city of Colombo, the commercial capital of the island. However, the results of National Conservation Review (NER) of the forests (referred to in later sections) of Sri Lanka have proposed that a total of 70 top priority forests selected from all over the country be set apart for conservation. This may be the solution to the present anomaly in the distribution of the PAs.

3. MANAGEMENT OF PROTECTED AREAS

3.1 MANAGEMENT SYSTEM OF PROTECTED AREAS OF THE FOREST DEPARTMENT

Although reforestation, afforestation and enrichment of natural forests have been carried out by the Forest Department, there was no scientific basis for many of these activities. The first national forest inventory (1981-1985) provided the information required for preparation of the country's first Forestry Master Plan (FMP) of 1986. The recommendations of this FMP were implemented from 1986 to 1990.

This Forestry Master Plan was criticised by various interested parties including NGOs as it failed to provide due consideration for environmental conservation and was significantly production-oriented. This arose because of centralised planning and little consultation with stakeholders/communities

This criticism resulted in IUCN being invited to formulate an environmental management plan for the second phase of the FMP implementation. One of the key recommendations of this environmental plan was the rapid assessment of biological diversity called the Accelerated Conservation Review (ACR) in selected forests in the low-country wet zone.

Based on the recommendations of this study (1990) 13 important forests covering an area of 24,000 ha in the low-country wet zone were set aside for conservation.

• SNR - only research is permitted, National Parks - entry only on a permit issued by DWLC; Nature Reserves - entry permitted but no activities; Corridors - entry only; Sanctuaries - has private and state lands but only activities permitted by DWLC on private land.

3.2 MANAGEMENT PLANS OF THE FOREST DEPARTMENT

The first conservation management plan was prepared for Sinharaja Forest in 1986 with the objective of conserving its biodiversity and unique ecosystem. Strategies prescribed in this management plan include:

- buffer zone development activities with the participation of local community,
- rural upliftment programmes i.e. education, health, agriculture(soil conservation/introduced improved species), and creation of local vigilante groups (i.e. Friends of Sinharaja- "Sinharaja Sumithuro"),
- benefit sharing through part-time employment /visitor guides.

This management plan was initially implemented for four years and was revised further, taking into consideration the experiences of the first phase. At present the original boundary of the forest is being resurveyed in order to exclude some of the village hamlets and other developed areas in consideration of the traditional rights of the local people. However, no collaborative management of forest areas was included in this plan.

Out of 13 conservation forests identified through the ACR, a have had management plans drawn up for them and along with three others (Sinharaja, Knuckles and the KDN complex) a total of twelve management plans have been prepared. Common to all plans are zoning of the forest according to conservation and multiple use needs and a strong community participation component, even co-management in some instances. The work of the Forest Department has led to the formation of community-based organisations (CBOs) such as the 'Dumbara Surakinno' (Protectors of Knuckles) in each of the 46 villages surrounding the Knuckles Forest Conservation Area. Most of the buffer zone development activities and awareness programmes have been carried out by these CBOs. Participation of the community at large has been secured for activities such as development of drinking water schemes; restoration of anicuts (irrigation structures); renovation of school buildings and temples; tree planting in home gardens and barren private lands; distribution of improved seeds for agricultural activities; and provision of support for animal husbandry.

Buffer zone development work in Sinharaja and Knuckles forests by the FD has initiated the formation of CBOs. A newly created voluntary organisation called 'Green Friends' based in the wet zone district (Ratnapura) is the result of the Forest Department's encouragement to the Sinharaja Sumituro formed under the Sinharaja forest management plan. Green Friends has now expanded to the other districts of the wet zone and has undertaken several environmental conservation activities, some with the support of Global Environmental Facility's (GEF) small grants programme.

3.3 MANAGEMENT PLANS OF THE DEPARTMENT OF WILDLIFE CONSERVATION

As described in Section 2.1, the management objectives of DWLC's protected areas have evolved towards its present day emphasis on conservation of biodiversity. The policy document of 1990 states that that a lack of scientific information about the protected areas is a great obstacle to the formulation of management plans.

The existing system of management of the DWLC is still very much through the protection and enforcement approach. However, acceptance and willingness for community involvement in PA management is reflected in the management plans drawn up for two major national parks, Uda Walawe National Park and the Yala Protected Area Complex. These plans are to be implemented in the future. However, there have in fact been protected areas of the DWLC where community participation has already taken place. In some instances where this approach is ongoing, community participation may even evolve towards collaborative management.

Community Involvement Within Lunugamvehera National Park – The major threats faced by this park are grazing pressure, cultivation within the park, illicit felling of timber, poaching, collection of fuel wood and human-elephant conflict leading to mortality and injuries to wild elephants. The DWLC has embarked on a programme of community participation in this park. Initially through Participatory Rural Appraisal methodologies the department has identified the problems of the community. The DWLC has sought to relieve the problems of cattle owners by finding alternative lands outside the park in collaboration with local administrative officials and the political leaders of the region. At present 2500 ha of land has been found for this purpose and abandoned tanks (small reservoirs) are to be rehabilitated in order for the cattle owners to use them. It has also been decided to release 200 ha of park land for cultivation by those who have farmed this land for a considerable period of time. Labour for park development is drawn entirely from the villagers. Voluntary guides who will accompany visitors to the park once it is open to the public (by 1999) will be recruited from local communities. (For details of this park, see Appendix 1).

4. ADEQUACY OF PROTECTED AREAS IN THE ISLAND

At present, the protected area network of the country amounts to about 15% of the total land area and about 50% of the total forest cover, both dense and sparse forests, which are administrated by the FD and DWLC. As a follow up to the Accelerated Conservation Review, a more comprehensive study, the National Conservation Review (NCR) was carried out over a period of five years (1991-1996) with the following main objectives.

- to ensure that biodiversity and endemism is adequately represented;
- to ensure that hydrological considerations are addressed.

All the natural forests which are large enough to maintain the integrity of their ecosystems and viable populations of plants and animals while protecting watersheds and catchments have been surveyed. Thus for the most part, only forests over 200 ha in size were considered for the review. Priority was given to unique ecosystems depending on the presence of endemic and threatened species.

A total of 204 forest areas have been surveyed to identify the optimal or minimum set of sites which are representative of Sri Lanka's biological diversity, measured in terms of species richness. The final goal of this study is to develop an optimum protected area network to conserve biodiversity in the natural forests and set aside the rest of the natural forests for production purposes.

The above study revealed that existing PAs both under the Forest Department and Department of Wildlife Conservation do not adequately cover the important

ecosystems of the island. Following the NCR, the total number of conservation forests in the island has been increased to 33 by adding on the 13 sites declared originally under the ACR. A final number of 70 sites have been proposed by the NCR. These areas are under the jurisdiction of both the DWLC and the FD and together should form a network for the better protection of biodiversity and the hydrological integrity of the PAs.

5. EXAMPLES OF COMMUNITY PARTICIPATION IN NATURAL RESOURCES MANAGEMENT IN PROTECTED AREAS

5.1 BACKGROUND

For much of our recent history, beginning from the last century when the British took control of the entire island, the state has been the single largest manager of the natural resources, including forests, protected areas and wildlife. This is obvious from the fact that the state owns more than 82% of the land and its resources. It should be noted that traditionally, community rights have been legally recognised and that systems of communal resource management have existed for centuries. These were obviously sustainable within the communities that practiced them. The two examples cited below are both Community-based Natural Resource Management Projects (CBNRM). These were in operation from 1992 to 1997 as part of the Natural Resource Environment Policy Project of the Ministry of Forests and Environment, Sri Lanka, and were funded by the United States Agency for International Co-operation (USAID). The uniqueness of the CBNRMs lay in the fact that their main objective was biodiversity conservation. Its aims were as follows:

- i. local level resolution of biodiversity conservation and environmental pollution problems through meaningful participation of affected communities and the collaboration of authorities;
- ii. public and private sector co-operation and support for communities to manage resources;
- iii. awareness-building among policy makers of the usefulness of the CBNRM approach.

5.2 RITIGALA COMMUNITY BASED NATURAL RESOURCE MANAGEMENT PROJECT

Context – The Ritigala range of hills lies in the North Central Province of Sri Lanka in the dry zone. These hills form the Ritigala Strict Natural Reserve (under the jurisdiction of the DWLC) which was declared in 1941 on the basis of its importance for conserving endemic flora (especially medicinal plants) and fauna. The forests around the SNR belong to the Forest Department. There are 14 villages ringing the base of the SNR inhabited by approximately 3000 families. Although the local people are mainly engaged in agriculture, they depend on the resources of Ritigala considerably. Despite the fact that the SNR enjoys the highest level of protection, resource extraction is carried out mostly through unsustainable practices. The situation that prevails in Ritigala is a common scenario in many developing countries. Declaration of a protected area makes its traditional uses

illegal and leads to conflicts between local communities depending on the resource and state officials who are entrusted with its protection. Outsiders, often with powerful forces backing them, move into these areas exploiting resources on a commercial scale while the small scale users are punished. The DWLC, although aware of the problems facing Ritigala, is unable to prevent these threats due to a number of constraints. The situation is exacerbated by the multitude of agencies that control resources and the problems of co-ordination between their activities. This area was selected as a site for CBRM in consultation with the DWLC.

Process and Institutions – A buddhist monk who was an accepted leader in the community, even to those from other religions, and the CBO he headed were the initial agents of change. Social mobilisers selected from the villages began the process of introducing the objectives of the project to the community. The CBO led by the buddhist monk gave rise to the Ritigala Community-based Development and Environment Management Foundation (RITICOE) which was a structured organisation representing all villages. RITICOE took over the leadership of the project and from 1995 to 1997 engaged itself in community development activities and awareness raising among the community on the ecological importance of Ritigala. The regulations governing a SNR do not permit any activities involving the community in its management and it is difficult to expect the DWLC to be able to co-manage a PA without an accompanying policy change. Thus the work of the project was realistically concentrated on the buffer area of the SNR.

Outcomes – RITICOE established itself as a key community organisation that formed partnerships with local administrative officials (but not with DWLC or FD) and was concerned with income generating activities. They also engaged themselves in community social services such as organising health clinics and initiated savings schemes.

It published and sold booklets on the common types of medicinal plants of Ritigala and their uses. A remarkable feature is that RITICOE did not collapse with the withdrawal of funds by USAID in 1997. It is involved in new ventures and notably is a key player in a project on medicinal plant conservation and sustainable use, funded by the Global Environment Facility with technical assistance by IUCN, Sri Lanka. Ritigala is a focal point of this new project.

Lessons Learnt

- i. The nature of the resource-community relationship was found to be very important;
- ii. the link between alternative income generation and resource management should not be down-played;
- iii. the community's existing knowledge base should not be underestimated. Their ability to explain and understand ecological processes, functions and the relevance of ecological stability of forests to their survival was high. A considerable proportion of the community understood that biodiversity conservation was implicit in the resource allocation rules of traditional resource extraction methods;
- iv. collaboration with central resource management agencies was vital for success;
- v. baseline data and monitoring were important.

5.3 KAHALLE PALLEKELE HUMAN ELEPHANT CONFLICT (HEC) MITIGATION

Context – Kahalle-Pallekele is a sanctuary in the North Western Province in the dry zone of Sri Lanka. It was obviously set up to provide a habitat for flora and fauna, including the elephants that roam the area. It is situated in an area that has been populated from the times of the ancient Sinhala kings. At present, it is a mosaic of villages; home gardens (with vegetable, fruit and coconut trees); paddy fields; small areas cultivated with sorghum, maize, sugarcane, vegetables and tobacco; patches of secondary dry zone forest; tanks (artificial irrigation reservoirs, most dating from the time of the Sinhala kings and in use or abandoned, distributed within and outside present day forests); grasslands as successional stages of vegetation; and scrub land. In short, the area provides shelter to elephants by way of small forest patches and high-energy, nutritious food crops grown by humans. This land was a prime habitat for elephants until large scale clearing of forests for agriculture and other development activities destroyed their habitats and displaced them. One of the objectives of the creation of the sanctuary was to provide a refuge for the elephants; but the reality is far different as encroachments, illegal felling and shifting cultivation within the sanctuary have driven the elephants out of it. An additional contributory factor appears to be the conversion of nearly 4,000 ha of forests into teak (timber) plantations by the state in the 1960s.

The target resource of this project was one which did not bring any benefits to the community but placed costs on it. Thus the project focused on reducing these costs.

Process and Institutions – The lead in implementing this project was taken by a unique partnership of four NGOs. Three were local to the North Western Province while the fourth, March for Conservation, was a Colombo University based group largely made up of university academics and scientists. This partnership came together as a loosely knit forum called the Wana Jana Mithuro. Two of the NGOs took on the role of organising the community and its initiatives while the other two provided scientific information and elephant-friendly methods of protecting crops, property, and lives. MfC put in place a strategy whereby the villagers were trained and carried out scientific information gathering on the elephants involved. The CBOs were mostly previously existing ones, such as the Maranadhara Samitis, while in a few cases the project had to establish new CBOs.

Outcomes – A network of CBOs to spread awareness and education was established. At the same time the CBOs initiated action that contributed towards improving the villagers' income. The most success has been seen in the women's thrift and credit societies. The villagers' socioeconomic status improved through a combination of the reduction of losses by elephants (in some areas only) and income generating activities. The level of HEC decreased in terms of the number of elephant deaths within two years of the operation of the project. However, overall there is little evidence to prove that the threat to the wild elephants was reduced.

Lessons Learnt

- i. Collaboration with national state agencies (Wildlife Conservation and Forests) and local administrative institutions is vital
- ii. A national policy on elephant management is required

- iii. The link between alternative income generation and level of protection afforded to the resource must be investigated further
- iv. Scientific research on elephants is a must

6. MAIN CONSTRAINTS TO COLLABORATIVE MANAGEMENT

- i) Inadequate legal provisions
- ii) Lack of awareness among the communities
- iii) Lack of awareness among the field officers about collaborative management
- iv) Lack of clearly supportive policies in the case of wildlife conservation
- v) Imbalance of benefit sharing with communities

7. PRIORITY AREAS FOR IMPROVEMENT OF COLLABORATIVE MANAGEMENT

- An integrated policy supported by legislation and political commitment
- Improvement of institutional capacities in the state and non-governmental sector
- Creation of mechanism for equitable sharing of benefits to the community

8. SITES FOR PARTICIPATORY ACTION RESEARCH (PAR)

Two sites from the Forest Department PAs and three sites from Department of Wildlife Conservation PAs are suggested for PAR. (See Appendix 1).

9. LIST OF ORGANISATIONS

A list of individuals and organisations who are actively involved in and knowledgeable about collaborative management can be found in Appendix 2.

10. CONTRIBUTION

Contributions needed through a regional programme on collaborative management are as follows.

- Exchange of experience
- Gathering of information on effective strategies through seminars/workshops and field visits
- Establishment of a database and network on collaborative management

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APPENDICES

APPENDIX 1

SITES FOR PARTICIPATORY ACTION RESEARCH

1. FOREST DEPARTMENT

a. Kanneliya Conservation Forest:

Kanneliya Conservation Forest is very rich in biodiversity. A large portion of it has been exploited for timber in the recent past. A sizable extent (5,000 ha) is kept aside to maintain ecosystem integrity. It is an important watershed.

This is a wet-evergreen forest covering an area of 6,000 ha located in the southwestern corner of Sri Lanka, in between two major rivers, Gin Ganga and Nilwala Ganga. The elevation ranges from 60-425 m. The rugged topography in combination with heavy (44,000 mm) rainfall produced a well-developed drainage pattern with frequent evidence of stream (flood) capture. Flooding, which causes extensive damage in the downstream areas, occurs due to forest degradation and poor land use practices. The climax forest formation, characteristically multi-storied, is floristically diverse with dominant dipterocarps. This is considered an area of exceptional endemism, with some 17% of the zone's lowland endemic flora being confined to these forests, and therefore identified as one of the most floristically rich

areas in South Asia. A total of 319 woody species, representing 194 genera and 75 families, were identified and out of this number 159 species belonging to 94 genera, with 41 families being endemic to Sri Lanka. Of the 319 woody species identified, 22% are classified as endangered, 27% as vulnerable, 45% as rare and 3% are of unknown status as per the IUCN Red Data Book (1994).

Out of some 220 faunal species, 41 endemics have been recorded in the forest area. Two river systems form an ideal habitat for fish fauna, one third of which is endemic to Sri Lanka. There are approximately 52 villages around the forest.

The forest was logged from 1940 to 1987 on a selection system mainly for plywood production. The conservation management plan prepared for this forest in 1995 emphasises community participation, since many of the villages partially depend on the forest. This plan is to be implemented soon, as a Global Environmental Facility (GEF) project.

b) Knuckles Conservation Area

The Knuckles Conservation Area consists of diverse eco-systems and is isolated from other central hills. The area covers two districts (approximately 16,500 ha) and consists of traditional villages and hamlets whose population work as hired labour for the cardamom plantations surrounding the forest.

The Knuckles Conservation Area is made up of the Knuckles range of mountains, situated in the intermediate zone, apart from the central highlands of the island, and with a diverse ecosystem. These mountains are located at right angles to the two principal wind currents which bring in the monsoonal rains to the country, and elevations range up to 1,823 m (6284 ft). There are many peaks with steep slopes and the forest which occurs on these mountains is distinctive in many ways because of the geographic location and high altitude. Its location, bordering the wet and dry zones of the island, has created a wide climatic range, from extreme wet on the southwestern slopes to dry on the eastern slopes. All these factors have combined to create a unique ecosystem rich in its diversity of flora and fauna. Many of the species found are endemic and are considered rare; some are confined entirely to this site. In addition, this area forms an important part of the catchment of the longest river, the Mahaweli.

Cardamom under-planting has been carried out since the early 1960s in many parts of the mountains where the elevation is over 1,200m, which resulted in degradation of the forest. Shifting cultivation was practiced by the villages in the drier areas. However, considering the importance of this mountain range, it was decided in 1988 to conserve an area of approximately 16,500 ha.

A conservation management plan has been prepared and implemented over the past ten years. There are a total of 77 villages around this forest with a population of 40,250 (1994). Forty-six villages in the immediate buffer zone have been identified and different kinds of rural upliftment and awareness programmes have been carried out through the CBO, formed with the assistance of the Forest Department. Rehabilitation of degraded forests and the resettlement of a few families right inside the forest are some of the other activities that have been carried out.

2. DEPARTMENT OF WILDLIFE CONSERVATION

a) Uda Walawe National Park

Covering an area of 323.15 sq.km, this park contains within it the Uda Walawe Reservoir, a result of a diversion of the Uda Walawe river, one of the major rivers flowing through the southern part of Sri Lanka. One of the main reasons for the declaration of UWNP was the protection of the upstream catchment reservoir (to be used for irrigation and power generation) from soil erosion. The other was protection of wildlife habitats, especially that of elephants. It is a very popular destination for both local and foreign tourists. A large part of its western boundary is being adversely affected by illegal human activities such as settlement and cultivation. Grazing pressure by domestic cattle and buffaloes, illegal gem mining, poaching, illegal timber extraction and recurrent dry season fires caused by cattle herders are other threats to the integrity of UWNP. The management plans developed for this park includes community involvement in its protection.

b) Horton Plains National Park- (HPNP)

Situated at an elevation of 7,200 ft in the highest peneplain of the country, Horton Plains National Park is the only national park in the wet zone located in the Central Province. This area was completely uninhabited during the times of the Sinhala kings and was a 'forbidden jungle'. It was rediscovered by the British in the 1920s during the colonial era and was named after Governor Sir R.W. Horton. HPNP is composed of a gently undulating highland plateau made up of natural grasslands, patches of high altitude cloud forest and meandering streams. The grasslands are largely tussock grasses. As well as being the place of origin for three major rivers, the park contains unique flora with a high degree of endemism (around 25%) and many species of endemic fauna. The great zoologist Sir Ernst Haeckel, on an expedition to Sri Lanka in the 1880s, records vivid descriptions and paintings of Horton Plains including large herds of elephants. Sadly, there are no more elephants inside the park today, with the last one being sighted around the 1930s. Hunting was a favorite sport of the British at Horton Plains. During the 1970s, a portion of the plains was the site of a potato farm, which was abandoned later in the decade. The park is ringed by tea plantations, villages and towns.

Horton Plains was declared a park in 1989 and is the only one where visitors can walk along nature trails. Long before the declaration of Horton Plains as a national park its unique climate and landscape features made it a popular tourist destination. The park attracts large numbers of Sri Lankan tourists. Modern day threats to the park emanate largely from its legal visitor community which litters it with large amount of garbage and initiates grassland fires mostly through vandalism. Poaching, illegal gem mining and fuel wood extraction are present but are not serious threats. The DWLC has launched awareness campaigns with the assistance of some sections of the concerned visitor community. This very special national park of great aesthetic beauty and ecological importance is highly suitable for community participation in its management.

c) Lunugamvehera National park

Declared a national park in December 1995, Lunugamvehera National Park straddles two districts in the southern dry zone of the country. The major objectives of its creation were protection of biodiversity and protection of the watershed of the Lunugamvehera reservoir created as part of a river diversion scheme in 1986 for supply of water to agricultural lands. There are 12 villages around the park with 5,480 families earning an income below Rs 1,000 (US\$ 20). Traditionally the villagers have been cultivating land within what is now the park as well as heavily used pasture areas. They continue these practices even today: there are 160 families cultivating park land, totalling nearly 200 ha. This is a common source of conflict between state officials and the local community. Fishing in the reservoir within the park is allowed for villagers holding a valid permit obtained from the DWLC.

Plantations of teak (*Tectona grandis*) a highly valued timber tree, were established by the Forest Department in the 1960s and now lie within the park. About 180 elephants (with about 110 more or less confined to the park) roam the area. Human-elephant conflicts are common. An electric fence around a part of the park reduces the level of conflict with some of the villages. See Section 3.4 for a description of work carried out in Lunugamvehera National Park at present.

APPENDIX 2

LIST OF ORGANISATIONS ACTIVELY INVOLVED IN/KNOWLEDGEABLE ABOUT COLLABORATIVE MANAGEMENT

GOVERNMENT ORGANISATIONS

1. The Forest Department of Sri Lanka. The Conservator, No. 82, Rajamalwatta Road, Battaramulla, Sri Lanka. Tel- +94-1-866616, Fax- +94-1-866633, email-forest@slt.lk
2. The Department of Wildlife Conservation. The Director, Gregory's Road, Colombo 7. Sri Lanka.
3. Coast Conservation Department of Sri Lanka, The Director.

NON GOVERNMENTAL ORGANISATIONS

1. March for Conservation, The Co-ordinator, College House, University of Colombo, POB 1490, Colombo 3, Sri Lanka.
Tel-+94-1-580246, Fax- +94-1-594490, email-Nirmalie@eureka.lk
2. The Wildlife and Nature Protection Society of Sri Lanka, The President, Chaitya Road, Marine Drive, Fort, Sri Lanka, Tel-+94-1-325248, Fax- +94-1-503917.
3. Environmental Foundation Limited, The Chairman, 3, Campbell Terrace Colombo 10.

4. Organisation for Resource Development and Environment, The Executive Director, 193, Welewewa, Nawagaththegama, Sri Lanka.
5. Wayamaba Govi Sanwardhana Padanama, The President, Panduwasnnuwara, Sri Lanka
(Number 4 and 5 are partner organisations of the Kahalle-Pallekele human elephant mitigation project).
6. RITICOE.
7. Green Friends Sri Lanka, PO Box 9, Ratnapura, Sri Lanka

1. SUMMARY

The Directorate General of Forest Protection and Nature Conservation (PHPA) under the Ministry of Forestry and Estate Crops is responsible for the management of conservation areas in Indonesia. To strengthen the management of the areas within its jurisdiction, PHPA has established partnership programmes with local communities, private companies and NGOs. Local communities have been directly involved in providing visitor services such as catering, accommodation and guides. One of the examples of PHPA-sponsored partnerships with private companies is the establishment of Friends of Kutai, to support the Kutai National Park in East Kalimantan. NGOs such as the World Wide Fund for Nature, BirdLife International, Wetlands International and The Nature Conservancy have a long history of involvement in conservation in Indonesia. PHPA encourages the involvement of partner agencies in supporting park management. The priorities for joint programmes include training, visitor management and interpretation.

2. INTRODUCTION

Indonesia is an archipelago consisting of more than 17,000 islands. The population of Indonesia already exceeds 200 million, making Indonesia one of the world's most populated countries.

Although Indonesia covers only 1.3% of the earth's land surface, the country is recognised for its rich resources. As one of the twelve "mega-diversity" countries, Indonesia contains an estimated 25% of the world's fish species, 17% of all birds species, 16% of reptile and amphibian species, 12% of all mammal species, and 10% of plant species. (BAPPENAS, 1993).

Indonesia is a signatory to several conventions, such as the World Heritage Convention, Convention on Biodiversity, Ramsar and CITES. PHPA has been an agency member of IUCN since 1967.

3. CONSERVATION AREAS WITHIN INDONESIA

Indonesia has allocated approximately 140 million hectares as state forest lands. The forest consists of 113.8 million hectares of permanent forest and 26.6 million hectares of convertible forest land. The permanent forest land consists of 30.7 million hectares of protection forests (for watershed management and other hydrological functions), 64.3 million hectares of production forests (Ministry of Forestry, 1995) and 21.320 million hectares of conservation forests i.e. national parks, nature reserves (Ditjen PHPA, 1998).

* Listya Kusumawardhani, Director of Conservation Programme
Ministry of Forestry and Estate Crops, Indonesia

Conservation areas cover all major habitat types including marine, coastal and mangrove habitats, range from lowland forests to mountain forests, and stretch from the western to the eastern parts of the country.

Conservation areas in Indonesia are managed by the government. The Directorate General of Forest Protection and Nature Conservation (PHPA) under the Ministry of Forestry and Estate Crops has been invested with authority to administer and manage all designated conservation areas. At present the Government of Indonesia has designated 373 conservation areas consisting of 36 national parks, 176 nature reserves and 48 wildlife reserves (Ditjen PHPA, 1998).

There are several constraints facing PHPA in managing protected areas. These include lack of coordination between agencies, insufficient funding, shortage of trained staff, poor conservation awareness and a dearth of community and stakeholder participation in conservation.

4. STATUS OF COLLABORATIVE MANAGEMENT

As conservation awareness spreads in Indonesia, there is an increased understanding that the conservation of protected areas not only depends on PHPA but is also the responsibility of other government institutions, organisations, local communities and stakeholders. Given the limitations noted earlier, it would not be possible to manage conservation areas through the PHPA alone.

Participation of organisations, stakeholders and local community in the management of protected areas is outlined in several laws, as follows:

- Conservation of Living Natural Resources and their Ecosystems, Law No. 5 of 1990;
Article 34 in Law No. 5 states that local people and other stakeholders surrounding conservation areas should be included in the management of intensive use zones in national parks, grand forest parks and recreation forests.
- Management of Living Environment, Law No. 23 of 1997;
It is clearly stated in Article 10 that the government encourages partnerships with communities and other stakeholders to support conservation.

In the past, the majority of activities in the management of protected areas consisted of activities inside the areas, for example, biodiversity surveys and civil works within the park, and training for PHPA staff. However, in recent years, the management policy of conservation areas in Indonesia is undergoing change. Evidence of this change can be seen in the PHPA budget allocation. In recent years, increasing amounts of funds have been allocated to various activities outside protected areas. For example, part of the budget in several national parks is used to cover activities related to community development in the buffer zones.

5. PARTNERSHIP TO PROMOTE CONSERVATION

Collaboration between PHPA and local communities and other stakeholders in promoting conservation was initiated long before 1990. There are several examples of cooperation as follows.

5.1 PARTNERSHIP WITH INTERNATIONAL NGOS

WWF appears to be the first organisation to have established cooperation with PHPA. This organisation has been involved with conservation in Indonesia since 1962. The purpose of WWF's presence at that time was to assist Indonesia in saving certain endangered big mammals such as the Javan rhino and the orangutang.

