Establishment and management of protected areas in the Gobi region, Mongolian People's Republic

Report of an international mission

(May - June 1976)

by

G. S. Child and P. Hunkeler

FAO UNEP IUCN

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INTRODUCTION

Mongolia is situated in the heart of Central Asia and is a country of changing landscapes and climatic extremes. The density of human population is low (0.7 sq.km) and there remain large areas of relatively undisturbed wilderness. However, the recent increase in human population and development have begun to affect wildlife. To ensure the conservation of its natural heritage, Government has already taken wise measures: good basic regulations for the management of hunting exist and a start has been made on the reservation of representative areas.

Pastoralism constitutes the livelihood of the bulk of the population but, contrary to what has happened in many other parts of the world, it has not led to serious degradation of habitats and the elimination of wildlife resources. Wildlife still plays a relatively important role in the Mongolian economy and provides, for example, a high proportion of the country's convertible currency earnings.

There are still extensive wildlands where nature has been minimally affected by man's activities; amongst these are areas such as the Gobi region, which are of international significance. At present, the vegetation types of the Transaltai Gobi and the Djungarian Gobi are practically undisturbed and still harbour viable populations of rare mammal species, including the Gobi bear, the wild camel, the wild ass and the snow leopard.

For a long time it had been the intention of the Government of the Mongolian People's Republic to protect these areas and a formal decision to this effect was taken in 1975. On the ground, measures have already been put in hand to prevent or limit human disturbance and to initiate detailed negotiations with the local people, to gain their acceptance of the establishment of protected areas. In addition to this, the Mongolian authorities contacted international organizations, particularly FAO, IUCN and UNEP, with a view to securing technical and financial assistance from international sources to enable them to implement their conservation programme in the Gobi. As a result of these contacts, an invitation was extended by Government which resulted in the organization of the joint mission which visited Mongolia during May-June 1976.

OBJECTIVES OF THE MISSION

No formal terms of reference were drawn up for the mission, but the major objectives could be summarized as follows:

(a) to review and discuss with the Mongolian authorities the plans to establish protected areas in the Gobi;

(b) to visit the areas in question and acquire first-hand information in the field and from local authorities;

(c) to assist Government in the preparation of an agreed programme of action.

PARTICIPANTS

At the kind invitation of the Mongolian People's Republic, the following representatives of international organizations took part in the mission:

Hubertus REICHARDT	Chief, Field Projects Unit, Forestry Operations Service, FAO (up to 29 May)
Gilbert S. CHILD	Wildlife and National Parks Officer, FAO
Pierre HUNKELER	Programme Officer, IUCN (with financial support from UNEP)

Local participants in the expedition to the Gobi region were:

Y. DASH	Wildlife Officer
O. DORDJARA	Park Biologist
Andrzej SZANIAWSKI	Wildlife Officer, UNDP/FAO Project MON/68/002
Zora SABOV	Programme Assistant, UNDP Office, Ulan Bator.

ITINERARY

In addition to meetings and working sessions held with Government officials in Ulan Bator, the mission undertook an expedition to the Gobi region. A distance of some 3,600 km was covered during the expedition, of which approximately half was overland. A main objective of this field trip was to visit the Transaltai Gobi and Djungarian Gobi areas which had been selected for protection. Some 500 km and 350 km were covered in each of them, respectively. The full itinerary is set out in Annex I and a list of persons met is given in Annex II.

ACKNOWLEDGEMENTS

Excellent hospitality and facilities were accorded to the members of the mission during their stay in Ulan Bator and the Gobi expedition was very well organized by the Department of Wildlife Management, Ministry of Forests and Timber Industries.

We are especially indebted to those in the Ministry who went out of their way to personally assist the mission in achieving its objectives: in particular, Mr. Ceden, Minister of Forests and Timber Industries; Mr. Gombojav, Deputy Minister responsible for Wildlife; and Mr. P. Haidav, Director of the Wildlife Management Department. Dr. D. Maider, First Deputy Prime Minister, took the time to discuss the mission's findings and its proposals for action by the Mongolian Government, to formally establish protected areas in the Gobi region, despite pressing duties in connection with the imminent Party Congress.

The members of the mission benefited from the kind and invaluable help of all Mongolian colleagues and particularly Y. Dash and O. Dordjara during the course of the field expedition.

PROPOSED PROTECTED AREAS

The Transaltai and Djungarian Gobi areas are located in the south-western part of Mongolia, adjacent to the international boundary with the Chinese People's Republic, and cover some 3,800,000 ha and 900,000 ha respectively (see maps). The greater part of both areas lies about 1,000 m altitude and there are a number of ridges and mountain ranges within them, the highest peaks of which exceed 2,500 m.

Mean annual precipitation for most of the Transaltai Gobi is below 100 mm. However, its northern part and most of the Djungarian Gobi lie between the 100 mm and 200 mm isohyets. A part of this precipitation falls and lies as snow. Mean annual maximum and minimum temperatures for the areas are of the order of 25°C and -15°C respectively, with absolute maxima and minima being well above and below these figures.

Much of the landscape is rocky or strewn with stones and large tracts are almost devoid of vegetation. There are some alkali flats and a few sand dune areas of limited extent.

