

CONSERVATION OF ENDANGERED SPECIES IN KHYBER PAKTUN KHAWAN

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ABSTRACT

The Government of North West Frontier Province (*Kyber Paktun Khawan*) renamed Kyber Pakhtunkhwan in April 2010, attaches a high priority to the conservation of rich diversity of flora and fauna in the Province. In 1975, the *Kyber Paktun Khawan* Wildlife (Protection, Preservation, Conservation and Management) Act was promulgated to provide a legal framework for conservation efforts. The *Kyber Paktun Khawan* Wildlife Department is mandated to protect, preserve, conserve and manage the wildlife resources of the Province. The Province is a land of diverse physio-climatic factors. In a short stretch of 700 km from south to north, the Province exhibits an altitude of 174m asl in Dera Ismail Khan to 7,690 m asl at Tirichmir peak in Chitral. Similarly an extreme arid hot climate in Dera Ismail Khan desert with a mean annual rainfall of 230 mm and maximum summer temperature of 50°C is contrasted by arid cold conditions on northern high mountains peaks with perpetual snow and subzero temperatures. A great range of physical and climatic conditions has given rise to eleven major habitat types with over 100 species of mammals, over 456 species of birds, 46 species of reptiles and over 4000 species of plants (IUCN, 1996).

INTRODUCTION

The physiographic diversity of the Province has given a unique status to the province in the country with respect to its wildlife resources. The lowest elevation at Dera Ismail Khan support xerophytic vegetation and their associated species of wild fauna whereas the highest elevation near Tirichmir peak supports charismatic species like snow leopard, Himalayan ibex, snow cock and snow partridge. In addition to, the river Indus near D.I. Khan abode the rare and endemic blind dolphin. Such a tremendous variations in altitude and climate have given rise to 9 distinct ecological zones in the Province (Roberts, 1991).

The permanent snow fields/cold deserts: Such areas are found above 12,000' in Kaghan, Swat Kohistan, Dir Kohistan, Indus Kohistan, and Chitral. Animals found in the area are characterized by thick fur and heavy feathers such as snow leopard, Himalayan ibex, snow cock and snow partridge (Roberts, 1991).

Alpine meadows: These are areas found above the tree line and below the snowline in Kaghan, Swat Kohistan, Dir Kohistan, Indus Kohistan and Chitral in *Kyber Paktun Khawan*. Due to sever climatic condition the dominant vegetation found there are grasses and dwarf shrubs of various species. Characteristic mammals include Snow leopard, Snow leopard, Brown bear, Himalayan Ibex, Musk deer, Golden marmot and Golden Eagle (Roberts, 1991).

Sub-alpine scrub: are found at an altitude of 9500'-12000' along the tree line mostly in the northern hemisphere of *Kyber Paktun Khawan*, where winter is

long and sever. Snow leopard, Musk deer, Markhor, Monal pheasant are Characteristic animals of such areas (Roberts, 1991).

Dry Temperate Conifers Forest: Such forest types are found at an altitude of 7000' – 9500' in Chitral, upper Dir, upper Swat, and Indus Kohistan where *Cedrus deodara* is the dominant tree species. Climate is normally dry and mostly precipitation is in the form of snow and less rain. Black bear, Yellow throated Martin, and Markhor are the dominant wild species inhabiting the area (Roberts, 1991, 1997).

Moist temperate forest: Such forest types are Sclerophyllous (evergreen leaved vegetation) where conifers are mixed with broad leaved and found at an altitude 6000'-9000' in Galliat, Kaghan Valley, Siran Valley, Battagram, Kolhistan, and Swat where winter is pronounced and precipitation is mainly in the form of frequent rain and less snow. Characteristic fauna includes Grey langur, black bear, leopard, monkey etc (Roberts, 1991).

Sub Tropical pine forests: are found at an elevation of 4500'-6000' with a mean annual rainfall of 30'' – 40''. Chir pine and kail are the dominant tree species and Himalayn Grey Goral and Kalij pheasant are the dominant mammal and bird species. Representative areas are found in District Haripur, Abbottabad, Mansehra, Battagram, Kohistan, Bunnair, Swat and lower Dir (Roberts, 1991, 1997).

Sub-Tropical Sub Humid Forests: are found at an altitude of 2500-4500 feet where cold season is very short and annual rainfall is above 20''. Characteristic flora includes species of *Olea*, *Accacia*, *Zyzebus*, *Dedonia*,

Monothecca and Fox, Jungle Cat, Leopard, Barking deer and Kaleej pheasant represent the faunal species. Such forest types are found in District Haripur, Bunnair, Kohat and lower Dir. Foot Hill Plains (Roberts, 1991, 1997)

Foot Hill Plains: These are areas found at an altitude of 800-2500 feet in District D.I.Khan, Bannu, Kohat, Karak, Mardan, Swabi, Bunnair, lower Swat, Haripur, Mansehra etc. Cold season is very short and rainfall is less than 20" annually. Black partridge, Grey partridge etc are the dominant bird species found in the area (Roberts, 1991).