At present, WWF is involved in various activities such as community development, survey, extension and training. WWF supports the management of more than 15 conservation areas including Kayan Mentarang NP, Kerinci Seblat NP, Bukit Tiga Puluh, Ujung Kulon NP, Bentuang Karimun NP, Taka Bone Rate NP and Lorentz Nature Reserves. In 1996, WWF in Indonesia changed its status from WWF-Indonesia Programme to the WWF Foundation of Indonesia. The localities where WWF works vary from the west to the east of Indonesia.

PHPA also has a memorandum of understanding with other international NGOs such as BirdLife International, Wetlands International, and The Nature Conservancy. Their activities, for the most part, do not overlap as each organisation has a separate specialisation in the field. These organisations also work at different localities. BirdLife International, for example, supports PHPA in surveying the ecology of birds in Indonesia. At present BirdLife works intensively in the eastern part of Indonesia including Maluku and East Nusa Tenggara. BirdLife has established a field office in Sumba.

Wetlands International helps PHPA in training, surveys and extension of wetlands as well as the implementation of the Ramsar Convention in Indonesia. Wetlands International have just finished their project in Lake Sentarum Wildlife Reserve in West Kalimantan with assistance from the ODA. Wetlands International (with ODA funding) also helps PHPA in establishing training on wetlands for rangers and mid-level managers. The Nature Conservancy assists PHPA in promoting marine conservation programmes in Indonesia. At present The Nature Conservancy is working in Komodo NP.

Since 1995, the Leuser International Foundation (YLI) has been assisting in the management of Gunung Leuser NP. YLI, with the assistance of Ministry of Forestry, has begun negotiating partnerships with certain forest concessionaires in the surrounding of the park (Griffiths and Amin, 1998). It is expected that the partnership will improve current logging practices. YLI also supports various activities related to conservation education and agro-forestry, and encourages partnerships with local NGOs in addition to building up an international network of partners.

Organisations that have just begun their cooperation with PHPA include the Wildlife Conservation Society (WCS) and Orangutang Foundation International (OFI). WCS is going to be involved in training programmes for Kerinci Seblat NP, whereas OFI will establish an Orangutang Care Centre in Central Kalimantan Province.

Voluntary Service Overseas (VSO) from the United Kingdom has also assisted PHPA. VSO volunteers have been assigned to several national parks. Volunteer expertise varies according to the requests of the park managers. VSO volunteers who have been working at the Gunung Gede Pangrango NP and Kutai NP have expertise in conservation education and interpretation.

5.2 PARTNERSHIP WITH LOCAL NGOS

PHPA has established joint programmes with several local organisations and universities. To support conservation of the Gunung Gede Pangrango NP and Gunung Halimun NP in West Java, a consortium was established on 21 July 1994. The consortium consists of 14 institutions, including research institutes, universities, and local NGOs. The purpose of the consortium is to encourage cooperation and to increase the sustainable utilisation of the area via activities including research and tourism.

Another example of local NGO involvement in conservation is YASUMI (Mentawai Foundation) that has been carrying out community development programmes in Siberut National Park in West Sumatra Province.

Most of the national parks in Indonesia have received assistance from local universities and organisations situated relatively close to the conservation area. The association of nature lovers of Jember University (FK3I) has been involved in various activities in Meru Betiri NP in East Java. Activities have included a workshop on turtle conservation (supported by Wetlands International and the Australia Nature Conservation Agency) and a study of the Javan eagle (supported by the Australia Nature Conservation Agency).

5.3 PARTNERSHIP WITH COMPANIES

Friends of Kutai, established on 30 April 1994, appears to be the first formal expression of partnership between PHPA and companies existing in the surroundings of the national park. The companies associated with Kutai National Park in East Kalimantan have pledged their support Kutai NP management. These companies consist of eight big industries such as PERTAMINA-Sangatta (state-owned oil company); PT Kaltim Prima Coal (coal); PT Badak LNG (natural gas); PT Indominco Mandiri (coal mining company); PT Kiani Lestari (timber concession); PT Porodisa (timber concession); PT Pupuk Kaltim (fertiliser); and PT Surya Hutani Jaya (pulpwood).

A steering committee and implementation unit have been established to facilitate the partnership. Apart from these companies, the committee is composed of representatives of relevant agencies and UNESCO. The committee produces an annual workplan containing agreed activities and funding that will be contributed to by every company and organisation. In the year 1997/1998, the corporate members have pledged to provide Rp 370,000,000 with a Rp 255,000,000 contribution from UNDP (UNESCO, 1997). Activities include establishing tourist facilities (500m walkways on the mangrove at the Bukit Kaba area in the park), signboards, training and a study on the Bugis settlers live in the park boundary. Other assistance from the company to the park was a vehicle and facilities to support conservation activities. The presence of Friends of Kutai appears to be benefitting the park, as it provides forum for discussion to solve certain problems and strengthens coordination between agencies. UNESCO support to the Friends of Kutai has also widened the park's international network of partners and is promoting the park to the local community living in the city of Bontang, East Kalimantan and to the international community.

5.4 LOCAL COMMUNITY PARTICIPATION

Several national parks have already been established in cooperation with local people, such as in Ujung Kulon NP in West Java, Komodo NP in East Nusa Tenggara, and Gunung Gede Pangrango NP. Most of the local people's involvement in these NPs is for the capacity of ecotourism support, i.e. providing guides and catering to tourists.

Several collaborative programmes between Siberut NP in West Sumatra and local people have been initiated. For example, establishing demplots for local people in agro-forestry, farming and fisheries. The project also provided training for local guides and supported the establishment of the guide association of Siberut (SGA).

PHPA, with support from the local government, has started to increase local people's participation in national park management. In Kerinci Seblat NP and in Siberut NP, there has been a participatory mapping exercise for villages in the park buffer zones. In Kerinci Seblat, WWF has assisted villagers in strengthening local community institutions, has provided training and has prepared an annual workplan of village activities.

Local people in Kerinci Seblat NP and Bukit Barisan Selatan NP has been already involved in the protection of the area through the RPU's. The main purpose of RPU's (Rhino Protection Unit) is to establish mobile protection units to combat rhino poachers. The unit consists of park staff and local people as the member.

In Komodo NP and Kerinci Seblat NP community partners have also been established, made up of a voluntary group of local people from the park's surroundings. Subiyanto and Kaniawati (1996) reported that in Komodo NP there were 132 volunteers involved in various programmes such as inventory making, Rapid Rural Appraisal and extension work. In Kerinci Seblat NP, there was funding allocated in the financial year of 1996/1997 to support 100 local people in their activities in support of the park's management.

PHPA with its partners have always continued to find other alternatives of earning income for local people. Training has been given in fields such as mariculture (pearl oyster, and sea cucumber) in Komodo NP with assistance from The Nature Conservancy (Subiyanto and Kaniawati, 1996). A programme that has already been successful is the development of butterfly farming for local people surrounding Arfak Mountain Nature Reserve of Irian Jaya, set up with WWF assistance. The ODA has assisted PHPA in developing local handicrafts in the area surrounding Lake Sentarum Wildlife Reserve in West Kalimantan. The Lake Sentarum project is not only improving the technique of handicraft making, but it has also helped in the marketing of the product. Under a Memorandum of Understanding between PHPA and the Environmental Biodiversity Group of Australia, a jungle fowl breeding programme has been planned. This programme is proposed by PHPA in consideration of the high economic value of the species for many people.

6. SOURCE OF FUNDING

Most of the activities carried out with the collaboration of PHPA and its partners have been supported by foreign donors. The Biodiversity Conservation Project in Siberut NP, West Sumatra and Ruteng Recreation Forest, East Nusa Tenggara have been supported by a loan from the Asian Development Bank. Most of the other

projects have been funded by foreign donors. The source of funding for the establishment of RPU has come from GEF/UNDP, and the funding for the community programme at Kerinci Seblat NP has been received from GEF/World Bank. The partnership of PHPA and the International Leuser Foundation (YLI) to assist in conservation of the Leuser ecosystem of North Sumatra and Aceh has been supported by the European Community.

Since 1994, the Ministry of Forestry and Estate Crops' policy has not allowed foreign assistance to be received in the form of loans.

7. PRINCIPAL CONSTRAINTS

There are several principal constraints for PHPA in establishing partnerships with other agencies as can be seen from the following.

1. Funding limitation

Due to limited funding, the PHPA contribution is usually in the form of in-kind support. PHPA, however, assists its partners in obtaining the necessary documents or permits. The implementation programme in the joint activities should sometimes be modified or rescheduled as the funding provided by another party is insufficient.

2. Guidelines on partnership are not available

A set of guidelines on partnerships prepared by PHPA central office is now under preparation. The absence of any guidelines has often discouraged regional offices, including national parks and other stakeholders from carrying out joint activities.

8. PRIORITY MEASURES

There are several PHPA priority measures that will be carried out, as follows.

1. The existing cooperation between PHPA with other agencies will be strengthened. To achieve this, PHPA with its partners have organised regular meetings and workshops in the central office and in the field, so problems that have been encountered during the implementation of joint projects can be identified.

PHPA with its counterparts have also continued observations to define various activities suitable for certain protected areas. PHPA are always open for recommendation from stakeholders.

2. PHPA shall ensure the sustainability of joint activities in a partnership programme. PHPA, therefore, avoids a top-down approach. The activities under joint cooperation should be formulated by the management unit in the field.
3. PHPA has been delighted by the establishment of more sister parks between national parks in Indonesia and protected areas in foreign countries. PHPA believes that the sister park programme can enhance the management of national parks in the country. Sister park agreements between national parks in Indonesia and parks abroad is still very low. At present, only Gunung Gede Pangrango National Park has taken part in the sister park programme with FNPPE (Federation of National Parks and

Protected Areas of Europe). In the meantime, PHPA is still working towards the cooperation of three protected areas in neighboring countries under the Tri-National Wetlands programme. These three conservation areas are Wasur NP in Irian Jaya, Indonesia; Tonda Wildlife Reserve in Papua New Guinea; and Kakadu NP in Australia.

4. To find new partners, PHPA have increased dissemination information through appropriate fora such as workshops, exhibitions and extensions.
5. PHPA have been working to finalise the guidelines on partnerships. PHPA have also prepared other necessary guidelines to support collaboration with other agencies.

9. MECHANISMS

A Memorandum of Understanding (MOU) is required to start a formal cooperation between PHPA and its foreign partners. An operational plan containing the activities to be implemented during the cooperation must also be prepared. An approval is required from the Cabinet Secretary of the Republic of Indonesia for the MOU and the operational plan before activities commence. There is an evaluation and review by the PHPA and the other party at least once a year. Approval from the Cabinet Secretary is not required for establishing partnerships between PHPA and its local counterparts.

PHPA is not responsible for giving research permits to foreign researchers. According the Indonesian regulations, research permits are granted by the Indonesian Research Institute (LIPI).

10. FUTURE COLLABORATIVE MANAGEMENT OF PAS

PHPA will continue to strengthen existing collaboration with other agencies. PHPA invites future partnership in various fields as follows.

10.1. TRAINING

Capacity building is a priority for PHPA. PHPA invites assistance with training for PHPA staff in such areas as interpretation, GIS training and buffer zone management. PHPA also invites donor inputs that will provide scholarships to support the participation of PHPA staff in formal education such as Master's degree programmes.

10.2. PROPOSED SITES FOR FUTURE COLLABORATION IN THE NATIONAL PARKS IN INDONESIA

- a. Meru Betiri NP in East Java. Visitor facilities in the park are available, but training for park staff and university students in interpretation is required. Other necessary technical assistance includes the development of a plan for visitor facilities. Another site that needs similar support is Gunung Halimun NP in West Java. The US Forest Service-Alaska Region has assisted PHPA in setting up visitor facilities in Komodo and Kelimutu NPs.
- b. Karimun Jawa NP is one of the newly established marine NPs in Central

Java. Considering its strategic location, a management priority for the area is to identify the potential resources that will be useful for the local community as well as for visitors.

11. CONCLUSION

PHPA has a long history in establishing partnerships with other agencies. Most of the support is given to assist the development of national parks in Indonesia. Assistance given by its partners includes training for PHPA staff and the local community, development of visitor facilities, and increased participation by local people.

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APPENDIX 1

ORGANISATIONS INVOLVED IN COLLABORATIVE MANAGEMENT IN THE PROTECTED AREAS IN INDONESIA

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WARSI, The Foundation Conservation Information Centre
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LIST OF PHPA'S PARTNERS IN CONSERVATION PROGRAMME

1. Alami Foundation
2. BirdLife International
3. Conservation International
4. Friends of Kutai
5. Leuser International Foundation
6. Mitra Rhino Foundation
7. SKEPHI
8. The Nature Conservancy
9. YASUMI (Mentawaiian Foundation)
10. Wallacea Foundation
11. WARSI
12. Wetland International
13. Wildlife Conservation Society
14. WWF Indonesia Foundation

COUNTRY PAPER LAO PDR

by Chanthaviphone Inthavong[•]
Klaus Berkmuller^{*}

1. BACKGROUND

Protected area management in Lao PDR began six years ago. Only 9 out of 20 declared areas are actively managed. Human resources are lacking and institutional capacity is low. The protected areas that are managed are dependent on foreign aid and only a few have so far achieved credible management standards. Subsistence use of protected areas is widespread and collaborative management seems the most appropriate form of control.

Although the law has basic provisions in support of collaborative management, local interpretation of the law stresses state control and detailed regulations are absent. Major drives are underway to address shortcomings. Land and forest allocation is enhancing tenure security. Proposed regulations provide the basis for legally recognising village forestry organisations. A proposed revision of protected area legislation requires compulsory consultation on matters pertaining to people's livelihood. It would specifically allow the option to delegate management responsibility to villages and give commensurate authority and other benefits.

Collaborative management within protected areas ranges from the merely consultative to the truly participatory. However, all efforts are still in their early stages. A functioning management system is a major prerequisite for collaborative management. Protected area extensionists have yet to define their professional niche. Three issues are highlighted as decisive: creating local rules and regulations and selecting appropriate incentives. For collaborative management to catch on it must prove itself through monitoring.

Friendly peer reviews of collaborative management efforts at field sites are advocated as a means of building on and improving ongoing efforts. This should be done under professional guidance and should be associated with action research.

2. PROTECTED AREAS IN LAO PDR AND THEIR MANAGEMENT

Lao PDR remained a blank spot on the South East Asian protected area map until 1993 when government declared 18 protected areas in one fell swoop, covering 10.5% of the land area (Lao Government, 1993). Declared at prime ministerial level, these areas became known as National Biodiversity Conservation Areas (NBCAs) to distinguish them from lesser conservation forest. Seventeen of these areas had been recommended following a systematic evaluation of potential sites (Salter and Bouaphanh, 1989, Salter et al. 1991, Berkmuller et al., 1993). An additional 10 areas were proposed in a 1995 Status Report (Berkmuller et al., 1995). In mid-1998 the number of declared NBCAs stands at 20, covering over 11.5% of Lao PDR.

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One criterion for NBCA selection had been low levels of human use. Nevertheless, all NBCAs are subject to some extractive use for subsistence and the majority of them incorporate enclave villages. All NBCAs were traditionally, and remain to this day, de facto multiple use areas. Prior to zonation the entire area is a 'controlled use zone' as defined in the Forestry Law (Lao Government, 1996) and would thus be best managed as a Managed Resource Protected Area, Category VI of the IUCN classification (IUCN, 1994). It is hoped that effective management will eventually lead to the formation of sizable core zones meeting the criteria for Categories I and II.

The Centre for Protected Areas and Watershed Management (CPAWM) is the central government agency taking care of protected area matters. Management authority rests with the Agriculture and Forestry Offices of the respective provinces and districts. In one case, management authority has been delegated to the Ministry of Defense.

Nine NBCAs have been under varying types and intensity of management; the oldest one, Phou Khao Khoay near Vientiane, for 6 years. Protected area management is almost exclusively funded by foreign donors. The resource management capacity of the government is extremely low. Provincial forestry offices have no regular budgets, people live largely in a subsistence economy and many depend on protected area resources for a substantial proportion of their cash income. That management must be collaborative under the circumstances is a foregone conclusion.

Collaborative management in Lao PDR is between government officials, parastatal agencies and the established village authority. There are foreign donor NGOs but no local ones. Notwithstanding the inadequate understanding of participatory and collaborative management among local authorities, there is substantial political support for it in principle. The political system encourages egalitarianism and the gulf between local people and officials seems less wide than elsewhere. The relationship between them has generally not been poisoned by serious conflict, although there are significant exceptions to this in some localities and with some ethnic groups.

Among the decision makers in politics and the administration there seems to be a genuine concern that development should benefit the village. There is a general expectation that all protected area projects initiate and support rural development.

There is hardly an official who would not wholeheartedly agree with the statement that villages should be guardians of the forest and efforts are underway to provide the legal basis for doing so. Nevertheless, officials tend to equate local people's participation in forest management with assistance in forest protection.

3. THE LEGAL BASE

3.1 GENERAL ASPECTS

After the 1975 revolution the country was largely ruled by decree within the framework of a Constitution promulgated in 1982. Decrees were and still are issued ad hoc in response to felt needs. Ever since the economy opened up in the early

1990s efforts have increased to replace decrees with a more comprehensive, more logical, and a more coherent legal framework.

Only serious crimes are generally prosecuted and tried in a formal sense. The great majority of disputes and infringements are dealt with by the respective community following a universally recognised penalty progression from warning, to second warning with loss of illegally gained goods, to warning with accompanying fine, to handing the case over for prosecution. The traditional village process for sanctioning infringements of moral codes or land use conventions by one of its members seems largely intact although government and party hold a strong influence down to the grass roots' level.

Local people are entitled to collect non-timber forest products for subsistence but not for sale. They are not permitted to cut valuable timber except by special permission for house construction or a purpose that benefits the community. The relationship between officials and local people has generally not been poisoned by past conflict. This is an important element conducive to cooperative management.

Settlement on forest land has been largely uncontrolled but it is viewed with increasing concern. Conflict has arisen particularly where shifting cultivation is the dominant agricultural land use. The government sees, not entirely without reason, shifting cultivation as a major cause of deforestation. The conflict has political overtones as it tends to concern upland ethnic groups. Shifting cultivation continues to be a sensitive issue and stereotypes and preset opinions are likely to affect collaborative management efforts.

Village, district, and even provincial boundaries are often unclear. Outside the towns one used to find hardly any registered land ownership. The government would like to increase its control over how land is used, ensure that every family has sufficient land to make a living, and persuade local communities to engage in land use planning with an eye to the future. Trials in land use planning and allocation started as early as 1990. A concerted drive was launched in 1996 with the target to cover all of the country's villages by the year 2000. A thorough and detailed account of this 'exciting approach to resource management on a very large scale' (Claridge, 1998) has been recently produced under a consultancy for the GET fund component of FOMACOP.

The process entails six major steps (however, these are not all completed at the first attempt). The main tangible results of the initial attempt are generally the following.

- an agreement on the village boundary
- a listing of land under agricultural production
- a map showing major (forest and agriculture) land use categories
- provisional land titles for individual families

The outputs of land and forest allocation vary greatly according to the qualifications and experience of the staff who may guide and facilitate at an appropriate pace or alternatively dominate the process and rush through a rigid agenda to meet completion targets. Land use planning and forest allocation activities are carried out under the direction of land and forest allocation committees in provinces and districts. These committees are instrumental in all land related issues and have a central function in solving land use conflicts in protected areas.

3.2 ASPECTS OF THE FORESTRY LAW RELEVANT TO COLLABORATIVE MANAGEMENT

People's participation in forest protection and the preservation of existing forests rank prominently in the government's forest sector strategy for 1996-2000 (DoF, 1997). The major piece of legislation directly relevant to cooperative management in protected areas is the Forestry Law No.1/96 (Lao Government, 1996) passed by the National Assembly in October 1996. The law itself was based on a decree of the Management of Forests and Forest Land (169/PM, 1993) which itself had been conceived as a precursor of the law. Among the articles relevant to collaborative management are the following.

- Article 7 refers to rights and benefits of protection, conservation and management of forest and forest land. It provides the legal base for 'individuals and organisations' to receive 'compensatory benefits' for their role in forest management.
- Article 30 on the 'customary use of forest and forest land' defines customary use as 'practiced for a long period and recognised by society and/or law'. It 'includes the collection of non-prohibited wood, ... the collection of forest produce, hunting and fishing of non-prohibited species for household consumption and other uses following custom'. The article further states that customary use must be 'in accordance with village regulations on forest land which the village has determined' and 'in accordance with article 63' (of the forest law). Customary use rights do not require the formal allocation of tenure by the state, but it may not 'affect the rights or benefits of individuals or organisations'. It remains unclear whether formal tenure takes precedence over customary rights. The ongoing land and forest allocation is addressing this problem by providing formal tenure rights to villages and households.
- Article 63 defines the 'rights and duties of the village authority' and lists 10 items of which only one could be considered a right, namely the right to 'develop specific village regulations'. The other 9 items constitute duties of one kind or another, ranging from the charge to 'organise the implementation of decisions and orders...' to the obligation of the village authority to 'lead the timely prevention of harmful activities...'. Clearly there is yet another imbalance to address.
- Article 42 on 'Protection and Conservation of Conservation Forests' requires zonation into a total protection zone and controlled management zones. The latter allows extractive use. The law thus allows protected area managers to accommodate local resource needs by considering them in the zonation process.

3.3 SHORTCOMINGS AND PROPOSED CHANGES

Shortcomings in the legal framework are widely recognised, especially the lack of detailed regulations and operational guidelines. A Forest Regulation Drafting Committee recognised a number of gaps in the law and regulations made to interpret aspects of the law (DoF, 1997). Specifically included are among others, village forestry and customary rights, biodiversity conservation and protected area management, as well as rights and responsibilities of, and interactions between, the

various actors, including village authorities. A National Village Forestry Strategy discussion paper (MAF/DoF, 1997) highlights the central issues: disillusionment with large scale production forestry in state forests and a corresponding shift to a people oriented forestry. They named three compelling arguments in favour of this change:

- the government simply cannot afford state supervised forest management;
- the local people have the most to lose when the forest disappears;
- it would tend to redress an income imbalance between the rural and urban populations.

The strategy also notes the need to change the prevalent perception of collaborative management from the notion that the government would allow people to participate in the implementation of its policy to the understanding that the people would join in the decision-making, share benefits and have real authority in the managed area.

Two major draft documents now exist for possible incorporation into a revised and expanded forestry law. One is on the Establishment and Management of Protected Areas (CPAWM/LSFCP, 1998). The other draft document contains Village Forestry Regulations (FOMACOP, 1997).

If adopted, the village forestry regulations would provide a mechanism for legally recognising village forestry organisations. There would be provisions for benefit sharing, that is, for villages to collect revenue as money or in kind. It would render an accepted process for agreements between authorities and villages, which in turn would be linked to the sustainability of use. With some adjustments, these regulations could also be applied to the controlled use zones of the protected areas.

The proposed new articles on the establishment and management of protected areas would incorporate a number of provisions in support of collaborative management. These would require that,

- consultations precede any decisions that affect traditional rights and livelihoods of local communities;
- land claim issues are equitably resolved by the respective Land and Forest Allocation Committees;
- enclave village status is determined and its rights and obligations specified by the respective Land and Forest Allocation Committees.

In addition, the proposed articles would allow the option to:

- delegate management responsibility under agreements as detailed in the village forestry regulations;
- draft local protected area rules;
- permit local participation in boundary delineation in the field;
- give financial and other tangible benefits to volunteers and guardian villages as motivation for participation in management.

Ideally, the sophistication and complexity of the law would match the administration's capacity to apply and enforce it. Realistically, one should be prepared for a considerable time lag before the law can take hold. It will take time for the law to be revised and expanded. It will take yet more time for it to be disseminated, for local authorities to understand it, to overcome opposition by

vested interest groups, to gain general acceptance and to enforce it. Meanwhile, cooperative management must make do with the broad provisions of the existing law and interpret them in the local context.

3.4 GRASS ROOTS' RULES

Land use rules are an indispensable aspect of protected area management. Collaborative management will rely on indigenous resource management rules or draft rules appropriate for their specific context.

Given the great cultural diversity represented by the country's numerous ethnic groups, one would expect a corresponding variety of indigenous rules. It remains unclear to what extent indigenous rules can be identified with reasonable effort and effectively incorporated into collaborative management. Anecdotal evidence suggests that in Lao PDR ownership over wildlands' resources is associated with villages rather than individuals. Use areas tend to be shared, not always voluntarily, resulting in an open access condition. Villages are not empowered to control activities by outsiders and the sense of ownership and stewardship is correspondingly weak.

Several projects have initiated the development of local rules. In one instance, a rules framework was developed for two protected areas with substantial local consultation (Berkmuller et al. 1997). A fisheries project has initiated a process whereby fishing villages in the Siphandone area of the Mekong river have set up and enforced fish conservation zones (Baird, 1998). Yet other projects have assisted villages in developing village specific resource management and land use rules.

4. ONGOING EFFORTS IN COLLABORATIVE MANAGEMENT

4.1 COLLABORATIVE FOREST MANAGEMENT OUTSIDE PROTECTED AREAS

Collaborative management is a central feature in many projects related to forestry or other wildland resources. The majority of these are, however, oriented more towards resource use than towards resource protection. Project resources tend to be focused on pilot areas and villages, and on activities yielding direct and tangible benefits to local people. These projects range from model testing for joint management of production forests, to integrated land use planning in watersheds, to village forestry.

4.2 COLLABORATIVE MANAGEMENT ASSOCIATED WITH PROTECTED AREAS

Protected area projects have a different perspective on collaborative management than projects focused on resource extraction. Their resources are generally spread over a much larger area and they find it more difficult to identify focal points for collaboration and to motivate local people for it. Only four of the eleven managed NBCAs have had the benefit of sustained technical assistance focusing on their sites. All of the protected area management projects aspire to follow a participatory management approach. Land use agreements between the protected area management authority and local villages is a long-term goal for all of them. They do differ greatly in the manner and degree to which local people are involved and in management style and system.

a. Phou Khao Khoay, Nam Poui, Xe Bang Nouan, Phou Xang He

IUCN implemented the conservation component of the LSFCEP and has been involved in protected area management since 1992. The four areas within its purview have been managed for between four and six years. Technical assistance was intermittent and limited to guideline development and periodic visits. Funding was adequate but interrupted during a hiatus between the current and previous programme phase. All areas were reasonably well endowed with equipment, vehicles, and field stations. Emphasis had been placed on extension training and the collection of land use data.

Of the LSFCEP areas, only Phou Khao Khoay has succeeded in setting up a functioning management system due to the presence of relatively experienced and senior local staff and sustained technical assistance. Among all managed NBCAs, PKK has by far the greatest number of staff (34 technical and over 40 army personnel). It has had one technical advisor attached to it for the last two years. As a former security area, the management authority has been given to the Ministry of Defense.

While there is a strong accent on law enforcement, genuine effort has been made in consulting with the local people. NBCA staff maintain regular contact with 69 user villages. Boundary descriptions and agreements have been signed with all villages. User villages also signed cooperation agreements with the districts apparently declaring their willingness and determination to uphold the forestry law. Forty-nine villages have so far signed tentative controlled use zone statements which would allocate 1-2 km deep boundary strips covering between 10-15 sq.km for each user village. This will be followed by discussions on the privileges and duties associated with the allocation.

b. Dong Phouviang, Khammouane Limestone, Xe Pian, Xe Sap

The NBCA management sub-programme of FOMACOP/GET has four areas to develop, test, and implement sustainable management in a co-management process. It is currently concentrating efforts on two areas, Dong Phouviang and Xe Pian. FOMACOP/GET support to NBCAs has suffered from similar problems as that of LSFCEP which have delayed the establishment of a functioning management system as a prerequisite for any collaborative management. The addition of four long-term field advisors in early 1998 is an important step in making up for the deficiency. The project is well endowed in terms of hardware.