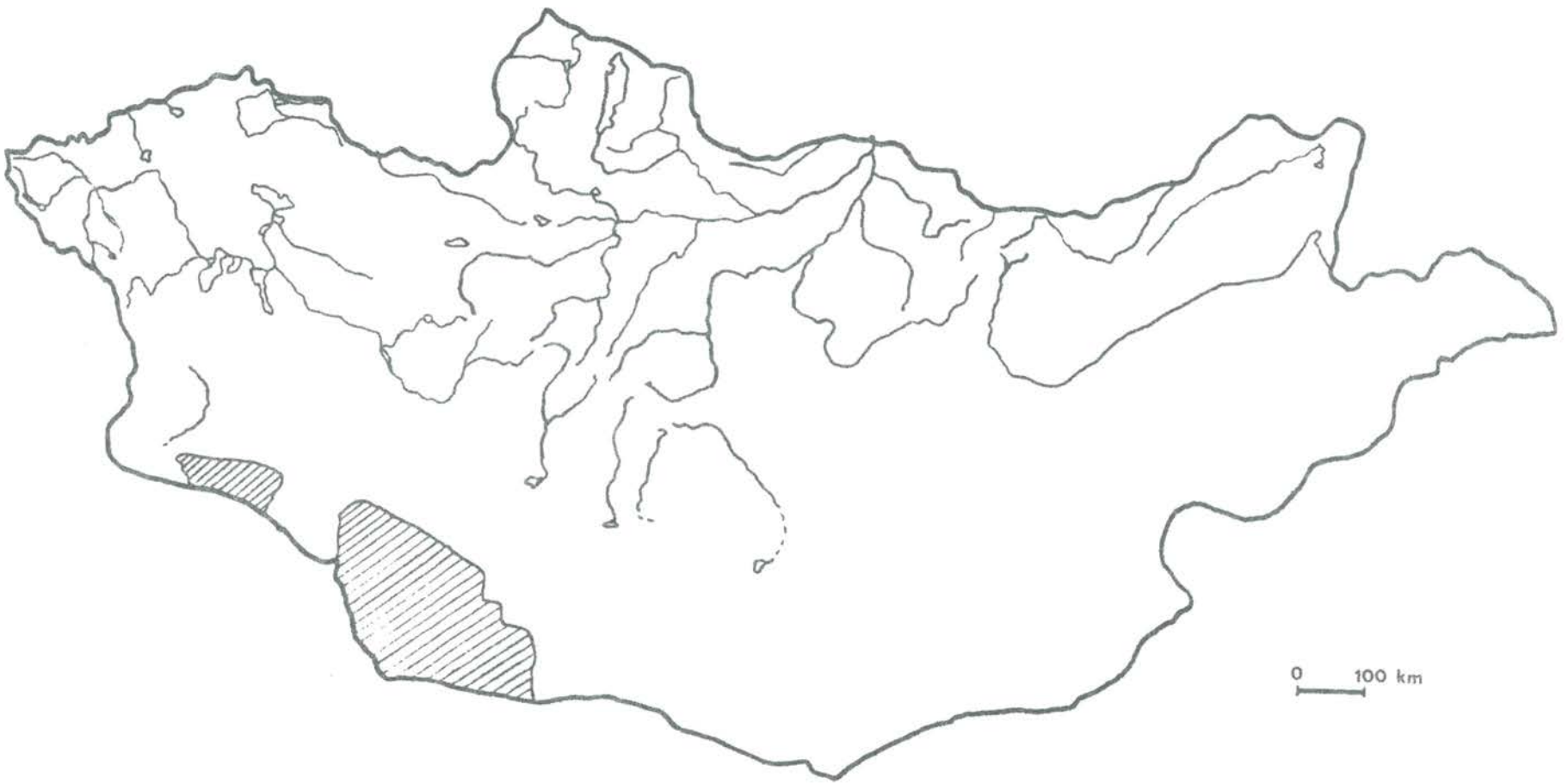
With regard to vegetation, the commonest plant is the saksaul bush (Haloxylon ammodendron); it is the dominant plant over much of the area. Dry washes which have received a flash flood during the previous 10 years or so usually support a fairly vigorous growth of Tamarix spp.

In canyons and valleys in the mountains, Ephedra przewalskii is an abundant plant and often occurs in pure stands in these situations. It is apparently an important fodder source for the wild camel and other species.

In plains areas, particularly in the Djungarian Gobi, wild onion (Allium spp.), together with grasses, form extensive short green pastures which are important grazing areas for gazelle.

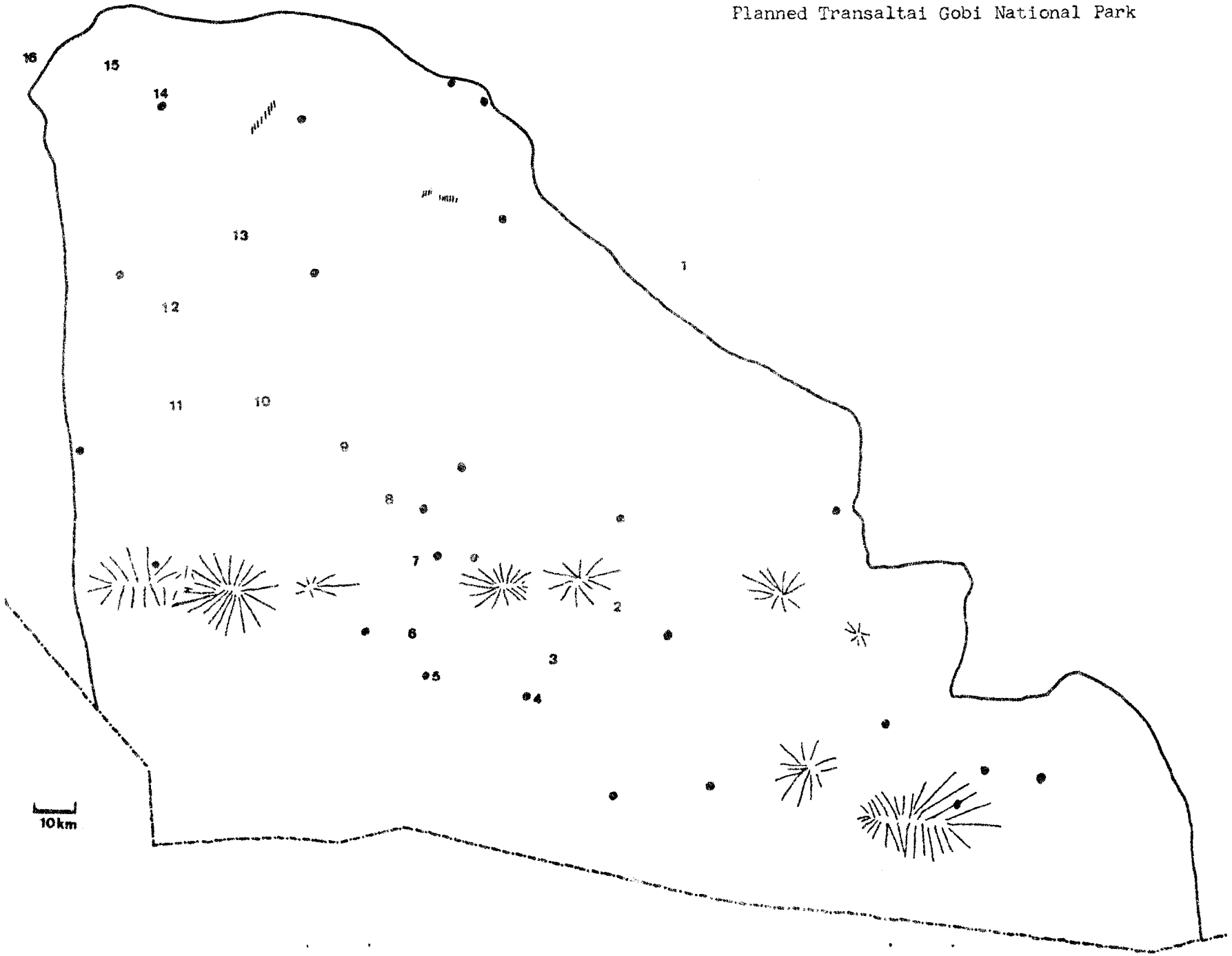
Several of the oases have stands of a poplar, Populus diversifolia, and at the more extensive ones, such as Schar Khuls, a willow, Salix ledebouriana occurs.

