Pakistan Protected Areas Meeting

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Editors: Naziha Ghazali, Umber Khairi
and the
Communications Unit, IUCN

IUCN–The World Conservation Union, Pakistan
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List of Abbreviations and Acronyms

CNPPA	Commission on National Parks and Protected Areas
IUCN	IUCN–The World Conservation Union
NCS	National Conservation Strategy
NWFP	North West Frontier Province
PA	Protected Area
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WCMC	World Conservation Monitoring Centre
WWF	World Wide Fund for Nature

Objectives of the Meeting

Abdul Latif Rao
Programme Director, Strategies Support Unit, IUCN

Pakistan boasts an impressive network of 14 National Parks, 84 Wildlife Sanctuaries and 76 Game Reserves in addition to several reserve forests, protected forests and state forests. However, Pakistan's Protected Areas system suffers from the following shortcomings:

- Haphazard designation.
- The fact that nature conservation reviews have not been carried out (even in internationally designated areas such as Ramsar sites).
- The main focus is on game species; other animal and plant species have been ignored.
- Areas notified under the Forest Act have, simultaneously, been given another designation under wildlife legislation.
- All ecosystems are not represented.
- Some ecosystems are under represented.
- Boundaries have not been worked out according to ecological considerations.
- Communal and privately owned property is not represented.
- Conservation values of PAs are not fully known.
- Critical habitats of many endemic, unique and endangered species are not represented.
- Only a few National Parks have management plans.
- There is no real government commitment to the management of PAs.
- Local communities are not involved in the management of Protected Areas, hence their attitude towards PAs and park management is hostile.

Given this situation, it is evident that there is a pressing need for a Protected Area systems plan to be developed for Pakistan through an extensive consultative process.

This meeting aims to clarify concepts and identify obstacles so that a feasible approach towards PA systems planning in Pakistan can be devised through consensus. I sincerely hope this meeting succeeds in these objectives.

Being Systematic: Introducing National Systems Planning for Protected Areas

Adrian Phillips
Chair, Commission on National Parks and Protected Areas, IUCN

In preparing for this session I came across an IUCN publication: *Protected Areas of the World,* Volume I, which covers the Indo-Malayan region and was published in 1992. Let me quote from a concluding paragraph of the survey of Pakistan:

> "Protected areas have been created haphazardly, often in the absence of any criteria for their selection, and boundaries drawn with little or no ecological basis....While most major habitats are represented within the existing protected areas system, a comprehensive systems review has never been carried out at the national level. Clearly this is a priority in order to plan the further development of Pakistan's protected areas network."

I suggest that this should serve as our sermon for the next two days, for it represents the challenge to which we must rise.

The structure of my paper is as follows:

- To reiterate the importance of Protected Areas and their place in conservation and ecologically sustainable development;
- To specifically recall the relevance of the Convention on Biological Diversity;
- To then lead on to the idea of national systems plans for PAs; and
- To relate this to work, as in the case of Pakistan, on national conservation strategies and strategies for sustainable development.

Why bother about Protected Areas at all? Now that we recognise the need to protect the environment of the entire planet, should we not regard everywhere as a Protected Area? The point is a valid one, and I think the honest answer should be 'Yes'. A pedantic argument could thus be made to call Protected Areas 'specially protected areas'. But whatever we call them, we need them because they are a key part of a comprehensive approach to conservation and ecologically sustainable development.

In the past, it has been argued that we need Protected Areas to safeguard places of great beauty or protect the habitats of endangered species; and also to provide places for tourism and recreation. In this traditional view, we 'set aside' such places from the mainstream of land use change and development.

In recent years such a view has been radically reassessed. Beginning at the World Parks Congress in Bali in 1982 (with the motto Parks for Development) and culminating in the Caracas Congress (where the motto was Parks for Life) there has emerged a new perspective on PAs which does not regard them as places to be set aside, but instead as part of a broad strategy for ecologically sustainable development.

Let us reiterate briefly how PAs (national parks, nature reserves, etc.) on land and sea can contribute to the process of development. They:

- Help conserve soils and water in erodible areas;
- Regulate and purify water flow (especially through watershed protection);
- Shield people from natural disasters such as floods, storm surges, avalanches or landslides;
- Preserve natural genetic resources of value to medicine, and to plant and animal breeding;
- Provide a sustainable supply of natural products (e.g. timber, fish, rattan, nuts) to local communities in and around the area;
- Provide critical habitats for feeding, breeding or resting of species that are harvested by people elsewhere;
- Generate income and employment through tourism; and
- In some cases provide protection for land which is farmed or otherwise managed by people following traditional land use practices.

This is an impressive list, which shows the many ways in which PAs can bring economic and social benefits and thus contribute to development.

Nevertheless, I think it is important not to lose sight of the original purposes either. In our haste to embrace utilitarian values, we should also con-

sider the spiritual value and emotional appeal of wildlife and unspoilt, beautiful places. I suspect that many people working in the Protected Areas business are still motivated by a passion for beauty and wild nature.

The many benefits of Protected Areas can, however, only be realised if they are managed effectively, and the full range of PA types exploited.

From this account, it is clear that Protected Areas are about more than the conservation of biodiversity, just as biodiversity conservation is about more than Protected Areas. Nonetheless, Protected Areas and biodiversity conservation are very closely linked. The Global Biodiversity Strategy prepared by IUCN, United Nations Environment Programme and the World Resources Institute, and launched at the Caracas Congress in 1992, identified the several ways in which Protected Areas are vital to biodiversity conservation. For example, they:

- Maintain viable populations of native species;
- Maintain the number and distribution of communities and habitats;
- Exclude species introductions made by people;
- Allow species distribution to shift in response to climate change;
- Foster the study of all aspects of biodiversity;
- Allow – but regulate – the use of valuable genetic resources; and
- Ensure that the use of biological resources is kept within the foregoing criteria.

In the light of these facts, it is not surprising that the Convention on Biological Diversity signed at the Rio Summit in June 1992 (to which Pakistan now adheres) should place Protected Areas at the centre of national strategies for in situ conservation of biological diversity.

Thus, Article 8.1 of the Convention reads as follows:

> "Each contracting party shall, as far as possible and as appropriate, establish a system of protected areas, or areas where special measures need to be taken to conserve biological diversity".

Article 8.2 requires parties to develop guidelines for the selection, establishment and management of Protected Areas.

So in this we have a formal, inter-governmental blessing for our meeting's objectives.

Although the Convention gives no specific guidance as to what a 'system of protected areas' means, a workshop at the Caracas Congress was devoted to this topic, and I draw on its conclusions in trying to explain what is implied by a systems approach.

Until the 1960s Protected Areas were selected mainly for their outstanding scenic qualities or to protect the habitats of large mammals or conspicuous birds, or to provide for outdoor recreation.

During the late 1960s and 1970s, biogeographical approaches were adopted, with an attempt made in a number of countries to establish networks of Protected Areas safeguarding a representative range of ecosystems and habitats. Then in the 1980s, concepts like sustainable development and new scientific theories (such as island biogeography, population dispersal and extinction theories) gained currency and ultimately evolved into the present focus on biodiversity. The scope of a national PAs system has consequently expanded. Not only should such a system ensure the representation of major ecosystems and biogeographic regions, it must also be:

- Cost effective (i.e. concentrate financial and human resources for conservation where they are most needed);
- Provide a political mechanism for the marketing of conservation;
- Be a means of involving the public in conservation; and
- Generate commitment from a wide range of sources (including NGOs) to implement the plan.

In short, a national systems plan is as much a political document as a technical one. Similarly, the means by which it is prepared are as much a political process as a scientific one.

Some more considerations pertaining to national systems planning require that:

- Preparation of the plan must involve all the interest groups affected by it;
- The plan must be culturally relevant (as appropriate to the society as it is to the ecology of the country in question);
- The plan must be prepared within a legal and regulatory framework, so that its proposals can be implemented;
- The plan must form part of a wider policy framework for conservation and sustainable development;
- An essential part of the plan making process is 'gap analysis' involving a review of existing Protected Areas and what species or ecosystems are not represented (here computer mapping may be of assistance);
- Contemporary values relating to scenery, aesthetics, uniqueness, outdoor recreation and regional economic contributions are essential

elements in building public and political support for the plan; and

- Like all good plans it should be flexible and capable of adapting to change in the light of a monitoring programme (which should itself form part of the plan).

One question that generated much interest at Caracas was: how much is enough? In other words, how much of a country should be given Protected Area status? It was finally concluded that 10% is a pragmatic figure for political and publicity purposes, although scientifically speaking it is hard to defend.

Caring for the Earth, IUCN's major input to the Earth Summit, which was prepared with the support of UNEP and World Wide Fund for Nature, also calls for the development of national systems plans. Its advice is broadly similar to that from the Caracas workshop, but in addition it stresses that the plans should:

- Commit the country to devising an up-to-date management plan for each PA;
- Ensure that the economic benefits from PAs go towards helping to manage the area and support local communities;
- Exploit the complete range of PA types, and involve the private sector, municipalities, community groups etc. in their planning and management; and
- Ensure that PAs do not become oases of diversity, by integrating Protected Areas planning and management with that of the surrounding areas.

Since Protected Areas cannot be planned and managed as islands, the development of a national system plan must be closely integrated into broader planning frameworks such as international conservation strategies.