The project's most tangible contribution to collaborative management to date has been the explicit consultation of local people as part of the preparation for initial wildlife surveys.

c. Nam Ha

The Community-based Conservation Project funded by the MacArthur Foundation and implemented through the Wildlife Conservation Society is active in Nam Ha NBCA in the northern province of Luang Namtha. The long-term aim of the project is effective resource protection by the local people resulting from increased village authority, responsibility and land use rules. In the short-term livelihood considerations are most pressing. Its collaborative management efforts are concentrated on thirteen target villages where the project supports small-scale

development and land use planning. The project has a long-term advisor but provides only minimal inputs of hardware and funding in a deliberate attempt to increase its sustainability.

d. Dong Hua Sao, Phou Xiang Thong

The Biodiversity Conservation Project, funded by the Dutch Government and implemented through IUCN, is located in the southern province of Champassak. Its objective of capacity building is mainly pursued through practical experience with management implementation in the two NBCAs, DHS and PXT. A functioning management system is in place with extension considered equally important as patrolling. Rules were drafted after systematic consultation of user villages. Signed by the districts, the rules allocate protected area sectors to named guardian villages and authorises them to control entry, set up land use rules and have a say in the zoning process. Villages are motivated to enforce the rules through a mixture of incentives: increased authority and control, material benefits, and education. The project has a long-term advisor and is reasonably well endowed in terms of funding for hardware and incentives. The project has begun small-scale assistance to selected villages and has initiated environmental education in local schools. The project pursues two types of agreements: agreements with individual land owners on agricultural use; agreements with villages on rule enforcement in core zone areas, and allocated controlled use zone. A monitoring system exists to measure management efforts and to allow fact-based assessments of levels of human use and impact.

At Phou Xiang Thong the BCP is supported by the Community Development for Conservation Project funded by the NGO German Agro-Action (GAA) and implemented through Population Development International (PDI).

e. Siphandone Wetlands

The fisheries project previously funded by Earth Island an NGO and more recently by the EU through the Italian NGO, CESVI, does not deal with a declared protected area but is nevertheless highly relevant. Under the project some 60 fishing villages in the four thousand-island-region of the Mekong river have devised conservation rules for deep water holes within their traditional fishing grounds (Baird, 1998). The district has given the villages its formal backing to enforce the rules vis à vis outsiders. Local people are convinced that protection rules have had a positive impact on the catches of some species and the project is seeking to verify the statements through direct observations. The project seems successful, largely because it deals with a well-defined resource important for people's livelihood, but also because of a latent concern over declining catches and a strong sense of ownership over the resource.

5. CENTRAL ISSUES IN COLLABORATIVE MANAGEMENT OF PROTECTED AREAS

Among the 'managed' NBCAs only a few can be said to have a functioning management system. NBCA management is dependent on foreign funding and technical assistance and is not sustainable at current inputs. In many instances,

provincial and district forestry offices do not yet recognise conservation as a mainstream forestry activity. Local staff are unprepared for conservation management, let alone for collaborative management. Local participation generally does not rise above consultation.

The obstacles to collaborative management are many. Let us first look at an idealised vision grounded in reality and extract from it key elements of collaborative management in a protected area context.

6. PREREQUISITES OF MANAGEMENT

It is the institutional capacity, the staffing and the management system that a protected area manager has to consider first.

6.1 INSTITUTIONAL CAPACITY

In Lao PDR institutional capacity is, as a rule, lacking and may seriously slow down progress. The pivotal institutions for collaborative management of protected areas are the districts, the para-statal organisations with representation in the villages and, to a lesser extent, the Provincial Agriculture and Forestry Offices. Extension and land use planning capacity is most urgently needed.

6.2 STAFF

Seasoned extension workers with a good knowledge in participatory techniques are not available. Protected area projects can at best arrange training for those of their staff who show an aptitude for extension work. Robust techniques are required that allow for this fact and one has to live with less than perfect results. Protected area extensionists are not rural development workers, nor are they propaganda agents of the protected area authority. The niche of the PA extensionist still needs to be defined. Meanwhile we have to groom a core group of specialists, including women, who are thoroughly familiar with all aspects of field work. It is they who will eventually be able to define that niche and train others.

6.3 MANAGEMENT SYSTEM

A functioning management system is a precondition for any management implementation. Protected area managers must set up a system that requires accountability, basic planning and reporting procedures essential for effective work. An elaborate management plan may be detrimental at the early stages of management. The complexity of planning must be appropriate for the experience, knowledge, and motivation of the staff to implement them.

A management system successfully established at Dong Hua Sao and Phou Xiang Thong NBCAs has the following key characteristics.

- A problem solving purpose
- A step-wise approach from information gathering to problem solving
- An internal division of labour into extension and patrolling unit
- A prescribed list of activities and outputs for each unit
- Short-term and applied training on-site
- Strategies for solving problems

- Monitoring of management efforts and rewards for field work
- Monitoring of resource use and conditions

7. COLLABORATIVE MANAGEMENT IN THE START-UP PHASE

Ideally, extension work would begin even before an area is declared. Normally, it will not start for some time after. Extension workers in the traditional mold tend to collect comprehensive sets of socio-economic data which have little value for further planning or monitoring. This should be avoided. At this stage, extension staff become familiar with how local people depend on the protected area. They must know what information is required and how it is going to be used for management. It should be clear what activities local people would best participate in and in what way. Among the useful outputs produced in a collaborative way at this stage are maps of village territories and boundary agreements. It is important to identify and map any claims to, or traditional tenure of, land and resources.

7.1 PROTECTED AREA REGULATIONS

A clear set of rules is one of the preconditions to effective management. The rules should apply equally throughout the protected area and the traditional use areas of villages that coincide with it. They must not contradict state law and they should have popular support. They should specify in a practical context the authority and obligations of a village and where these apply. Security of access provided by protected area rules can be a major motivating factor. There are three basic options one may consider.

- At one extreme one may rely solely on the national law. The national law has to fit many situations and is abstract by definition. While it has a number of provisions in support of collaborative management, officials tend to focus on articles that stress protection aspects. For the local context it is too broad and it leaves many uncertainties. This option is probably the least conducive to collaborative management but it is the prevailing one at this time.
- At the other extreme, one might leave it up to every village to devise its own rules within the confines of state law. In this scenario, one would still have to refer back to state law on anything that the village has not regulated and the end result would be a medley of rules without the base of a uniform rules framework for the whole area. The territory where village authority applies would still have to be specified. General aspects of participatory management, such as consultation during the zonation process, would not be covered.
- A third option is for the protected area authority to interpret the national law in the local context and draft a detailed set of regulations with a maximum of grass roots input and consultation. The regulations would still allow villages to draft their own land use rules as under option 2 while substantially increasing village authority and control by assigning specified sectors to the custody of a named village in line with traditional tenure.

Rules' development is perhaps the single most important activity of collaborative management since it sets the stage for all subsequent activities. It has to be conducted early on in management activities.

7.2 MOTIVATING LOCAL PEOPLE TO COLLABORATE IN RESOURCE PROTECTION

Once villages know the extent of their authority and where it applies they can exercise that authority and assist in resource protection. But will they? What motivates them to participate in resource protection?

Given people's dependency on wildlands resources, resource productivity and reduced competition plus improved control should be a prime motivating factor. Other incentives include development assistance and financial rewards for good stewardship of resources. Not all types of incentives are appropriate, feasible, or sustainable in all situations.

a. Wildlands resource productivity

Forest and wetlands are to the Lao villager what the market is to urbanites. They pay not in cash but in time and effort required to look for, harvest and carry back forest products. Marketable forest products or crafts based on such products frequently constitute the main source of household cash income, needed, as a rule, to make up for shortfalls in rice production. Competition is fiercest for marketable products which, as a consequence, are depleted faster than others. Potential interest in resource protection is proportional to the actual or perceived resource value.

Help a village reduce competition for wildlands resources, maintain or increase productivity, and marketing of its products and it will quickly see the advantage of enforcing protected area rules. Furthermore, it does not require any investment, the introduction of new technologies or other similar interventions.

In the context of Lao PDR it is probably the most practicable and sustainable of incentives. Of course, it does not work in a core zone where no extractive use is permitted.

b. Development assistance

In a country that is close to the bottom in international comparisons of per capita income, it is not surprising that the lack of development is seen as the cause of most evil. The notion is widespread among the political leaders and government officials alike that development automatically leads to improved forest protection by virtue of reducing people's dependency on forest resources. The onus is high for protected area projects to engage in development work. ICAD projects have a development component by definition. Properly targeted and well executed, development assistance can be an important motivation. Nevertheless it pays to be aware of some caveats.

Development assistance

- is difficult to link to resource protection;
- is difficult to target so that it will benefit those who depend most on wildland resources;

- requires substantial interventions, investments, and other external inputs; and
- is generally inappropriate for enclaves.

Options for ecodevelopment and ecotourism should, of course, be explored. If they can be linked to resource condition in ways similar to the wildlands products they are worth pursuing further. If the link is tenuous and based on unfounded assumptions the results may not justify the effort expended.

c. Material and individual incentives

It should be one of the obligations of a guardian village to also look after a core zone sector for which it has given its approval, particularly if the village benefits materially, for example from tourism. Generally, villages derive no direct benefits from core zones and it would be unrealistic to expect them to enforce the protected area regulations rigorously. Additional incentives are needed such as informer rewards, field equipment and subsistence allowances. The sustainability of such incentives in Lao PDR is doubtful unless a conservation trust fund can be established at no higher district level and subject to independent audit. The creation of such trust funds is a major challenge of protected area management in Lao PDR and one that is closely tied to collaborative management.

7.3 MONITORING THE EFFECTIVENESS OF COLLABORATIVE MANAGEMENT

The case of the fictitious village of Paknam shows what collaborative management could achieve - in theory. At the real village behind Paknam, collaborative management has yet to prove itself - in practice.

Major steps in the progress towards collaborative management can serve as proximate indicators of success; e.g. formulation and approval of rules. The ultimate indicator of successful (collaborative) management is resource condition based on the systematic monitoring of suitable parameters. If one wants local staff and local people to do the monitoring, the chosen method must be robust. At DHS and PXT staff routinely record information on wildlife, visible impacts, and people met. The information is then filed under the respective sector. The method must follow logic and reason but one should not expect statistically valid results.

For collaborative management to catch on it needs to prove itself. Monitoring is yet another challenge to protected area management, and not only in Lao PDR.

8. HOW CAN THE REGIONAL PROJECTS STRENGTHEN COLLABORATIVE MANAGEMENT IN LAO PDR?

More than anything we need successful examples of collaborative management and should, therefore, promote it primarily at the level where it happens. Existing local efforts must be nurtured and encouraged. The Chitwan workshop could initiate regional cooperation between protected area field managers and extensionists. The cooperation would take the form of friendly peer reviews during mutual site visits. The site visits would be integrated with the action research.

Each site could pair up with another in a neighbouring country, possibly tying

into already existing cross-border interactions. Where cross-border cooperation is not feasible partner groups can also be formed within a country. Attached to each group would be a facilitator-cum-advisor to assist with the design of the action research and to ensure that the site visits are productive and documented.

Activities to help raise awareness and disseminate ideas are particularly appropriate for Lao PDR where there is a dearth of literature and other materials.

8.1 ACTION RESEARCH AND POTENTIAL SITES

Action research would focus on one or more of the issues noted above, depending on the opportunities at the respective site. The three proposed areas in many ways cover the broad spectrum of current management implementation. The choice of sites was influenced by the following considerations. Sites should:

- be under management and likely to be managed in the future;
- be committed to collaborative management in some form;
- offer salient examples of typical problems encountered;
- offer salient examples of typical collaborative management activities;
- cover the range of management styles and intensity;
- be reasonably accessible and not subject to security risks;
- both types of management authority should be represented (Ministry of Agriculture and Forestry, Ministry of Defense).

Table 1. Summary info for suggested action research sites

	Phou Khao Khoay (PKK)	Dong Hua Sao (DHS)	Nam Ha (NH)
mgmt. authority	Ministry of Defense	MAF through province and districts	MAF through province and districts
problems	hydropower development ethnic minorities conflict	clearing of prime forest to plant coffee, land claims	widespread shifting cultivation, numerous enclaves,
activities	village consultations ecotourism investment	mgmt. system, rules, monitoring,	small-scale development assistance, ethnic minorities
staffing	high (30 technical, 40 other)	medium (13 field staff)	low (2 project staff)

Phou Khao Khoay (2,000 sq.km) in the central region is closest of all NBCAs to the capital Vientiane. It is increasingly becoming a focus for tourism and other development. Plans are ready for implementation to build a large tourist resort in a deforested section that had previously been recommended to be excised. Tourism and interpretation facilities are set up elsewhere in the reserve with plans for local village participation in their operation. A hydropower project is being built in the very heart of the reserve. The management authority regards shifting cultivation by a few ethnic minority villages as a major problem. What really are the most important problems for the reserve?

Lowland semi-evergreen forest interspersed with wetlands is a major habitat feature of Dong Hua Sao NBCA (1,100 sq.km) in the South of Lao PDR. The rich and distinct upland evergreen forest of the Bolovens plateau is currently only protected here. Much effort was spent on setting up a functioning management system and devising strategies for coping with land use problems. Much of Dong Hua Sao has

volcanic soils suitable for agriculture. Encroachment on prime plateau forest remains an acute problem. Is collaborative management, or indeed protected area status, feasible under the circumstances?

Nam Ha (690 sq.km and soon to be extended considerably) is located in the typical hill country of the North. The vegetation is a mosaic of forest, bamboo and shifting cultivation, fallow at various stages of succession. It is inhabited by several ethnic minorities in widely scattered and remote villages. Most are only accessible by walking. There seems little prospect of management unless it is collaborative, but can it be done?

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APPENDICES

APPENDIX 1

PAKNAM VILLAGE AND ITS EXPERIENCE WITH COLLABORATIVE MANAGEMENT: A (PARTLY) FICTIONAL CASE

The following fictional account is partly based on a real village near Dong Hua Sao NBCA, Champassak. Some of the events and actions described have happened others may happen in the future if collaborative management strategies work out as planned.

Collaborative management in the start up phase

The residents of Paknam village were worried when they heard that the government was about to declare a protected area. Many people had coffee plantations and a few had rice fields in wetlands in the PA. Before the district invited the village leaders for the proclamation of the PA, extension staff came to explain that nothing would change immediately but that the officials hoped to work with the village in finding ways to protect rare wildlife and important habitats while still being a source of forest products for the local people.

Extension staff soon knew many people in the village personally and they were familiar with how people make a living and what their problems are. Villagers drew a map of the area which the village considers its traditional use territory and the places where people go to collect forest products.

Protected area staff and village leaders have walked the approximate boundary between village and protected area, leaving it to the village to determine its location in the field. Some time later the village put up signs at the three main entry points to the protected area.

Local input to protected area regulations for collaborative management

A common complaint in all villages was the problems created by outsiders and that the village was powerless to do much about it. The extension staff suggested the need for land use regulations and mentioned that the forestry law has provisions which would allow the village to have more authority and control. They brought a list of possible rules for discussion among the locals themselves. It contained possible rules governing entry, agriculture and grazing, fishing, hunting, and the collecting of forest products. A few weeks later, the district called a meeting between the leaders of villages in the same general area to come together and exchange views on the proposed rules and decide what they would support and what they would not. They realised that the meetings offered them an opportunity to influence the regulations that would eventually be applied in the protected area.

Rules carry privileges and obligations

Protected area officials used the consensus decisions from the meetings to draft a catalogue of rules. The rules were signed at the district several months later. In the rules Paknam was named as one of three guardian villages for the PA sectors 5, 7, 8, and 9 which largely coincided with their traditional use area. The three guardian villages were now authorised to control entry and regulate land use in the allocated sectors. Of course, they would also have to enforce protected area rules in these sectors. Sector 5 was listed as a proposed core zone. The sector contains an important saltlick and several wetlands. For a sector to become part of the core zone, the rules required that the responsible villages should agree beforehand, fully knowing that once declare das a core zon,e the sector was out of bounds for any kind of extractive use.

The rules banned hunting and the carrying of firearms by all except authorised personnel and village militia. New claims or clearings were prohibited. Owners of coffee plantations, rice fields, and tree plantations inside the PA were required to obtain a permit. The PA extension staff approached the three owners of fields in sector 5 to ask them if they would consider abandoning their fields and huts near the saltlick.

Rules allow village to control entry

Encouraged by the extension staff and assured of support by the protected area authority the village began to exercise its rights. As the most strategically located of the three guardian villages, Paknam set up a checkpoint on the main track into the PA. At first it was mainly to see who was entering DHS and for what purpose. Together with the other guardian villages, Paknam then decided on entry regulations into their sectors. In the future they would turn back all pick-ups, trucks and motorcycles at the checkpoint unless they were registered or specially authorised by the village headman or the protected area authority. They also let it be known that non-residents needed permission before entering the PA. This was aimed at outsiders who could be advised on rules when they asked for entry permission or chased out and barred in the future if they had failed to do so. This caused a stir and quarrels in the beginning but was eventually accepted.

Rules help the village prevent destruction of resources

1998 promised to yield a rich harvest of mak chong (malva nuts). Further encouraged by the general acceptance of the entry controls, Namphak and the two other guardian villages determined to prevent the excesses of the past where droves of outsiders descended on their village territory in a free for all search of the malva nut trees. Dozens of trees had been cut down for greater ease of harvest. Retail merchants took their pick-ups as close as possible to the sources where they bought up the nuts as the collectors brought them out.

Rules give the village real authority over collection and sale of commercial resources

First, the guardian villages obtained the written affirmation from the district that they were entitled to control malva nut collection within their allocated sectors, that the village was authorised to require that all nuts collected within its territory had to be sold to a village cooperative at the going market rate. The cooperative in turn would be free to sell to the company that offered the best price. With this paper in hand they could start organising themselves. The district demanded that two preconditions be met. The village would have to form a cooperative and establish a development and conservation fund (DCF). The PA extension staff helped the villages in doing this.

All guardian village residents automatically had collecting rights. All non-residents had to obtain a permit stamped and signed by the village headman for a small fee per collector per day. The permit stated the duration and the general area where the collectors could go. It also stipulated that the collected goods had to be sold at the village and that there would be a per kilo fee deducted for the village DFC. The village assigned the village militia, and asked for soldiers from a nearby army camp to help enforce the rules during the short 3-5 week harvesting period. They were entitled to confiscate goods collected without permit and sell them as any other collector would.

Significant financial returns from forest products are an effective and sustainable incentive for collaborative management

At the end of the harvesting season Paknam and its fellow guardian villages drew the balance. A total of 18 tonnes of malva-nuts had been sold to the cooperative. 180 outsiders' groups had paid a total of 160,000 Kip in permit fees. The cooperative took in 5.4 million Kip in compulsory contributions to the DCF and realised another 9 million Kip on the sale to the highest bidding export company. The government had waived its royalty in recognition of the villages' stewardship of the forest.

After this malva nut season, the guardian villages needed no more convincing that the protected area and its rules were basically a good thing.

Collaborative management involves give and take

Paknam and the other villages agreed to declare sector 5 as a core zone although it contained a number of malva-nut trees. The people who had worked the fields near the saltlicks had abandoned them voluntarily even before this time because they were far from home and not very productive anyway.

Now that they had a functioning development and conservation fund, the district was asked to approve a village request to charge modest fees on quantities of firewood, coffee, and forest products taken out. They shared these fees with the other guardian villages.

The village will assign and support volunteers if it is in their interest to do so

Paknam and its fellow guardian villages now had an even greater interest in taking charge of their sectors by assigning village forest volunteers and asking them to organise patrols. It was mainly the village forest volunteers who maintained contact with PA officials and who inventoried dead wood and kept a record of applications and permits for timber sawing. They also looked after the village forest outside the protected area and kept a register of people who had been caught in lesser offenses and warned. They reported serious violations to the PA authority. The village started to provide the volunteers with food and small amounts of money from the development and conservation fund.

Additional incentives are required for villages to help enforce PA rules in core zones

Village volunteers were not equally motivated to patrol in the remote core zone sectors. For this activity the PA authority suggested forming village patrol groups provided with equipment and substantial enforcement power. In addition, there would be a daily allowance paid in rice as well as informer rewards. Province and district authorities had previously agreed to a schedule of rewards to be split between the individuals and the DCF of their respective villages. This motivated volunteer and village alike to organise or participate in the patrolling of core zone sectors.

Development assistance is sometimes an appropriate incentive for collaborative management

In the early stages of cooperation Paknam received corrugated iron roofing for its meeting hall and a tube well as a confidence building measure. Extension staff have facilitated planning sessions where villagers identified problems and solutions. However, PA extension workers are not rural development agents. Their role is to spot opportunities that will have a direct benefit for conservation. In the case of Paknam it turned out that a number of its residents were among the repeat offenders in illegal wood sawing and commercial fishing. All suffered from a serious rice deficit because of lack of suitable land for cultivation. PA authorities commissioned a feasibility study for an irrigation system that draws its water from a stream rising in the PA. The study confirmed that about 50 ha of new paddy land could be opened up. Part of it would be given to the landless under the condition that they refrain from future violations of PA rules. The remainder could be leased out by the village with the proceeds flowing into the DCF.

Field observations are necessary to monitor whether or not collaborative management has the desired results

PA staff carry out regular patrols in all sectors. Village volunteers or militia often go with them. They systematically record evidence of the key wildlife species and signs of disturbance or heavy impact. As information accumulates for each sector it becomes possible to draw conclusions as to the effectiveness of collaborative management with guardian villages.

1. INTRODUCTION

This paper aims to give an overview of the status of collaborative management of protected areas in Malaysia, will discuss the current management practices and provide examples of existing collaborative management initiatives. The challenges of implementing collaborative management will be discussed along with recommendations on how to address these issues.

In writing this paper, a brief consultation was conducted with individuals and organisations with expertise and interest in conflict management of protected areas. These individuals were provided with the IUCN (1998) "Towards Participatory Management of Protected Areas in the Asian Region" executive summary in order to solicit input on collaborative management in Malaysia.

1.1 DEFINITIONS

In this paper the term collaborative management refers to collaboration that include local community participation in decision making about protected area management. This may involve setting up participatory institutions, formalising benefit sharing agreements, building on community knowledge, developing capacity among stakeholders and even sharing some form of authority and responsibility in management (IUCN, 1998). While there are existing initiatives of collaboration between institutions in Malaysia, for example between government agencies and research institutions, in order to better focus this paper in relation to the regional IUCN initiative, the discussion will be limited to protected area management that includes local community collaboration.

There is no single definition for protected areas in Malaysia. In this paper the IUCN definition is adopted, as it describes the protected areas found in Malaysia. Protected area is defined as "an area of land and/or freshwater/marine especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, and managed through legal or other effective means."

Local communities are defined as communities living near or in protected areas.

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Note: The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors and should not be attributed in any manner to the People and Plants Initiative, World Wide Fund for Nature Malaysia and Sabah parks.

2. MALAYSIA - GENERAL DESCRIPTION

The federation of Malaysia consists of East Malaysia on the island of Borneo and West Malaysia, also known as Peninsular Malaysia. The two parts of Malaysia are separated by 500km of the South China Sea. There are eleven states and one federal territory in West Malaysia, while East Malaysia is made up of the states of Sabah and Sarawak and one federal territory. Malaysia is a democratic country that practices the parliamentary system.

Malaysia has been cited as one of the fastest growing economies in Asia. Its economic growth (GDP) has been at a steady 8% since 1991. Malaysia aims to become a fully industrialised country by year 2020. However, Malaysia is now facing a setback due to the economic crisis that swept through this region.

Malaysia's population, according to the latest census (1991), stands at 18.4 million with a natural rate of growth of 2.6% (MOSTE, 1997). About 80% of its population reside in Peninsular Malaysia, 9.9% in Sarawak and 9.4% in Sabah. Malaysia's population consists of a mix of ethnic groups which include Malay, Chinese, Indian, Kadazan, Dusun, Iban, Dayak, Murut and many others. In Sabah and Sarawak, 66.8% and 62.4% of its population respectively live in rural areas. In Peninsular Malaysia, on average, 66% of the population are urban dwellers (MOSTE, 1997).

Malaysia's tropical ecosystem; which among others include habitats of lowland forest, mangroves, montane forest, heath forest and flood plains; is rich in flora and fauna. There are approximately 185,000 named animal species in Malaysia (15.7% of the world total) and 15,000 species of flowering plants (9% of world total - MOSTE, 1997). Alarmingly, Malaysia's forest areas and biodiversity are fast disappearing due to logging and other land clearing activities.

2.1 PROTECTED AREA MANAGEMENT IN MALAYSIA

Malaysia's total land area covers 330,000 sq.km. Of this area, only about 4 percent (1.39 million hectares) of land is legally protected for the purpose of biological diversity conservation and maintenance (MOSTE, 1997). This figure does not include Marine Parks in Peninsular Malaysia since only the waters are protected. Appendix 1 shows a list of protected areas in Malaysia as correspondent to IUCN categories.

The three region of Malaysia —Peninsular Malaysia, Sabah and Sarawak— have different protected area systems. There is no single standardised protected area system common throughout Malaysia. Each region has its own set of legislation governing protected areas. A similar designation used in Peninsular Malaysia, Sabah and Sarawak may have contradicting interpretations under the differing legislation of the three regions (MOSTE, 1997). The main categories of protected area designation in Malaysia include National Parks, State Parks, Wildlife Reserves, Wildlife Sanctuaries, Virgin Jungle Reserve, Nature Reserves and Marine Parks (MOSTE, 1997). Appendix 2 shows the location of protected areas in Peninsular Malaysia, Sabah and Sarawak.

The management authority of protected areas also differ in these three regions. In addition, there are also different federal and state agencies related to protected area management, with the federal agency operating only in Peninsular Malaysia.

In Peninsular Malaysia, about 60% of the protected area is under the jurisdiction of the federal government through the Department of Wildlife and National Parks (PERHILITAN), a federal agency with offices in each state. The other 40% is managed directly by the state government or through joint management with PERHILITAN and the Forestry Department (MOSTE, 1997).

Sabah and Sarawak, having joined Malaya (now Peninsular Malaysia) in 1963 to form Malaysia, exercises its own sovereign rights according to the Malaysian Constitution, in all matters pertaining to the management of natural resources, including land and forest (MOSTE, 1997). In Sarawak the management and planning of totally protected areas falls under the jurisdiction of the Forest Department of Sarawak, Ministry of Resource Planning and Ministry of Tourism (Bennet et al., 1996). In Sabah, state parks are managed by Sabah Parks, a state agency, while other protected areas are managed by the Sabah Forestry Department and Sabah Wildlife Department (MOSTE, 1997).

The overlap in jurisdiction between federal and state agencies as well as the differing agendas of the multiple governing agencies sometimes leads to confusion and conflict in the management of protected areas. The lack of coordination among these agencies also tends to be a problem in protected area management in Malaysia (MOSTE, 1997; Bennet et al, 1996).

Protected area authorities such as PERHILITAN, Sabah Parks and Sarawak Forest Department, do have education and extension units that conduct public education and community outreach activities. The level of participation in local community related initiatives varies but generally does not go beyond information dissemination, for example lectures, slide shows and the distribution of posters and booklets. These units are also generally understaffed and underfunded, as well as lacking skills in participatory activities. However, there have been some recent initiatives by these agencies which are more inclusive of local communities. These examples are presented in a different section of this paper.