MAP 1

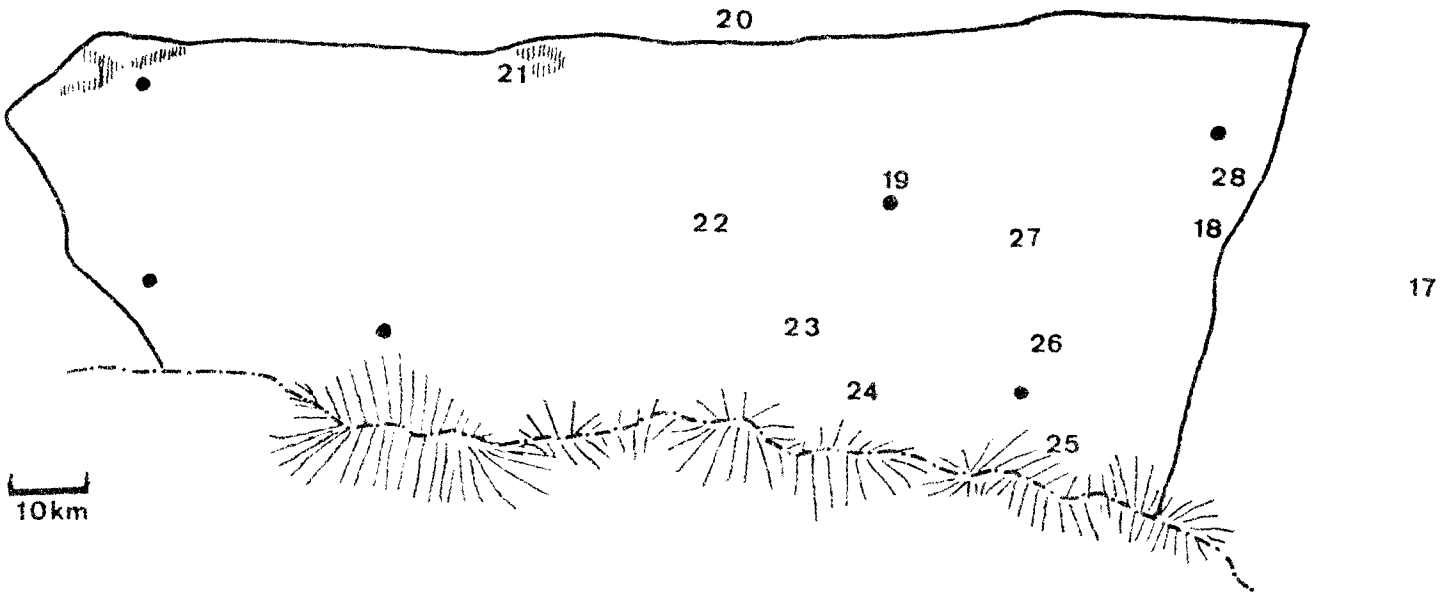


Mongolian People's Republic, with the indication of the planned Transaltai Gobi National Park and Djungarian Gobi Wildlife Reserve.

Map 2


Planned Transaltai Gobi National Park
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
10km

Map 3



Planned Djungarian Gobi Wildlife Reserve.

FINDINGS

On the basis of observations made during the field trip, discussions with various people and a review of existing information, the mission came to the following conclusions:

(a) In most of the arid and semi-arid areas of the world, the flora and fauna has been either drastically altered or destroyed by man. However, the Transaltai and Djungarian Gobi areas are exceptions in this respect, because the habitats in a large proportion of these areas are still undisturbed and the remainder only minimally affected by the activities of man. These facts, coupled with the extreme climatic regime of the region, give these unique areas an internationally recognized importance.