And this, it seems to me, is one of the major challenges before Pakistan today. After a four-year consultation process, an impressive National Conservation Strategy with an implementation plan, has been adopted in Pakistan. It focuses strongly on institutional strengthening and capacity building, and stresses the importance of projects linked to a strategic vision. The efforts of IUCN Pakistan and a high level Steering Committee (supported by the NCS Secretariat) in producing this plan have been particularly notable and have impressed many in the IUCN family. Will the preparation of a national systems plan for Protected Areas in Pakistan be equally effective?

Success, I believe, will depend on four factors:

- Cooperation between the many bodies and agencies in Pakistan with an interest in PAs;
- Consensus on the main components of the plan, and the role to be played by each organisation in its development and implementation;
- Building on the progress already made in the National Conservation Strategy so that this is seen as a complementary initiative (as well as a cornerstone of the national biodiversity strategies called for in the Biodiversity Convention) and not as a rival strategy; and
- Learning from other countries where systems plans have been developed.

I conclude with the thought that the existence of a well thought out National Conservation Strategy in Pakistan, and the presence here of a powerful IUCN country office, means that the circumstances for the preparation of a systems plan for Protected Areas in the country are very favourable. I commend this approach and hope very much that this meeting will conclude with a formal decision to proceed with the preparation of such a plan.

Laos PDR: Protected Areas Systems Planning

Stuart Chape and John McEachern

1. National Biodiversity Conservation Areas

1.1 Basic facts: physical

- Land Area: Approximately 240,000 square kilometres. Totally landlocked.
- Biogeography: Three broad types.
- Forest Cover: 47%
- Forest Types: Evergreen; mixed deciduous; dry dipterocarp; coniferous; mixed coniferous/broadleaf forest.
- Biodiversity: Over 200 species of regional or international significance; Two new species since 1992.

1.2 Basic Facts: social

- Population: Approximately 4.3 million people.
- Ethnicity: Forty-seven ethnic groups. Three broad categories.
- Average Income: US$ 200 per annum.
- Life Expectancy: Average 50 years
- Government/ Economy: Communist/reforming
- Issues: Natural resource based economy. Timber and agriculture. Major push for hydropower development. Traditional shifting cultivation.

2. Protected Area Planning

2.1 IUCN Involvement

1988
- Forest resources conservation project as part of Laos-Swedish forestry programme funded by SIDA.
- Survey of ecosystems; assessment of habitat conditions and presence of key wildlife species (village surveys).
- 76 areas identified as potential National Biodiversity Conservation Areas (NBCAs).
- 17 NBCAs recommended for 1993.

1993
- Government establishes 18 NBCAs by PM's decree.
- Management planning begins.
- Identification of buffer zones.
- Discussion with local people regarding control of extractive uses.
- Government policy: no further settlement.

1994
- Commitment by SIDA to maintain support funding upto mid-1995, with a view to further extension.

2.2 Constraints/Needs

- Limited human resource base for PA management: few trained staff, none with experience.
- Lack of land/resource use planning and decision making within government; conflicts with NBCA objectives.
- Programme support needed up to the year 2000 to build national capability.
- IUCN advisor support recommended up to 1997.

Overview of Protected Areas Systems Planning: Focus on Pakistan

James Paine
World Conservation and Monitoring Centre, Cambridge, UK

Environmental protection and ecology are included in the concurrent legislative list of Pakistan's 1973 Constitution. This initiative, together with the formation of an Environment and Urban Affairs Division in 1973, was largely responsible for the promulgation of the Environment Protection Ordinance, 1983, signifying an official approach to environmental issues. Although originally intended to provide for the protection of natural resources, the ordinance primarily focuses on industrial pollution (Mumtaz, 1989).

Modern Protected Areas legislation was enacted at the provincial level through a variety of acts and ordinances, from the Sindh Wildlife Protection Ordinance in 1972, to the Islamabad (Protection, Preservation, Conservation and Management) Ordinance in 1979 (Rao,1984). This body of legislation marks the first time that provision was made to protect species and habitats other than that of game. The statutes (seven in total) provide for the recreation and management of National Parks, Wildlife Sanctuaries and Game Reserves.

Prior to 1966, Pakistan had taken no significant steps towards establishing a Protected Area network. That year, on the invitation of the government, World Wide Fund for Nature carried out a survey of wildlife resources and recommended conservation measures which included the establishment of two large National Parks and eight Wildlife Sanctuaries.

This initiative was followed by a Wildlife Enquiry Committee in 1968 which further recommended four National Parks, 18 Wildlife Sanctuaries and 52 Game Reserves. By 1978 these recommendations had been substantially exceeded, with four National Parks, 44 Wildlife Sanctuaries and 65 Game Reserves.

The current network comprises 10 National Parks, over 80 Wildlife Sanctuaries and over 80 Game Reserves, covering 7.2 million hectares (9% of the total land area). Although extensive, only a fraction of the network is protected. Game Reserves, in particular, which are often situated on private property, receive minimal protection due to the lack of legal provisions to control land use. Wildlife Sanctuaries enjoy better protection but, in practice, legal restrictions, other than to prevent hunting, are seldom enforced. Most sanctuaries have been designated in reserve forests of commercial value where timber and minor forest products are harvested. Enforcement is better in the National Parks.

Protected Areas have been created haphazardly, often in the absence of any criteria for their selection, and boundaries drawn with little or no ecological basis. Priorities to develop the existing network of Protected Areas were identified in the 1986 IUCN review of the Protected Area Systems of the Indo-Malayan Realm, and further recommendations included in the 1985 Corbett Action Plan. While most habitats are represented within it, a comprehensive review of the entire network has not been carried out.

Nevertheless, the expansion of the Protected Areas system and the development of management plans has been highlighted in the National Conservation Strategy.

In contrast, considerable progress has been made in some South Asian countries towards establishing 'rationally' planned Protected Area networks.

India has been comprehensively and systematically surveyed (Rodgers and Panwar, 1988) with individual state summaries. Since this report, a number of recommendations have been implemented. India has also carried out considerable work in assessing the status of Protected Areas (Kothari et al., 1989) and a number of state level Protected Areas directories have been compiled (e.g. Singh, 1990). This level of work is unparalled elsewhere in South Asia, and has involved close collaboration and information exchange with the World Conservation Monitoring Centre.

A systematic approach to establishing Protected Areas has been in place in Nepal since

the 1970s: the great majority of forest types, for example, are represented. Recent studies have identified gaps in the representation of the Middle Hills with respect to forest birds (Inskipp, 1989) and steps have been taken to rectify this. The Langtang National Park/Qomolangma Nature Reserve in Nepal/Tibet and the Sagarmatha/Barun-Makalu Protected Areas represent one of the largest conservation complexes in the world as well as an important border park initiative.

Protected Areas establishment in Bhutan was initially on an ad hoc basis, mainly based on former hunting reserves. A new, revised network based on a rationalized biogeographical approach was notified in 1993. An internationally funded project is further streamlining this system following a national biodiversity survey. International assistance (WWF) has been made available to improve management planning in areas such as the Royal Manas and Jugme Dorji. New projects will focus on the Black Mountains Management Plan, and on institutional strengthening.

Sri Lanka has a well established and extensive Protected Areas network, although it is biased towards the protection of the dry zone. Recent initiatives to conserve much of the remaining wet zone forest by identifying and filling gaps have been implemented by the Forest Department. Some 13 forests have already been selected for management planning and more will be included at a later date. Much of the increased network is a consequence of mitigative measures in response to the damming of the Mahaweli. Sri Lanka offers a unique example of a Forest Department using special legislation to strengthen measures for the conservation of forests as part of the national natural heritage, under the provisions of the 1988 National Heritage Wilderness Areas Act.

In terms of relative extent, the Protected Areas system in Bangladesh continues to lag behind other countries in South Asia. A review (Green, 1989) showed that the system is not comprehensive and has been established with little regard for ecological or other criteria. Efforts have been made to include representative examples of major habitats, but marine and freshwater areas have, for instance, been largely neglected. There is an urgent need to prepare a plan for the development of a Protected Areas network in Bangladesh (IUCN, 1990).

Pakistan is characterized by a relatively large number of relatively small Protected Areas, about which a great deal is not known. Although Pakistan was included in a regional review (MacKinnon and MacKinnon, 1986), there has never been an internal, national systems review, although that is due to be rectified. The expansion of the Protected Areas system will include representative samples of all national ecosystems; there is also a need to compile the management plans of all the priority Protected Areas as highlighted in the Pakistan National Conservation Strategy (EUAD/IUCN, 1992).

International Experiences in Protected Area Systems Plans

David Sheppard
IUCN, Gland

In this brief paper I would like to discuss the following four areas:

- What is meant by a systems plan?
- Why is a systems plan important?
- The international experience in the development of systems plans.
- The conclusions that can be drawn from this experience.

The aim of elaborating on these is to provide a broad context for the presentations that follow in this meeting.