2.2 PROTECTED AREA LEGISLATION AND POLICY IN MALAYSIA

Research did not uncover any specific legislation in Peninsular Malaysia and Sabah that explicitly supports collaborative management of protected areas (eg, protected area revenue sharing with communities, buffer zone enactments). However in Sarawak, the Wild Life Protection Ordinance 1990 makes provision for the installation of honorary wildlife rangers elected from community members living around the protected areas in Sarawak. To date, the government has appointed approximately one thousand Tuai Rumah (heads of longhouses) and Ketua Kampung (village heads) as honorary rangers (Bennet et al, 1996).

There are, however, existing national policies that can be interpreted to support collaborative management of protected areas. For example:

The National Policy in Biological Diversity, recently launched in April 1998, acknowledges "The role of communities in the conservation, management and utilisation of biological diversity must be recognised and their rightful share of benefits should be ensured." (Principle vii)

The Convention on Biological Diversity, which Malaysia ratified in 1994 in Article 8 (j), calls for (subject to the country's legislation) the acknowledgement of traditional knowledge relevant for conservation and the equitable sharing of benefits arising from the utilisation of such knowledge, while Article 10 (c)

encourages the customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation.

2.3 PEOPLE AND PROTECTED AREAS IN MALAYSIA

Protected area management in Malaysia, with few exceptions, adopts the "people out" policy. The protected area is seen as a fragile and pristine ecosystem that needs to be protected from human interference (Pimbert and Pretty, 1995). This may also mean protecting the area from the local community. The utilisation of the protected area is limited for recreational and educational purposes. Overall, the management of protected areas in Malaysia tends to exclude local communities and is non-participatory. Communities often are not allowed access to the protected area for extractive purposes, nor do they have any decision making power in its management.

Communities that live in or near protected areas in Malaysia are often minority indigenous groups that to some extent depend on natural resources for their subsistence needs. The forest area for example, provides food, medicine, construction material, goods for trading and land for subsistence farming. Local communities found living within protected areas are often required to relocate outside of the protected area and have restricted access to the area and its resources. It is sometimes the case that protected areas are initially delineated on paper without any ground survey relating to local customary use of the land. Later when the boundaries are demarcated, communities may suddenly find that part of their ancestral village and farmland lies within a prohibited area.

There are a few exceptions to the generally strict rules concerning communities living in protected areas that should be noted. In several protected area in Sarawak, such as the Batang Ai National Park, Gunung Mulu National Park, Lanjak-Entimau Wildlife Sanctuary and the Samunsan Wildlife Sanctuary, local communities are allowed controlled access to hunt (non protected animals) and gather forest products (Bennet et al, 1996). This is in accordance with the Sarawak National Parks and Nature Reserves (Amendment) Ordinance 1990 and the Wild Life Protection Ordinance 1990 which give native communities (with gazetted rights and privileges) controlled access to the protected areas (Bennet et al., 1996) .

In Sabah, local communities can apply for licenses to collect the highly priced birds' nests from caves located in Wildlife Sanctuaries, for example in the Gomantong and Madai Caves. In Peninsular Malaysia, the Batek Orang Asli are allowed to stay within the Taman Negara National Park and gather forest resources for their own use. In fact, Taman Negara, having a protected area status, provides the remaining forest area for the Batek Orang Asli to carry out their traditional lifestyle since logging and other land clearing activities are encroaching upon the forest area outside the park (Dentan et al., 1997).

However, the increase of Orang Asli population living in the park has to some extent increased pressure on the wild resources in the area. This traditional collecting and trading community is faced with restrictions from park authorities from collecting forest products such as rattan for trading (Dentan et al., 1997). This causes some tension between the communities and park authorities. Rattan collection has been for many years one of the few sources of income for the Batek Orang Asli (Dentan et al., 1997; Kiew and Hood,1996).

There have been attempts by government agencies to provide economic alternatives for local communities living near or in protected areas to lessen their dependency on the forest and to usher them into mainstream society. An example is the regroupment scheme for Batek Orang Asli in Kampung Macang, Kelantan (near Taman Negara). Communities are relocated to a village and encouraged to engage in cash-crop agriculture such as rubber tapping. The Batek have reported difficulty in maintaining a steady source of income from this activity. They prefer to go back to their traditional lifestyles (Dentan et al., 1997). Such socio-economic projects have typically had a limited success rate. This could be because they are initiated through a top-down approach and are also ad hoc and short-term in nature. (Pimbert and Pretty, 1995 ; Dentan et al., 1997).

Confrontation between wildlife and local communities living near protected areas is also an important issue in protected area management. An example is the Kenong Forest Reserve in the state of Pahang. This forest reserve is adjacent to Taman Negara National Park and in a way functions as a buffer zone for Taman Negara. There is sharing of wild resources between Kenong and Taman Negara through cross-border movement of wildlife such as elephants. To the villagers living adjacent to this reserve, elephants are seen as their enemy with a history of destroying their crops and threatening their safety. There is tension between the local communities and the protected area authority and conservationists who are seen as only protecting the elephants' interests (Ayat, 1996). The conflict worsened when a villager was recently trampled to death by an elephant from the reserve (pers. comm. Amlir Ayat, WWFM). People are asking what good comes from having this reserve when all it does is protect the elephants that kill villagers.

The exclusion of local community from protected areas, restrictions imposed through a top-down approach and wildlife intrusion continues to be a cause of conflict and tension between local communities and the protected area authorities. In such cases, it is no surprise that communities do not see the benefits of having a protected area established. In fact, it is seen as a burden on their livelihoods. For the communities affected, protected areas means losing their ancestral land, having restrictions imposed on where they can gather goods and hunt for food, and in some cases endangering their lives. The benefits from protected areas seem to be only for outsiders who profit from tourism businesses and for visitors who utilise the area for education and recreational purposes.

Lack of support from the local communities has had a detrimental effect on the management of protected areas. In Endau Rompin National Park, poaching activities threaten the only breeding population of the Sumatran rhinoceros in Malaysia. While most of the poachers are outsiders, there have been cases where the villagers are provided with shotguns and bullets by the outsiders and paid good money for their hunt. Socio-economic pressure and lack of awareness are the attributing factors here. The size and location of the park area, as well as the lack of personnel makes enforcement by the protected area authorities alone difficult (pers comm. Abdul Kadir, PERHILITAN). In Sabah, illegal logging by community members continues to be a problem in protected areas such as the proposed Kinabatangan Wildlife Sanctuary. In Sarawak, the illegal hunting in parks and wildlife sanctuaries by both outsiders and local communities is a serious problem that threatens to deplete the endangered wildlife stock (Bennet et al., 1996).

3. COLLABORATIVE MANAGEMENT INITIATIVE IN MALAYSIA

Support from the community living in or adjacent to protected areas is important for the success of conservation projects. This is only possible if the community is able to see the benefits of such conservation activity. Encouragingly, there is increased awareness among protected area authorities about the need for community participation in managing protected areas. There have been some pioneering projects by Sarawak Forest Department, Sabah Parks and several other agencies (including NGOs) that include local community participation in protected area management. The level of participation varies from case to case. Information presented on these initiatives was obtained through personal communication with the relevant authorities and literature where available. Time and resource constraints did not permit the sites (outside of Sabah) to be visited in preparation of this paper, nor was a more comprehensive research of these projects able to be conducted. Many of these projects are also relatively new and therefore only time will tell of their success. However, immediate results have been encouraging. A summary of these initiatives is presented below.

Peninsular Malaysia Case Study: Kenong Community Development Project

The KCDP was initiated in 1994 and is part of WWF Malaysia's community and education programme. It involves two small villages adjacent to the Kenong Rimba Park in the state of Pahang. This park is adjacent to the Taman Negara National Park and in a way functions as a buffer zone for Taman Negara. There is sharing of wild resources between Kenong and Taman Negara through the cross-border movement of wildlife, such as elephants. Initially, the majority of the local communities felt they were not benefiting from the existence of the park as they were left out of tourism initiatives which were mostly run by outsiders. The existence of the park caused further conflict as it serves as a sanctuary for elephants that have had a history of destroying their crops and threatening their safety. The Kenong Project aims to increase community support for the park while improving the socio-economic situation of the community through wise management of the protected area. Activities in this project include training and skill-development courses, support for small-scale enterprises and educational and awareness initiatives. A example of an output from this project is the establishment of a Handicraft Center in 1996, fully managed by local communities, which followed a rattan handicraft training course organised by WWFM. Other activities planned for 1997-1999 include scientific surveys, homestay and agro-tourism projects, tourist guide training workshops and the production of awareness and educational materials (Ayat, 1996; WWFM, June 1997).

Sarawak Case Study: Batang Ai Integrated Conservation and Development Programme (ICDP)

This project aims to provide economic benefits to local communities to reduce pressure on the natural resources in the park area and increase community support towards the park. The Batang Ai ICDP was initiated in 1992 by the Education and Interpretative Unit (EIU) of the Sabah Forest Department. It involves seven long house communities living near the Batang Ai National Park. Some of the activities

coordinated in this programme include the preparation of a management plan with community assistance; capacity building for the local community in terms of training in businesses; English Language classes; assistance in developing tourism and agriculture projects; and education and awareness programmes on protected animals and illegal hunting (Bennet et al., 1996, Gumal, 1995). One of the results of these activities is the formation of a cooperative involving all seven long houses. The Kooperatif Serbaguna Ulu Batang Ai (KSUBA) is very much involved in the tourism activities of the park. Among other things, the cooperative provides boat and eco-guiding services, runs a shop supplying petrol, and has been awarded several contracts for the construction of park facilities. The realisation of benefits from the existence of the park has resulted in stronger support of the protected area. Community members are also involved in enforcement activities, stopping outsiders encroaching into the park and reporting such incidences to the park authority. The communities also monitor each others' potential illegal activities (Bennet et al., 1996, Gumal, 1995). According to Bennet et al., (1996) "Park protection and management in Batang Ai is considerably stronger than in other TPAs (totally protected areas) with strong local communities but no ICDP." There are plans to extend this programme to other protected areas in Sarawak.

Sabah Case Study: Project Ethnobotany Kinabalu and Rafflesia Incentive Scheme

This project is a collaborative effort between Sabah Parks, the People and Plants WWF/UNESCO/KEW Initiative, and Universiti Malaysia Sarawak (UNIMAS) and was first initiated in 1992. This project focuses on ethnobotanical research, building on scientific infrastructure in the park, community environmental education and local development related to biodiversity conservation. The first phase concentrated on carrying out the ethnobotany survey and collection, with the assistance of community members around Kinabalu Park. Representatives from the community were trained in methods of plant collection and worked alongside park personnel. Work in the second phase (1997-1999) has now been extended to Crocker Range. In 1997-1998, PEK and People and Plants embarked on returning results of this survey to the communities. The result in the making is an ethnobotanical plants manual that was designed and compiled jointly with local communities from around Kinabalu Park through a series of participatory workshops and joint consultation. Through these workshops it was established that the local communities will have full authority concerning the distribution and utilisation of the plants manual. This project is now looking at formalising benefit sharing for the local communities by establishing a research agreement between the communities, the parks and People and Plants in relation to the distribution and utilisation of the plants manual.

Apart from the PEK, other related collaboration between the parks and the surrounding indigenous communities include the Rafflesia Conservation Incentive Scheme Nais (1998). This scheme was started around Kinabalu Park where suitable Rafflesia sites on privately owned land belonging to the indigenous communities were opened for tourists visitation with the help of the park. This scheme aimed to conserve Rafflesia sites, especially those outside protected areas; help relieve visitation pressure on protected areas; fulfill the ecotourism need and promise; and give some economic return to the indigenous villagers in the form of an entrance fee. The scheme was a success with five participating areas operating to the present day.

3.1 CHALLENGES AND CONSTRAINTS

Old school of thinking

One of the main challenges in promoting collaborative management is perhaps overcoming the old school of thinking where there is a strict separation between protected areas and communities. This attitude is not only prevailing among protected area authorities but also among traditional conservationists. Many are still unconvinced of the need for community participation in conservation. There is also a need to change the top-down approach in implementing community-related projects. Projects are often mislabeled as "participatory" when in reality the level of community participation is minimal. There is a need for better understanding and acceptance of the different levels of participation, and a need to go beyond simple consultation.

Lack of capacity and resources

There is a lack of skills and experience in implementing participatory activities among protected area authorities, conservationists, development agencies, and researchers in Malaysia. The idea of community participation is considered new and experimental. There is a dearth of local practitioners and experts in this field. Currently, there are no specific institutions in Malaysia that provide capacity building in community-based conservation. Besides lacking training, protected area agencies, especially research and extension units, are often understaffed. Funding is also sometimes a limiting factor in collaborative management initiatives. Gumal, 1995, reported that funding for ICDP is expensive, with RM 400,000 needed for statewide implementation from 1995-1998.

Long-term time frame

Collaborative management is a long-term process that may require some time before the benefits can be realised, especially for the communities involved. Gumal (pers comm.) stated that the biggest challenge for the Batang Ai ICDP is keeping the communities and partners involved motivated when there are no immediate benefits.

Lack of local success models

The majority of literature on community participation available in Malaysia is mostly written by conservationists from western countries. The idea of community participation is seen, as environmentalism was, as an idea concocted in the West that will not work in a country like Malaysia. In addition, case studies or success stories are also based in other countries (e.g. Nepal, India, Africa) where the history of conservation, community concerns and style of governing is very different from Malaysia. Scepticism therefore remains high about whether the same concept will work in Malaysia. There is a need for local success stories or working models of collaborative management based in Malaysia itself.

4. RECOMMENDATIONS

The proposed IUCN regional initiative has the potential to fill the gap in promoting collaborative management of protected areas in the region. The initiative can address some of the challenges and constraints listed above by working at the grass roots' level, addressing the need for training and skills development in participatory activities and providing resources (funds, equipment, resource materials) for collaborative initiatives. In addition, this initiative can be in a position to coordinate a better exchange of information among programmes within and outside Malaysia through activities such as exchanges, and through providing networking opportunities using mediums such as newsletters and electronic mailing.

The existing framework in Malaysia, though limited, can potentially support community participation. For example, the existence of supportive policies and legislation helped define agencies for protected area management and established conservation NGOs. Promoting collaborative management and convincing individuals, organisations and agencies involved in protected area management to adopt this approach in Malaysia will be a challenging process. However, it is a much-needed approach if conservation and community development conflicts in this country are to be addressed.

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APPENDIX 1

**LIST OF PROTECTED AREAS IN MALAYSIA
CORRESPONDING TO IUCN CATEGORIES**

(SOURCE: MOSTE, 1997)

KEY TO ABBREVIATIONS/SYMBOLS:

G - gunung (mountains)

P - pulau (island)

Sg - sungai (river)

* - terrestrial protected areas on island

+ - combination of terrestrial and marine protected areas

- marine protected areas, i.e. waters surrounding island at distance of 2 nautical miles seawards from the outermost points of the island

@ - marine protected areas, i.e. waters surrounding island at distance of 1 nautical mile seawards from the outermost points of the island

x - Status uncertain; possibly alienated/excised from the protected area -further investigation needed

NA - data not available

S.No.	Site	Area (ha)	Year Est.
<u>CATEGORY I: VIRGIN JUNGLE RESERVES (VJR)</u>			
Peninsular Malaysia			
1	Berembum VJR	1595	1959
2	Bukit Larut VJR	2744	1962
3	G. Jerai VJR	1000.5	1960
4	G.Ledang VJR	1864	1969
Sabah			
1	Brantian-Taulit VJR	4140	1984
2	Crocker Range VJR	3279	1984
3	Gomangton-Materis-Bod Tai-Keruak-Pangi VJR	1816	1984
4	Kabili-Sepilok VJR	4294	1931
5	Kalumpang VJR	3768	1984
6	Lungmanis VJR	6735	1984
7	Madai-Baturong VJR	5867	1984
8	Maligan VJR	9240	1984
9	Mengalong VJR	1008	1984
10	Milian-Labau VJR	2812	1984
11	Pin Supu VJR	4696	1984
12	P. Batik VJR	353	1984
13	P. Berhala VJR	173	1984
14	P. Sakar VJR	760	1984

15	Sepagaya VJR	4128	1984
16	Sepilok VJR	1235	1931
17	Sg Imbak VJR	18113	1984
18	Sg Kapur VJR	1250	1984
19	Sg Lokan VJR	1852	1984
20	Sg Siliawan VJR	2136	NA
21	Sg Simpang VJR	1149	1984
22	Tabawan-Bohayan-Maganting-Silumpat Islands	1009	1984

Sarawak None (The VJR category does not exist/is not defined in the Sarawak Forest Ordinance 1954)

CATEGORY II: NATIONAL PARK/STATE PARK MARINE PARK

Peninsular Malaysia

1	Taman Negara		
	i) Pahang	248227	1939
	ii) Terengganu	80289	1939
	iii) Kelantan	106235	1939
2	Taman Negara Endau-Rompin, Johor	48905	1993
3	Endau-Rompin Stae Park, Pahang	30000	1996
4	P. Redang MP#	NA	1994
5	P. Ekor Tebu MP#	NA	1994
6	P. Pinang MP#	NA	1994
7	P. Lima MP#	NA	1994
8	P. Lang Tengah MP#	NA	1994
9	P. Perhentian Kecil MP#	NA	1994
10	P. Perhentian Besar MP#	NA	1994
11	P. Susu Dara MP#	NA	1994
12	P. Kapas MP@	NA	1994
13	P. Labas MP#	NA	1994
14	P. Sepoi MP#	NA	1994
15	P. Gut MP#	NA	1994
16	P. Tokong Bahara MP#	NA	1994
17	P. Tioman MP#	NA	1994
18	P. Chebeh MP#	NA	1994
19	P. Tulai MP#	NA	1994
20	P. Sembilang MP#	NA	1994
21	P. Seri Buat MP#	NA	1994
22	P. Tinggi MP#	NA	1994
23	P. Aur MP#	NA	1994
24	P. Pemanggil MP#	NA	1994
25	P. Goal MP#	NA	1994
26	P. Mensirip MP#	NA	1994
27	P. Harimau MP#	NA	1994
28	P. Rawa MP#	NA	1994
29	P. Hujung MP#	NA	1994
30	P. Tengah MP#	NA	1994
31	P. Besar MP#	NA	1994
32	P. Sibu MP#	NA	1994

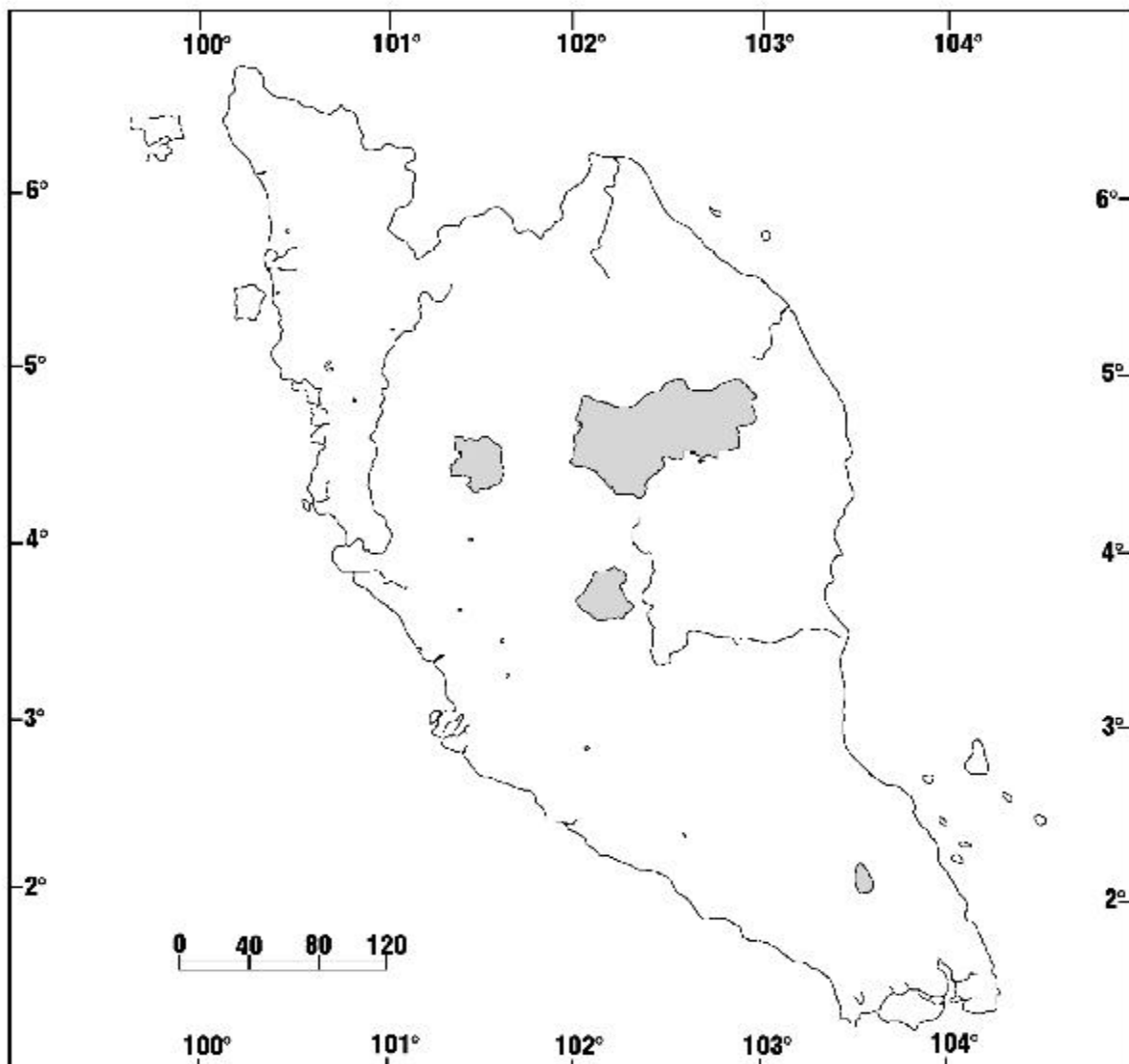
33	P. Sibuhujung MP#	NA	1994
34	P. Mentinggi MP#	NA	1994
35	P. Kaca MP#	NA	1990
36	P. Lembu MP#	NA	1990
37	P. Payar MP#	NA	1990
38	P. Segantang MP#	NA	1994
39	P. Kuraman MP#	NA	1994
40	P. Rusukan Kecil MP#	NA	1994
41	P. Rusukan Besar MP#	NA	1994
Sabah			
1	Kulamba WR	20682	1984
2	Tabin WR	120521	1984
3	Kota Belud-Tempasuk Plain Bird Sanctuary	12000	NA
4	P. Sipadan Bird Sanctuary	11	NA
5	P. Mantanani Bird Sanctuary	NA	NA
Sarawak			
1	Samunsam WS	6092	1979
2	Lanjak-Entimau WS	168758	1980
3	P. Tokong Ara-Banun WS	1.4	1985
<u>CATEGORY V: (A) PROTECTED LANDSCAPE/SEASCAPE</u>			
Peninsular Malaysia			
1	Task Bera	38446	1995
2	Kuala Selangor Nature Park	296	1989
Sabah – None: Sarawak – None			
<u>CATEGORY VI (a) Conservation Area</u>			
Peninsular Malaysia – None			
Sabah			
1	Maliau Basin (G.Lotung)	39000	1983
Sarawak – None			

[Note: The Danum Valley Conservation Area (43800 ha) was upgraded to a Protection Forest Reserve in 1995 and is therefore not included in the listing for Protected Areas based on the IUCN categories.]

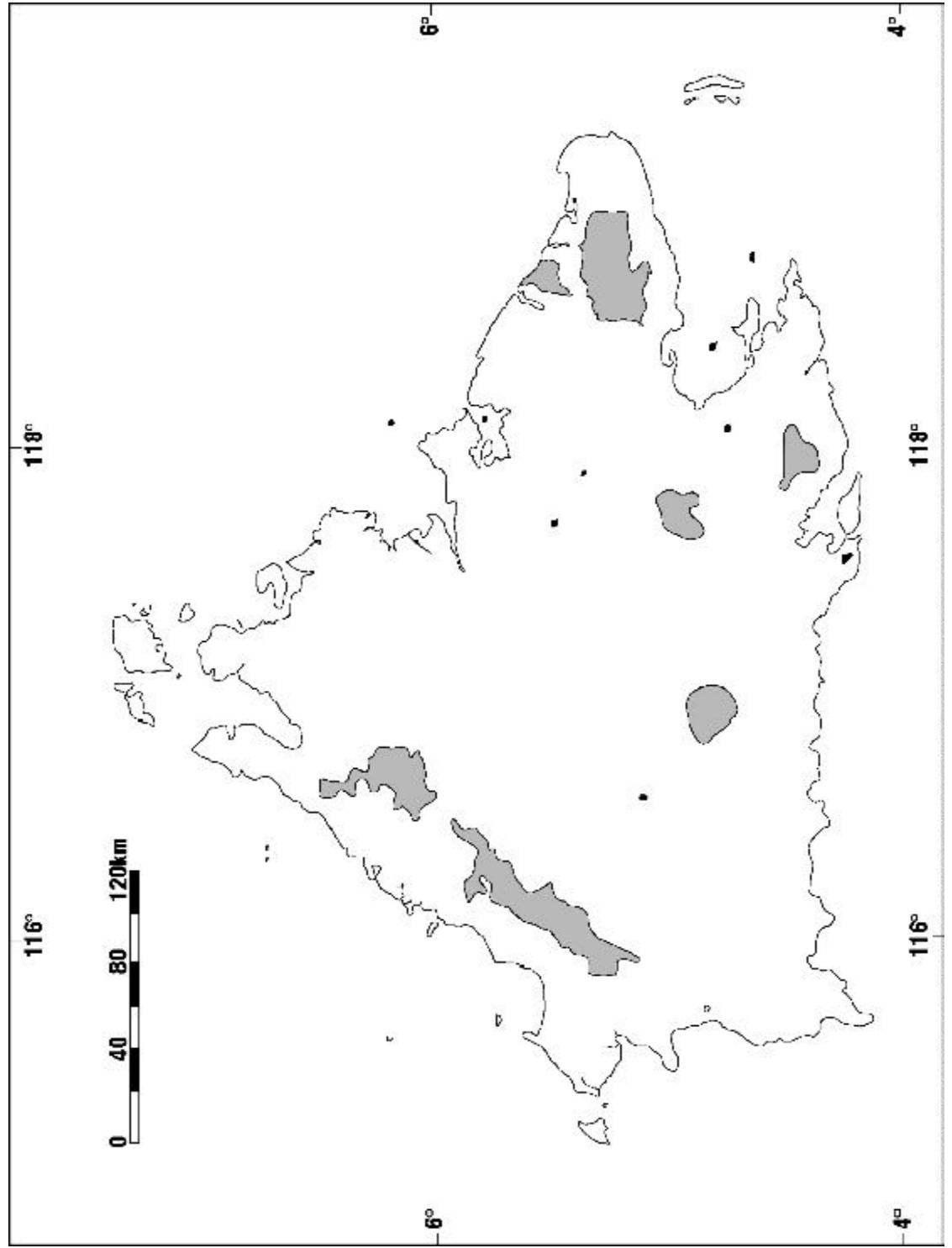
APPENDIX 2

MAPS SHOWING LOCATION OF PROTECTED AREAS IN
PENINSULAR MALAYSIA, SABAH AND SARAWAK
(SOURCE: WORLD CONSERVATION MONITORING CENTRE, 1992)

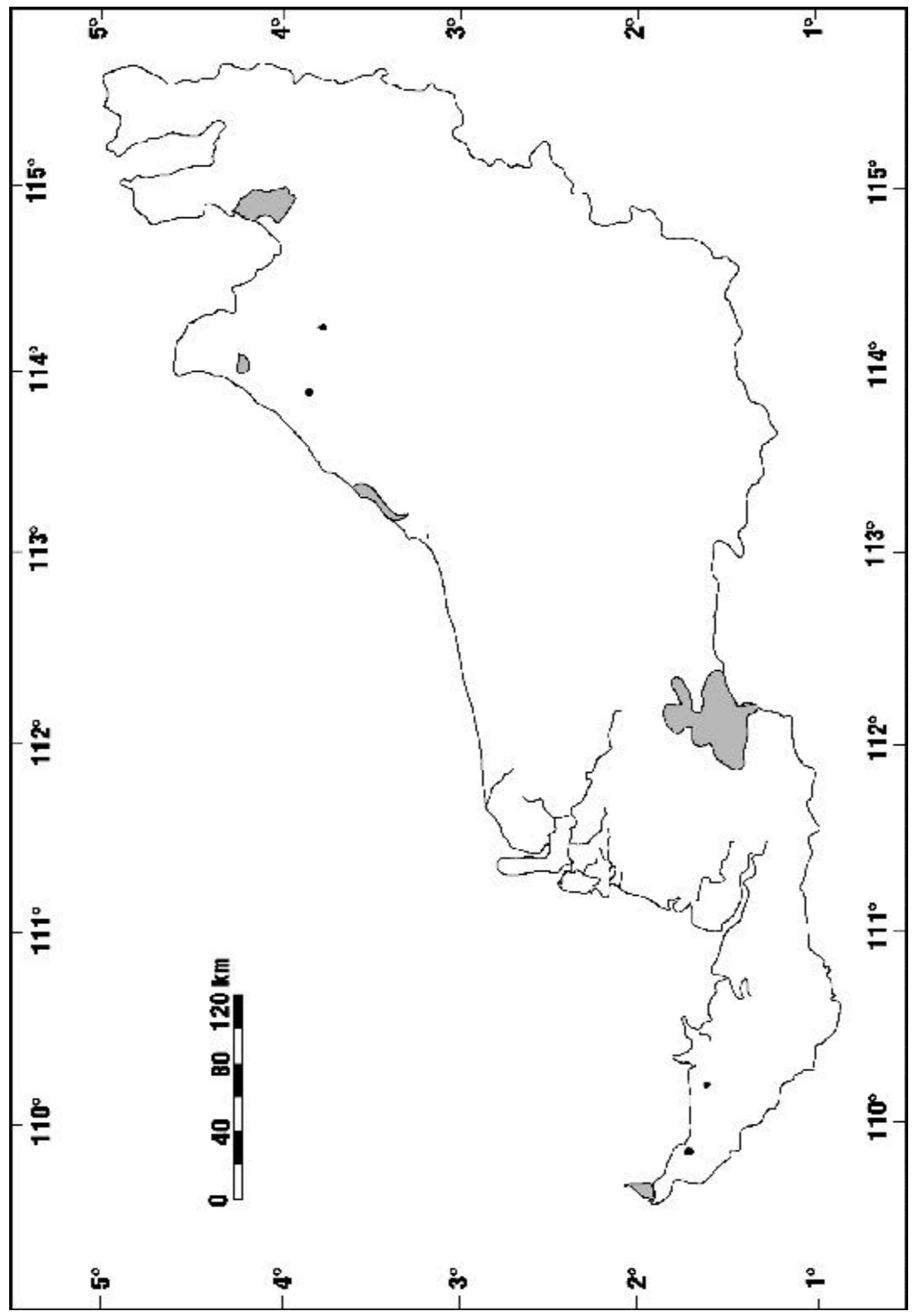
PENINSULAR MALAYSIA



SABAH



SARAWAK



COUNTRY PAPER – PHILIPPINES

by Carlo C. Custodio
Blas R. Tabaranza, Jr.