Wetlands Eco-system: These are lowland area primarily occupied by water and dominated by aquatic fauna and flora. They are either natural or manmade areas principally inhabited by waterfowl species (IUCN, 1992).

Uniqueness of Khyber Pakhtun Khwan: With respect to the wildlife resources of the country, the province has uniqueness due to the following (Roberts, 1991, 1997; IUCN, 1996):

1. The Province supports world's largest surviving 'population of
 - a. Kashmir Markhor.
 - b. Western Tragopan Pheasant.
2. Khyber Pakhtun Khwan is the only Province
 - a. having five out of six species of pheasants including Western Tragopan, Monal, Koklass, Cheer and Kalij.
 - b. Which supports all the four sub-species of Markhor out of five found in Pakistan including Kashmir, Kabul, Astor and Suleman.
 - c. Which supports all the sub-species of Urial found in Pakistan including Punjab, Laddakh and Afghan.
 - d. Where two species of Bear including Brown and Black are found.
 - e. Where eight species of wild cat including two large cats, Snow leopard and Common leopard, are found.
 - f. Where four species of Partridges including Grey, Black, See-see and Chukar are found throughout the Province.
3. Pallas valley of Kohistan District in KYBER PAKTUN KHAWAN is internationally recognized as hot spot of biodiversity (BirdLife International, 2003).

The strategy of conservation: The biodiversity resources of the Province are being managed through the following multifaceted conservation strategy (Government of KYBER PAKTUN KHAWAN, 2007):

1. Establishment of Wildlife organization
2. Enforcement of Wildlife Laws
3. Establishment of Protected Areas for the protection of Endangered Species and Habitats
4. Conservation Awareness
5. Community Participation in Wildlife Conservation
6. Species and habitat conservation

7. Human Resource Development and Capacity Building

Setting up of Wildlife Organization: Keeping in view the diverse wildlife resources of the Province (IUCN, 1996), the Government of *Kyber Paktun Khawan* established a wildlife wing of the Forest Department in 1975 and in 1995, declared the same as an independent attached department (Government of *Kyber Paktun Khawan*, 2007).

The department is headed by Chief Conservator Wildlife and assisted by Conservator Wildlife, Deputy Conservator Wildlife, Sub Divisional Wildlife Officers, Range Officer Wildlife and support staff in the field.

For the purpose of management, the whole province is currently divided into two wildlife circle: namely southern wildlife circle and northern wildlife circle. The southern wildlife circle consists of 8 wildlife divisions i.e. D. I. Khan, Bannu, Kohat, Peshawar, Mardan, Abbottabad, Ayubia National Park and Mansehra. The northern wildlife circle is consisting of 7-wildlife divisions including Chitral, Chitral Gol National Park, Dir, Malakand, Bunnair, Swat and Kohistan. Except Chitral, Ayubia National Park, Chitral Gol National Park and Kohistan, each wildlife division consists of more than one civil district.

Each wildlife circle is headed by Conservator Wildlife and each wildlife division is headed by Deputy Conservator Wildlife. Each Deputy Conservator Wildlife formally known as Divisional Forest Officer Wildlife is assisted by a number of Sub Divisional Wildlife Officers and Range Officer Wildlife along with Deputy Ranger Wildlife and Wildlife Watchers in the field.

The following are the main functions of the Department:

1. Enforcement of the *Kyber Paktun Khawan* Wildlife (Protection, Preservation, Conservation and Management) Act, 1975. This Act extends over entire Province of *Kyber Paktun Khawan* except FATA. Through enforcement of the Wildlife Act, the Wildlife Department carries out the following function:-
 - i. Regulation of sport hunting by prescribing game animals, hunting days, method of hunting, place of hunting and bag limits etc.
 - ii. Controls possession, trade, import and export of wild animals, birds, reptiles and their derivatives.
2. Management of National Park, Wildlife Sanctuaries, Wildlife Parks, Wildlife Refuges, Pheasantries and Information Centres.
3. Protection, Preservation, Conservation and Management of Wildlife on state lands including Reserved Forests, Protected Forests, resume lands, water bodies and other lands, which are property of the government.