1. What is a Systems Plan?

A systems plan for Protected Areas is a document that identifies clear priorities for the establishment and management of PAs at national level. There are a number of important principles in this definition:

- First, there is the notion of a system of individual areas which, taken together, comprise a collective approach to conserving biodiversity at a national level. This implies a broad-based holistic approach.
- Second, there is the question of priorities. As in many other parts of the world, the availability of land for conservation purposes in South Asia is limited. The establishment of Protected Areas often implies trade-offs in land use; it is, therefore, essential that decisions about which areas to designate as protected are based on clear priorities. This is important given the large amounts of donor funding becoming available for Protected Areas.
- Third, the term Protected Areas implies a broad approach to conservation. Protected Areas are more than just National Parks. As Adrian Phillips pointed out earlier, PA categories cover a range of management objectives, from strict protection of species and ecosystems to the integration of conservation and sustainable development activities.
- Fourth, although the scale of systems plans is usually at a national level, they do provide a framework for action at a more localized level.

Protected Area systems plans traditionally cover the following (after McNeely and Thorsell):

- An assessment of the existing system of PAs, in terms of the adequacy of coverage of species and ecosystems in each country.
- An approach for the identification of areas most appropriate for addition to the existing system as well as the listing of priority sites.
- A clear statement of national priorities and a plan of action for achieving national conservation objectives through the establishment and management of Protected Areas.

It is worth noting that although a number of countries around the world have prepared systems plans, the process for the preparation of such plans is still being evolved.

2. Why a Systems Plan is Important?

I would like to highlight some of the reasons why systems plans are important:

2.1 The Need for a Broader Approach to Protected Areas

The Caracas World Parks Congress 1992, called for a broader approach to PAs, particularly with regard to two aspects: the integration of PAs with other sectors such as forestry, agriculture and water management; and the need to establish more effective linkages between PAs and adjacent local communities. This emphasis reflects the fact that planning for PAs has often been narrow-based and that this situation must change if they are to have a viable future into the next century. Protected Area systems plans, if properly developed, can establish these linkages.

2.2 Biodiversity Convention

Protected Areas are essential for conserving biological diversity. This is clearly recognized in Article 8

of the Biodiversity Convention which calls on contracting parties to develop systems of Protected Areas. The Convention also calls for the development of National Biodiversity Strategies. The development of systems plans for PAs can thus provide an essential building block for overall country biodiversity strategies.

2.3 Priorities

Protected Areas are under increasing threat from various pressures in many countries. Decisions relating to PAs often imply trade-offs, so such decisions need to be based on a rational procedure and the best available information. The implementation of an effective systems planning process can provide the vehicle for achieving this objective. With increasing amounts of funding becoming available, the role of donor finance is also becoming increasingly important. The Global Environment Facility (the interim funding mechanism for the Convention on Biological Diversity) has, to date, allocated US$ 303.5 million to 54 projects in 43 countries. It is essential that the allocation of funds is guided by clear priorities at the national level. The preparation of a national systems plan for Protected Areas provides just such a means.

2.4 Investment in Protected Areas

Much of the increased funding available for conservation throughout the world is directed towards PAs. In the absence of clearly defined national priorities for PAs it is difficult to assess where funds should be directed and how they should be most effectively applied. This underlines the importance of an effective national systems planning process as this would ensure that external funding addresses locally identified priorities rather than the priorities of the external donor.

2.5 Integration of Marine and Terrestrial Protected Areas

There is increasing emphasis on the identification and protection of Marine Protected Areas. However, the planning of marine and terrestrial PAs has often been poorly integrated, and this issue can be addressed by the development of an effective systems plan.

3. International Experience in Systems Plans Development

The development of systems plans for Protected Areas is not a new phenomenon. Following the pioneering work of William S. Hart in the mid 1960s, plans have been developed for several countries such as Brazil, Chile, Saudi Arabia, Costa Rica, Peru, Indonesia, Jamaica, the Philippines, Australia and Kenya. I would like to highlight a few of these countries and mention the lessons gleaned from their experiences.

3.1 Saudi Arabia

Saudi Arabia covers the major portion of the Arabian Peninsula. Its biodiversity is varied and of international importance. Now extant in the country is a traditional system of conservation more than 400 years old – the Hima system. This is a means of conserving and allocating scarce renewable resources for purposes such as fuelwood collection and fodder. The Hima system provides a good basis for developing a modern PAs system in Saudi Arabia, particularly in view of its cultural acceptance.

In recent times, the country has undergone rapid economic and development changes. Many of these have imposed a heavy toll on the natural resources of the country, particularly on rangelands and on the wildlife population.

Saudi Arabia established the National Commission for Wildlife Conservation and Development in 1986 with a strong mandate to establish and manage Protected Areas. One of the Commission's first major steps was the development of a systems plan, which aimed to develop a process for the selection and creation of priority Protected Areas. The development of this plan called on the expertise of a number of external advisors.

Some features of this particular plan were as follows:

- Clear objectives: (a) to conserve the full range of the kingdom's biodiversity and (b) the creation of reserves where resource use of wild animals and plants is properly regulated and sustainable.
- The establishment of a reserve category system for Saudi Arabia, consistent with the IUCN categories system, but tailored to Saudi Arabian conditions.
- It was to be broadly based on the traditional Hima system.
- Assessment of the adequacy of the existing system was to be at three levels: physiographic; biogeographic; and species coverage.
- The ranking of priority sites (based on clear criteria and weighting factors) and of management criteria.

- Incorporation of relevant geopolitical issues in Saudi Arabia within the decision making process.

The plan resulted in the identification of 103 priority sites to be established as Protected Areas. Several reserves have been established on the basis of these priorities and work on the completion of the system is now underway. The systems plan, lauded as a model for other countries, provides clear guidelines for future activities and offers invaluable assistance in guiding national planning in this respect.

3.2 Indonesia

Indonesia is among the richest centres for biodiversity in the world and was one of the first countries to develop a systems plan for Protected Areas. From 1979 to 1982 the Department of Wildlife Conservation prepared a plan which identified priority areas for conservation. This plan addressed questions such as how much land it was necessary to reserve, how many reserves were needed and where these resources should be located.

On the basis of this plan, the Indonesian government declared its intention to set aside 10% of its land area for conservation, with coverage of PAs within each biogeographic zone.

The approach to the establishment of the system involved:

- Measuring the extent, conservation importance and existing protection status for all major habitat types.
- Reviewing the status of existing reserves and the level of representation of these areas.
- Identifying a classification system of reserves appropriate to Indonesia.
- Identifying priority areas based on criteria of size, biological value (species richness, endemism, habitat variety and extent), socio-economic value (watershed protection) and management issues (conflict with other land uses and ability to manage sites).
- Integrating Marine Protected Area priorities into the overall planning for PAs.

Ten years down the line, Indonesia has made excellent progress following the establishment of its systems plan in 1991: 8.2% of the land was identified in conservation areas, representing all major habitat types. Major additions are proposed. The initial systems plan provided the framework for new legislation on Protected Areas which was enacted in 1990.

Many existing PAs in Indonesia face substantial problems with regard to funding and staff resources for management. However, there has recently been a sharp acceleration in the level of funding available for the country's PAs, particularly from agencies such as the World Bank and the Asian Development Bank. The presence of a comprehensive systems plan has ensured that much of this additional funding has been targeted at defined priority areas or issues.

With the recent emphasis on the effective integration of conservation and development activities, importance has been given to buffer zone activities around National Parks and the development of alternative income-generating activities. Effective involvement of local communities has been stressed repeatedly as Protected Areas cannot survive without the support of local communities and it is imperative that contemporary systems plans for PAs address this issue.

3.3 Other Countries

An Integrated Protected Area Systems Project was initiated in the Philippines in 1991 with World Bank assistance. The project identified 10 priority sites and also implemented related activities such as the development of management plans and training. A significant element of the project was the initiation of consensus building seminars, focused on local communities and around the recommended PAs. These seminars aimed to explain the objectives of the Protected Areas and identify how they would benefit the communities.

In Australia the federal government has initiated a National Reserves Study, which aims to identify priority sites for conservation and to establish protected areas. Priorities are being determined using state-of-the-art computer modelling. Two significant features of this exercise are, firstly, to examine the contribution of private land to the achievement of conservation objectives and to see how such private initiatives can be encouraged; and, secondly, a commitment of financial resources to the implementation of the survey's findings.

In Kenya, the Wildlife Service prepared a major review of the Protected Areas situation in addition to reviewing the adequacy of the coverage. The review made detailed recommendations for more effective administration of conservation efforts in Kenya and defined clear priorities for investment. The development of this plan, coupled with strong executive leadership, encouraged a major surge of donor investment in Kenya's PAs in the early 1990s.

4. Conclusions

The development of a systems plan for a country is an essential element of the effort to conserve biodiversity. A plan will be more likely to succeed if it has clearly defined priorities: it must be based on the best available information and should be the result of a consultative process which involves all those agencies and individuals who are likely to be involved in the implementation of the plan. There is no 'right' way of preparing a systems plan – the development of a plan must be tailored to the needs of each country.

A number of systems plans have been developed over the last 20 years. However, very few recent ones have taken into account significant developments such as the Convention on Biological Diversity and the increasing levels of conservation finance available from bodies such as the Global Environment Facility. The challenge that lies ahead of us is to develop a new generation of systems plans – plans which not only identify gaps in ecosystem coverage but also clearly define priorities for investment.

Protected Areas Systems Plans: Principles, Process and Structure

David Sheppard and Pedro Rosabel
IUCN, Gland

This paper addresses two issues: the first concerns principles which are applicable to the development of a systems plan in Pakistan and the second gives a more detailed description of the process and structure of a systems plan that could be developed in Pakistan.