1. BACKGROUND

1.1 POLICY AND LEGISLATION IN PROTECTED AREAS

Republic Act 7586, or the National Integrated Protected Areas System (NIPAS) Act of 1992, was passed into law on February 6, 1992. The objective of this legislation was to establish a protected area system which encompasses outstanding remarkable areas and biologically important public lands that are habitats of rare and endangered species of plants and animals, biogeographic zones and related ecosystems, whether terrestrial wetland or marine.

It is stated in its declaration of policy that effective administration of the protected areas is possible only through cooperation among national government, local government and concerned private organisations.

The Law also stipulates that a Protected Area Management Board for each of the established protected areas be created and be composed of the following: the Regional Executive Director of the DENR under whose jurisdiction the protected area is located; one representative from the autonomous regional government (if applicable); the Provincial Development Officer, one representative from the municipal government; one representative from each barangay (the village representing the smallest administrative unit in local government) covering the protected area; one representative from non-government organisations/local community organisations, and if necessary, one representative from other departments or national government agencies involved in protected area management. This makes up the policy-making body of the protected area.

Ideally, once a Protected Area Management Board (PAMB) has been organised, collaborative management arrangements could be said to exist in a protected area. Based on this criteria there would be 92 protected areas managed by PAMBs. However such a criteria is not practical since many PAMBs that have been organised are not yet operational. This is mainly due to inadequate financial resources to hold meetings (travelling expenses, cost of lodging and food for the members) and insufficient funds to underwrite the management of protected area.

The NIPAS Law (Republic Act 7586) provides for the establishment of an Integrated Protected Areas Fund for the purpose of financing projects of the protected areas system. The fund may receive donations, endowments and grants in the form of contributions. All income generated from the operation of the system and duly approved projects are endorsed by the PAMBs. The Implementing Order for the Law also specifies that 75% of income accruing to the fund should be retained in the protected area and 25% should go to the Central Fund to finance activities in other protected areas which have limited capacity to generate funds.

The law also stipulates, among other things, that the management planning strategy should provide guidelines for the protection of indigenous cultural communities (or indigenous peoples), and other tenured migrant communities. Ancestral lands and customary rights and interest arising shall be accorded due recognition. The DENR, in fact, has been assisting the various groups of indigenous people in delineating their ancestral domain claims. Migrants who have actually and continuously occupied areas within the protected areas for five years prior to the designation of the same as a protected area and are solely dependent on such areas for subsistence shall qualify to be given security of tenure. The proposed length of tenure is 25 years, renewable for another 25 years. Transfer of tenurial rights shall only be to the next-of-kin and only for the unexpired portion of the tenure. Tenured migrants and indigenous peoples shall be the beneficiaries of government assistance, especially livelihood opportunities and as partners in the management of PAs.

1.2 CURRENT STATUS OF PROTECTED AREAS

At present there are only 18 protected areas which have the financial resources to fully utilise their respective PAMBs. These are the ten protected areas covered by the Conservation of Priority Protected Areas Project (CPPAP) and the eight areas under the National Integrated Protected Areas Programme (NIPAP).

The Conservation of Priority Protected Areas Project (CPPAP) has a time frame of seven years (1994-2001) and is financed by the Global Environment Facility through the World Bank with a budget of US\$ 20 million and a 10% counterpart fund (US \$ 2.87 million) provided by the Government of the Philippines. The DENR implements the project, which is co-implemented by a consortium of non-government organisations called NGOs for Integrated Protected Areas Inc. (NIPA). At the site level, the 10 areas are managed by Protected Area Superintendents (PASus) and the Host-NGOs (HNGOs). The project is being implemented in ten priority sites, namely: Batanes Protected Landscape and Seascape, Northern Sierra Madre Natural Park, Subic-Bataan Natural Park, Apo Reef Natural Park, Mt. Kanlaon Natural Park, Turtle Island Wildlife Sanctuary and Siargao Island Protected Landscape and Seascape.

Collaborative management of protected areas within CPPAP is practiced at two levels, one is the partnership of DENR and NIPA in overall project management and implementation; and the other is through the Protected Area Management Board (PAMB) through the protected area staff along with the host NGO and community-based resource protection groups and related community organisations at the site level.

The project design has drawn its strength from the government (DENR), the NGOs and the local communities. DENR has been given the primary responsibility of site development and biodiversity protection since the staff are technically trained for the job. Furthermore, there are existing forest rangers at the sites to reinforce the protection work. In addition to the DENR personnel, the communities form themselves into protection groups to sustain the work after the project has ended. The socio-economic development component, on the other hand, has been assigned to NIPA since NGOs have more experience in community organisation and development. The bulk of the funds for project implementation is lodged with the NGOs to remove the need for tedious government accounting and auditing procedures.

However, the partnership of DENR and NIPA encountered difficulties as the outset. At the national level, in the Project Coordination Unit (PCU), the DENR-GOP and NIPA did not share the same office until after almost two years; thus gaps in coordination became unavoidable. The government started operations almost a year ahead of their NGO counterpart and consequently had to wait until it could catch up. The recruitment of site-based host NGOs, an NGO responsibility, was delayed due to lack of qualified applicants. The fast turn-over of project leaders of both entities further disrupted the direction of project implementation. In addition, there also was some distrust between the NGO and the government, especially because of the apparent lack of transparency in the NGO's disbursement of project funds.

After three years of project implementation, lessons have been learnt. The partners have now discovered each other's strengths and limitations and are slowly building trust and respect for one another. It can now be said that the GOP and NIPA are showing unity in project implementation. The Project Coordination Unit formulated a protocol to serve as guide in the day-to-day work of the government staff and NIPA. This is also the case with the PASu and HNGO relationship who are required to draft a protocol to guide their day-to-day management and operations. This has significantly improved their partnership.

It is still too early to estimate the effectiveness of collaborative management in our project sites, but it is envisioned that this new strategy in PA management will flourish.

The European Union-funded project called the National Integrated Protected Areas Programme (NIPAP) works directly with the on-site DENR project staff and PAMB. It does not employ the strategy of having a host NGO at the sites. As a younger project, it still is experiencing a lot of "growing pains." This will be discussed in the following section on constraints.

2. MAIN CONSTRAINTS IN COLLABORATIVE MANAGEMENT

- a. The principal constraint in project implementation as seen by CPPAP management is the difficulty in unifying those carrying out the project due to their differing cultures and orientation. Another constraint is the limited budget provided by the project. It is a known fact that PAMB meetings require a considerable amounts of money, e.g., for food, venue cost, transportation and accommodation of the members. This problem arose because the cost of running PAMB was not given consideration in the project design. Since PAMB is the institution which will carry on with protected area management after the project's end, priority should have been given to providing it with enough funds. The different interests of PAMB members also affects decision-making and policy formulation. It is hard to solicit the support of some indifferent local officials, especially those who are perpetrators of illegal activities. Finally, the project is also hampered by the mistrust of the community towards the government such as the DENR despite the efforts carried out by field staff.
- b. The EU-funded National Integrated Protected Areas Programme (NIPAP) has had the following experience in the Province of Palawan where it has three sites. A law was passed which called for drawing up of a Strategic Environmental Plan for the Province of Palawan. Because of its ambiguity, the Law has resulted in confusion over who will have management,

control and jurisdiction over natural resources in the Province. The Palawan Council for Sustainable Development (PCSD), the body which oversees the implementation of the Plan, has in many cases been unwilling to cooperate in the implementation of DENR-initiated projects, especially if such projects were perceived to be an invasion of its turf.

This was demonstrated when eight months elapsed before the PCSD signed the Memorandum of Agreement to guide the implementation of the project in the three sites in Palawan, namely: Coron, Malampaya Sound and El Nido. In the absence of a MOA, the PAMB, the policy-making body for the different protected areas, can not be formed. A consequence of this delay in forming the PAMB is the delay in pursuing the management activities within each of the protected areas in Palawan under the EU project.

El Nido is a popular tourist destination because of the beauty of the landscape and its rich marine resources. Many tourist resort operators have shown interest in setting up their business in the area. One such operator proceeded to establish facilities for tourists without the proper permits and clearances. A cease and desist order was served to the firm for its illegal activities and illegal occupation of the island it has been developing. The firm, however, because of its resources and influence has been able to organise opposition to the issuance of an Administrative Order creating the El Nido Marine Reserve and the implementation of the EU-funded project itself.

Malampaya Sound is a rich fishing ground and has attracted its share of persons who would like to reap the aquatic bounty within the area. It was not surprising that people with vested interests would oppose the EU-funded project because of the opportunities that they would lose. This opposition caused delay in the implementation of the project.

2.1 CONSTRAINTS IN INVOLVING COMMUNITIES FOR COLLABORATIVE MANAGEMENT OF PAS

Traditional and customary practices of indigenous peoples (IPs) in resource extraction have been widely recognised as sustainable and do the least damage to the environment. The decrease in total land area available to indigenous peoples, and the influence of non-IPs has resulted in their adoption of non-sustainable farming practices. For example, traditional slash-and-burn agriculture practiced by IPs meant leaving the land fallow for a least seven years. Lack of space for farming has forced IPs to shorten the fallow period or not to observe any fallow period at all. They have also been influenced by the market demand for forest products such as wood, resins and rattan so that they not only work for what they need but for what the buyers demand.

Various groups (religious groups, NGOs, etc.) have also been greatly influencing the decision-making process traditionally employed by the IPs. Sometimes they have to consult these groups for "advice" in all decisions.

There are IPs who have grown tired of the government because they have been taken advantage of in many occasions in the past. They have become wary and it has been difficult to convince them to cooperate and work with the government. There are also occasions where the government has been perceived as giving more attention and financial resources to wildlife than to people. A case in point is on the

island of Mindoro where the indigenous people called the "Mangyan" have openly complained that the government has been giving more attention, especially financially, to the conservation of an endemic buffalo, *Bubalus mindorensis* locally called Tamaraw, than to their health, economic and social upliftment.

Migrants could be more difficult to work with since the reason they are in protected areas is precisely because they are landless and have the least economic resources. They know the reality of poverty and therefore want to extract the most in terms of resources. They are usually victims of government apathy, of policies that favour the rich and powerful, or of ill-planned programmes that result in their displacement.

Migrant groups are usually heterogeneous with differing socio-cultural backgrounds. They sometimes do not trust each other and compete for each other's available resources. Unifying them will be a problem

Against such a background it is very difficult for the government to get to work.

3. PRIORITY MEASURES TO STRENGTHEN COLLABORATIVE MANAGEMENT

- re-orientation of the DENR staff, especially those involved in protected area management, from being enforcers of laws, rules and regulations, to becoming community development workers;
- empowerment of the people within the protected area and its buffer zone;
- capability building for the different actors in PA management such as the government, NGO, PAMB and the stakeholders.

4. REGIONAL INITIATIVE TO STRENGTHEN COLLABORATIVE MANAGEMENT

A regional programme on collaborative management would enable countries within the region to become aware of the situation in other neighbouring countries and to learn from their successes and mistakes. This regional programme should help countries to understand each others' culture, serving as a basis for understanding the dynamics of collaborative management as it relates to each country.

Collaborative management efforts in the Philippines should provide other countries in the region with the opportunity to review their own collaborative management efforts vis-à-vis their differing socio-cultural and political situations. Cultures might differ within the region, but Asian culture as a whole, shows great similarity compared to the rest of the world. These similarities and differences should be taken into consideration when rejecting or adopting strategies in collaborative management.

5. PARTICIPATORY ACTION RESEARCH SITES

The three protected areas which can be useful as sites for participatory action research on collaborative management are:

Mt. Kanla-on Natural Park – the only natural park in the Negros-Panay faunal region. An active volcano which still harbours sizable remnants of the fast-disappearing lowland evergreen rain forest.

Mt. Kitanglad Range Natural Park – the second highest mountain in the Philippines, harbouring three important habitat types, the lowland evergreen rain forest, the mid montane and upper montane forest. The park is a primary watershed and plays a vital role in regulating the supply of potable and irrigation water primarily to Bukidnon and Misamis Oriental provinces as well as to other provinces of Mindanao.

Apo Reef Natural Park – the largest atoll-formed reef in the Philippines. It exhibits a variety of habitats and has one of the richest concentrations of marine-related organisms in the Philippines.

The first two sites exemplify a good working relationship between the Protected Areas Superintendent and the Host NGO staff. The PAMB members and the community-based protection groups also work closely with the project implementors. Additionally, Mt. Kitanglad has a very active group of indigenous people within the protected area boundary. There is also a good research site. Since collaboration among the project actors overall is poor, this site allows a basis for comparison of participatory action research in each of the sites.

6. EXISTING AND POTENTIAL OPPORTUNITIES

Working with IPs offers excellent opportunities for the management of protected areas. Their indigenous knowledge and familiarity with the features and resources of the area are immeasurably precious. It would take many hours of survey and research, a large degree of dedication to work and substantial financial resources for outsiders to be able to duplicate what they know. As allies and cooperators in the drafting and implementation of Protected Area Management Plans they are invaluable. If given sufficient support they are also effective agents for the protection of the area because of their attachment to the land. This vigilance is illustrated by the indigenous peoples of Mt. Kitanglad in Mindanao in protecting the biological resources within their domain. Three years ago, a botanical expedition sponsored by the government went on a collecting trip to the mountain without the appropriate clearance or consent from the local people. The specimens collected by the botanists were held in custody until the group paid the fine imposed by the tribal elders. The whole process was done according to a forgotten custom, and the group of collectors is now more careful to get all the necessary consents and clearances before it embarks on a collecting expedition.

Migrants, on the other hand, need to be empowered to look after protected areas. Such empowerment should include building a sense of responsibility in them towards maintaining the ecological integrity of the area. They need to realise that maintaining the land is to their benefit and helps in their survival. If this can be accomplished and they are made co-actors in the management of the protected area, the shortcomings of the former system of centralised protected area management can be corrected.

7. FUTURE OF COLLABORATIVE MANAGEMENT OF PROTECTED AREAS IN THE PHILIPPINES

The National Integrated Protected Areas Act of 1992 is still relatively new and its effectiveness in promoting collaborative management of protected areas in the Philippines is yet to be proven. No protected area as of yet has been through all the necessary steps for its full inclusion in the system. Only a few have gone through the proclamation process (out of 200 protected areas) and none has yet been through the final legal stage, the enactment of laws creating the individual protected areas. No protected boundary has been clearly demarcated on the ground. Only one protected area, the Olango Island Wildlife Sanctuary has a management plan, and only a few others are in preparation. The drafting of a management plan is crucial to determine the role of the different actors in protected area management and to gauge whether collaborative management will work in the Philippines.

One of the more crucial reasons for the inability of the government to fully implement the NIPAS Act on the ground is the inadequacy or total lack of financial resources. This might lead to the failure in the conservation of protected areas. The situation, however, would not be a hindrance to innovative protected area managers. The resourceful manager can wake up the bayanihan spirit (spirit of cooperation) among the different stakeholders and get the job done with a reduced or minimal financial outlay.

8. CONCLUSION

Collaborative management of protected areas in the Philippines is relatively new. It is presently at the stage of trial and error regarding the implementation of the various strategies envisioned by the NIPAS Law and the programmes developed by DENR, NGOs, the local people and other stakeholders in protected area management. A lot must still be learnt from the experiences of other countries and those working in the field of collaborative management of protected areas.

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Manila, Antonio, 1998. Project Director Project Coordinating Unit, Conservation of Priority Protected Areas Project.
Calanog, Lope, Co-Director National Integrated Protected areas Programme 1998.

APPENDICES

APPENDIX 1

LIST OF INDIVIDUALS AND ORGANISATIONS INVOLVED IN COLLABORATIVE MANAGEMENT (ALTHOUGH NOT NECESSARILY WITHIN PROTECTED AREAS)

1. The International Institute for Rural Reconstruction
Silang, Cavite
Philippines
Contact Person: Greg Ira
Programme Director
Environment, Natural Resource and Agriculture
2. Philippine Rural Reconstruction Movement
Kayumanggi Press Building
940 Quezon Avenue
Quezon City
Philippines
3. Asian Social Institute
Leon Guinto Street
Malate, Manila
Philippines
Contact Person: Dr. Mina Ramirez

4. Haribon Foundation for the Conservation of Nature and Natural Resources
9 Malingap cor. Malumanay Street
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Philippines
Tel. (+ +632) 925 3332
Telefax (+ +632) 925 3331
Contact Person: Executive Director, Alejo Manoloto

5. De La Salle University
Taft Avenue
Manila, Philippines
Contact person: Ma Victoria Sabban

APPENDIX 2

COLLABORATIVE MANAGEMENT OF MARINE PROTECTED AREAS (MPAS) IN THE PHILIPPINES

1. INTRODUCTION

The establishment of marine protected areas (MPAs) has become increasingly popular as a strategy for coastal resources management in the Philippines. This is evidenced by the incremental increase in the number of established MPAs: from only 16 in 1970, to 72 in 1988, to 439 in 1997. This was shown in a recent study on MPAs carried out by the Haribon Foundation (1997, unpublished). This development was largely facilitated by the promulgation of two national laws: Republic Act 7160, also known as the Local Government Code of 1991, and Republic Act No. 7586, otherwise known as the NIPAS Act of 1992.

In particular, the Local Government Code extends the jurisdiction of local government units (LGUs) to 15 kilometres off the coastline, while the NIPAS Act "defines the scope and coverage of protected areas for both marine and terrestrial sites (Haribon, 1997, unpublished). Included in the NIPAS Act is the creation of the Protected Area Management Board (PAMB) charged with administering each established protected area (Section 18), and the designating the protected area superintendent (PAS) as the "chief operating DENR officer at the site." The PAMB includes local government and local people's representation.

Owing to these developments, there are currently two types of MPAs being implemented in the Philippines. The first type involves initiatives from the local communities and is based on local government legislation, while the other type is based on national legislation, particularly the NIPAS Act of 1992.

2. MAJOR CONSTRAINTS

Research done by the Haribon Foundation (1997, unpublished) reveal the following problems/issues being experienced in the Philippine's MPAs. These problems significantly affect the progress of collaborative management.

- conflict among resource users resulting in a lack of support for the project;
- lack of support from local government officials;
- insufficient financial support for the project;
- inadequate technical capability among MPA implementors and beneficiaries necessary to manage the project;
- misconceptions about the term "protected area." That is, the concept of protection is threatening to fishers because of their fear of displacement and deprivation of their livelihood.

3. PRIORITY MEASURES TO STRENGTHEN COLLABORATIVE MANAGEMENT

- development of training courses on MPA Management which is already being undertaken by the Haribon Foundation with funding support from the British Embassy;
- more intensive Information Education Campaigns (IEC's) in MPA sites;
- establishment of a network of MPA implementors to provide a forum for exchange on ideas and approaches.

4. REGIONAL INITIATIVE TO STRENGTHEN COLLABORATIVE MANAGEMENT

- funding support for researchers; information, education and communication campaigns (IEC's); and training on marine protected area management;
- technical assistance;
- sharing of learning experiences from the region

APPENDIX 3

LIST OF SUGGESTED PROTECTED AREAS FOR PARTICIPATORY ACTION RESEARCH ON COLLABORATIVE MANAGEMENT

1. San Salvador Marine Sanctuary and Reservation Area in San Salvador Island, Masinloc, Zambales.
2. Baliangao Protected Landscape and Seascape, Misamis Occidental
3. Handumon Marine Sanctuary in Getafe, Jandayan Island, Bohol
4. Apo Island Protected Landscape/Seascape in Apo Island, Negros

APPENDIX 4

LIST OF INDIVIDUALS AND ORGANISATIONS ACTIVELY INVOLVED IN OR KNOWLEDGEABLE ABOUT COLLABORATIVE MANAGEMENT

Victoria Abello
Philippine Business for Social Progress
3/F PSTC Bldg., Magallanes St. Corner Real, Intramuros
Manila 1002

Margarita Lavides
Haribon Foundation
9 Malingap St. Corner Malumanay St. Teachers Village West
Diliman, Quezon City

Amuerfino Mapalo
DENR-ERDB Region 7
Cebu City

Manolita R.B. Morales
Save Nature Society, Inc.
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Cebu City 6000

Jessica Munoz
Coastal Resources Management Section
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Diliman, Quezon city 1100

Rey Boyabos
Coastal Environment Programme, DENR-NCR
Visayas Avenue, Diliman,
Quezon City 1100

Alan White
Coastal Resource Management Project, Cebu

1. INTRODUCTION

Thailand is a tropical country which extends from 5°45' to 20°30' north latitude and 97°30' to 105°45' east longitude. It borders Myanmar in the north and west, Laos in the northeast, Kampuchea in the southeast and Malaysia in the south. Thailand has an area of 513,517 sq.km and a population of approximately 60 million. The country can be geographically divided into four regions, namely the northern and northeastern areas, the central plain and the southern peninsula.

Thailand has a tropical monsoon climate which follows a three-season pattern: a rainy season beginning in June that lasts until October; a relatively cool winter from November to February; and an extremely hot, humid summer from late March until June. Some parts of the peninsula also receive additional precipitation from the northeast monsoon from November to January.

2. VEGETATION

According to Smitinand (1967), there are two major types of forest that can be identified in the country: evergreen and deciduous.

2.1 EVERGREEN FOREST

Evergreen forest in Thailand includes:

- i) tropical evergreen forest with an annual precipitation of at least 2,500 mm and an elevation of 0 to 1,000 m;
- ii) hill evergreen forest occurring above 1,000 m in areas where annual precipitation exceeds 2,000 mm;
- iii) coniferous forest - a relatively rare forest occurring on dry sandy soils at elevations of 400m to 1,400 m along ridges and plateaux;
- iv) mangrove forest, found along seacoasts and estuaries and flooded daily with brackish saltwater.

2.2 DECIDUOUS FOREST

Deciduous forest in Thailand can be divided into two main types:

- i) Mixed deciduous and
- ii) Dry dipterocarp

Mixed deciduous forest is widespread in Thailand and occurs on wide variety of soils in areas receiving 1,250 to 2,000 mm of rainfall, with well-defined wet and dry seasons, with the dry season usually lasting from four to five months.

* Lard Wading Bird Working Group, Wildlife Research Division, Royal Forest Department Bangkok, Thailand.

Dry dipterocarp forest is more open than the mixed deciduous forest and is found on dry, sandy or lateritic soils. Precipitation is under 1,250 mm. The dry season in this area usually lasts approximately five to six months.

2.3 WETLANDS

Wetlands in Thailand include many important habitats and ecosystems supporting high biological diversity. Wetlands are also very important economically, providing valuable resources such as timber and fish products, as well as regulating the water supply and helping in flood control. In past decades, wetlands in Thailand have been seriously threatened by encroachment and industrial development as a consequence of a rapid increase in human population. In terms of biodiversity conservation, several important types of wetlands (as described in detail by Scott, 1989) occur in Thailand. These are intertidal mud flats and mangroves; freshwater swamp forests; freshwater lakes and ponds and associated marshes; reservoirs and rice paddies.

Mangroves and mudflats are found in the gulf of Thailand and along the east and west coasts of the peninsula. These ecosystems are of great importance as breeding, nursery and feeding grounds for fish and other aquatic species. Mangrove forest also supports diverse species of mammals. Intertidal mudflats are extremely important for resident and over-wintering shorebirds.

Freshwater wetlands such as reservoirs, lakes, ponds and marshes are important habitats for wintering shorebirds and waterfowl and those in passage. These areas are also critical to large numbers of resident wading and waterbirds as feeding and nesting sites. Freshwater swamp woodlands are essential as roosting and nesting sites for large waterbirds such as storks, cormorants and herons. Peat swamp forests in southern Thailand are botanically rich, with many species of trees endemic to this specialised habitat. These forests are also of great importance to the conservation of amphibians, reptiles and other species of endangered fish.

Wetlands in Thailand are managed by government agencies from different ministries with very little or no coordination, which more often than not leads to conflict and ineffective and uncoordinated wetlands management and conservation. For example, in the past two decades, because of the high demand from foreign markets for prawns and other selected fish products, the Department of Fisheries has encouraged fishermen and farmers to rear more prawns and fish for export, as a result, huge areas of mangrove forests under the Royal Forest Department's (RFD) jurisdiction were illegally encroached upon and cleared for the establishment of fish and prawn ponds. Untreated waste from these ponds has polluted and further degraded the coastal waters and ecosystems.