4. Promotion of community participation in wildlife conservation.
5. Training and development, conservation education and awareness raising etc.
6. Implementation of donor assisted projects.
7. Implementation of international treaties/conventions to which Pakistan is signatory.
8. Management of migratory species throughout their migratory routes within the Province and implementation of international Conventions on migratory species i.e Bonn Convention and Ramsar Convention.
9. Regulation of trophy hunting and international trade under the provisions of Convention on International Trade in Endangered Species (CITES).
10. Regulation of farming/captive breeding of wildlife species.
11. International, inter-provincial and intra-provincial and inter-districts coordination and liaison.

In-situ conservation of species and habitats.

Establishment Of Protected Areas: The Protected Areas play a key role in providing refuge to a number of endangered species and their habitat. For conservation of wildlife resources, critical habitats are declared as National Parks, Wildlife Sanctuaries, Wildlife Parks, Wildlife Refuges and Game Reserves (Government of KYBER PAKTUN KHAWAN, 2007).

Five National parks namely Ayubia National Park (3,312 hectare), Chitral Gol National Park (7,750 hectare), Sheikh Buddin National Park (15,540 hectare), Saiful Malook (4,868 hectare) and Lolusar-Dodipat (30,327 hectare) have been established. These Parks have become well known among the biologists and naturalists for their unique flora and fauna.

Three wildlife sanctuaries, 36 game reserves and 52 private/community game reserves have also been established throughout the Province where hunting is regulated and the threatened species are provided appropriate protection.

Ex-Situ Conservation of Wildlife species.

Kund Wildlife Park (41 hectare): lies at the confluence of River Indus with River Kabul near Khair Abad. The scenic location of the park is augmented by a variety of beautiful, colourful and attractive animals and birds including leopards, Cheetal, Black buck, Hog deer, Chinkara, Golden pheasant, Silver pheasant, Ring-necked pheasant, Kalij pheasant, Cheer pheasant, Lady Amhrest pheasant, Blue peacock, White Peacock, Black shoulder peacock, Ruddy Shelduck, Bar headed geese, Cranes and Partridges.

Wildlife Park Reintroduction of locally extinct species has been made through the establishment of a number of parks. These parks are the Tanda Wildlife Park (1133

hectare), Kotal Wildlife Park (100 hectare) and Togh Mangara Safari Park (1214 hectare) in District Kohat, the Manglot Wildlife Park (715 hectare) in District Nowshera and the Zoo/Mini safari for wildlife species of temperate forests at Lalazar (Nathialgali). These species had become extinct in the Province. Efforts for propagation of the Urial are also underway. The Blue bull is also being introduced. All the Wildlife Parks have become areas of attraction for nature lovers.

Bear centre: For the elimination of illegal and cruel practice of bear baiting in Pakistan, the World Society for the Protection of Animals (WSPA) has assisted *Kyber Paktun Khawan* Wildlife Department in establishing a bear centre at Kund Park for providing refuge to the confiscated bears. The Kund Bear Centre has been recently completed and can house about 30 bears. All the provinces have been advised to transfer the confiscated bears to the bear centre.

The construction of this bear centre has greatly helped in curtailing the bear baiting events all over Pakistan. More provincial coordination and firm commitment to the objectives of conservation is needed to completely ban this cruelty to the wild that has bought the country a bad name internationally.

Establishment of Pheasantries: Pheasantries have been established in Dhodial (Mansehra) Peshawar, Kohat, Bannu and Mingora to ensure breeding pheasants for promotion of aviculture among the masses and their reintroduction and restocking in the wild. Among them Dhodial is one of the biggest pheasantries of its kind in Asia and houses 32 species of pheasants and several species of waterfowl.

Cheer pheasant, which had become extinct in *Kyber Paktun Khawan* since decades is also being bred at the Dhodial pheasantry and will be reintroduced in suitable habitats when a viable population is achieved.

Establishment of Refuge: These are providing refuge and protection for migratory Waterfowl and cranes, a Waterfowl refuge in D.I.Khan and a Crane refuge in Lakki have been established over an area 3774 ha and 5180 ha respectively.

Policy for Game Birds: Four species of partridges found throughout the sub-mountainous tract and adjoining agriculture fields in the Province provide excellent game to the hunters. These species includes See-see partridge, Chukar partridge, Grey partridge and Black partridge. The Government of *Kyber Paktun Khawan* before the onset of the shooting season each year decides partridge shooting policy.

The shooting season usually starts on the first Sunday of November and lasts until the end of January. Shooting is allowed only on weekly and gazetted holidays. Shooting of a maximum bag limit of eight birds per shooting day is allowed.