1. Principles Applicable to the Development of a Systems Plan

Although there is considerable international experience in the development of systems plans, the successful implementation of these plans has been variable. In many cases, instead of being implemented, plans have sat on a shelf gathering dust. In order to prevent this and ensure effective development and implementation of a systems plan, a number of principles can be applied. These include:

1.1 Commitment

There must be a high level of commitment to the plan if it is to succeed. This commitment must be reflected in the extent of resources allocated to the development of the plan and to the implementation of its recommendations. There should be an appropriate institutional 'home' for the project – ideally an appropriately senior government agency with influence in government decision making as for example, the National Commission for Wildlife Conservation and Development in Saudi Arabia.

1.2 Ownership and Involvement

The participation of the agencies and individuals relevant to the development of a plan must be sought from an early stage. Appropriate mechanisms must be set up that involve concerned decision makers, for instance, in high level task forces to oversee the project. Local communities that are likely to be affected by decisions relating to PAs must also be associated with the process. Implementation of a plan that includes decisions affecting the livelihood of local people is unlikely to have local support if they are imposed without consultation. Mechanisms need to be developed that will encourage the participation of local communities in the development of a systems plan. One example is that of the consensus building seminars in the Philippines as part of the Integrated Protected Area Systems Project.

1.3 Priority Determination

A systems plan must clearly define priorities at a number of levels. At one level, there is a need for clear identification of priority terrestrial and marine sites for conservation; these priorities must be based on clear and explicit criteria as well as the best available scientific data as, for example, in the Australian National Reserves Study. At another level, a systems plan must clearly outline priorities for investment in PAs. In effect, the systems plan should serve as a national investment prospectus for PAs which outlines the way resources can be most effectively allocated to enhance conservation efforts. This is particularly important given the high levels of investment currently being made in PAs and the need for these funds to be directed at priorities identified by the country in question, as in the Kenya Wildlife Service Systems Plan Project. Priorities must not only focus on priority sites: they must also identify key issues that relate to PAs such as integrated buffer zone planning and the effective involvement of local communities, and they must outline how these will be addressed.

1.4 Relevance to Country Needs

Protected Area systems plans must be relevant to the issues and circumstances in each country. There is no one model that can be applied to the development of a systems plan. Although it is important to be aware of experience elsewhere, what works will ultimately depend on the circumstances in each country. Systems plans must be sympathetic to the

Process and Structure of a System Plan

The process must:

- Define clear objectives and steps.
- Create a coordinating unit.
- Define methodologies and a conceptual framework.
- Review information.
- Review the legal and institutional framework.
- Bring together relevant people and institutions at a workshop forum.
- Review the existing PAs network.
- Include a socio-economic evaluation of PAs.
- Define short and medium term actions and priorities.
- Set responsibilities and define contributions.
- Have a discussion channel with relevant decision makers; and be open to feedback.
- Get approval and support from the government at both the national and local levels.

Structure

The plan structure should incorporate:

- Objectives.
- Linkages of PAs with national development plans.
- A conceptual and legal framework.
- The structure of the existing PAs network and the resolution of its main problems.
- The definition of the main changes and importance of the proposed structure of the PAs network.
- The actions to be taken for implementation as well as a list of possible alternatives.
- Recommendations to integrate PAs into other development sectors.
- Principal requirements (technical, human resources, funds, international cooperation).
- A system for review and monitoring.

traditions and customs of each country and, where possible, build on traditional systems for the conservation of resources like the Hima system for resource conservation in Saudi Arabia.

1.5 Integration

The development of national PA systems plans needs to be integrated with other related initiatives on a national level, such as the development of national biodiversity strategies. The development of systems plans must also involve all relevant government and non-government agencies, not only those concerned with the management of national parks and other protected areas. An example is Colombia, where the PAs systems plan is one of the key building blocks for the National Biodiversity Strategy.

1.6 Contemporary Relevance

National systems plans must be in step with current global initiatives, such as the Convention on Biological Diversity and associated funding initiatives.

1.7 Project Management and Ongoing Process

The process for developing the PA systems plan must be effectively managed. Where appropriate, external expertise should be sought as was the case in the Saudi Arabian experience, but this should not detract from the involvement of local staff in the preparation and implementation of the plan. The future process for implementation, which must be ongoing and capable of adapting to changing circumstances, needs to be clearly outlined.

2. Conclusions

These are some of the important principles which will determine whether the systems plan is going to be successful or not.

The Sarhad Provincial Conservation Strategy, Biodiversity and Protected Areas

Mohammad Rafiq
Programme Director, IUCN-SPCS Unit, Peshawar

1. Introduction

Those participants expecting me to deliver a treatise on the science of biodiversity and Protected Areas will be disappointed, as will those who are looking for an analysis of specific biodiversity plans and policies because none yet exist in the North West Frontier Province – or for that matter in the rest of Pakistan. My paper addresses the policy and management aspects of biodiversity and Protected Areas in the resource conservation strategy currently under preparation in the NWFP and covers some aspects of how biodiversity conservation will be incorporated into the final strategy scheduled for completion in June 1995.

2. The Sarhad Provincial Conservation Strategy

The Sarhad Provincial Conservation Strategy (SPCS) is the NWFP's effort to implement Pakistan's National Conservation Strategy in the province. The work on the SPCS began in January 1992 with the purpose of translating the NCS recommendations and priorities into an implementable action plan, focusing specifically on aspects such as forests, farmlands and others which are of great concern and relevance to the NWFP.

The SPCS process is characterized by three important considerations which distinguish it as a contemporary strategic planning exercise. First, the SPCS follows a two-track approach in which implementation of parts of the strategy is pursued parallel to its formulation. The aim of this is to prevent SPCS from becoming just another beautifully prepared – but unimplemented – document.

Second, the SPCS has been conceived as a dynamic process in which the strategy will be rewritten on a cyclical basis, a modus operandi that works well with the two-track approach. Implementation will feed back into strategic planning, thus helping it develop new and better ideas and programmes for implementation. It is envisaged that this iterative process will be anchored in provincial environmental legislation, under consideration by the NWFP government.

Finally, the SPCS seeks to cultivate the strategy's ownership among stakeholders. The SPCS Unit (comprising IUCN's technical assistance team and the Environment Section of the NWFP government's Planning, Environment and Development Department) facilitates stakeholders in developing their component strategies themselves. This role is analogous to that of a shepherd herding his goats and sheep – steering them towards the destination but respecting their pace and allowing them to choose from the several different little paths leading in the same direction.

3. Anecdotes from the SPCS Experience

3.1 Public Consultation on the SPCS

For the second time in the history of public sector planning in Pakistan (the first being the NCS), it was decided that the public be consulted when the NWFP worked on the development of the SPCS. An Inception Report was drafted and presented in a series of district and sector workshops. The district workshops, where the number of participants ranged from a dozen to over a 100, were attended by representatives of government departments, NGOs and the local public. The public health and natural resource aspects of the report were hotly debated on these occasions, but few people mentioned biodiversity as a priority. In one of the meetings, a senior bureaucrat in his presidential address described the environmental movement in Pakistan as a western legacy designed to prevent economic development in the Third World.

The obvious conclusion for the SPCS is that it is imperative to create public awareness about the need and importance of biodiversity conservation. Efforts in this respect must be directed not only towards the general public but towards the educat-

ed elite as well for, as the example of this indignant bureaucrat indicates, they are evidently no less ignorant than the latter.

3.2 Establishment of a Nature Reserve in the Upper Siran Valley

The Siran Forestry Development Project (SFDP) is a German supported programme in the NWFP's Mansehra District. As one of their activities is to identify a nature reserve in Upper Siran Valley, the project has commissioned a short term consultant for the purpose. On SFDP's request, the NWFP government has also constituted a working group to guide and oversee the consultancy. When the group held its first meeting early this month, it transpired that not much was known about the biodiversity of the Siran Valley. The same applies to other parts of the NWFP as well, because although the province's Wildlife Department has been carrying out surveys, they often cover limited areas. The biological resources of the region are largely unknown, a conclusion that is reinforced in the biodiversity section of the recently compiled *Environmental Profile of the NWFP*.

Consequently, any strategy for biodiversity conservation in the NWFP will need to give priority to research in order to establish a reliable information base. Such information is vital for tracking the dynamics of resource use and development as well as for future planning.

3.3 Pakistan Administrative Staff College

Each year, the Pakistan Administrative Staff College in Lahore offers an intensive four-month National Management Course on public policy for senior bureaucrats from different disciplines. Several senior officers of the NWFP government participated in the 60th National Management Course held early in 1994 on the theme of environmental issues and problems in Pakistan. The SPCS Unit assisted participants from within the NWFP by providing reference material on the subject. This sort of interaction builds useful contacts and working relationships: for example, it provided the opportunity for contact with Mr Shakil Durrani, former Chief Commissioner, Northern Areas Administration, and a member of the IUCN Commission on Nature, Parks and Protected Areas.