(b) With the exception of the wild horse (Equus przewalskii), it appeared to the mission that viable populations of the larger species of mammals were still thriving in the areas: in the Transaltai Gobi about 70 wild camels (Camelus bactrianus) with a good proportion of young animals were seen, together with a number of wild ass (Equus hemionus), goitred gazelle (Gazella subgutturosa), wolves (Canis lupus) and tracks of Gobi bear (Ursus pruinosus), ibex (Capra sibirica), Argali sheep (Ovis ammon) and snow leopard (Panthera uncia); in the Djungarian Gobi, over 500 goitred gazelle and over 80 wild ass were counted, but there were unfortunately no indications of the survival of the wild horse in this area. It was, however, observed that animals encountered were very shy and their flight distance from approaching vehicles was more than 2 km in some cases. This appeared to indicate that they were subjected to motorized poaching. Furthermore, the presence of shooting hides, empty cartridge cases and remains of wild animals was noticed at some of the waterholes.

(c) In a large proportion of the area the vegetation was still unaffected by human activity and domestic livestock. There were no obvious indications of overgrazing. The harvesting of reeds at Schar Khuls oasis, which represented a major disturbance of vegetation in the Transaltai area, has now ceased, together with the collection of saksaul. In the Djungarian area, measures were planned to limit the utilization of pastures by domestic stock and also to eliminate the collection of saksaul.

(d) The availability of surface water is probably a key factor in the ecology of most large mammal species in the region. Thus, human activity in the vicinity of waterholes can have a drastic effect on populations of wild animals.

(e) The mission was impressed by the interest in the park project shown by the representatives of authorities met from the somons, within which the two parts of the park lie.

(f) It was obvious that the measures already taken or planned by the Mongolian Government, namely the exclusion of any human activities in the Transaltai area and their strict limitation in the Djungarian area, together with detailed negotiations with representatives of the local populations aimed at explaining to them the importance of the park and gaining their acceptance of its establishment, were the most realistic and appropriate in the circumstances.

RECOMMENDATIONS

(1) Immediate measures to be taken by the Government

(a) Coordinate between the different interested ministries and establish legally:

- the Transaltai Gobi as a national park (part A)
- the Djungarian Gobi as a wildlife reserve (part B).

(b) Recruit and equip nine guards to be posted to each of the somons in which the two protected areas lie. Their duties would be to prevent poaching, unlawful wood collecting and other disturbances; to control grazing in the Djungarian Gobi area; to make observations on the wildlife and to get acquainted with their areas in order to be able to guide scientists and visitors.

(c) Build an Administrative Centre between the two areas and provide the basic equipment for transport and communications.

The mission was of the opinion that Bayan Obo would be a most suitable site for the Centre.

It was understood that part of the administrative personnel for the park had already been appointed.

(2) Other measures

(a) The initiation of further surveys covering, in particular:

- the inventory of waterpoints, including the assessment of the possibilities and opportunity of simple improvement for some of them;

- the mapping of vegetation, with emphasis on wildlife habitats;

- the study of wildlife populations: numbers, spatial and temporal distribution, basic ecology;

(b) The preparation of a preliminary master plan for both parts, including delimitation of different zones, buffer zones, strict nature reserves, etc.

(c) The training of personnel.

(d) The alignment and marking of fixed routes within the areas, for security and other reasons, and development of other basic infrastructure.

(e) The initiation of research activities with the cooperation of appropriate institutions.

(f) The initiation of conservation education programmes for the population around the areas.

(g) The establishment of shelters and artificial waterpoints for wardens and visitors.

(h) The preparation of plans for a national system of protected areas to include representative samples of the ecosystems of Mongolia.

A programme outline indicating the elements essential to the accomplishment of these objectives is set out in Annex III.

TECHNICAL OBSERVATIONS

While most of the basic principles and general considerations pertaining to the establishment and management of protected areas apply to the Gobi region (see for example, National Parks Planning Manual, FAO, Rome 1976), certain aspects should receive careful consideration. Amongst these we would draw particular attention to the following:

(1) Waterholes

It is clear that the waterholes play a key role in the natural distribution and abundance of wildlife. These are also the places were poaching is most easily and usually practised and where other disturbances by man can have a drastic effect on wild animals.

(a) Creation of artificial waterholes

The idea that the establishment of artificial waterholes in the Gobi region could have very positive effects on the number of animals, has been mentioned by several sources. However, as long as detailed studies on the water regime, including the availability of ground water, and on the overall ecology of the region have not been carried out, no artificial waterholes for wildlife should be created. They could well have unexpected and disastrous consequences on the natural balance of the region and would, from the start, make it impossible to carry out base-line studies of the ecosystem in its almost primeval state. It is also not yet clear to what extent some waterholes have dried up in the recent past, nor if others have become active recently.

However, to avoid disturbances at natural waterholes, it would be desirable to drill a limited number of wells, at a fair distance from natural waterholes, to provide water for guards, scientists and visitors.

It should be stressed that the construction of artificial water points should be designed to remove pressure from natural water-holes, in order to make them exclusively available to wildlife.

(b) Improvement of natural waterholes

At some oases, such as Schar Ouz, water is readily available. At others, only a tiny hole with water is to be found in an area of damp soil. In these latter cases, bearing in mind that there may, in the past, have been interference by man and his domestic animals, limited improvement designed to increase the availability of surface water could be considered. Appropriate actions would consist mainly of enlargement of the waterhole and possibly reinforcement of its walls with stones.

In implementing any plans t improve the water supply available to wildlife at a particular point, attention should be given to the possible effects such interventions might have on vegetation in the vicinity, particularly in terms of increased grazing or browsing pressure on palatable species.

It should be borne in mind that in some localities, and in respect of certain animal species, it may well be that the availability of food at critical times is an over-riding consideration. This is certainly the case in other parts of the world, where animals which inhabit arid areas are adapted to a very limited supply of, or even the complete absence of, free water.

(c) Prevention of disturbance at waterholes

Waterholes are, of course, often the best wildlife observation places in a park. However, utmost care should be exercised by park personnel, scientists and visitors to avoid disturbance of animals near them.