A special permit is required in addition to small game shooting licence for shooting in game reserves. Chief Conservator Wildlife and concerned Divisional Forest Officer Wildlife issue shooting permits in game reserves. Shooting is stopped as soon as it is felt that hunting will have an adverse impact on the partridge population.

Translocation of partridges to replenish depleted populations is a regular feature of wildlife management programmes in the Province. Several sites in D.I.Khan, Kohat, Karak, Mardan and Haripur have been replenished with partridges.

Community Participation In Game Management:

Involvement of rural communities in wildlife conservation is a priority programme of the government of *Kyber Paktun Khawan*. The Wildlife Department has taken a lead role in Pakistan in involving the local communities in the management of wildlife by sharing the responsibilities and benefits there from.

So far 52 community game reserves extending over an area of about 0.3 million acres have been established. Before this 75% of the shooting fee in a private/community game reserve was the share of the owners while the remaining 25% was the share of the Government. Recently the government has enhanced the share of communities from 75% to 90% to augment the support and ownership of local communities. The communities have started owning and managing their wildlife resources and a new approach to wildlife conservation has been established which is more sustainable and effective.

Trophy Hunting Programme: *Kyber Paktun Khawan* is the first Province in the country to have introduced a scientifically based trophy hunting programme. This policy of the government has enlisted community support for wildlife conservation and poaching has been controlled (Government of *Kyber Paktun Khawan*, 2007).

Markhor and Ibex that are extensively distributed in Chitral, Dir, Swat and Kohistan are highly priced species for trophy hunting. The Province offers trophy hunting of both these species on a limited scale. Six trophy permits for Markhor hunting were sold during the last 3 years realizing an amount of US\$159300. Previously 75% and now 80% of the income realize on account of permit fee goes to the community. This money is kept in village conservation funds and is spent by the Village Conservation Committees on conservation and community welfare programmes. This has inculcated a sense of ownership and proprietorship among the local communities and now they are extending their full support and cooperation in the protection of wildlife.

This programme has brought to Pakistan applause at the conference of Parties to the Convention on International Trade in Endangered Species of Flora and Fauna (CITES), held in Nairobi in April 2000. The

conference was attended by representatives of 145 countries.

Conservation Education: The department has been pursuing a conservation education programme for the general public and students. The main features of this programme include wildlife a extension programme and the establishment of Wildlife Parks and Pheasantries (Government of *Kyber Paktun Khawan*, 2007).

The Extension Education Program provides a basis for creating awareness for wildlife and nature conservation among the people. Wildlife maps, stickers, brochures, charts and pamphlets are distributed among students, wildlife lovers and conservationists. Conservation messages are being advertised in daily newspapers and on television. Periodic lectures are delivered in over 100 school wildlife clubs in the province to create awareness among the students.

An information centre has been established in Dhodial pheasantry and Ayubia National Park. These centres serve as a nucleus for disseminating information on wildlife in general and parks in particular.

Human Resource Development: Efforts are being made to equip officers of the department with up- to- date knowledge and research in Wildlife management. So far five DFO wildlife and seven sub divisional wildlife officers have obtained their master degrees in conservation biology and biodiversity conservation from the university of Leeds and, Manchester Metropolitan University, UK's and University of Montana USA.

The human resource department is making the strongest of efforts to achieve the set goal of conservation in the Province.

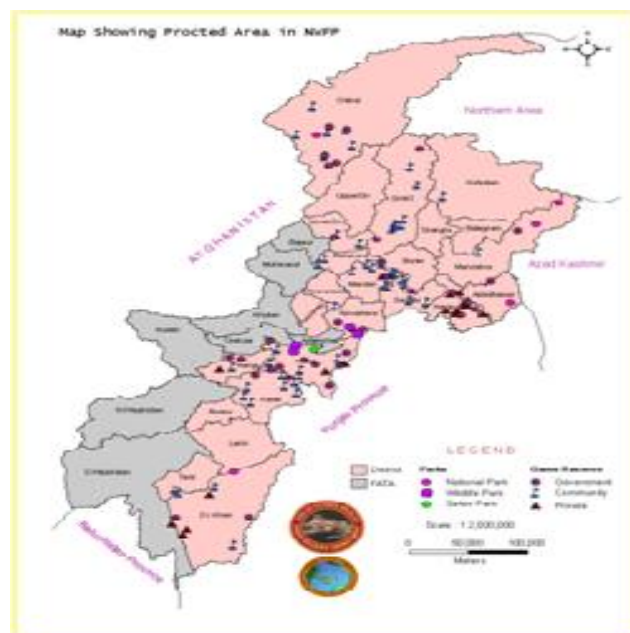


Figure 1

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