Building upon the World Wide Fund for Nature initiative in the Bar Valley, Mr Durrani has conducted a successful experiment with conservation of wildlife through use. Previously, several dozen ibex would be illegally killed every year in the Hunza Valley mountains of the Northern Areas. Local people were indifferent to the poaching as it did not directly affect their lives. Mr Durrani introduced a system under which a selected number of ibex would be killed each year for a fee of Rs. 20,000 (US$ 650) per animal head for Pakistanis and US$ 2,000 per animal head for foreigners. Of the fee, 75% would be payable to the local people directly while the remaining 25% would be spent on developing wildlife reserves in other parts of the Northern Areas. As a result, no illegal killing of ibex was reported in the 1992-93 season. This was because the local people had organized themselves and assumed responsibility for protecting local wildlife.

Similar to this is the story of the markhor in Chitral. Foreign trophy hunters have been willing to pay over US$ 15,000 for a head. Markhor conservation can, thus, easily pay for itself.

The lesson that should be derived from these instances is that biodiversity conservation in the NWFP has its best chance when it makes economic sense, particularly if local people have a stake in the conservation initiative.

3.4 The Western Tragopan in Palas

In the process of developing the NWFP's environmental programme, the SPCS team came across the Himalayan Jungle Project (HJP) implemented by BirdLife International with support from WWF and the United Kingdom's Overseas Development Agency. The project, having completed its first phase of three years, is to be expanded into a broader and longer term Palas Conservation and Development Project. The project area of Palas boasts of a unique and perhaps the only remaining virgin Himalayan moist temperate forest ecosystem. It also harbours the greatest known number of western tragopan pheasants.

The project's initial assessment indicates that exploitative use of the ecosystem is not necessary to support human life in Palas. Returns from non-timber uses such as mushroom collection, livestock husbandry and others, almost equal the potential income from logging. With improved management and marketing, this income is likely to exceed the returns from logging. The alternative uses to logging are also far more sustainable.

The project experience also reveals that the

success of any intervention for improved management is determined by the local people's faith and confidence in the project which, in turn, demands transparent and close interaction with the officials. This can be an arduous task considering that apart from a short stretch of road down in the valley, there is virtually no motorized access to the area. To reach the people involves days of walking and the area lacks many of the basic amenities considered essential in modern life.

There is, thus, an urgent need for an institutional arrangement in which capacity is created locally for the self management of resources. This is a task that calls for dedicated individuals who pursue conservation as a mission and not as a job alone. Such a missionary spirit is best embodied in the NGOs – but the government cannot relinquish all responsibility. The situation warrants partnerships between the indigenous people, NGOs and the government in order to meet the challenge of biodiversity conservation in the remote and inhospitable Himalayan and Hindukush mountains.

3.5 People's Power

One member of the SPCS team has a great passion for the mountains and at SPCS, he has found a rare way to combine his work with his hobby. In the process, the SPCS benefits immensely: the more he works, the more he enjoys himself, the more he goes up to the mountains, the more he is able to bring back to the SPCS.

It was during one of this gentleman's forays into the Himalaya and the Hindukush that he discovered the local communities' overwhelming interest in nature conservation. Inspired by the experiences of Morkhun and other parts of the Northern Areas, some local individuals have expressed interest in managing nature for economic benefits through ecotourism. Mr Yahya Shah, a political and religious leader in the Hunza valley, has offered to establish, with the consent of the local people, another National Park in the Rakaposhi Massif area. However, his offer is contingent upon two conditions: first, that returns from conservation must accrue mostly to the local communities and second, that the communities' entitlement to revenues from the park must be secured legally and practically. An important aspect of this is that the proposal for the National Park is an entirely indigenous idea based on local knowledge and contemporary experience.

Although the various initiatives for conservation through use are encouraging, their success depends largely on the goodwill of the managers and decision makers. With increasing returns from conservation, the temptation to gain control by individual members of the communities as well as by external interests (government bureaucracy, NGOs and other communities) also increases. In the absence of a clear procedure for the distribution of benefits, future conflicts may undermine the advantages to the concerned communities. This scenario lends urgency to the need for new legislation and the formal empowerment of the people.

The communities, however, must not only gain power but retain it. The people's rights must be secured through legislation. Such legislation does not exist. The existing legislation may, therefore, have to be significantly amended or new laws enacted. Also the legislative reforms should not be restricted to empowerment, but be broad enough to provide for the management of biological resources in partnership with local people, so as to ensure equitable distribution of the gains from conservation, and to provide for the resolution of conflicts that could arise as the resources increase in size or value.

3.6 Limited Human Resources

Over the past two years, the SPCS has been largely about meetings, consultations, workshops and seminars. When the meetings concern biodiversity, they always include Mr Mohammad Mumtaz Malik, Conservator of Forests, Wildlife, NWFP. The NWFP Wildlife Department is so small that there is hardly an alternative. Mr Malik has a dedicated team but there are simply not enough individuals in it. Pakistan has little expertise in parks and PAs and, as a consequence, various ongoing and pipeline projects for biodiversity conservation will soon be competing against each other for scarce trained manpower in biodiversity conservation. The same argument extends to the capacity of NGOs and communities – a lack of trained people. Unless capacity at all levels is built, biodiversity conservation will remain a cherished goal far beyond our reach.

3.7 The Round Table

A member of the SPCS team frequently visits the Netherlands and he returned from one of his trips to the Netherlands, with the idea of developing a round table on sustainable development. Although this is not a novel idea – countries like Canada and the United Kingdom are already working with it – the approach appears increasingly relevant to Pakistan where environmental laws are inadequate

and their enforcement ineffective. In Pakistan the Business and Law programme of IUCN has already taken the first step towards introducing the round table concept through a number of meetings on industry that has included the government, labour and the business sector. The approach is based on greater communication among stakeholders, reliance on expert advisory groups linked to the decision making process, and the creation of a conducive environment for compliance with environmental norms and standards though voluntary agreements under a legal framework. An added advantage is that it engenders a feeling of ownership of the plans and policies among those people who are expected to implement or comply with these.

The SPCS will suggest and endorse the round table approach in the NWFP. The round tables will not only lead and support the strategic planning process but will continue to assist in strategy implementation. Each component strategy (agriculture, forestry, biodiversity, urban environment and others) will have its respective round table. Some of them (forestry and biodiversity) will partly overlap. Together, the various round tables will constitute one big round table just as the different component strategies will contribute to one SPCS. The round table will interact with the decision making forum (the Steering Committee) to see that the SPCS is implemented in the envisaged manner. This may involve converting the Steering Committee from a bureaucratic forum to a political body with representatives from different walks of life.

4. Biodiversity Conservation under SPCS – an Outline

Put together, the lessons gleaned from the anecdotes mentioned above set the framework, if not the ultimate direction, of the final SPCS. Obviously, awareness raising about biodiversity conservation must rank high on the SPCS agenda. A prerequisite for the purpose will be to create a strong and reliable database through a system of research studies on biological diversity in the NWFP. At the same time, the strategy will provide for institutional reforms. This will include amending existing legislation and, if necessary, enacting new laws.

The purpose of the legislative reforms will be to empower communities for self-management of their natural resources in partnership with the government and non-governmental organizations, and to secure the communities' interest in the resources, both in legal and practical terms. Equally important will be building capacity in government institutions (such as the Wildlife Department), NGOs and local communities dealing with natural resources to enable them to effectively perform their respective roles in conservation.

The round table approach provides a promising solution to the problems of inadequate laws and their weak enforcement in the NWFP. The SPCS will institute the approach in the key sectors dealing with environment. These may include forestry, agriculture, urban environment, NGOs, culture and tourism. Focal points will be created in these departments to work as secretariats for the respective round tables. The round tables will be advisory bodies leading the SPCS development and eventually assisting in its implementation. For the SPCS such a forum may comprise members of the provincial assembly, academia, private sector, NGOs, media and environmental professionals. The Chief Minister or the Minister for Environment in the NWFP could be asked to chair the forum.

Simultaneously, the SPCS will fund several demonstration projects for establishing National Parks, Nature Reserves, and Protected Areas. The purpose will be to conserve at least a few samples of different ecosystems over reasonably large areas to ensure biodiversity conservation. The demonstration projects will follow the concept of conservation through use, encouraging local people to self-manage the resources, and ensuring equitable distribution of the benefits of conservation.

IUCN's Role in Conservation in Pakistan

Abdul Latif Rao
Programme Director, Strategies Support Unit, IUCN

In its capacity as a global union, IUCN's mission is 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 ecological.

IUCN's cooperation with the government began with a conservation project in the early 1970s – i.e. even before the government or any other Pakistani agency became an IUCN member in 1976. The Marine Turtle Conservation Project along Karachi's coastline in the late 1970s to the early 1980s was IUCN's first field project in Pakistan.

After the launch of the World Conservation Strategy in 1980, IUCN's efforts were directed towards strategic planning through the development of a National Conservation Strategy that referred to the concepts of both the *World Conservation Strategy* and *Caring for the Earth.*

IUCN has been utilising every possible opportunity to carry out important surveys and conduct research. It has been assisting its members/partners in designing projects, raising awareness, playing an advocacy role, providing policy advice, arranging training, helping in management planning of National Parks as well as in the Environment Impact Assessment of development activities impacting on nature. Some examples of these efforts include:

National Parks and Protected Areas

- Management plan for Kirthar National Park.
- A management plan as well as an environmental education and interpretation plan for the Margalla Hills National Park.
- Report on the status and problems of Hazarganji National Park.
- A funding proposal for the juniper forests, including the creation of a National Park to conserve junipers in Ziarat .