Camps, whether temporary or permanent, must always be located at an appropriate distance from waterholes so as to prevent any such disturbance.

(2) Vehicles

(a) Establishment of routes

There are at present no established motor routes in the proposed Gobi protected areas. As a result, each driver chooses his own cross-country trail. This has several adverse consequences: surveillance and possible rescue operations are extremely difficult; the fact that tracks of vehicles usually last for a number of years has obvious aesthetic implications; the detection of motorized poaching is not easy; the surface disturbed is very large and the destruction of the sparse vegetation can be extensive. It is therefore essential that fixed routes, marked with simple signs such as stone heaps, be established as soon as possible, and that scientists and park personnel be obliged to stick to them. Exceptions to the rules should be as few as possible and fully justified. It might be useful to consider, in appropriate circumstances, the careful establishment of a network of trails in certain areas (e.g. for the carrying out of scientific investigations).

To underline the long-term nature of the effects of the unrestricted movement of vehicles over desert areas, it is noteworthy that in parts of the Mojave Desert in the USA, vehicle tracks dating from World War II training exercises in 1940 are still clearly visible from the air.

(b) Prohibition of use of vehicles to chase animals

It is clear that the extreme wildness of the animals in the Gobi region, with flight distance of up to several kilometres in some cases, reflects the fact that they have been chased by and hunted from vehicles. Such chasing has obvious adverse effects on the animals concerned. The social structure and behaviour of animals is disrupted and this can have serious effects on reproduction. In addition, females will often abort and young animals become separated from their mothers. Animals become exhausted and in some cases die as a result of their traumatic experience. The shyness of the wildlife of the Gobi area currently prevents the possibility of close observation.

However, it is well known, from experience in Africa and elsewhere, that once chasing has been stopped, almost all large mammal species become used to vehicles very quickly. When chasing of animals with motor vehicles has been totally prohibited and vehicles are obliged to stick to established routes, there is a good chance that the animals will fairly rapidly recognize vehicles as something harmless and permit observation at a close range.

3. Control of predators

Although the total protection of species like the snow leopard has been readily accepted by local populations in Mongolia, other predators, such as the wolf, are still considered as vermin and are hunted ruthlessly, even in reserves.

It must, therefore, be stressed that predators, including the wolf, are an essential part of the Gobi ecosystem and that no predator control activities should be allowed in the proposed Transaltai Gobi National Park and the Djungarian Wildlife Reserve.

Exceptions should only be envisaged if well documented cases of damage to domestic stock, outside the protected areas, could be attributed to predators living within them.

During the course of the evolution of park and reserve management practices in Africa and America, predator control was sometimes advocated in the past, on the grounds that this would result in a spectacular build-up of other species. However, it has more recently been shown that in reserves large mammalian predators rarely have an over-riding regulatory effect on large ungulate populations. Limiting factors are most usually the availability of food or water at critical seasons or points in climate cycles. Instead, predators often play an important role in assuring healthy ungulate populations. Besides this, they are much sought after by wildlife viewing visitors and thus constitute a primary attraction for tourists.

4. Hunting

Any hunting activities must, of course, be strictly prohibited in the proposed Transaltai Gobi National Park and the Djungarian Gobi Wildlife Reserve. It is hoped, however, that in these areas the populations of game species will increase as soon as protective measures become a reality, and that this increase will also affect the buffer zones around the strictly protected areas. When it is evident that sizeable populations of game species have built up in these zones, scientifically managed hunting could be instituted in them. The use of vehicles for hunting should, of course, not be permitted. It should be carried out on foot or on horse, or camel back.

5. Visitors and Tourism

It is suggested that at a fairly early stage in the establishment of these areas, a limited number of visitor or tourist expeditions to them could be envisaged. There is currently an increasing demand in the world for "specialized" tours, particularly with a scientific or cultural theme. Expeditions to the Transaltai and Djungarian Gobi areas would certainly present an exciting new addition to existing possibilities.

ITINERARY

18.5.76	Arrive Ulan Bator. Contacts with Government and UNDP.
19-21.5.76	Meetings with Government.
22.5.76	Ulan Bator (by air) - Bayan Khongor - Bayan Undoor.
23.5.76	Bayan Undoor - Khiaryn Goon(1) (northern boundary of proposed Transaltai Gobi National Park) - Schar Khuls (oasis) (2).
24.5.76	Exploration of oasis on foot. Schar Khuls - Schar Khylsney Khafsal (canyon) (3) - Zamblikh (oasis) (4) - Khar Ula I (5).
25.5.76	Khar Ula I - Toron Khafsal (canyon) (6) - Barun Scharga (oasis) (7), exploration of oasis on foot - Khar Ula II (8) - Khar Sairini Hundi (dry river bed) (10) - Zagt Okh Sai (11) - Elist Ula (12).
26.5.76	Elist Ula - Baga Ula (east of On Undriin Ula) (13) - Maikhan Bulag (waterhole) (14), explored area, - Takhilgrin Us (waterhole) (15).
27.5.76	Exploration of area on foot. Takhilgrin Us - Sheviet Ulan Ula (north-west boundary of proposed National Park) (16) - Bayan Obo (Somon centre and proposed site for National Park Centre).
28.5.76	At Bayan Obo (Reichardt departs by road for Aimak centre).
29.5.76	Bayan Obo - Urtin Bulag - Takhun Bulag.
30.5.76	Exploration of mountains on foot. Takhun Bulag - Holon Hunduk (17) - Goon Tamag Bulag (eastern boundary of proposed Djungarian Gobi Wildlife Reserve) (18) - Khonin Us (waterhole) (19) - Haldzan Numuu foothills (20) - Takhin Us (waterhole) (21). Exploration of area.
31.5.76	Takhin Us - Hudgiin Serten Ula (22) - Ich Schogor (23) - Khuh Undrin Ula (24) - Takhin Shar Nuru (25) - Oschin Ulan Ula (26) - Tangadin Khiar (27) - Gaschun Bulag (north-east boundary of Wildlife Reserve) (28) - Bugat somon.
1.6.76	Bugat somon - Tugrig somon - Shargin Gobi - Khalun somon.
2.6.76	Khalun somon - Burkhan Buda Ula (Game Reserve).
3.6.76	Exploration of area on foot. Burkhan Buda Ula - Khalun somon - Gobi Altai city.