Many freshwater wetlands in Thailand are managed by the Royal Forest Department as non-hunting areas. Since most of these non-hunting areas are located on public land under the jurisdiction of other governmental agencies, many problems and conflicts arise and conservation efforts are sometimes impeded or compromised. One other obstacle in wetland conservation is that most of the staff in the RFD are trained in forestry, but not in natural resources conservation. As a rule, wetlands are given protected status with no management and many times, are mismanaged. In January 1993, The Royal Forest Department held a seminar on Wetland Management in Bangkok; this seminar brought together university researchers, officials from different government agencies, NGO representatives and

the IUCN Regional Wetland representative. The seminar resulted in ten resolutions aimed at solving problems and conflicts in wetland administration and management among government agencies. One of the resolutions is to set up a National Wetland committee to help guide and coordinate the nation's wetland management plans and programmes. Subsequently, in May 1992, a National Wetland Sub-committee was formed under the National Environment Board, chaired by the Prime Minister. The sub-committee acts as an advisory body to coordinate wetland plans and programmes. It has also appointed a working group to draft a National Wetland Policy, and measures to be taken in wetland conservation and management. The first draft of the National Wetland Policy was completed in August 1994, and on September 20-22 1994 a public hearing workshop was held to revise and refine the draft policy. The final national policy is expected in early 1995.

The Royal Forest Department, under the Ministry of Agriculture and Cooperatives, is one of the government agencies with a mandate to manage a number of wetland sites in Thailand, most of which are known as Non-hunting Areas. Twenty-three wetlands have been gazetted under the Wild Animals Reservation and Protection Act (WARPA) B.E.2503 (1960), which was amended in B.E. 2535 (1992). The amended act strictly prohibits certain activities in these protected areas. Table 1 list wetlands which are designated as non-hunting areas under WARPA as of 1992.

In order to maintain and conserve wetland biodiversity, the Royal Forest Department is striving to protect representatives of all types of wetland by giving these areas legal protective status either as non-hunting areas or wildlife sanctuaries. For better and more effective management of important wetlands, management plans of these areas are also being prepared.

Therefore, the top priority for wetland conservation in Thailand should be given to training of staff in natural resources' conservation and management; this should include wetland and wildlife management, classification, characteristics and functioning of wetlands, scientific research, resource surveys, assessment, and monitoring. Because local communities are dependent on wetlands for their water supply, fish and other products; understanding and cooperation between protected area staff and the community can never be over-emphasised. Training in public relations and nature interpretation should also be provided. Preparation of management plans for wetland reserves is the first step in coordinating interagency management activities for better wetland protection and their sustainable utilisation.

3. CONSERVATION MEASURES

Thailand is a biologically rich country situated at the junction of the Indo-Burmese, Indo-Chinese and Indo-Malaysian biogeographical sub-regions of the oriental biogeographical region, resulting in highly diversified ecosystems. There are 916 species of birds in Thailand, 282 species of mammals, approximately 405 species of reptiles and amphibians, some 650-800 species of freshwater fish and as many as 15,000-20,000 species of vascular plants.

In the past, wildlife was plentiful in every part of the country, but soon after World War II, the country went through rapid development in terms of agriculture and human settlements. Forests were cleared to make way for crops, productive forests were logged extensively for timber, forest covers were greatly reduced from

53% in 1961, with an average annual loss of 5,120 sq.km. Destruction of habitats coupled with direct persecution resulted in extinction and scarcity of many wildlife species, with many more becoming endangered.

3.1 LEGISLATION

In the 1940s and 1950s there was a rapid increase in the country's population, resulting in loss of natural forest cover to agriculture and other land uses. The Royal Forest Department decided to intensify its efforts to protect habitats and wildlife species by requisitioning the government to set aside selected forested areas as national parks. However, because of a lack of budget and manpower, these areas were instead declared forest parks.

Protected areas legislation and wildlife conservation measures were established with the passing of two key acts, the Wild Animals Reservation and Protection Act B.E. 2503 (1960) and the National Parks Act B.E. 2504 (1961). WARPA makes provision for species protection legislation and the establishment of wildlife sanctuaries and non-hunting areas, while the National Parks Act is primarily concerned with the establishment and management of national and forest parks.

Wildlife sanctuaries exist largely for species conservation and are established under WARPA's jurisdiction. Hunting and unauthorised entry and modification of the environment are prohibited. However, scientific collection of animals and plants is allowed, subject to issuance of permits. The first wildlife sanctuary, Salak Pra, was gazetted in 1965, and by early 1991, a total of 32 sanctuaries, ranging in size from 99 sq.km to 3,200 sq.km and covering an area of 27,892 sq.km (or 5.43% of the country's land area) have been established.

Non-hunting areas are designated by the Ministry of Agriculture and Cooperatives on either government or private land for the protection of certain species of wildlife, and play a vital role in providing resting, feeding and nesting grounds for numerous species of wildlife, particularly migratory species such as waterfowl and open-billed storks. A total of 48 non hunting areas, ranging from 0.08 sq.km to 457 sq.km cover approximately 0.8% of the country. Non-hunting areas differ from wildlife sanctuaries in that they are generally smaller in size, and activities such as fishing agriculture, timber felling, recreation and tourism are not prohibited.

3.2 NATIONAL PARKS

National Parks are established to conserve and protect both living natural resources and the environment and to make provision for public education and tourism.

Khao Yai, Thailand's first national park, was established in 1962. Since this time the number of national parks has increased steadily. As of October 1991, 66 national parks, covering an area of 34,503.5 sq.km (or 6.7% of the country's area) had been gazetted. In addition, 49 new forest areas totalling some 24,632 sq.km (4.7% of the country's area) are in the process of being gazetted as national parks. Wildlife sanctuaries and national parks are established by Royal Decree and solely on land under the jurisdiction of the Royal Forest Department. Selection and gazetting of wildlife sanctuaries and national parks originates within the Wildlife Conservation Division and National Park Division respectively, these proposals are then considered by either the Wild Animals Reservation and Protection or the Nation Park Committee

as appropriate. A sanctuary or national park is gazetted when a Royal Decree, together with a map showing the boundary lines is promulgated. The establishment, extension or declassification of a sanctuary or national park is only possible by Royal Decree. Although national parks and sanctuaries are established primarily for the conservation and protection of wildlife and wildlife habitats, they differ in that recreation and tourism are discouraged in wildlife sanctuaries but are encouraged in national parks.

3.3 FOREST PARKS

Forest parks are generally smaller than national parks. These parks are administered by the National Parks Division for public recreation, and may be upgraded to national park status whenever the Royal Forest Department has the resources to do so. Up to the end of 1991, 67 forest parks had been established and are located throughout the country.

Both Wildlife Conservation and National Park Division administration and management operate out of central offices in Bangkok and from national parks, wildlife sanctuaries and non-hunting area headquarters. Wildlife Conservation Division operations are overseen by the Wild Animals Reservation and Protection Committee, while the National Park Division's operations are overseen by the National Park Committee. These two committees, both chaired by the Under Secretary of State for Agriculture and Cooperatives, include representatives from government departments including the Land Department, the Budget Bureau, Customs, the Department of Foreign Trade, the office of the National Environment Board, Kasetsart University, and individuals from various private sectors and NGOs. The committees act as advisory/decision-making bodies and also serve as conduits for wildlife conservation, and National Park Division proposals that must receive official sanction from the Ministry/and Cabinet (Kasetsart University, 1987).

The Wildlife Conservation Division comprises nine sections: technical, wildlife sanctuaries, law enforcement, propagation, administration, extension, non-hunting areas, planning and foreign affairs.

The National Park Division contains seven sections: technical, administration, national park management, forest park management, extension, planning, and construction and maintenance.

4. PROBLEMS AND CONSTRAINTS

4.1 PROBLEMS

Deforestation – The most serious problem facing habitat and biodiversity protection and conservation is the loss and destruction of natural forest land. Shifting cultivation is practiced by some 300,000-400,000 tribal people. There is encroachment on government land for agriculture by settlers, over-cutting in timber concessions (before 1988 there was a total ban on logging) as well as incidences of timber poaching. All these factors have contributed to the rapid rate of deforestation in Thailand. Other development activities such as highway construction, irrigation and hydroelectric projects, mineral explosion and extraction, and human resettlement programmes also cause rapid decline of the country's forest cover.

Illegal Hunting – Illegal hunting or poaching of wildlife poses another serious problem. Many wildlife sanctuaries, national parks and non-hunting areas are not completely devoid of human settlements. Although human settlements are not legally permitted in protected areas such as national parks and wildlife sanctuaries, many hill-tribe villages have been allowed to remain after the land on which they lived were established as wildlife sanctuaries or national parks. These people who live inside the protected areas are heavily dependent on forest products for their survival, it is difficult, if not impossible, to prevent them from poaching, either for subsistence products for daily use or for the pet trade. Villagers living around protected areas also practice subsistence hunting as well as market hunting.

Pesticides and Insecticides – Thailand imports large quantities of pesticides and insecticides every year and these chemicals are used freely with very little or no control. In some cases, insecticides are suspected to have caused the localised death of fish and other aquatic fauna.

4.2 CONSTRAINTS

Budget – Lack of adequate government funds is always an obstacle in biodiversity and protected areas management. The annual budget allocated for wildlife sanctuaries' protection averages at Bht 1,700 per sq.km; while allocations to nation parks are Bht 2,170 per sq.km annually.

Personnel – A limited budget also results in shortages of personnel, which in turn affects the effectiveness of biodiversity protection and management, for example, every forest guard is supposed to be responsible for the protection of 20 sq.km of protected area, which is an impossible job.

One other major constraint is the inadequacy of skilled and trained personnel: because the Wildlife Conservation and the National Parks Divisions are both under the Royal Forest Department, the majority of staff are trained in the field of forestry and have no formal training in wildlife conservation management. There is a need for training programmes on natural resources conservation and management. Courses on resource assessment techniques such as bird and mammal surveys and vegetation mapping are also necessary to enable trained staff members to make an assessment of biological and ecological data to assist in the formulation of management plans for protected areas.

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APPENDICES

APPENDIX 1

Table 1. List of Wetland Sites under WARPA as of 1992.

Number	Wetland Sites	Province	Established	Area (ha)
1*	Phu -khieo	Chaiburi	1972	156,00
2*	Talay-noi	Songkhla, Phattalung Nakhon Si Thammarat	1975	45,700
3*	Bung-borapet	Nakhon Sawan	1975	21,280
4*	Papru	Narathiwat	1975	16,000
5*	Nong-mng-thong	Surat Thani	1975	6,150
6*	Bangphra Reservoir	Chon Buri	1976	1,856
7*	Talay-sarp	Songkhla, Phattalung	1976	36466
8**	War Pailorn	Pathum Thani	1978	11
9**	Koh-libong	Trang	1979	47000
10*	Huai-jaw-rakhemag	Buri Ram	1980	620
11*	Sanambin	Buri Ram	1980	570
12*	Huai-talad	Buri Ram	1980	70
13*	Nong-waeng	Chaiyaphum	1980	17
14*	Bung-kong-long	Nong Khai	1982	1094
15*	Bung-Chawag	Chai Nat, Suphant Buri	1983	320
16*	Klong-lam-chan	Trang	1984	5400
17*	Parang-gai	Pattani	1984	25
18***	Palane-pak'panang	Nakhon Si Thammarat	1984	5672
19*	Nong-hua-koo	Udon 'l'bani	1985	11
20*	Talesarp-nong-bong-kai	Chiang Rai	1985	433
21*	Nong-nam-kao	Pitsmaulok	1985	57
22*	Pru-kapg-kow	Songlida	1986	7
23*	Lampao	Kalasin, Udon Thani Khon Kaen	1988	3375

***Mangrove-Mudflat

** Island *Freshwater Wetland

APPENDIX 2

Table 2. List of National Parks in Thailand

No.	National Park	Province	Area (SQ.Km)	Established
1.	Khao Yai	Nakhonnayok, Sarabun Nakhon Ratchasuna, Prachinbun	2168.635	1962
2.	Phu Kradung	Loei	348.122	1962
3.	Thung Saleng Luang	Phitsantilok, Phetchabun	1262.4	1963
4.	Nam Nao	Phetchabun, Chaiyaphum	966	1972
5.	Doi Inthanon	Chiang Mai	482.4	1972
6.	Phu Phan	Sakon Nakhon	664.7024	1972
7.	Khao Luang	Nakhon Si Thammarat	570	1974
8.	Doi Khuntan	Lamphun, Lampang	255.29	1975
9.	Namtok Phlew	Chanthaburi	134.5	1975
10.	Erawan	Kanchanaburi	550	1975
11.	Khao Chamao - Khao Wong	Rayong, Chanthaburi	83.68	1975
12.	Khao Khitchakut	Chanthaburi	58.6992	1977
13.	Lansang	Tak	104	1979
14.	Phu Rua	Loei	120.84	1979
15.	Chaloem Rattanakosin	Kanchanaburi	59	1980
16.	Ramkhamhaeng	Sukhothai	341	1980
17.	Sai Yok	Kanchanaburi	500	1980
18.	Khao Sok	Surat Thani	738.74	1980
19.	Tat Ton	Chaiyaphum	217.18	1980
20.	Doi Suthep-Pui	Chiang Mai	261.06	1981
21.	Si Satchanalai	Sukhothai	213.2	1981
22.	Khao Sam Lan	Saraburi	44.57	1981
23.	Kaeng Krachan	Phetburi, Prachuab Kirikhan	2915	1981
24.	Khao Phanombenja	Krabi	50.12	1981
25.	Mac Ping	Chiang Mai, Tak, Lamphen	1003.7536	1981
26.	Kaeng Tana	Ubon Ratchathani	80	1981
27.	Wiang Kosai	Pharae, Lampang	410	1981
28.	Namtok Mae Surin	Mae Hong Song	396.6	1981
29.	Khaoen Si Nakarin	Kanchanaburi	1532	1981
30.	Thab Lan	Nakhonraichasima, Prachinburi	2235.8	1981
31.	Tak Sin Maharat	Tak	149	1981
32.	Pang Sida	Prachinburi, Srakaew	844	1982
33.	Khao Pu-Khao Ya	Tang, Phatthalung, Nakhon Sithammarat	694	1982
34.	Khlung Lan	Kamphaing Phet	300	1982
35.	Phu Hin Rong Kha	Phitsanulok, Loei	307	1984
36.	Phu Kao - Phu Phan Kam	Udon Thani, Khon Kaen	322	1985
37.	Mae Yom	Phare, Lampang	454.75	1986
38.	Phunchong - Nayoi	Ubon Ratcha Thani	686	1987
39.	Mae Wong	Kamphaeng Phet, Nakhon Sawan	894	1987
40.	Namtok Chattakan	Phitsanulok	543	1987
41.	Si Phangnga	Phang Nga	246.08	1988

42.	Huai Had	Sakon Nakhon, Mukdahan, Nakhon Phanom	828.56	1988
43.	Chae Son	Lampang	592	1988
44.	Mukdahan	Mukhdan	48.5	1988
45.	Si Lanna	Chaing Mai	1406	1989
46.	Doi Luang	Chaing Mai	1170	1990
47.	Khlong Wang Chao	Kamphaeng Phet, Tak	747	1990
48.	Namtok Yong	Nakhon Si Thammarai	205	1991
49.	Khao Nam Khang	Song Khla	212	1991
50.	Khao Laem	Kanchanaburi	1497	1991
51.	Aob Luang	Chaing Mai	553	1991
52.	Kang Krung	Surat Thani	541	1991
53.	Namtok Huai Yang	Parchuap Kiri Khan	161	1919
54.	Phu Wiang	Khon Kaen	325	1991
55.	Phu Pha Man	Looi, Khon Kaen	350	1991
56.	Tai Rom Yen	Surat Thani	425	1991
57.	Pha Tam	Ubon Ratcha Thani	340	1991
58.	Phu Sak Dok Bua	Mukdahan, Yasothon, Ubon Ratcha Thani	231	1992
59.	Sai Thong	Chaiyaphum	319	1992
60.	Salawin	Mae Hong Son	721.52	1994
61.	Na Haew	Loei	117.16	1994
62.	Khao Sam Roi Yod	Prachuap Kiri Khan	98.08	1966
63.	Tarutao	Satun	1490	1974
64.	Thaleban	Satun	196	1980
65.	Mu ko Ang Thong	Surat Thani	102	1980
66.	Ao Phang Nga	Phangnga	400	1981
67.	Mu Ko Surin	Phangnga	135	1981
68.	Sirinat	Phuket	90	1981
69.	Khao Laem Ya-Mu ko Samet	Krabi	389.96	1984
70.	Hat Chao Mai	Trang	230.87	1981
71.	Mu Ko Similan	Trat	650	1982
72.	Mu Ko Chang	Trat	650	1982
73.	Laem Son	Ranong, Phangnga	315	1983
74.	Hat Nopharat Thara-Mu Ko Phi Phi	Krabi	389.96	1984
75.	Mu Ko Phetra	Trang, Satun	494.38	1985
76.	Khao lam Pi-Hat Thai Muang	Phangnga	72	1987
77.	Mu Ko Lanta	Krabi	134	1991
78.	Khao Lak-Lamru	Phangnga	125	1992
79.	Hat Vanakhorn	Prachuap Kiri Khan	38	1993
80.	Khun Chae	Chiang Rai	270	1995
81.	Huai Nam Dung	Chiang Mai	1,252.41	1995
82.	Tapraya	Burirum	594	1996
Total Area in sq.km.			42,332.268	

ACTION RESEARCH FOR COLLABORATIVE MANAGEMENT OF PROTECTED AREAS

by R.J. Fisher¹
W.J. Jackson²

INTRODUCTION

Collaborative management is increasingly advocated as a desirable approach for the management of protected areas and/or buffer zones. The promotion of this collaborative management is based on both a pragmatic argument (that effective management of protected areas requires cooperation between various stakeholders) and on an argument for the equitable treatment of stakeholders, particularly people dependent on the resources included in protected areas.

However, while there is a growing trend towards collaborative management in protected area policy in the Asian region, there are relatively few success stories so far and there is a need to learn how to implement collaborative management and to understand what it means in practice.

A further barrier to effective implementation is that the interests of various stakeholders in protected areas are often in direct conflict. As a result, efforts to implement collaborative management frequently involve situations where there is a lack of mutual trust between interested parties.

In order to implement collaborative management on a large scale there is a preliminary need for examples which illustrate the processes which lead to success. But even generating a few examples of success will not provide a simple recipe which can be duplicated, because individual cases are complex and involve case specific issues and factors.

Thus, in protected area management:

- we have to work in a complex multi-stakeholder environment which often involves endemic conflict and lack of mutual trust;
- PA management often takes place in the context of limited resources and limited knowledge (often complicated by completely false assumptions); and
- each case has many specific factors which need to be dealt with (differing types of resources, differing policy framework, differing combinations of stakeholders, differing capacities – skills, knowledge, power - amongst various actors).

We need an approach to management and implementation which is able to adapt to specific situations. Essentially we have to learn our way through the implementation process. It would also be nice to be able to learn from the successes of others, but is this possible when each case is highly specific?

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We wish to suggest that action research is a methodology which can meet these needs. Our aim in this paper is to introduce the idea of action research and to show how it could be relevant to collaborative management of protected areas.³

ACTION RESEARCH

The idea of action research used in this paper applies to a broad approach which was originally developed by the psychologist Kurt Lewin (Lewin 1946) in the context of experimental community projects in the USA, involving diverse contexts such as equal employment opportunity and integrated housing. Action research has the following characteristics:

- it combines action and research;
- it involves a group of people united around an issue or concern (such as managing a protected area);
- this group consciously and systematically moves through a series of repeated cycles of action, observation, reflection and planning. (These repeated cycles have been presented as the "Action Research Spiral" by Kemmis and McTaggart, 1988a. See Fig. 1).

The key concept behind action research is the idea that a group of people with a shared issue or concern collaboratively, systematically and deliberately plan, implement and evaluate actions.

ACTION RESEARCH

...combines action and investigation. The investigation informs action and the researchers learn from critical reflection on action (Sriskandarajah and Fisher 1992:11).

Action research is a process of learning in order to act more effectively in a particular situation. In this sense it is first and foremost a methodology for implementation and action.

But action research is also a type of research, in the sense that it contributes to "public" knowledge. Experience in a specific situation generates insights and understanding which can inform actions in similar situations. The word inform is important here. The intention is not to provide recipes for implementation, but rather to provide insights which others may find useful in other contexts. This aspect of generalising from learning in a specific situation is the research element.

ACTION RESEARCH

- is a process of learning in order to act more effectively;
- can also generate insights relevant to similar situations.

It is important to recognise that action research is an overall methodology, not a particular research technique. Within the broad framework of reflective planning and action, other forms of research can be used as necessary. For example, at various

³ We do not propose to review the literature in great detail. The book edited by Foote Whyte (1991) and Kemmis and McTaggart (1998b) provide overviews of the field of action research as well as useful collections of readings.

points in a series of action research cycles, it may be appropriate to carry out wildlife inventories, botanical studies, social surveys or anthropological studies of indigenous knowledge. Action research can be used as a way of managing the steps in an applied research process.

METHODOLOGY VS METHODS

- Action research is an overall methodological framework
- In specific cycles various "methods" and tools can be used, including tools associated with technical scientific research and social science

Action research has been applied in a variety of contexts including organisational change (businesses, educational institutions, government agencies) (Walton and Gaffney 1991), curriculum development (Kemmis and McTaggart 1988a, 1988b), community development (Lewin 1946), development and modification of appropriate technologies (Maclure and Bassey 1991) and natural resource management (Gilmour et al. 1987). While the basic characteristics mentioned above are consistently involved, differing contexts and objectives have led to considerable diversity in the actual practice of action research.⁴ The important point about this diversity is that it demonstrates the adaptive potential and flexibility of action research.

Action research provides just the learning based approach to dealing with complex situations that are called for in collaborative management. It is an excellent way of implementing "projects" in situations where people don't really know where to start or what to do next. We will now turn to an example of the application of action research to protected area management in Uganda.

CASE STUDY: NATIONAL PARKS, UGANDA

The case study relates to a complex project working on collaborative management of two national parks in Uganda.

The project goal is conservation of the biological diversity and ecological processes in the parks through promotion of sustainable natural resource management.

At the beginning of the process described it was known (or assumed) that (a) the livelihood of local people was partially dependent on use of the protected area and (b) that some of the current usage was incompatible with conservation objectives within the protected area.

PRELIMINARY SITUATION AND ASSESSMENT

It was observed that the harvesting of wild fish from the protected area by artisanal fisherfolk was depleting fish stock and this was considered by the Uganda Wildlife Authority (UWA) to be unsustainable and incompatible with park objectives. Several activities contributed to an assessment of the situation,

⁴ In fact, some methodologies, not explicitly linked to action research and called something else, share these characteristics and can be placed within the broad field of action research. An important example is the farmer-back-farmer model of agricultural research (Rhoades 1984).

- there was a collaborative analysis of the situation which involved rural communities, the Uganda Wildlife Authority, project staff and district authorities;
- rural assessments were undertaken by rural communities, the UWA and project staff;
- technical investigations were undertaken by UWA and project staff without community involvement.

CYCLE 1

Plan – Investigate the development of fish farming.

Action – Research undertaken with selected farmers. Pilot ponds were constructed and fish farming piloted.

Observation (Conclusion) – Fish farming is technically, economically and socially feasible.

CYCLE 2

Action – Fish farming was promoted by the project and fish farms were established.

Observation (Assessment) – Further investigation revealed that harvesting of wild fish had not greatly diminished. Research also showed that most fish farms had been set up by contract farmers, not by artisanal fisherfolk.

CYCLE 3

Action – Fish farming was promoted among artisanal fishers and incentives were provided to encourage fish farming.

Observation (Assessment) – Wild fishing declined, fish farming was adopted by artisanal fishers. The income of rural communities increased through the sale of smoked fish to local markets, but fuelwood was being harvested from the protected area to feed the fish smoking houses. The UWA considered fuelwood harvesting levels to be incompatible with park objectives.

CYCLE 4

Action – Investigation into alternative fuel sources was initiated. The process is continuing.

DISCUSSION

The overall outcomes of the activities described are of two types. The main one is the gradual modification and improvement of project implementation (improved practice). A second, if modest, outcome was an increased understanding of the linkages between development activities and conservation outcomes. Collaborative management projects often assume that increased rural income and alternative

sources of income will take pressure off PAs. This case study reminds us that the connections are not always simple and that the linkages need to be much more explicit. In this sense, there is a "research" outcome: some generalisable insights contribute to our understanding of PA management in general.

The activities described above equate very closely to the steps of the action research cycle, but there was not, at the time, an explicit attempt to follow the action research cycle. Nor was there a single group of people involved in all the "action research" cycles. We have used this example, not because it is a perfect example of conscious application of an action research process, but because it does illustrate how action research could be applied at the implementation level. Unfortunately, just as there are few examples of successful application of collaborative management of protected areas, there are few examples of the application of action research. There are few examples because action research has not really been systematically attempted in collaborative management.⁵

Clearly, however, this case study shows the potential of action research in such situations. In addition to the general demonstration of the value of critical reflection on actions to develop better actions, there seems to be evidence that a more broadly collaborative approach from the beginning might have avoided some of the "mistakes" made.

The sort of "management" approach described above, with continual monitoring of the results of actions and continued development of new activities in the light of critical reflection on outcomes, might seem to be a fairly routine way to manage a project ("everyone does it"). So, why is action research different from good flexible, adaptive management? Further, some of the project outcomes do not seem particularly surprising in retrospect. Should they not have been foreseen by good managers?

The answer to the first question is that action research is not very different from good, flexible adaptive management. However, it is not really true that "everybody does it" routinely. The crucial point is that a planned, conscious process of critical reflection enables quick response and makes the process more regular and systematic. At the level of project implementation, action research is precisely that: a way of making critical reflective management a routine part of implementation. Action research brings discipline to the process. The idea of action research is deceptively simple.

The answer to the second question is that some of the unintended consequences could have been foreseen. Nevertheless, developments are often obvious in hindsight and such examples of obvious, if unintended, consequences, are very common in complex development projects. However obvious the mistakes are, people keep making them. We would argue that the conventional blueprint approach to project design and implementation (a detailed plan for all inputs and outputs throughout project life) tend to lead to people missing the obvious when it comes to actual project implementation. In addition to the obvious unintended consequences, in complex situations there can be unintended consequences which are much less predictable. Action research is one way to deal with these.

⁵ We are aware that this is a dangerous generalisation. We know that some pilot action research activities are being tried by NGOs and small projects. The point is precisely that these small-scale activities tend to be focused on implementation only. Their value as examples providing insights for others are missed because they are not generally published.

There is one other point that this case study illustrates nicely. We mentioned earlier that action research is an overall methodology, which provides a broad framework within which other forms of research can be utilised as necessary. In the case study, at specific stages in the various cycles, specific methods were applied to research particular questions. For example, RRA activities were undertaken to gain information on fish harvesting practices and levels. At the same time biophysical (sustainability) issues were undertaken as the focus of technical investigations.

THE APPLICABILITY OF ACTION RESEARCH TO COLLABORATIVE MANAGEMENT

What we have been attempting to show is that conscious and deliberate use of action research can be useful in project implementation because it provides a framework within which critical planning, monitoring, and evaluation can become a continuing basis for project implementation.

The Uganda case involved some collaboration between stakeholders, but there was no sense in which project activities as a whole were planned and monitored by a collaborative group involving or representing all key stakeholders. There are major advantages for project implementation if all major stakeholders or actors are involved in a group approach to action research. In a report on an action research project undertaken to improve performance in an agricultural extension project aimed at improving food supply and market access in rural Papua New Guinea, Sriskandarajah and Fisher (1992: 12) noted:

Involvement by a number of actors in the process of organisational change gives these actors a sense of "ownership" of the emerging organisational practices. This occurs when people are involved in identifying goals, constraints and opportunities, as well as in planning and negotiating for the future.