Surveys and Studies

- Survey of the Balochistan coast for marine turtle nesting beaches and other nature conservation interests. Recommendations included the creation of wildlife sanctuaries.
- Survey and study of juniper forests in Balochistan.
- A survey and report aimed at controlling the mistletoe disease in the Ziarat juniper forests.
- The Karakoram expedition. As a result of this the Central Karakoram has been notified as a National Park and the government of Pakistan is considering its nomination as a World Heritage site. If approved, this will be the first natural area in Pakistan to be so listed.
- Survey of pollutants impacting on the Korangi-Phitti creek mangrove ecosystem.
- Pollution survey of the Kabul River.

Forestry

- Collaboration with AKRSP in their forestry programme in the Northern Areas.
- Mangrove forests and coastal ecosystem programme in Sindh.
- Women's forestry training programme.

Environment Impact Assessment

- EIA of the Indus Highway passing through Kirthar National Park. Its outcome was that the Pakistan government agreed to realign the highway so that it did not cut through the park.
- EIA training workshops in Pakistan.
- Environmental audit of the Sarhad Rural Support Corporation.
- Environmental audit of Port Qasim.
- EIA of Ghazi-Barotha Hydel project.
- EIA of Nara-Chotiari Reservoir.

Regional and International Cooperation

- India-Pakistan Environment Conference, Lahore.
- Biodiversity Convention Workshop, Islamabad. This was to enable Pakistan to understand the Convention, its implications, benefits and obligations before deciding on ratification – this

resulted in speeding up the process leading to the Convention's ratification.

IUCN's work in Pakistan has largely focused on the development of a National Conservation Strategy with the government, through a wider consultation process involving all stakeholders and interest groups. The strategy focuses on resource conservation and environment protection. Biodiversity, forestry, wetlands and fisheries, waterbeds and rangelands are amongst the 14 core programme areas. As the work moves into the implementation phase, a more systematically planned programme has been designed by IUCN.

IUCN assisted the government in responding to the United Nations Conference on Environment and Development, by producing the country report jointly with the government. This effort was greatly appreciated.

In the implementation of the NCS, the main focus is to be on institutional development, legal framework, economic incentives and awareness raising through selected field projects. This work will be carried out in partnership with other organisations. These are many different kinds of partnerships, but they all have in common the elements of shared responsibility, ownership, consultation at all stages and consensus before proceeding.

IUCN has assisted the government in the consultation process and the development of the background document for the NCS Plan of Action. The priorities and project portfolio of the Plan have been incorporated by the government into the Environment Chapter of the 8th Five-Year Plan. Biodiversity conservation, including National Parks and Protected Areas, has been given due importance in the plan.

IUCN Pakistan plays its role in promoting, supporting and catalyzing the implementation of the NCS through its various programmes. Strategies Support is a key component of IUCN Pakistan's programme and since the development of the NCS has brought the organisation to where it stands today; this focus will continue, with NCS implementation being the major goal in the foreseeable future. The Strategies Support Unit in Islamabad focuses on the NCS and the promotion of provincial strategies whilst the Sarhad Provincial Conservation Strategy Unit in Peshawar concerns itself with strategy development for the NWFP. A proposal for the Balochistan Conservation Strategy is currently being designed. The Punjab and Sindh governments are considering the initiation of this process with IUCN support.

The Journalists Resource Centre for the Environment strives to facilitate communication of the NCS by enhancing the capacity of the press and electronic media to report accurately on the country's environmental problems. In addition, it is a centre for information on the environment of Pakistan as well as of the rest of the world. JRC also functions as a publishing house for IUCN's printed material.

The Education Unit seeks to incorporate the principles of the NCS into the country's educational system. It does this by using the experiences of advisory groups of educationists, commissioning research on education, sensitising teachers through pre and in-service teacher training, enhancing textbooks with supplementary resource material.

The business and law components of the programme are closely associated and, at present, have been grouped into one unit. The business component aims at encouraging new forms of cooperation between business, industry, government, labour and society in general.

The law component of the programme envisages the building of a legal process in Pakistan which supports the principles of sustainable development. It assists the government in drafting or revising environmental legislation at both federal and provincial levels while ensuring adequate public consultation during the process. It will continue to play an environmental advocacy role, support public interest litigation where appropriate and continue the dialogue with the judiciary and legislators on environmental issues. Included in its work is the evaluation of the implications of international conservation conventions for Pakistan, for example the Biodiversity Convention, and the sensitisation and orientation of the judiciary by IUCN. The latter has resulted in a greater response from the judiciary which includes the opening of a window for public litigation.

The NGO/Community Support Unit works to advance community participation in sustainable development. It assists the institutional and programme development of NGOs that foster the formation of community groups to work on environment conservation programmes as well as NGOs that work on environment issues directly.

The Programme Support and Coordination Unit provides technical support to ensure that projects are well designed and formulated, implemented and reported on schedule, monitored and evaluated. If technical skills are not available in-house, this unit looks for that expertise within the larger

Union and makes it available where requested and as appropriate.

The Environmental Assessment Service endeavours to provide technical assistance to public and private sector organisations in Pakistan in conducting environmental impact assessments of various developmental activities ranging from natural resource development/management activities and rural development programmes, industrialization and urban expansion, to review of public and private sector developmental institutions and their activities. Training programmes and consultative workshops will be conducted as part of institutional development. EAS activities support most of the 14 core areas of the NCS, especially Preventing/Abating Pollution and Managing Urban Waste.

The Coastal Ecosystem Unit has been concentrating on the mangrove ecosystem of the northern Indus Delta near Karachi, developing a model plan for sustainable management of the coastal natural resources (mangroves and fish). This would address existing pressures on these resources from tree cutting, pollution, the spread of industry, and the reduction of freshwater flows down the Indus. Ongoing and future work will include mangrove rehabilitation, coastal community development, pollution control, fishery management studies and economic assessment of the natural resources.

IUCN Pakistan's forestry activities have been concentrated in the Northern Areas in collaboration with the Aga Khan Rural Support Programme, in the coastal mangrove forests, and in advising on the juniper forests of Balochistan. The evolving forestry component will focus on reviewing forest policies and legislation at both national and provincial levels, and strengthening forestry education.

The community involvement approach recommended by the NCS for managing natural resources has been accepted by the federal and provincial governments of Pakistan. The implementation of this concept requires reorientation and redesigning of government programmes. This can be achieved through capacity building of the communities as well as of relevant government agencies so that they may effectively play their new role of organizing communities and supporting them in planning and managing common resources.

In this respect, IUCN has recently helped the government in designing the following projects:

- The Global Environment Facility/UNDP-funded project on Maintaining Biodiversity through Rural Community Development.
- The European Community-funded Upland Rehabilitation Projects for Dir, Kohistan, Galliat, Murree, Kahuta, and Kotli Sattian.

As partner, IUCN will support the implementation of these projects by providing technical support and playing a role in project coordination and management as well as monitoring and evaluation.

IUCN, in collaboration with UNDP and International Development Research Centre, manages a Sustainable Development Networking Programme in its Islamabad Office for promoting the exchange and flow of information on sustainable development within and outside Pakistan.

The organisation offers its input to donor missions and their technical assistance programmes in return for their support in implementing the NCS and giving high priority to national needs.

Finally, I would like to conclude by saying that IUCN works to enhance the capacity of local institutions and works in partnership with relevant local agencies. Biodiversity, National Parks and Protected Areas are at the heart of the IUCN Programme. The organisation is broadening the scope of Protected Areas by breaking traditional barriers between sectors with the goal of achieving biodiversity conservation and sustainable development.

The Role and Contribution of WWF Pakistan to Conservation

Chaudhary Inayatullah
WWF Pakistan

One of WWF Pakistan's major objectives is to conserve nature and natural resources in the country. A multidisciplinary approach consisting of training, conservation-education, survey of natural resources, management planning and field conservation is used to achieve this goal. Individuals and NGOs are provided financial and technical support to help implement the conservation programme. Projects with demonstration value and which can be replicated are implemented directly. People's participation forms a very important component of the conservation programme.

Under the conservation-education programme, WWF has published substantial resource material which includes *Mammals of Pakistan, Cranes of Pakistan, Nature of Pakistan, ABC of Nature, Activity Book on ABC of Nature, Silviculture, Asan Shajarkari, Natura, Qudrut* and *Mithu Begum.* Workshops are conducted for teachers and community workers on the conservation of natural resources, to motivate and effect attitudinal changes. A long term awareness and extension education programme was initiated in the Chitral Valley, to counter damage to bird resources as a consequence of disorganized hunting.

During 1993, WWF Pakistan provided training to 650 teachers, 1,600 students and 400 rural women in conservation methods and reforestation. Various NGOs and nature clubs were associated with this training programme.

From time to time WWF Pakistan conducts environmental surveys whose results assist in the formulation of future strategy. A survey of the houbara bustard in Balochistan from 1981-85 indicated that the Arabs had killed 18-32% of the houbara bustard population each year – far exceeding the permissible limit of 10%. Similarly, the 1993-94 pre- and post-hunting surveys revealed that falconry took a 50% toll of the birds. Surveys of mangroves in Balochistan, seaweed resources along the Karachi coast, the brown bear in the Deosai plains, the Balochistan black bear, bear-baiting in three provinces, marbled teal in Southern Punjab, and a fisheries survey of the Zhob river and Northern Areas – all provided valuable data for an objective conservation programme. The woolly flying squirrel, hitherto believed extinct, was rediscovered in the Northern Areas' Sai Nallah during a 1994 survey. A study of marmots in the Khunjerab National Park revealed some interesting aspects of their ecology and social behaviour.