NB: Numbers in parenthesis after place names refer to Maps 2 and 3.

4.6.76	Gobi Altai city (by air) - Ulan Bator.
5-9.6.76	Meetings with Government and preparation of report.
10.6.76	Depart Ulan Bator.

LIST OF PERSONS CONTACTED IN MPR

Dr. D. Maider	1st Deputy Prime Minister, First Vice-Chairman of MPR Council of Ministers and Chairman of the State Committee for Science and Technology of the Council of Ministers of MPR.
Mr. D. Ceden	Minister of Forests and Timber Industries.
Mr. Gombojav	Deputy Minister, Ministry of Forests and Timber Industries responsible for Wildlife.
Mr. Mu Dash	Vice-Chairman, State Committee for Science and Technology and Secretary of the Mongolian Society for the Protection of Nature and the Environment.
Mr. S. Jigj	Chief of the Department for the Protection of Nature of the State Committee for Science and Technology.
Mr. P. Haidav	Director of the Wildlife Management Department, Ministry of Forests and Timber Industries and Secretary of the Central Council of the Mongolian Hunters' Association.
Mr. Tschagnadorj	Personal Assistant to First Deputy Prime Minister Maider.
Mr. Y. Dash	Wildlife Officer, Ministry of Forests and Timber Industries.
Mr. Bujndelger	Wildlife Officer, Ministry of Forests and Timber Industries.
Mr. Boshgot	Interpreter and Officer of the State Committee of Science and Technology.
Dr. Bazar	Acting as Director of Gobi National Park.
Mr. O. Dordjara	Park Biologist.
Mr. Arkcha	Deputy Chairman of Bayan Khongor Aimak and local Chairman of Hunters' Association.
Mr. Davadorj	Secretary of Bayan Khongor Hunters' Association and Officer charged with Nature Protection and Environment for the Aimak.

Mr. Boar	Party Chairman, Bayan Hundor Somon.
Mr. Sandujav	Chairman of Altai (Bayan Obo) Somon.
Mr. Djzhik	Party Secretary, Altai Somon.
Mr. Yadatikhu	Chairman of Bugat Somon.
Mr. Sanja	Chairman of Khalun Somon.
Mr. Sandak	Deputy Chairman of Altai Aimak and Chairman of Aimak Society for the Protection of Nature and the Environment.
Mr. Victor Lozienski	Bulgarian Wildlife Specialist assisting with Argali and Ibex translocation.
Mr. I.S. Bukhtoyarov	UNDP Resident Representative, Ulan Bator.
Mr. Kulkarni	UNDP Finance Officer, Ulan Bator.
Mrs. Zora Sabov	UNDP Programme Assistant, Ulan Bator.
Dr. Andre Szaniawski	Wildlife Officer, UNDP/FAO Project MON/68/002.

Programme Outline

ESTABLISHMENT OF PROTECTED AREAS
IN THE TRANSALTAI AND DJUNGARIAN GOBI

A. Long-term Development Objectives:

To conserve representative samples of Central Asian ecosystems and their genetic resources, by the establishment of a network of properly managed and organized national parks and reserves in Mongolia.

To develop rational systems of land-use for the semi-desert and desert regions of Mongolia.

B. Immediate Objective:

To establish a properly managed and organized national park and wild-life reserve in the Transaltai and Djungarian Gobi areas.

C. Special Considerations:

By instituting scientifically based management of the Transaltai and Djungarian Gobi areas, the project will contribute to the preservation and improvement of the environmental conditions of the region.

D. Background and Justification of Project:

Until recently, Mongolia was one of the regions of Central Asia most abundant in game, a situation which resulted from a low density of human population, the maintenance of a relatively undisturbed biological balance, primitive hunting weapons and the easy availability of meat other than venison, due to well-developed sheep farming. Other factors, such as the old traditions, worships and customs, also played a role in animal protection.

However, rapid social and economic development have drastically changed this situation. The increasing human population, the development of industry with consequent urbanization, the rising exports of animal products and restrictions on the slaughter of domestic animals for private needs, have caused a growing demand for game meat. The appearance of increasing numbers of motor vehicles and easy access to modern rifles, have made shooting of game much easier. These factors have resulted in a significant reduction in wild animal populations and their areas of distribution.

The Government has been aware of this situation and hunting legislation, which has been in existence since 1926, has been revised several times. The most recent text, dated January 1972, provides for the protection of the Przewalski horse, wild ass, maral deer, reindeer, moose, Gobi bear, bactrian wild camel, saiga antelope, asiatic ibex, Mongolian argali (wild sheep), goitred gazelle, musk deer, snow leopard, beaver, otter, sable, marten, sturgeon, lammergeyer, mountain turkey, pelican, pheasant, griffon, brown owl, eagle owl and woodpecker.

The above measures have been effective in the case of some species, particularly forest (moose, red deer) and mountain (ibex, argali) ones, but on the whole this kind of "passive" protection is not satisfactory.

During the last two decades the area of distribution of twenty species of mammals and six birds has been drastically reduced. This has mainly affected the steppe and desert animals, which have been disturbed by poaching, competition for water and human encroachment on their habitats.

Wildlife management and nature protection have become subjects of major interest to the Government and Parliament of MPR in recent years. During 1972 a Wildlife Management Department was established in the Ministry of Forests and Timber Industries, and a Wildlife Management section was incorporated in the Forest Research Institute.