Another advantage of a team approach is that membership of different stakeholders in a planning team ensures that a variety of perspectives is canvassed before action commences, thus increasing the likelihood that obvious unintended consequences will be avoided, false assumptions will be identified and that various stakeholders will have a sense of ownership of and commitment to planned actions.⁶ Membership of a collaborative action research group can help to build mutual understanding and trust. (For this to occur there must be a genuine commitment to meaningful collaboration. Token involvement of less powerful stakeholders will not be enough).

"WE DON'T NEED ANY MORE RESEARCH"

People involved in protected area and natural resource management, especially government officials, sometimes respond to suggestions that action research may be relevant by pointing out that there is no need for further research because "we already know how to implement protected area/collaborative management." One response to this is to stress that action research is first and foremost an approach to project implementation, not a means of gathering information for its own sake.

⁶ Lewin (1952) explores the crucial role of group decisions in changing behaviour. He points out that "...the question of group decision lies at the intersection of many basic problems of group life and individual psychology. It concerns the relation of motivation to action and the effect of a group setting on the individuals readiness to change or to keep certain standards."

At another level, however, it is not true that everything that needs to be known about implementing collaborative management is known. Firstly, we know that each situation is very complex and site specific. We need an approach which will help practitioners to learn their way through the complexity. Secondly, the fact that there are so few successful examples suggests that more needs to be known and/or that what is known needs to be better reported.

Perhaps part of the suspicion relates to the usual emphasis of research on data gathering. Most of the research on protected area management tends to be concerned with gathering information (about trees, animals, numbers of people, local economy etc). Relatively little is about increasing understanding of implementation processes. Yet, we would argue, the need is more for increased understanding than for information. Action research focuses more on increasing understanding than on collecting facts (although these can be collected under the rubric of action research when necessary).⁷

CONCLUSION

Our aim in this paper has been to show that action research has a lot to offer in terms of efforts to implement collaborative management of protected areas. The context for collaborative management is complex and action research provides a way to learn in order to implement better, through a conscious process of reflecting on and monitoring the effects of actions in order to plan improved actions. In cases where there is uncertainty about what to do next, or even what to do first, action research provides a way to commence implementation and to avoid being paralysed by the fact that everything is not known in advance. It is about "learning to do it by doing it" (Friere 1982). In situations where outcomes of activities will always be somewhat unpredictable, it enables mistakes to be detected and improved actions to be taken.

ACKNOWLEDGEMENTS

We wish to thank Andrew Ingles, Alex Muhweezi and Tasnee Anaman for their comments on drafts of this paper.

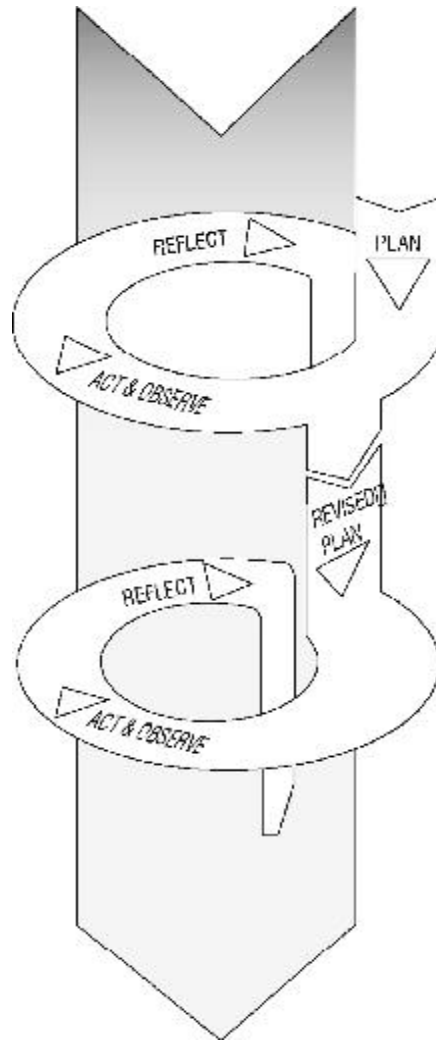
⁷ As research, action research should not be dismissed as a mere fringe activity. It is increasingly accepted as a useful way to research many questions. Many universities now recognise action research as a valid basis for graduate research at Masters or PhD level.

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FIGURE 1: THE ACTION RESEARCH SPIRAL

[From Kemmis and McTaggart, 1988a]



Single-horned rhino in their natural habitat
Photo: Resources Nepal



SPEECHES

Speeches are arranged according to the programme schedule

WELCOME ADDRESS

Mr. Chairman,
Your Royal Highness,
Honorable Minister of State,
Distinguished Delegates,
Ladies and Gentlemen.



On behalf of the organising committee and the Department of National Parks and Wildlife Conservation, may I most humbly offer our respectful welcome to His Royal Highness Prince Gyanendra Bir Bikram Shah to the inaugural ceremony of the workshop on Collaborative Management of Protected Areas in the Asian Region.

I would also like to extend our warmest welcome to the Honorable Minister of State of Forests and Soil Conservation and distinguished delegates of Bangladesh, China, India, Indonesia, Lao-PDR, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand and Nepal.

We would also like to welcome with warmth and appreciation all participants, particularly our foreign friends and partners, who have travelled long distances to arrive here for this ceremony.

In Royal Chitwan National Park this year we are celebrating the park's Silver Jubilee. As Royal Chitwan National Park is the first national park of Nepal, we are observing this year as the Silver Jubilee year for the entire conservation programme of Nepal. It has been 25 years since a landmark legislation, the National Parks and Wildlife Conservation Act, was enacted during the present reign of His Majesty King Birendra Bir Bikram Shah Dev. Under the provision of the Act and under the active leadership of your Royal Highness, Sir, an impressive network of national parks and reserves has been created, representing all major ecosystems of Nepal. These protected areas in Nepal now cover 2.4 million ha, totalling 16.5% of the country's land.

The unique feature of Nepal's Conservation Programme has been the reconciliation of conservation requirements with the needs of local people since the very beginning. For example, Royal Chitwan National Park is opened for grass-cutting for 15 days (now for 10 days) each year to harvest thatch grass, reeds and binding materials, in which more than 60,000 local people participate.

The contribution to the local economy according to one estimate for the year 1989 was about US\$ 600,000.

The breakthrough measure in the collaborative management of protected areas in Nepal came when the Conservation Area Management Regulations were adopted

after the amendments of the National Parks and Wildlife Conservation Act. These regulations not only gave the supreme responsibility for conservation area and buffer zone resources management to the local communities, but also adopted the concept of revenue sharing. For example, since this year, this park has begun to channel 50% of its 42 million Nepalese Rupees' income to the user committees of the Buffer Zone in order to fund community development programmes.

A good deal of credit goes to the King Mahendra Trust for Nature Conservation, which has been active since the mid-1980s in encouraging local participation in protected area management in the Annapurna area. The donor communities and INGOs in Nepal, especially UNDP, WWF, NORAD, CARE and IUCN, are helping us to further this important process.

Just as in Nepal, I am sure that other countries in the region are also going through major policy shifts in protected area management, from traditional "fortress" style parks in which "setting aside" areas is considered the best approach for conservation, to a more holistic approach in which local people are taken as equal partners in the conservation effort and are the recipients of benefits from the protected area.

Once again, I would like to welcome this august gathering and hope that the workshop will achieve its objectives and that the distinguished delegates take home with them some useful policy matters for consideration in their own context.

Thank you.

Dr. Uday Raj Sharma
Director General
DNPWC

ADDRESS – AMBIKA P. ADHIKARI

Mr. Chairman,
Your Royal Highness Prince Gyanendra Bir Bikram Shah,
Honorable State Minister,
Distinguished Guests,
Distinguished Invitees and Participants.



IUCN Nepal is extremely privileged to be helping to organise this particular workshop on collaborative management of protected areas.

With the permission of the Chair and in the gracious presence of Your Royal Highness, I would like to highlight two major objectives of this workshop. Eleven countries have gathered for this workshop in Nepal where some significant achievements in pioneering collaborative management programmes have already been achieved. A few years ago, we began to promote the protected area system in selected countries. In many of these the PA system is reasonably well established and we have now entered a different phase. This is a phase of natural resource management, a phase where interaction between local people and the park authorities is considered vital, where management is seen in a different light and the focus is not simply on dealing with the national park itself, but on aspects of the park's management.

In collaborative management it is often perceived that on one side there are park authorities, government people and establishments; and on the other side there are local communities, NGOs, and other stakeholders. The collaboration and interaction between these different parties is not always the most amicable. It is not that people are on different, opposing sides: there is just a perception of conflicting interests. At certain points of time it simply appears that people are on different sides. What we are trying to achieve, explore and discuss in this workshop in the coming three days is that we are all working together and we are all on one side. How can we address this new level of maturity? How can we address this new stage of protected area management?

This workshop will try to elicit lessons learnt by the different countries, it will compare and contrast, and decide how to take stock of particular situations in the different countries, put them together and distill the guiding principles.

Secondly, on the basis of this evaluation of past practices we must think about regional priorities and national agendas and eventually come up with a programme that suits the unique national agenda and still makes use of regional network and learning.

In reviewing the country status, we would like to look at the constraints, opportunities and priorities very specifically. The principal organisers of this workshop, IUCN, the King Mahendra Trust for Nature Conservation, the Department of National Parks and Wildlife Conservation and the World Commission on Protected Areas, have been the major actors in designing this particular programme, which we will right now call a proposal for advancing collaborative management. One of the main items on the agenda of the workshop will be to review the proposal

that has been developed so far to see what kinds of revisions are needed and what kind of endorsements and consensus are required to strengthen it.

It is our hope that on the basis of the endorsement we will develop the proposal to make it much more all-encompassing and accommodating of the concerns of the countries of the region. After this we will look for opportunities to find a process to fund and implement the proposal. This is a workshop from where we want to move towards action and better management of the protected areas, achieving a collaborative management system where all the stakeholders can work together.

I would like to add two more points. I would be remiss if I do not thank the excellent support provided by KMTNC, DNPWC and WCPA in organising the workshop. I will not go into mentioning all the regional cooperating institutions at the moment, however, the support from all these institutions and organisations in the region is greatly appreciated.

With these words I would like to close my remarks.

Thank you very much.

Ambika Prasad Adhikari
Country Representative
IUCN Nepal

ADDRESS – SCOTT PERKIN



Mr. Chairman,
Your Royal Highness,
Honourable State Minister,
Distinguished Guests.

It gives me great pleasure to be here today, at the opening of this important workshop in the world-famous Royal Chitwan National Park. It is a pleasure because this workshop has been in the planning for over a year now, and it is wonderful to see it become reality at last. And it is also a pleasure to be here in Nepal, where so many of the participatory approaches to natural resource management have been pioneered.

IUCN's Regional Biodiversity Programme places considerable emphasis on the development of collaborative management approaches for protected areas in South and South East Asia. There are two fundamental reasons for this emphasis.

Firstly, as the pressures on the region's protected areas continue to mount, we have witnessed an increasing number of conflicts between government agencies and local communities. In many instances, these conflicts have led to violence, the deliberate killing of wildlife, and damage to the protected area itself; in a disturbing number of instances, they have led to human deaths. These conflicts make it clear that – in many parts of the region – the traditional, top-down approach to protected area management is no longer a viable conservation strategy. A more participatory approach, in which local communities become partners rather than the problem, is required.

Equity is the second major reason for adopting collaborative management approaches. In most parts of the region, local communities have paid the costs of protected area establishment, but have enjoyed very few of their benefits. We have a moral imperative to redress this traditional imbalance. The Convention on Biological Diversity – which has now been ratified by virtually every country in the region – also calls upon the parties to promote the equitable sharing of benefits arising from the use of genetic resources.

It is my hope that this workshop will lead not just to another publication, but also to a concrete programme of action to build regional capacity in collaborative management. We need to look at successful models of collaborative management in South and South East Asia, and begin to share our experiences and the lessons learned. In many instances, these examples may not come from protected areas per se, but from other natural resource sectors, such as fisheries, forestry and soil conservation. We need to build capacities in the skills and tools that are so fundamental to the successful application of collaborative management approaches – skills such as Participatory Action Research, Participatory Rural Appraisal, gender analysis, social mobilisation and community organisation. We need to look at the policies and legal instruments that are required to underpin and support collaborative management approaches. Finally, and perhaps most importantly, we need to change attitudes, and to replace the mistrust which has built up over the decades by a new set of partnerships. These steps will not be easy, and they will require time – but collaborative management experiences from around the world demonstrate that they can be accomplished.

In closing, I would like to extend my gratitude to all the many participants who have made the time to be with us for this meeting, and to all the people and institutions who have contributed to the organisation of the workshop. I would particularly like to thank IUCN Nepal; the King Mahendra Trust for Nature Conservation; the Department of National Parks and Wildlife Conservation; IUCN's World Commission on Protected Areas; and the IUCN Working Group on Collaborative Management. To my mind, one of IUCN's special strengths is this ability to bring so many different government agencies, NGOs and specialists together into a common forum, in order to address the critical conservation issues of our time.

Finally, I would also like to extend my appreciation to the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Swiss Agency for Development and Cooperation (SDC), for their support and their long-standing interest in biodiversity; without the continued assistance of these two agencies, this workshop would not have been possible.

Scott Perkin
IUCN Senior Programme Officer (Biodiversity)
South and South East Asia

Mr. Chairman,
Your Royal Highness,
Honorable Minister of State,
Distinguished Delegates,
Ladies and Gentlemen.



At the outset I would like to express my sincere gratitude to His Majesty's Government of Nepal for providing the necessary support and to IUCN Nepal for organising this workshop. I would also like to acknowledge the invaluable role of the other collaborators, KMTNC and DNPWC, in making this workshop a reality. Many individuals have worked hard to put this workshop together and they deserve our profound thanks.

The WCPA was formerly known as the CNPPA. It is one of IUCN's 6 Commissions. Its mission is to "promote the development and management of a representative network of terrestrial and marine protected areas." The WCPA has a decentralised structure to facilitate its functioning. It is organised into 15 regions, South Asia being one of them. This region includes all the 7 SAARC countries namely, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka. Like the other commissions it has a Commission Chair, who in our case is Professor Adrian Phillips of the United Kingdom. A Regional Vice-Chair heads each of the 15 regions, for example, myself in South Asia. In Asia, there are 3 WCPA regions: South Asia, East Asia and South East Asia.

WCPA is a network of about 1,100 volunteer members, and includes policy and decision makers, PA professionals, donor organisations, NGOs and partner organisations.

The activities of WCPA are guided by its Strategic Plan, in which the main objectives are as follows:

1. To help governments and others to plan PAs and integrate them into all sectors
2. To strengthen capacity and effectiveness of PA managers by providing guidance, tools and information and the means of networking
3. To increase investment in PAs by persuading public and corporate donors of their value
4. To strengthen WCPA's capacity to implement its programme, including cooperation with IUCN members and partners

One of the major activities of the WCPA regions is to prepare and promote the implementation of Regional Action Plans for PAs. The RAPs seek to identify and promote implementation of priorities for PAs at the regional and country levels. The RAP for South Asia has been finalised after a lengthy process of consultation within the region, and is now being published with the kind assistance of IUCN Sri Lanka. The workshop to finalise and adopt the RAP was held in Sri Lanka last year, and the present workshop, which is an identified priority activity under the RAP, is being held with the assistance of IUCN Nepal. This goes to illustrate how closely WCPA works with the other arms of IUCN in this region.

The genesis of the RAP for PAs in South Asia lies in the 42nd Working Session of the then-CNPPA, which was held in Islamabad, Pakistan in 1994. One of the recommendations of that session, which is relevant to our workshop today, urged each country to,

"Undertake a detailed study to document the state of people-protected area relationships including: the demographic status of local communities and their dependence on natural resources; the cultural or other considerations for this dependence; attempts to involve local communities in PA management; and relevance of concepts such as biosphere reserves and cultural landscape, to harmonise people-protected area relationships."

Accordingly, the RAP for South Asia recommends this as a priority activity, both at the national and regional levels. The RAP also identifies four priority project ideas, dealing with capacity building, PA management guidelines, trans-boundary cooperation for PA management, and a regional workshop on community involvement in PA management. The objective of the recommended workshop was for practitioners to share experiences and approaches from the region and analyse success and failures. Field experiences were to be documented, along with existing policy and legal measures, funding, mechanisms of participation, institutions, capacity building, information flow, benefit sharing etc. That was how this workshop was originally envisaged, but subsequently its objectives and coverage were expanded to its present form. Similar initiatives on people's participation in PAs are recommended in the RAPs of the other regions of WCPA within Asia, but I will focus mainly on the South Asia region, for which I am responsible.

The South Asia RAP of WCPA recommends the following specific actions to promote the involvement of local communities in PA management:

1. Local communities could be involved through local institutions such as village level committees and local advisory boards.
2. Where possible, existing people's institutions must be utilised rather than creating new ones.
3. Local level institutions must be able to ensure equity of benefit sharing, representation of communities and different kinds of resource users, conflict resolution, the ability to handle finances, maintain records of processes, etc.
4. NGOs and other institutions should be involved in efforts to establish linkages between local communities and official departments in-charge of managing PAs.
5. Ecodevelopment in India and ACAP in Nepal are strategies currently being implemented in the region that take into account some of these concerns. Their experiences should be documented and shared with other protected areas in the region.
6. Establishment of PAs under IUCN's categories V and VI should be encouraged to enable PA managers to involve communities in management and conservation of the area.

I believe this workshop, if it is focused on practical ground realities and situations, can contribute to achieving the actions recommended in the RAP. The countries of this region share many common characteristics that can form the foundation of a productive cooperation. All countries have a long history of

conservation and have made significant gains in this field. At the same time, we have similar issues of high population, diversity, dependence of people on wild biomass resources and so on. We have a lot to share and learn from one another, and we can also make valuable contribution to the worldwide effort. WCPA South Asia intends to facilitate this process through its regional membership, its partners and the larger network of IUCN by supporting a common framework of country initiatives, which have significant regional linkages and value.

In conclusion, I would like to once again thank the organisers for giving me this opportunity and I look forward to meaningful and productive deliberations over the next three days.

Thank you.

Mr. Kishore Rao
Regional Vice-Chairman
WCPA, South Asia



Your Royal Highness,
The Chairman,
Honorable State Minister for Forest and Soil Conservation,
Distinguished Guests, Ladies and Gentlemen.

Globally, much destruction is being carried out in the name of development and in the developing world, and Nepal is no exception. Development activities coupled with population growth have put a lot of pressure on park resources.

Realising the needs of the local people after 25 years of experience in protected area management, HMG Nepal made a subsequent amendment in the National Parks and Wildlife Conservation Act 1973 and introduced the concept of buffer zone management, under which 30 to 50 percent of the park revenue is to be used for community development. Besides this, the policy of fulfilling firewood, fodder and timber requirements from the buffer zone area through the community forestry approach further reduces pressure on the park's resources. It is also expected that the involvement of local people in conservation and development activities will further enhance the relationship between us. Once we develop this mechanism of trusting each other it will have a major impact.

Good management of the park and its buffer zone, will certainly encourage ecotourism as well as community-based tourism in the area, which in turn will have a significant impact on income generation both for the park and for its local communities. Baghmara and Kumroj community forests, for example, are playing a key role, both in meeting the local community's daily forest products needs and in developing community operated ecotourism through biodiversity conservation of these successful, jointly managed natural areas.

The buffer zone of Royal Chitwan National Park (RCNP) covers an area of 750 square kilometres, including natural forests areas and settlements where more than 300,000 people live. In order to address the issues of biodiversity conservation and community development, 37 user committees and a buffer zone development council have already been formed as per the Buffer Zone Management Regulations 1996. The concept of buffer zone management is to improve the quality of life of local communities, reduce human pressure on natural resources in the protected areas and generate their support for biodiversity conservation through social mobilisation. To meet this end, every user committee has prepared plans and programmes according to their needs and priorities for both community development and conservation. These selected programmes are presently in the implementation phase and will be completed through social mobilisation, and technical and financial support from the park and other donors such as KMTNC, NCRTC and UNDP.

Among these activities, a relief fund has been established to address one of the major issues of park-people conflict, namely human injury by wild animals particularly rhinoceros, tigers, sloth bears and wild elephants. To date, ten families have been supported from this relief fund. In addition, a reward fund has also been established in order to provide awards to those who inform on illegal activities such

as poaching and poisoning. All these funds are made available through the buffer zone development fund of the national park. We are very grateful to HMG, the Ministry of Forest and Soil Conservation and the Department of National Parks and Wildlife Conservation for allocating 50% of the park's revenue to be channelled back into the buffer zone management of Royal Chitwan National Park.

It is necessary to develop special programmes that increase the capabilities of user groups in order for them to make use of these supports and resources wisely. In addition, programmes such as skill development, conservation education, public awareness, study tours and so on are needed to make user committee members and local people familiar with the new concept of collaborative conservation and community development work, so that conservation and development can go hand in hand.

Lastly, I would like to take this opportunity to thank the organising committee for giving me a chance to say a few words on this special occasion.

Thank you.

Keshav Devkota
Chairman
Buffer Zone Development Council
RCNP, Nepal.



Your Royal Highness,
Honorable State Minister,
Excellencies,
Distinguished Participants,
Ladies and Gentlemen.

A very good afternoon.

The august presence of His Royal Highness, Prince Gyanendra Bir Bikram Shah, here today signifies the importance of this workshop on Collaborative Management of Protected Areas in the Asian Region. Allow me, your Highness, to express our humble gratitude for your gracious acceptance to inaugurate this workshop; the event in itself is a recognition of Nepal's success in adopting the collaborative approach to forestry management in the region. May I take this opportunity to reiterate that the conservation movement in Nepal has always enjoyed the guidance of the Royal Family. Former Royal Hunting Reserves have been established as national parks and wildlife reserves. The country has successfully established eight national parks, three wildlife reserves and three conservation areas, covering in total a full 16% of Nepal's land in different eco-regions of the country.

His Majesty's Government is fully aware of its responsibility towards the conservation of biodiversity. Various strategies and a National Biodiversity Action Plan are being prepared for the country. Forests, protected area systems (PAs), inland water systems (wetlands), mountains and agriculture have been identified as components of biodiversity that must be preserved. The government is committed to maintaining the mixture and composition of species diversity. Natural processes will be allowed to function while managing the forests of Nepal. Likewise, sensitive areas such as the Siwaliks, mountain slopes, wetlands and the habitats of endangered and important wildlife species will be safeguarded. With regard to rivers, twice the width of the river on each side will be protected.

The collaborative approach, at all levels, has been chosen as a mechanism for the sustainable development of the forestry sector. We have recognised communities as our valuable collaborative partner at the local level. The forestry sector legislation duly recognises a homogenous community organised as a users' group as a stakeholder in biodiversity conservation. We are even thinking of allocating 25% of the income from commercial forestry operations to be set aside for community activities of the district. According to the present community forestry policy of Nepal, all income from the sale of surplus products goes directly to the users' fund for the development of the area.

Recent studies and gap analysis show that some important biodiversity areas are left outside the protected area system. It has also been found that adjoining forest areas of neighbouring countries need to be protected for the survival of species such as the tiger and snow leopard. Consequently, we are working on the possibilities of

- extending the present areas of some of our national parks and reserves;
- maintaining corridors and connectivities between protected area system

and forests;

- entering into the era of management planning of protected areas;
- collaborating with neighbouring countries for developing and implementing Joint Action Plans;
- collaborating with international agencies, NGOs, universities and individuals for supporting activities outlined in the management plan.

Above all, emphasis must be placed on collaborating further with communities living adjacent to protected areas to decide on an appropriate approach for carrying out community development activities in order to:

- reduce the conflict between PAS and the people;
- develop the capacity of departmental staff and users' groups for effective management of Protected Areas;
- improve the socio-economic well-being of local people by facilitating community initiatives.

Buffer zone development will be based on collaborative decision making, genuine devolution of resource management authority to local communities and the incorporation of traditional resources use into the management system. The users' groups will be identified and formed at settlement level on the basis of homogeneity and will be of a manageable size. Each users' group thereafter will formulate an operational plan. Community development activities will be carried out according to such plans. Fifty percent of the revenue of each park or reserve will be allocated for such activities.

We know that we are on the right track. We require support and encouragement from all concerned partners. We are presently working to establish a Biodiversity Trust Fund for Nepal and expect steady funding after its operational mechanism is established.

Let me not go any further than this now, except to assign you the task of improving and finalising the draft report on Collaborative Management of Protected Areas in the Asian Region. I am confident that your experience and wisdom will be worthwhile in this regard.

Good luck,

I wish the workshop all success.

Thank you.

Rabi Bahadur Bista
Special Secretary,
Ministry of Forest and Soil Conservation



Mr. Chairman,
Your Royal Highness,
Distinguished delegates and participants,
Ladies and Gentlemen.

Indeed, it is a great pleasure to have His Royal Highness Prince Gyanendra as our Chief Guest at this august gathering. His Royal Highness has graciously accepted our request to inaugurate the first Regional Workshop on Collaborative Management of Protected Areas in the Asian Region. At this great moment I would like to extend my warm and heartfelt welcome to you all, who have come from different countries, and from international and national organisations, to be here today at Royal Chitwan National Park, the first national park of Nepal. I feel honoured to address this distinguished gathering of experts in collaborative management of protected areas of the region.

I do not think this workshop requires any introduction and there is no need to stress how relevant this gathering is today, when people's participation in protected area management, especially in South and South East Asia, has become a key ingredient for sustainability and cost-effective management of such areas. Our work in protected areas for more than two decades has proven that the people's involvement, themselves the main stakeholders, is a pre-requisite for successful protected area management. The level of people's participation is growing steadily and becoming more systematic over time.

If we look back at the conservation history of Nepal, we find that the legal base for conservation was established when the National Parks and Wildlife Conservation Act 2029 was promulgated in 1973. I am proud to say that the Royal Chitwan National Park where we are gathered now is the first national park of the country and is the place from where the noble cause of conservation in the field began. Now there are 16 protected areas of various categories spread all over Nepal representing important ecological systems and sites of great cultural heritage. Two national parks, Royal Chitwan and Sagarmatha, are listed as World Heritage Sites and Koshi Tappu Wildlife Reserve has been designated as a Ramsar Site in recognition of its importance to migratory water birds. Thus, within this short period of time, Nepal has successfully established a network of protected areas of high biological diversity and national and global importance.

Forest as well as wildlife management approaches and practices have been modified over time to make them more compatible and adaptable for meeting people's needs in a sustainable way. People's involvement in management will provide a sense of ownership and empower them to manage the resources surrounding them more effectively. The Master Plan for the Forestry Sector also emphasises initiatives to encourage community participation in forestry programmes.

The National Parks and Wildlife Conservation Acts and Forest Acts have been amended to accommodate and seek people's active participation in resource

management. Community forestry, which started in 1978, is one of the leading proponents of people's participation in natural resource management in Nepal and has been widely appreciated. Forests have been handed over to communities to manage them and to meet basic livelihood needs such as fuelwood, fodder and herbs. The income from these forests can be used for any community development work. There is special emphasis on the management and processing of medicinal herbs in the mountain regions to increase the income generation capability of these communities. I hope it will not be out of context to mention here that the fourth amendment of the National Parks and Wildlife Conservation Act in 1993 has been a turning point for protected area management. The management approach shifted from purely wildlife centred management to a collaborative approach. In addition, it allows for a maximum of 50% of the revenues collected from the protected area to be ploughed back into the local community development in the buffer zone of that protected area. The buffer zones for Royal Chitwan, Royal Bardia and Langtang National Parks have been declared, with others to be declared in the near future.

Within these amendment in different policies and acts, there are provisions for various categories of forest, such as community forest, religious forest, private forest and leasehold forest. Besides this, there is also special provision for the local community residing inside the mountain parks for household use of forest resources such as firewood, fodder and grazing of their livestock. Similarly, annual grass cutting is permitted in the Terai parks and reserves.