WWF Pakistan resolved the controversial issue of the Khunjerab National Park by careful discussions with the local populace and concurrence of the Northern Areas administration. The first draft of a Management Plan for this unique high mountain ecosystem bordering China was prepared on the basis of an agreement worked out between the local villagers, the park administration and the Northern Areas administration. This draft was circulated among concerned government and non-governmental institutions for comments, then placed before experts at a seminar in Islamabad. Following the incorporation of their comments, it will be presented to the federal government for implementation. At present, WWF Pakistan is trying to identify potential sources of funding for implementing this plan.

The Ucchali Lake complex in Punjab's Khushab District is a cluster of three major lakes and is recognized by the international Ramsar Convention as being of global importance. These wetlands provide refuge to a number of important waterfowl species that are threatened with extinction in Pakistan if the lakes continue to be poorly managed. WWF Pakistan, in cooperation with the Punjab Wildlife Department, has prepared the first integrated management plan for this complex, based on a community participation approach. Sustainable management of this complex should benefit the local economy of the villages within its purview as well as the wetland ecosystem.

A houbara bustard campaign was launched by WWF Pakistan urging the government to abide

by its own laws pertaining to the hunting of the endangered bird. Although the Secretary General, Ministry of Foreign Affairs, initially agreed to cooperate with the organisation in developing a management plan for the houbara bustard in Pakistan, the government did not honour its commitment. As a result, WWF Pakistan declined to withdraw the case it had filed in the Punjab High Court against the Punjab Wildlife Department and the Ministry of Foreign Affairs for allowing Arab visitors to hunt the houbara bustard in Pakistan.

Heavy floods in 1992 caused substantial devastation in the Palas valley of Kaghan where a WWF Pakistan project to save a virgin moist Himalayan forest was under implementation. When villagers in Bar and Kuz Palac, totally cut off from the rest of the country, were faced with starvation, WWF Pakistan mobilized its financial and technical resources to provide emergency food and medical supplies by helicopter to the marooned people. Once the immediate crisis was over, WWF Pakistan set about identifying sources of funding for development/rehabilitation activities in the area such as road building, construction of bridges, and rehabilitation of flour mills, thus laying a strong foundation for conservation.

The Suleiman Range tribal leaders were finally convinced of WWF Pakistan's sincerity in assisting them to regenerate their local economy, and protect their precious chilgoza pine forests. The first agricultural crop planted in 20 years was harvested in these forests through WWF Pakistan's conflict resolution efforts; technical and financial aid in building a water channel to irrigate the agricultural lands was also provided. As a result of reduction in logging and hunting activities in the area, the endemic and endangered Suleiman Markhor appears to be on the road to recovery. An integrated conservation plan for the Siberian ibex, based as usual on a participatory approach, was initiated in the Bar Valley in 1989. Implementation of the plan also motivated the local population towards conservation efforts that helped increase the indigenous ibex population from 500 to 1,000 animals.

Working Group Discussions

GROUP 1:
Analysis of the Existing Protected Areas Network

- How comprehensive is the biogeographical cover of the network? What are the main biogeographical gaps and over-representations? Is the existing network sufficient and efficient enough for the conservation of biological diversity?
- What are the management categories already in use? What is their relation with IUCN's new management categories? What possible importance does the use of categories V (Protected Landscape) and VI (Management Resources Area) have for Pakistan? What type of PAs will be set aside in Pakistan in the future?
- What are the main management problems and threats facing existing PAs? How many PAs have a local population within their territory? What are the main problems related to PAs and local populations?
- What is the vision of the existing network? Is it functional and effective or not? What changes are needed to improve PAs planning and management? What are their main priorities and needs — funds, training, environmental education, field projects, institutional capacity, social participation, research?

GROUP 2:
Survey and Inventory

- What information is available, not only on PAs but also on biodiversity? Is the existing information both available and useful for the people directly involved in PA management, or is it too academic? What are the main gaps and problems in basic information that need to be addressed for PAs planning and management?
- What are the principal methods used for the survey and inventory of PAs? Is there any central database on PAs that can be used for planning and decision making?
- What are the main needs and priorities for improving the system of information, survey and inventory of PAs — funds, training, technical assistance, development of rapid ecological assessments of selected areas etc.?

GROUP 3:
Roles, Coordination, Funding and Time Frame

- Which are the main national/local agencies that have to be involved in the preparation and further implementation of a national systems plan for PAs (objectives, inputs and information, activities and responsibilities)?
- What is the present interaction among these agencies? Is there any coordinating unit? What are the main methods of resolving conflicts of an institutional/jurisdictional nature? How can problems that sometimes develop during collaboration be solved?
- What are the main funding sources for PAs management? What is the contribution from government and NGOs? What are the alternative ways and possibilities of increasing joint programmes in order to optimize funds, resources and technical capacity?
- What is the time frame required for preparing a national systems plan for PAs? What are the main requirements for developing and implementing this plan? What are to be the principal activities, responsibilities and contributions of each institution at the national and local levels?

GROUP 4:
The National Systems Plan Process

- What is the major conceptual, legal and institutional framework required to develop a national systems plan for PAs? In the light of regional/national experiences, what mistakes should be avoided during the process?

- What are the steps and procedures in the development and implementation of a national systems plan for PAs? Who should be involved, ground-up/top-down specialists and agencies? Who will be the main users of this plan?

- What are the main conditions and requirements in the preparation and implementation of this plan? What will the process of implementation be? What are the main priorities in its implementation?

Annexures

Annex 1

IUCN Protected Area Categories*

CATEGORY I:
Strict Nature Reserve/Wilderness Area

Protected area managed mainly for science or wilderness protection.

CATEGORY Ia:
Strict Nature Reserve

Protected area managed mainly for science.

Definition

Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.

Objectives of Management

- To preserve habitats, ecosystems and species in as undisturbed a state as possible;
- To maintain genetic resources in a dynamic and evolutionary state;
- To maintain established ecological processes;
- To safeguard structural landscape features or rock exposures;
- To secure examples of the natural environment for scientific studies, environmental monitoring and education, including baseline areas from which all avoidable access is excluded;
- To minimise disturbance by careful planning and execution of research and other approved activities; and
- To limit public access.

Guidance for Selection

- The area should be large enough to ensure the integrity of its ecosystems and to accomplish the management objectives for which it is protected.
- The area should be significantly free of direct human intervention and capable of remaining so.
- The conservation of the area's biodiversity should be achievable through protection and not require substantial active management or habitat manipulation (e.g. Category IV).

Organisational Responsibility

Ownership and control should be by the national or other level of government, acting through a professionally qualified agency, or by a private foundation, university or institution which has an established research or conservation function, or by owners working in cooperation with any of the foregoing government or private institutions. Adequate safeguards and controls relating to long-term protection should be secured before designation. International agreements over areas subject to disputed national sovereignty can provide exceptions (e.g. Antarctica)

Equivalent Category in 1978 System

Scientific Reserve/Strict Nature Reserve

CATEGORY Ib:
Wilderness Area

Protected area managed mainly for wilderness protection.

Definition

Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

Objectives of Management

- To ensure that future generations have the opportunity to experience understanding and enjoyment of areas that have been largely undisturbed by human action over a long period of time;
- To maintain the essential natural attributes and qualities of the environment over the long term;
- To provide for public access at a level, and of a type, which will best serve the physical and spiritual well-being of visitors and maintain the

* *Guidelines for Protected Area Management Categories,* WCMC and IUCN, pp 17–23.

wilderness qualities of the area for present and future generations; and

- To enable indigenous human communities living at low density and in balance with the available resources to maintain their lifestyle.

Guidance for Selection

- The area should possess high natural quality, be governed primarily by the forces of nature, with human disturbance substantially absent, and be likely to continue to display those attributes if managed as proposed.
- The area should contain significant ecological, geological, physiogeographic, or other features of scientific, educational, scenic or historic value.
- The area should offer outstanding opportunities for solitude, enjoyed once the area has been reached, by simple, quiet, non-polluting and non-intrusive means of travel (i.e. non-motorised).
- The area should be of sufficient size to make practical such preservation and use.

Organizational Responsibility

As for Sub-Category Ia.

Equivalent Category in 1978 System

This sub-category did not appear in the 1978 system, but has been introduced following the IUCN General Assembly Resolution (16/34) on Protection of Wilderness Resources and Values, adopted at the 1984 General Assembly in Madrid, Spain.

CATEGORY II:
National Park

Protected area managed for ecosystem protection and recreation.

Definition

Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Objectives of Management

- To protect natural and scenic areas of national and international significance for spiritual, scientific, educational, recreational or tourist purposes;
- To perpetuate, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources, and species to provide ecological stability and diversity;
- To manage visitor use for inspirational, educational, cultural and recreational purposes at a level which will maintain the area in a natural or near natural state;
- To eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation;
- To maintain respect for the ecological, geomorphological, sacred or aesthetic attributes which warranted designation; and
- To take into account the needs of the indigenous people, including subsistence resource use, in so far as these will not adversely affect the other objectives of management.