More recently, the Department for the Protection of Nature of the State Committee for Science and Technology of the Council of Ministers of the MPR was established and Government also decided to create the Mongolian Society for Protection of Nature and Environment. At the University in Ulan Bator, a Department of Wildlife Management is also being organized.

In conjunction with these various initiatives, the idea of establishing a network of reserves and national parks to cover representative samples of all Mongolian ecosystems has emerged. Currently, seventeen localities are under consideration in this connection, the combined areas of which would be equivalent to approximately 7 to 10 per cent of the country's surface area.

However, a lack of qualified personnel as well as technical and financial resources have prevented this idea from moving beyond a preliminary planning stage. Nevertheless, its implementation has recently been revived by the decision to establish protected areas in the Gobi region.

The parts of the Gobi which it is proposed to protect are located in the extreme south-west of the country. Part "A" (Transaltai Gobi) lies between longitudes 95°30" and 99°10" E and latitudes 42°30" and 44°20" N. Part "B" (Djungarian Gobi) lies between longitudes 92°00" and 94°20" E and latitudes 44°50" and 45°40" N. The southern boundaries of both parts coincide with MPR's international border with China.

Up until the 1940's, this region was virtually unoccupied by man. There was only sporadic occupation of oases by nomads from the northern ridges during exceptionally severe winters.

During the early 1940's, a programme of desert assimilation was started in Mongolia. The Gobi desert was, to some extent, affected by this. In particular, the western part (B) has been more and more exploited by herdsmen. A number of herds occupied the area throughout the winter and several oases were occupied by settled men. In the eastern part (A), exploitation has not been carried out on a regular basis, but occupation of oases for several weeks during the year for reed cutting, temporary cattle grazing and the collection of "saksaul" (Halloxylon ammodendrom) for fuel, results in wild animals being deprived of watering places and being subjected to competition for food and to poaching. All these factors tend to push the wild animals into areas where their continued existence becomes impossible.

E. Outputs: Results Expected from the Programme

- An established national park
- An established wildlife reserve
- A parks centre
- An environmental education programme
- Report on ecological survey of the National Park, Part I, Physical Conditions; Part II, Vegetation; Part III, Wildlife
- Report on ecological survey of Wildlife Reserve, Part I, Physical Conditions; Part II, Vegetation; Part III, Wildlife
- A management plan for the National Park
- A management plan for the Wildlife Reserve
- An outline research programme.

F. Activities to be Covered by the Programme

To advise and assist Government with the organization of a protection service and law enforcement system for the Gobi Park and Reserve.

To assist Government in the establishment and equipping of a park administrative centre.

To assist Government in the training of personnel for the park and reserve service.

To assist in the collection and evaluation of the basic ecological information essential for the planning, development and management of the areas.

To advise and assist Government in the preparation of management plans for the areas.

To assist with the establishment of basic infrastructure in the park and reserve.

To advise and assist Government with the formulation of a research programme for the region.

To assist Government in the establishment and equipping of an ecological research centre for the areas.

To assist Government in the establishment and development of an environmental, education and interpretation programme.

G. Inputs: Details of the Programme

In order to maintain continuity and contact with the various international organizations which support this programme and to provide a catalyst to stimulate assistance, while at the same time providing a constant base and a framework to which aid from diverse sources can be attached, the project will consist of: (i) a "core" element, and (ii) modules which can be attached to the "core".

With this concept in mind, inputs required would be as follows:

1. Core element: This will consist of a Wildlife Ecologist (Project Manager/Team Leader).

   Duties: The Wildlife Ecologist will be the coordinator of the internationally recruited team of experts. He will be responsible for assisting in the implementation of the whole programme. During the early stages of the programme he will assist Government with technical and organizational matters necessary for further phases of the programme, purchase of equipment, etc. He will assist Government in attracting international funds to support the programme. As an expert in conservation, he will assist the Government in legal and other matters related to the establishment and organization of reserves and protected areas. During the later stages he will cooperate with the specialists of other modules and coordinate their work.

2. Ecological Survey Module: This element will require a minimum of one Habitat Ecologist and one Wildlife Biologist. These specialists will be responsible for assisting the Wildlife Ecologist to make a preliminary appraisal of the Transaltai and Djungarian Gobi areas with particular emphasis on the availability and distribution of water, an evaluation of the vegetation in terms of its significance as wildlife habitat and a survey of the density, spatial and temporal

distribution and status of populations of the major wild animal species.

3. Park Planning Module: This element will require the services of a National Parks Planner who would draw up master plans for the management and development of the two areas on the basis of the findings of the ecological survey. Short-term consultancies in, for example, architecture and site planning, would support the Park Planner.

4. Training Module: The training of guards would be organized on an "in-service" basis by experts involved in the establishment and development of the park. This module would, however, mainly cover training of park staff at the higher levels. It would include provisions for short study tours to countries with well-organized services in charge of parks and reserves, as well as fellowships for courses in national parks and wildlife management. In appropriate cases, crash courses in a foreign language should be provided for.

5. Hydrological Module: This element will require the services of a qualified Hydrologist with a team of supporting technical staff and equipment to develop artificial water points for the use of park service staff, expeditions, and tourists.

   At a later stage, the improvement of natural waterholes may also be considered dependent on the findings of the ecological survey and requirements of the park master plans.

   Because of the specialized nature of this work, it should be sub-contracted to the Ministry of Water Economy, who might be assisted by appropriate consultants.

6. Aerial Monitoring Module: This element will require the services of a pilot/biologist and would be complementary to the ecological survey in its initial stages and associated with the research programme later. It would also include a component to sub-contract the training of counterparts in flying and aircraft maintenance to an appropriate organization.