Now, the Buffer Zone Management Regulations have been promulgated to implement the provisions of the buffer zone. Various user committees and councils have been formed to expedite local community development programmes. Forestry, income generating activities and skill enhancement programmes have been launched at the community level in the buffer zone with the assistance of various national and international donors.

I believe Nepal has made a significant achievement in biodiversity conservation through the protected area system, but there is still a lot to be done in this field to strengthen the present management systems and meet future challenges as people's aspirations rise. Because an individual or a single nation's efforts alone in conservation of biodiversity may not be sufficient, a collaborative effort is needed for the effective and efficient management of protected areas.

This workshop will be a significant step in developing a regional plan for participatory management of protected areas in the region. I assure you that we are here to cooperate and hope this workshop will establish a continuous dialogue and promote linkages on a regional basis to strengthen the protected area system. I believe that if we work together now we will resolve one of the nation's and the world's most important environmental problems, and our biological heritage can be handed down to future generations.

Furthermore, I must emphasise the importance of sharing our knowledge and experience on protected area management and on regional ecological and sociological information. I am confident that this workshop will provide an opportunity for free and frank discussion on pertinent issues and will reach a consensus on collaborative measures to be taken at the regional level.

Finally, I hope this gathering will be instrumental in addressing various issues relevant to collaborative management and will generate practical ideas as how the

government-people partnership can work together for the conservation of biodiversity.

I wish this workshop grand success. I would like to extend my hearty welcome once again and wish you all an enjoyable and fruitful stay in Nepal.

Lastly, I would like to thank once again His Royal Highness Prince Gyanendra for his gracious presence, and to thank you all for being here today.

Honorable Minister Bhakta Bahadur Rokaya
Ministry of Forest and Soil Conservation



INAUGURAL ADDRESS – HIS ROYAL HIGHNESS
PRINCE GYANENDRA BIR BIKRAM SHAH

Mr. Chairman,
Ladies and Gentlemen.

1. It gives me great pleasure to inaugurate this Regional Workshop on Collaborative Management of Protected Areas in the Asian Region, organised jointly by the King Mahendra Trust for Nature Conservation and IUCN - The World Conservation Union - in cooperation with the Department of National Parks and Wildlife Conservation of His Majesty's Government of Nepal.
2. Having been associated with efforts in the conservation of nature in Nepal over the last several years, I must admit that my interest in this workshop is more than just academic. What attracted my attention was the significance given both in terms of its point of convergence and its configuration. The first because the organisers have successfully identified that the sharing of respective experiences in collaborative management is not only mutually beneficial but will further refine and reinforce the participatory process, which you all know is a prerequisite for the success and sustainability of conservation efforts. And, second because this interaction at the regional level underlines the transcending complexity of environmental challenges and the need for a comprehensive management agenda with forethought and regular consultation among the countries of the eco-region.
3. Early next month, we will be observing World Environment Day. The theme appropriately chosen for the year is 'For Life on Earth', with special emphasis on the Seas. I find this fitting in the sense that often very little is talked about life and too much is talked about survival. Let us not slight the reality that only when the possibilities of life of any species is over, the possibilities of survival begin. Life, after all, is nothing but the art of drawing sufficient conclusions from insufficient premises.
4. Any forum addressing environmental issues with a singularity of purpose must generate innovative convictions towards mitigating some predicament. Wisdom has taught us that the truth about conservation is that it is an inclination of, by and for people whose lives it directly affects, and above all it visualises their true participation. It must be a movement that not only embraces society but also involves them in the decision making with regard to their needs and more particularly in the allocation of resources. Sustainability demands the empowerment of individuals and communities.
5. Ladies and gentlemen, as we stand on the threshold of the 21st century, emerging human impacts on the environment are both apparent and widespread. The challenge of increasing food production to keep pace with demand, while retaining the essential ecological integrity of production systems, is colossal both in its magnitude and compulsion. But we have the know-how to conserve our water and land resources. Appropriate technologies exist providing opportunities for increasing production while reducing pressures on natural stocks. A new generation of professionals, in various disciplines, combine expertise with education. With this human

capital at our command, we can meet the needs of the Asian family. The contrivance of the concept of enduring development to the effort to ensure food and water security requires systematic attention to the renewal of all natural resources. This calls for a holistic approach focused on ecosystems at national, regional and global levels.

6. Mr. Chairman, as of now, statistics show that there is enough food and water to feed the global population and there is even a little surplus to accommodate growth. Unfortunately, it is the disparities amongst nations that present an alarming scenario. Nor does the world suffer from a resource crunch as evidenced by the fact that in the United States of America, 19 billion dollars is spent on toys alone. This averages out to 350 dollars per child - greater than the annual income of one fifth of the world population. Similarly, the eight billion dollars spent by the world's military in four days would be enough to implement programmes to save the rainforests of the world for the next five years.
7. Each year our numbers increase, but the amount of natural reserves with which to nourish this population, to improve the quality of human lives, and to eliminate mass poverty remains static. It has been fashionable to draw a distinction between population growth and the environment as two crisis areas, but oftentimes we forget that population is in fact a very integral part of the environment. But left unattended, they already compromise many governments' abilities to provide education, health care, food and water security for people, much less their competence to raise living standards. Nature is bountiful, but it is also fragile and finely balanced. There are thresholds that cannot be crossed without endangering the basic wholeness of the system. In the end, sustainable development is not an immovable condition of harmony, but rather a process of change in which the application of resources, the management of investments, the orientation of technological evolution and organisational change are made consistent with future as well as present needs. It is foolish to pretend that this endeavour is elementary. Painful choices have to be made. Finally dissected, sustainable development must rest on prudent discernment.
8. Ladies and gentlemen, sustainable development requires that those who are more affluent adopt lifestyles within the planet's ecological means. The consumption pattern of the developed North is in sharp contrast to the preoccupation of the developing South in their search for meeting basic needs. This divergence alone mirrors a reflection of the true priorities that we have essentially set for ourselves. How long can we go on and safely pretend that the environment is not the economy, is not health, is not the prerequisite to development, is not recreation? Is it realistic to see ourselves as managers of an entity out there called the environment, irrelevant to us, a discretion to the economy, too expensive a value to protect in difficult economic times? When we establish ourselves starting from this premise, we do so with dangerous repercussions to our economy, well-being and all-round enhancement. We are now just beginning to understand that we must find an option to our ingrained behaviour of burdening future generations, resulting from our misplaced belief that there is a choice between the economy and the environment. That selection, in the long

term, turns out to be an illusion with awesome consequences for humanity. Mankind is on the portal of a new stage in its progression. We should not only promote the expansion of its material, scientific and technical base, but, what is more important, the creation of a new value and benevolent desire in human psychology, since circumspection and compassion are the infinite truth that make the basis of humanity. It is not untrue that we in Asia want to maintain a symmetry between the spiritual and material life. In many of our countries, conservation activities are closely linked with religious countenance. Conservation must not only be viewed from its rational point, but wedded also to its spiritual values.

9. Mr. Chairman, in the middle of the 20th century, we saw our planet from space for the first time. From there, we saw a small and fragile ball eclipsed by a pattern of clouds, oceans, greenery and soils. Mankind's inability to adapt its activities into that pattern is changing planetary systems fundamentally. While this modification not only creates an enigma for humankind, it is compelling him to act with very little room to manoeuvre. Yet, the onus for action lies with no one group of nations. Developing countries face the challenge of desertification, deforestation and pollution, and endure the most poverty. The entire human family would agonise over the disappearance of rain forests in the tropics, the loss of plant and animal species and changes in rainfall patterns. Industrial nations face the challenges of toxic chemicals, toxic waste and acidification. All nations may suffer from the releases by industrial countries of carbon dioxide and gases that react with the ozone layer, and from any future war fought with the nuclear arsenals controlled by these nations. All nations will have to play a role in securing peace, in changing trends, and in righting an international economic system that augments rather than abates inequality.
10. The narrative approach of establishing national parks that are somehow isolated from the greater society has been overtaken by a new field of learning stressing conservation of species and ecosystems that can be characterised as 'anticipate and prevent.' This involves adding a new dimension to the now traditional and yet viable and imperative step of protected areas. Development must be altered to make them more compatible with the preservation of the extremely valuable biological diversity of the region. This more strategic approach deals with the problems of species depletion at their source in development policies, anticipates the obvious results of the more destructive policies, directly involves people in and around these protected areas and prevents damage now. This progression alone stems the destruction of reservoirs of biological diversity while achieving economic goals. One conclusion from this connection is that policy-makers could think of 'parks for development', in so far as parks serve the dual purpose of protection of species habitat and development processes at the same time. While in many cases this message has already been brought forward by protected area managers to the decision-makers of the world, much more has to be done to bring home the actual and absolute contributions that protected areas managed in the modern way are making to sustaining human society.
11. Ladies and gentlemen, the venue of this workshop, the King Mahendra Trust

for Nature Conservation's (KMTNC) Nepal Conservation Research and Training Centre has been witness to the changing needs of conservation over the last decade and a half. Originally, the centre focused its activities on hard science and species-related research. Learning through experience that contemporary conservation is no more limited to species biology, KMTNC embarked on a process of collaborative management primarily in the Annapurna Conservation Area Project, and focused its community forestry programmes in the periphery of the Royal Chitwan National Park, namely the Baghmara and Kumrose projects, which I am told you will be visiting during your sojourn here. In this process we have come to learn that wherever conservation has been successful it has been so because people were the prime movers of these efforts.

12. In as much as your considerations will strengthen sustainable building blocks of partnership, this contact and sharing of ideas will allow the 'Asian Experience,' to resonate, highlighting a valuable assignment in biodiversity conservation to generate lessons in identifying common goals and to agree on common action gathered from the knowledge of the countries and institutions that you represent. As the socio-cultural and biological variance is unique in each country and region, they present distinct needs under different policies and socio-political conditions. However, nature conservation, an essential condition, is not a term pertaining to one country or region but is a global concept. Much too often, in our region, we have witnessed the wrath of nature and its aftermath affecting one country and then a neighbour. Prudence teaches us that the time has come for the formulation of a master plan supporting sustainable programmes manifesting inter-nation and inter-regional participation. A communications gap amongst us, has kept institutions and groups involved in the environment, population and development apart for far too long, preventing us from being aware of our common interest and realising our combined capability. This interaction is surely yet another step in closing that gap. We now know that what unites us is vastly more important than what divides us.
13. Chalking out a single blueprint for sustainable development is not an easy task, as economic and social systems and ecological conditions differ widely among nations. National policies must be tailored to local circumstances for them to be effective, as threats to biodiversity are not entirely alike from country to country. Policy instruments that have been effectively implemented in one country provide a useful theoretical framework for developing national, and even regional strategies.
14. Mr. Chairman, governments must now begin to make the key national, economic and sectoral agencies directly responsible and accountable for ensuring that their policies, programmes and budgets support development that is economically and ecologically sustainable. Authorities who are in direct contact with people working and residing at the natural resource estate are more capable of forming plans and policies for the proper utilisation of such resources. By the same token, the various regional organisations need to do more to integrate the environment fully in their goals and activities. New regional arrangements will be needed especially, to

deal with trans-boundary environmental issues. The role and capabilities of environmental protection and resource management agencies must be reinforced.

15. While there is a lot to be gained from implementing policies of decentralised biological diversity, the economic implications, the capacity to identify, assess and report on risks of irreversible damage to natural systems and threats to the survival, security and well-being of the community must be rapidly fortified and extended. However, given the politically sensitive nature of many of the most critical risks, there is also a need for an independent but complementary capacity to assess and report on critical regional issues. A suggestion may well be that a regional programme for cooperation among largely non-governmental organisations, scientific bodies and industry groups be established for this purpose.
16. In much of Asia, making the difficult choices involved in achieving sustainable development will depend on the widespread support and involvement of women, an informed public, local and indigenous communities, non-governmental organisations, the scientific fraternity and industry. Building their capacity and helping them to develop analytical skills applicable in making them partners in the nation's biodiversity management alliance; their rights, roles and participation in development planning, decision making and project implementation must be expanded. If the NGO community is to translate its commitment to sustainable development into effective action, they will need to see a genuine partnership and matching levels of commitment from the governmental and intergovernmental agencies. The success and cost effectiveness of NGO action is to an important degree a function of their spontaneity and freedom of action. Both among NGOs and amongst governments, we must find ways to engender a new period of international and regional cooperation. The urgency of our tasks no longer permits us to spill our energies in fruitless and futile debate. While we fight our wars of ideology on the face of this planet, we are losing our productive relationship with the planet itself.
17. National laws are being rapidly out-distanced by the accelerating pace and expanding scale of impacts on the ecological basis of development. The need to fill in major gaps in existing laws related to the environment must now become a national priority. If on the one hand, increasing global interdependence, growing and mobile populations, deepening scientific cognition, technological advancement, diverse systems of government and competing socio-political interests perpetuate bio-diversity deprivation, on the other, variation in the priorities of stake-holders materialise, new groups emerge and institutional arrangements and responsibilities shift. Consequently, legislation and strategies reflecting these multiple dimensions must be contrived in the solution of these uncertainties. It goes without saying that in this regard, local impacts of global changes have to be assessed and the gap between science and policymaking has to correlate - by accentuating the policy scope of science and the scientific scope of policy. After all, any science can be likened to a river; it has its obscure and unpretentious beginning; its quiet stretches as well as its rapids; its periods of drought as well as of fullness. It gathers momentum with the work of

many investigators; and as it is fed by other streams of thought it is deepened and broadened by the concepts and generalisations that are gradually evolved.

18. In conclusion, I hope that the three-day workshop will proceed in a spirit of open communication. Surely, your deliberations will transcend the descriptive stage of simply studying and reflecting upon environmental decline and must graduate towards the correct and important stage of re-evaluation, reconstructing practical and pragmatic strategies for the region. Be aware when human history becomes more and more a race between cognisance and catastrophe, man's participation in the destruction of the world around him unwittingly helps to bring about his own downfall. The study of environmental problems is essentially a subject of general education. But the crisis in our environment has enormous social consequences, and it is clear that solutions to the crisis will depend largely on the active involvement and pertinent perceptions of people. Finally, let me add there are so many problems to be overcome that we forget that every problem presents an opportunity to do something wholly positive. This is an opportunity for you to consider conservation and the environment in a broad educational context. In doing so, you will be able to capture the minds and hearts of our children and their children, demonstrating the wonder and benefits of the world around them. Keeping your options open for future generations, you must begin now, and begin together.

I wish this regional workshop all success.

Thank you.

His Royal Highness Prince Gyanendra Bir Bikram Shah
Chairman
King Mahendra Trust for Nature Conservation

CHAIRPERSON'S ADDRESS



Your Royal Highness,
Honorable Minister,
IUCN Representatives and Distinguished Conservationists.

First of all I would like to thank the organisers of the workshop for providing me with the opportunity to chair this august inaugural session of the workshop entitled "Collaborative Management of Protected Areas in the Asian Region."

It is very interesting to note that this is not a usual event which brings together distinguished professionals from 11 countries in the region, away from the urban centres and in a venue of a protected area. Further, it is also important to observe that this workshop will draw resolutions which will be applied in the collaborative management of protected areas in the region.

Collaborative management of protected areas by multiple stakeholders is very complex. It demands an efficient management of conflicts between various stakeholders, management of the interests of local people and other participating institutions and harmonisation of the protected area which lies on the international borders between more than one country. I believe this workshop will discuss the problems and opportunities for the practical management of PAs in the region.

As I can clearly see, there is a choice between short-term gain versus long-term sustainable management of protected areas. Unless local people are involved in the management aspects, it is less likely that we will be able to achieve sustainability in the long run. I feel that we should follow an 'incremental path' for eventual total control of protected areas by local people with a meaningful participation of other stakeholders.

Given the complexity of issues we need very open and objective discussions of the possibilities and constraints to manage the protected areas.

As a member of the National Planning Commission, please allow me to state that our approach since the Eighth Five-Year Plan has been to involve major stakeholders, the state, businesses and civil society in managing these natural resources. In the Ninth Five-Year Plan this approach has been further enhanced so that the benefits are shared between these stakeholders.

We are learning to resolve conflicts between the community, other stakeholders and neighbouring countries when it comes to managing resources within their territories. I believe this workshop will generate a meaningful framework for cooperation among the countries in the South and South East Asian region.

Since all of us have the common problems of poverty, high population growth and unsustainable behaviour in the use of resources, I urge the distinguished participants of this workshop to consider sustainability and poverty alleviation while deliberating on the management of protected areas.

I believe this workshop will be a milestone for collaborative management of protected areas in the region. The resolutions of the workshop will be adopted and expanded in the other parts of the world.

Once again, I thank IUCN Nepal, KMTNC, WCPA and DNPWC for organising this workshop and inviting me to chair the session and I wish all of you a pleasant stay in this warm and hospitable World Heritage Site.

Thank you.

Dr. Jagadish C. Pokharel
Member
National Planning Commission

ADDRESS – JAYA PRATAP RANA

Your Royal Highness,
Honorable Minister,
Mr. Chairman,
Distinguished Participants,
Ladies and Gentlemen.



As we now come to the end of the inaugural programme, on behalf of the organisers I have the pleasant duty of proposing a vote of thanks to all our distinguished guests whose kind participation at this ceremony has been a source of honour and encouragement to us.

We are particularly honoured to have here with us the gracious presence of His Royal Highness Prince Gyanendra Bir Bikram Shah, Chairman of KMTNC and an eminent conservationist widely respected for personal commitment and contributions to the cause. May I, on behalf of the organisers IUCN, KMTNC, WCPA and DNPWC express our most respectful gratitude to Your Royal Highness for graciously inaugurating this important regional workshop on the "Collaborative Management of Protected Areas in the Asian Region" and also for the inspiring inaugural address. The thoughtful observations of Your Royal Highness on many contemporary conservation issues, I am sure, will provide a valuable guidance for the workshop.

We are also thankful to the Hon. Bhakta Bahadur Rokaya, State Minister for Forests and Soil Conservation, who despite many other pressing engagements, has been kind enough to take part in this ceremony and share his thoughts with us. Similarly, the organisers are grateful to Hon. Member of the NPC, Dr. Jagadish C. Pokhrel, for sparing his valuable time to be here with us and chairing the inaugural session with ability and wisdom. I would also like to take this opportunity to convey our sincere thanks to Mr. Keshav Devkota, Chairman of the Buffer Zone Development Council, Royal Chitwan National Park, for his participation at the meeting. Dr. Kishore Rao, Regional Vice-Chair of the WCPA for South Asia and Dr. Scott Perkin, Senior Programme Officer, Regional Biodiversity Programme, IUCN Sri Lanka, deserve our special thanks for their enlightening statements this afternoon as also for their effort and support in organising this workshop.

Lastly, I would like to express our deep appreciation to the Ministry of Forests and Soil Conservation and in particular to Mr. Rabi Bahadur Bista, Special Secretary of the Ministry and Dr. Uday Raj Sharma, Director General of the DNPWC, for the valuable support extended throughout the workshop's preparation. While thanking you all once again for making this programme so memorable, may I wish the distinguished delegates all success at the working sessions and hope that your few days here with us will be personally pleasant and mutually beneficial.

Thank you.

Mr. Jay Pratap Rana
Member Secretary
KMTNC

Park by-products (thach and reeds) harvested by the
bufferzone community of Koshi Tappu Wildlife Reserve
Photo: Dwarika Aryal



WORKSHOP PROGRAMME

May 24th Sunday, 1998

Arrival of participants in Kathmandu Meeting of Steering Committee Members and Facilitators (evening)

DAY 1

MONDAY, 25 MAY - INAUGURAL SESSION:

Date: May 25th Monday, 1998

Time: 16:00 - 17:25

Venue: Royal Chitwan National Park, Sauraha, Chitwan,
KMTNC Training Centre

- | | |
|---------------|---|
| 08:00 - 12:30 | Travel to Chitwan National Park by road |
| 15:00 - 16:00 | Arrival of Chief Guest, Invitees and Participants
Nomination of the Chair |
| 16:10 - 16:15 | Welcome address by Dr. Uday Raj Sharma,
Director General, DNPWC |
| 16:15 - 16:25 | Brief presentation about the workshop by
Dr. Ambika Prasad Adhikari, Country Representative, IUCN
Nepal |
| 16:25 - 16:30 | The need for co-management in conserving biodiversity,
Dr. Scott Perkin, Senior Programme Officer,
Regional Biodiversity Programme, IUCN Sri Lanka |
| 16:30 - 16:35 | The role of WCPA in promoting collaborative management of
protected areas in the Asian region, Dr. Sri Kishore Rao,
Regional Chair for South Asia, WCPA |
| 16:35 - 16:40 | Remarks by the Chairman of Buffer Zone Development Council,
Mr. Keshav Devkota, Royal Chitwan National Park |
| 16:40 - 16:45 | Remarks by Mr. Rabi Bahadur Bista, Special Secretary, MoFSC |
| 16:45 - 16:55 | Address by Honorable Minister, (MoFSC) HMG |
| 16:55 - 17:05 | Inaugural Address by the Chief Guest,
His Royal Highness Prince Gyanendra Bir Bikram Shah |
| 17:10 - 17:20 | Concluding Remarks by the Inaugural Ceremony Chairperson,
Dr. Jagdish C. Pokhrel, Member, National Planning Commission |
| 17:20 - 17:25 | Vote of Thanks by Mr. Jai Pratap Rana,
Member Secretary, KMTNC |
| | End of Inaugural Session |
| 19:00 - 20:30 | Reception hosted by IUCN |

DAY 2

TUESDAY, 26 MAY

Objective:	To develop an understanding of the status of collaborative management in the region, with a particular focus on strengths, weaknesses, key constraints and priority needs
Activities:	Presentation of country status reports in three sub-regional groups; preparation of country matrices identifying strengths, weaknesses/key constraints, and priority needs
Expected Output:	Baseline information on the status and needs of collaborative management in each country and in the region as a whole
Session Chair	Dr. Sri Kishore Rao
Facilitator	Dr. Poorna Kanta Adhikari
08:15-08:30	Welcome and introduction to the workshop's objectives (Dr. Ambika Prasad Adhikari)
08:30-08:45	Overview of the workshop's overall modus operandi (Scott Perkin)
08:45-09:00	An introduction to Collaborative Management (Andrew Ingles)
09:00-09:15	Introduction to the day's session and explanation of the working group methodology (Krishna Oli)
09:15-12:30	<u>Small Working Groups</u> : Presentation of Country Status Reports; preparation of country matrices summarising strengths, constraints summarising the group's findings
12:30-13:30	Lunch
13:30-14:30	Presentation of small group findings to plenary
14:30-15:00	Discussion
15:00-15:30	Tea break
15:30-17:00	Plenary Discussion: Identification of common regional constraints and priorities for action
18:30-19:30	A slide show on collaborative management in and adjacent to Chitwan National Park, by RCNP and KMTNC

DAY 3

WEDNESDAY, 27 MAY

Objective:	To review the draft project proposal, Towards Participatory Management of Protected Areas in the Asian Region, and agree on revisions (as needed), to its goals, strategy, objectives and broad activities
Activities:	Review of the draft project proposal by sub-regional working groups, in the light of the strengths, weaknesses/ constraints and priority needs identified on Tuesday; presentation of small group findings to plenary and revision of proposal accordingly
Expected Output:	Recommendations for revising the project proposal, for incorporation into the final version of the document
Session Chair	Morning - Dr. S. C. Sharma Afternoon- Dr. Ajak Khan Khattak
Facilitator	Dr. Poorna Kanta Adhikari
9:00-09:10	Welcome and introduction (Dr. Ambika Prasad Adhikari)
09:10-09:50	Brief presentation of the project proposal, Towards Participatory Management of Protected Areas in the Asian Region (Krishna P. Oli, Ashish Kothari and Bob Fisher)
09:50-10:00	Explanation of the working group's methodology (Dr. Poorna Kanta Adhikari)
10:00-12:30	<u>Small Working Groups</u> : Review of Project Proposal and integration of findings from the previous day into project design
12:30-13:30	Lunch
13:30-14:30	Working groups continue
14:30-15:30	Presentation of working group findings to plenary
15:30-16:00	Tea

16:00-19:00 Field Visit

DAY 4

THURSDAY, 28 MAY

Objective: To agree upon the final elements of the project proposal and the next steps forward

Activities: Plenary presentations and facilitated plenary discussion

Expected Output: Potential regional linkages identified; final recommendations for revisions to the project proposal agreed upon; workplan and timeframe established

Session Chair Mr. Kapila Fernando

Facilitator: Dr. Poorna Kanta Adhikari

09:00-09:10 Introduction and welcome (Dr. Ambika Prasad Adhikari)

09:10-09:45 Review of existing regional initiatives and potential linkages (Sejal Worah, Bob Fisher and Rusalina Idrus)

09:45-10:00 Questions and discussions

10:00-11:00 Finalisation of the project proposal's goal, objectives and broad activities

11:00-11:15 Tea

11:15-12:00 Identification of next steps:
-Project Development Group: composition, mandate and process
-Timeframes
-Coordination

12:00-12:30 Closing remarks

12:30-13:30 Lunch

15:00 Travel to Kathmandu

COMPOSITION OF SMALL WORKING GROUPS

GROUP A CHINA, NEPAL AND PAKISTAN	GROUP B BANGLADESH, INDIA AND SRI LANKA	GROUP C INDONESIA, LAO PDR, MALAYSIA, PHILIPPINES AND THAILAND
FACILITATORS: KRISHNA OLI AND ANDREW INGLES	FACILITATORS: ASHISH KOTHARI AND AMBIKA ADHIKARI	FACILITATORS: BOB FISHER AND SEJAL WORAH
1. Arup Rajauriya	1. Aseem Srivastava	1. Bob Fisher
2. Bhasker Thapa	2. Gulum Habib	2. Bubphar Amget
3. Siddartha Bajracharya	3. Kapila Fernando	3. Jamili Nais
4. Narayan Dhakal	4. Kishore Rao	4. Klaus Berkmuller
5. Fida Hassan	5. Nirmalie Pallewatta	5. Listya Kusumawardhani
6. Ni Nyoman Susanti	6. Li Bosheng	6. S.C. Sharma
7. Rusalina Idrus	7. Maqsood Anwar	7. Scott Perkin
8. Sejal Worah	8. Shant R. Janawali	8. Seema Bhatt
9. Suraphon Duangkhae	9. Mohammad Yousuf	9. Syed Salamat Ali
10. Tirtha B. Shrestha	10. V.R. Melkania	
11. Mohammed Ajaz Khattak	11. WAD Ananda Wijesooriy	
12. Puran B. Shrestha		
13. Shyam Sunder Bajimaya		
14. Tirtha M. Makey		
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Buffer zone community harvesting straw inside Royal Chitwan National Park
Photo: IUCN Nepal



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Management of Protected Areas in the Asian Region



Founded in 1948, IUCN–The World Conservation Union brings together States, government agencies and a diverse range of non-governmental organisations in a unique world partnership: over 900 members in all, spread across some 139 countries.

As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. A central secretariat coordinates the IUCN Programme and serves the Union membership, representing their views on the world stage and providing their goals. Through its six Commissions, IUCN draws together over 12,000 experts, volunteers in project teams and action groups; focusing in particular on species and biodiversity conservation and the management of habitats and natural resources. The Union has helped many countries to prepare National Conservation Strategies, and demonstrates the application of its knowledge through the field projects it supervises. Operations are increasingly decentralised and are carried forward by an expanding network of regional and country offices.

The World Conservation Union builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.

IUCN–The World Conservation Union officially launched the Nepal Country Office on 23 February 1995 with the Ministry of Finance, His Majesty's Government as the government partner. IUCN Nepal has been developing partnerships with various government line agencies as well as non-governmental organisations to carry forward its activities to conserve Nepal's natural resources and ecological processes.



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