Guidance for Selection

- The area should contain a representative sample of major natural regions, features or scenery, where plant and animal species, habitats and geomorphological sites are of special spiritual, scientific, educational, recreational and tourist significance.
- The area should be large enough to contain one or more entire ecosystems not materially altered by current human occupation or exploitation.

Organizational Responsibility

Ownership and management should normally be by the highest competent authority of the nation having jurisdiction over it. However, they may also be vested in another level of government, council of indigenous people, foundation or other legally established body which has dedicated the area to long-term conservation.

Equivalent Category in 1978 System

National Park.

CATEGORY III:
Natural Monument

Protected area managed mainly for conservation of specific natural features.

Definition

Area containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

Objectives of Management

- To protect or preserve in perpetuity specific outstanding natural features because of their natural significance, unique or representational quality, and/or spiritual connotations;
- To an extent consistent with the foregoing objec-

tive, to provide opportunities for research education, interpretation and public appreciation;
- To eliminate and thereafter prevent exploitation or occupation inimical to the purpose of designation; and
- To deliver to any resident population such benefits as are consistent with the other objectives of management.

Guidance for Selection
- The area should contain one or more features of outstanding significance (appropriate natural features include spectacular waterfalls, caves, craters, fossil beds, sand dunes and marine features, along with unique or representative fauna and flora; associated cultural features might include cave dwellings, cliff-top forts, archaeological sites, or natural sites which have heritage significance to indigenous peoples).
- The area should be large enough to protect the integrity of the feature and its immediately related surroundings.

Organisational Responsibility

Ownership and management should be by the national government or, with appropriate safeguards and controls, by another level of government, council of indigenous people, non-profit trust, corporation or, exceptionally, by a private body, provided the long-term protection of the inherent character of the area is assured before designation.

Equivalent Category in 1978 System

Natural Monument / Natural Landmark.

CATEGORY V:
Protected Landscape/Seascape

Protected area managed mainly for landscape / seascape conservation and recreation.

Definition

Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and / or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

Objectives of Management
- To maintain the harmonious interaction of nature and culture through the protection of landscape and / or seascape and the continuation of traditional land uses, building practices and social and cultural manifestation;
- To support lifestyles and economic activities which are in harmony with nature and the preservation of the social and cultural fabric of the communities concerned;
- To maintain the diversity of landscape and habitat, and of associated species and ecosystems;
- To eliminate where necessary and thereafter prevent, land uses and activities which are inappropriate in scale and / or character;
- To provide opportunities for public enjoyment through recreation and tourism appropriate in type and scale to the essential qualities of the areas;
- To encourage scientific and educational activities which will contribute to the long-term well-being of resident populations and to the development of public support for the environmental protection of such areas; and
- To bring benefits to, and to contribute to the welfare of, the local community through the provision of natural products (such as forest and fisheries products) and services (such as clean water or income derived from sustainable forms of tourism).

Guidance for Selection
- The area should possess a landscape and / or coastal and island seascape of high scenic quality, with diverse associated habitats, flora and fauna along with manifestations of unique or traditional land-use patterns and social organisations as evidenced in human settlements and local customs, livelihood, and beliefs.
- The area should provide opportunities for public enjoyment through recreation and tourism within its normal lifestyle and economic activities.

Organizational Responsibility

The area may be owned by a public authority, but is more likely to comprise a mosaic of private and public ownerships operating a variety of management regimes. These regimes should be subject to a degree of planning or other control and supported, where appropriate, by public funding and other incentives, to ensure that the quality of the landscape / seascape and the relevant local customs and beliefs are maintained in the long term.

Equivalent Category in 1978 System

Protected Landscape.

CATEGORY VI:
Managed Resource Protected Area

Protected area managed mainly for the sustainable use of natural ecosystems.

Definition

Area containing predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

Objectives of Management

- To protect and maintain the biological diversity and other natural values of the area in the long term;
- To promote sound management practices for sustainable production purposes;
- To protect the natural resource base from being alienated for other land-use purposes that would be detrimental to the area's biological diversity; and
- To contribute to regional and national development.

Guidance for Selection

- The area should be at least two-thirds in a natural condition, although it may also contain limited areas of modified ecosystem; large commercial plantations would not be appropriate for inclusion.
- The area should be large enough to absorb sustainable resource uses without detriment to its overall long-term natural values.

Organizational Responsibility

Management should be undertaken by public bodies with an unambiguous remit for conservation, and carried out in partnership with the local community; or management may be provided through local custom supported and advised by governmental or non-governmental agencies. Ownership may be by the national or other level of government, the community, private individuals or a combination of these.

Equivalent Category in 1978 System

This category does not correspond directly with any of those in the 1978 system, although it is likely to include some areas previously classified as 'Resource Reserves', 'Natural Biotic Areas/Anthropological Reserves' and 'Multiple Use Management Areas/Managed Resources Areas'.

Annex 2

Agenda

Pakistan Protected Areas Meeting
Islamabad
September 24-25, 1994

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24 SEPTEMBER, SATURDAY

SESSION 1 - INTERNATIONAL AND REGIONAL EXPERIENCE

0900 - Objectives and Structure of the Meeting – Abdul Latif Rao, IUCN
0920 - Being Systematic: Introducing National Systems Planning for Protected Areas – Adrian Phillips
0950 - Laos PDR: PAs' Systems Planning – Stuart Chape and John McEachern
1015 - Tea
1025 - Overview of PAs Systems Planning: Focus on Pakistan – James Paine, WCMC
1100 - International Experiences in PAs' Systems Plans – David Sheppard
1130 - PAs' Systems Plan: Principles, Process and Structure – David Sheppard and Pedro Rosabal
1200 - Discussion
1250 - Closing remarks by the chair
1300 - Lunch and prayer break

SESSION 2 - THE PAKISTAN EXPERIENCE

1400 - Pakistan NCS and Biodiversity – Abdul Latif Rao, IUCN
1420 - The Sarhad Provincial Conservation Strategy: Biodiversity and Protected Areas – M Rafiq
1440 - Roles and Contributions of Relevant Pakistani Agencies to Conservation – Abeedullah Jan
1455 - Provincial Governments – Malik Muhammad Mumtaz, Forestry/Wildlife Department
1510 - IUCN's Role in Conservation in Pakistan – Abdul Latif Rao, IUCN
1525 - The Role and Contribution of WWF Pakistan to Conservation – Chaudhary Inayatullah
1540 - Tea
1600 - Discussion on the Roles of Agencies in the PAs' Systems Planning
1650 - Closing remarks by the chair

25 SEPTEMBER, SUNDAY

SESSION 3 - PAKISTAN PAs' SYSTEMS PLAN

0900 - An Outline of Proposed Future Process for the Preparation of a Systems' Plan for PAs in Pakistan – Pedro Rosabal
0945 - Discussion
1030 - Closing remarks by the chair
1040 - Tea

SESSION 4 - GROUP WORK

1100 - Analysis of Existing Protected Areas Network
- Survey and Inventory
- Roles, Coordination, Funding and Time Frame
- The National Systems Plan Process

1230 - Lunch and prayer break
1330 - Presentation of recommendations: where from Here – David Sheppard

SESSION 5 - CONCLUSION

1400 - Briefing on the recommendations and the future process by a select group

Annex 3

List of Participants

SPEAKERS
Dr Zafar Altaf, Secretary, Food and Agriculture
Dr Parvez Hassan, IUCN Environmental Law Commission
Chaudhary Inayatullah, WWF Pakistan
Abeedullah Jan, Inspector General of Forests
Aban Marker Kabraji, IUCN
A. L. Rao, IUCN
Mohammad Rafiq, IUCN/SPCS
Mumtaz Malik, Forest and Wildlife Department, NWFP

IUCN MEMBERS
Haider Hayat, SUNGI
Tanveer Arif, SCOPE
Umeed Khalid, NCCW
Mohammad Ayaz, SUNGI

IUCN COMMISSION MEMBERS
M. Farooq Ahmed, Zoological Survey Department
Kalimullah Shirazi, E&UAD
Dr S. I. Ali, University of Karachi

FEDERAL GOVERNMENT
K. M. Siddiqi, PFI

PROVINCIAL GOVERNMENT
Dr A. Aleem Chaudhry, Wildlife Research Institute, Punjab
Mohammad Yousaf Qureshi, AJK
Muhammad Rafiq, Quetta

NON-MEMBER NGOs
Qazi Azmat Isa, BRSP
Jan Nadir Khan, Adventure Foundation
Manzoor Hussain, Alpine Club

DONORS
Fatma Shah, UNDP
A. Qaiyum, World Bank
Neil Buhne, UNDP

OTHERS
Z. B. Mirza, Bio-tech Professionals

FOREIGN PARTICIPANTS
Adrian Phillips (UK)
David Sheppard (Switzerland)
James Paine (UK)
John McEachern (Nepal)
Pedro Rosabal (Switzerland)
Stuart Chape (Laos)

MEDIA
Controller News, Pakistan Broadcasting Corporation
Syed Nazir Bukhari, Pakistan Broadcasting Corporation

IUCN STAFF
Stephen Fuller
Arshad Gill
Obaidullah Baig
Pervaiz Naim