7. Environmental Education Module: This element will require the services of a specialist in conservation education and national parks interpretation. Interpretive material, publicity material, films etc. will be prepared and environmental education programmes instituted, particularly in areas surrounding the Transaltai and Djungarian Gobi. The programme may require the support of short-term consultants in specialized fields. The establishment of a parks educational centre/museum would be an aspect of the programme that this element might support.

8. Mechanical Support Module: This element will require the services of a technician with practical experience in mechanics and construction under difficult conditions. A servicing workshop would be established at the park centre and assistance with installations in the park areas provided. Specialized short-term consultants may be required to support the technician in the installation of radio equipment.

9. Research Centre Module: This element will require the services of a highly qualified research planning consultant. The consultant would advise on the formulation of an appropriate research programme and the establishment of a field centre. He would make recommendations for the coordination of inputs from interested universities and institutions, both Mongolian and foreign. Breeding and reintroduction of extinct and endangered species will receive special attention in this element and may require the services of additional consultants.

10. Equipment Module: The following is a preliminary list of equipment which the whole programme would require. It should be noted that this module outlines the equipment that would be required to implement the whole programme. However, in preparing cost estimates for the various modules, these items of equipment have been included and costed under other modules as appropriate.

Item	Quantity
Small single-engined high-wing monoplane 'PZL-104-WILGA', or equivalent	1
Four-wheel drive passenger car (Land Rover type)	4
Four-wheel drive big lorry	3
Minibus (cross-country van)	1
Tractors	2
Four-wheel drive 5 ton tanker	1
5 ton tanks for fuel (with installation)	6
Motor-cycles for the guards	5
Set of tools and instruments for mechanical workshop	1
Radio equipment with all necessary accessories	1

Spare parts for all vehicles

Immobilization equipment

Guns and ammunition

Radio telemetry equipment

Plant collecting equipment

Specimen collecting equipment

Camping equipment

Field work equipment, standard and special photo cameras and lenses, optical instruments (binoculars, scopes, etc.) measuring instruments (altitude meters, scales, compasses, etc.) and different instruments needed by each expert.

Equipment for research station in the central site

Electricity plant.

In formulating detailed projects designed to implement activities envisaged under the foregoing modules, consideration should be given to making use of associate experts and/or volunteers to provide additional support to these basic elements. This would be particularly appropriate in the cases of modules 2, 3, 5, 7, and 8.

H. Preparation of Work Plan

(a) The post of Wildlife Specialist in the existing UNDP/FAO project MON/68/002 should be extended to form the core element of the programme.

(b) Various interested agencies and organizations should be contacted with a view to soliciting assistance for the different modules outlined above.

(c) Projects/Programmes should be elaborated for modules or groups of modules with organizations interested in supporting them, having regard to appropriate timing of the different modules relative to one another.

Appendix

COST ESTIMATES: Establishment of Protected Areas in Transaltai and Djungarian Gobi

(For personnel services, UNDP 1977 standard costs for P4/5 level and Mongolia Post Adjustment Category 6/8 are used)

Module 1: Core Element	1977 US$	1978 US$	1979 US$	1980 US$	Total US$
Team Leader (Wildlife Ecologist)	49,200	49,200	49,200	49,200	
1 lorry, radio equipment, spares, guns, camping & field work equipment	15,000	4,000	4,000	4,000	
Miscellaneous	3,000	3,000	3,000	3,000	
	67,200	56,200	56,200	56,200	235,800
Module 2: Ecological Survey					
Habitat Ecologist	24,600	49,200	24,600	-	
Wildlife Biologist	24,600	49,200	24,600	-	
Consultants	-	8,200	8,200	-	
2 cross-country vehicles, 1 lorry, 1 tractor, 1 5-ton tanker, radio telemetry equipment, etc.	60,000	5,000	-	-	
Miscellaneous	5,000	10,000	5,000	-	
	114,200	121,600	62,400	-	298,200
Module 3: Park Planning					
National Park Planner	-	-	49,200	49,200	
Consultants	-	-	8,200	8,200	
1 cross-country vehicle, 1 lorry, field equipment	-	-	20,000	5,000	
Miscellaneous	-	-	3,000	3,000	
	-	-	80,400	65,400	145,800

Module 4: Training	1977 US$	1978 US$	1979 US$	1980 US$	Total US$
Fellowships	20,000	30,000	30,000	20,000	
Group study tours	10,000	10,000	5,000	5,000	
	30,000	40,000	35,000	25,000	130,000
Module 5: Hydrology					
Consultants	24,600	24,600	24,600	-	
Sub-contract	50,000	100,000	100,000	-	
	74,600	124,600	124,600	-	323,800
Module 6: Aerial Monitoring					
Pilot/Biologist	49,200	49,200	-	-	
1 plane with spares	60,000	10,000	10,000	-	
Miscellaneous	15,000	15,000	15,000	-	
	124,200	74,200	25,000	-	223,400
Module 7: Environmental Education					
Education Expert	-	49,200	49,200	-	
1 cross-country vehicle, educ. equipment, field equipment	-	15,000	5,000	-	
Miscellaneous	-	2,000	2,000	-	
	-	66,200	56,200	-	122,400
Module 8: Mechanical Support					
Mechanic	40,800	40,800	40,800	-	
Consultants	6,800	6,800	6,800	-	
Workshop equipment, workshop, spares and supplies	15,000	5,000	5,000	-	
Miscellaneous	1,500	1,500	1,500	-	
	64,100	54,100	54,100	-	172,300

Module 9: Research Centre	1977 US$	1978 US$	1979 US$	1980 US$	Total US$
Research Planning Consultant	8,200	12,300	12,300	8,200	
Equipment for complete Research Station, 1 minibus, 1 tractor, 5 motorcycles, radio equipment, spares, guns, camping and field equipment, electricity plant	30,000	40,000	10,000	-	
Miscellaneous	5,000	5,000	5,000	2,000	
	43,200	57,300	27,300	10,200	138,000
TOTAL:	517,500	594,200	521,200	156,800	1,789,700