

GEF / UNDP MEDIUM-SIZED PROJECT BRIEF:

**Establishment of the Nuratau-Kyzylkum Biosphere Reserve as a
model for Biodiversity Conservation in Uzbekistan**

UNDP Uzbekistan

12 June 2000

PROJECT SUMMARY

PROJECT IDENTIFIERS	
1. Project name: <i>Establishment of the Nuratau-Kyzylkum Biosphere Reserve as a model for Biodiversity Conservation in Uzbekistan</i>	2. GEF Implementing Agency: <i>UNDP</i>
3. Country or countries in which the project is implemented: <i>Republic of Uzbekistan</i>	4. Country eligibility: <i>Ratified Convention on Biological Diversity on July, 19, 1995</i>
5. GEF focal area(s): <i>Biodiversity</i>	6. Operational program/Short-term measure: <i>Operational program: OP.1 Arid and semi-arid ecosystems, OP.2 forest ecosystems, OP.3 mountain ecosystems</i>
7. Project linkage to national priorities, action plans and programs: <i>The project meets the aims of the National Biodiversity Action Plan for protected areas redevelopment and will be important in testing approaches and models for development of protected areas in other parts of the country/the region. The project is specifically identified in the National Biodiversity Action Plan of Uzbekistan as a priority pilot activity.</i>	
8. GEF national operational focal point and date of country endorsement: <i>endorsed: 24.03.98</i>	
PROJECT OBJECTIVES AND ACTIVITIES	
9. Project rationale and objectives: <i>goal: To conserve the globally important biodiversity, landscapes and cultural assets of the Nuratau Mountain Range and the adjacent Kyzylkum Desert and to provide a model for protected area development in Uzbekistan / the region.</i> <i>Main objectives:</i> – <i>to promote a new and more durable approach to biodiversity conservation within the project area through the integration of conservation and sustainable natural resource development;</i>	Indicators: <i>For goal: The long term continued existence and security of globally important biodiversity, landscapes and cultural assets in the area and the number of replications of similar protected area development in other parts of Uzbekistan/the region.</i> <i>Main indicators for objectives (see Logframe matrix for full set of objective indicators):</i> a. <i>Increased scope and scale of protection of biodiversity resources and ecological processes within the project area measured by: a. increase in area of core, buffer and transition zones b. stable or increased population of key / indicator species c. number of examples of sustainable traditional resource use practices revived</i>

<ul style="list-style-type: none"> - to promote local level awareness, ownership, capacity and commitment to the process of achieving biodiversity conservation and sustainable development in the project area; - to provide a model for new approaches to the conservation of biodiversity in Uzbekistan / the region. 	<ul style="list-style-type: none"> b. Increased understanding and commitment of local authorities and communities to objectives of the Biosphere Reserve measured by tangible contributions (buildings, personnel, finances, administrative support) and specific survey and assessment exercises. c. The number of economic and social programmes for the sustainable use of the biodiversity and natural resources of the project area. d. the number of duplications within other national and regionally protected areas, of approaches demonstrated and lessons learned by the project
<p>10. Project outcomes:</p>	<p>Indicators:</p>
<p>1 Establishment of a Biosphere Reserve which provides a legal and administrative framework for the achievement of integrated conservation and sustainable rural development objectives.</p> <p>2 A detailed integrated management plan for the Biosphere Reserve which has been operationally tested during the project (pilot management plan) and upgraded/revised on the basis of this experience.</p> <p>3 Increased awareness and valuation of biodiversity and its services by rural communities, local authorities / decision makers and the general public</p> <p>4 Increased capacity of stakeholders (local conservation/natural resources authorities, rural communities) to influence and play a role in the conservation/appropriate use of biodiversity resources and pursuit of sustainable local development.</p>	<p>1.1 Biosphere Reserve legal instruments and framework developed and approved by yr.2 q.4</p> <p>1.2 Key administration assets of the Biosphere Reserve in place (admin. buildings, office equipment, vehicles, staff) by end yr.2</p> <p>1.3 Effectiveness of Biosphere Reserve Administration, measured by timely achievement of key activities / components of management plan</p> <p>2.1 Effectiveness of management plan in achieving stated management objectives measured by number of key objectives met within specified time / budgetary parameters by end yr.2</p> <p>2.2 Development, consensus and approval of long term management plan by end yr.4</p> <p>2.3 Effectiveness of management plan in achieving stated management objectives measured by number of key objectives met within specified time / budgetary parameters</p> <p>3.1 Change in number of relevant items (articles, reports) in the media over project duration</p> <p>3.2 Increasing number and/or membership of NGO, associations, community groups with relevant focuses / interests / activities by end yr.3</p> <p>3.3 Increased number of hours per week of relevant teaching in schools within project area by end yr.3</p> <p>3.4 Measures of changing awareness / valuation based on periodic assessment during relevant project activities.</p> <p>4.1 Existence of relevant legal and structural instruments to allow all key stakeholders to play an appropriate role by end yr.2</p> <p>4.2 Increased technical capacity measured by: a. number of staff having received formal/informal training b. an evaluation of the impacts of the technical capacity building components of the project by end yr.3</p>

<p>5 <i>The demonstration and testing of methods and approaches to address the major threats to biodiversity in the project area through community based land and natural resource use pilot projects</i></p>	<p>5.1 <i>Between 2-3 "model" sustainable community forestry and livestock management programmes implemented and community forestry/livestock management plans developed by yr.4</i></p> <p>5.2 <i>A model community fisheries programme at Tuzkan Lake implemented and its benefits for sustainable fisheries and biodiversity conservation proven. by yr.4</i></p> <p>5.3 <i>Revenue generated on a sustainable basis by biosphere reserve from tourism/hunting (i.e. off-take of equal or less than annual rate of increase of hunted populations and minimum of disturbance / damage from tourism / hunting) by yr.4 q.2</i></p> <p>5.4 <i>Equitably sharing of revenue generated from tourism / hunting between key stakeholders (% received by national authorities, BR Administration and local communities) by yr.4. q.2</i></p>
<p>6 <i>Practical demonstration to protected areas authorities in Uzbekistan, and regionally, of new approaches to biodiversity conservation and key lessons / factors important for development of similar initiatives.</i></p>	<p>6.1 <i>Number of relevant personnel from national and regional protected areas authorities who are informed about the project a. by visiting project site b. through workshop/seminars c. information materials (Email network, internet, printed information, media) by yr.4. q.4</i></p> <p>6.2 <i>The number of information sharing and dissemination mechanisms such as media outlets, electronic mail networking and internet functioning by yr.4</i></p> <p>6.3 <i>Number of attempts to apply methods and approaches demonstrated / proven by the project in other protected areas in Uzbekistan / regionally by yr.4 and post project</i></p>
<p>7 <i>Heightened profile of the area and increased capacity and opportunity to attract other relevant and complementary initiatives by UNDP / partners / co-financers.</i></p>	<p>7.1 <i>Increased number of reports on the area or inclusions in reports by government, NGO's, donors, national / international media of the project area</i></p> <p>7.2 <i>Increased success of the area in attracting development support measured by number of new projects and overall increase in investment (including government and donor investment)</i></p>

11. Project activities to achieve outcomes (including cost in US\$'000 of each activity):	Main Indicators
<p><i>Activity 1: Preparation and enactment of all basic documents for establishing the Nuratau-Kyzylkum Biosphere Reserve (165)</i></p>	<p>1.1 Biosphere reserve legally established and includes increased area of strictly protected territories covering approximately 500 km² surrounded by a newly designated "transition zone" of approx. 3,000 km².</p> <p>1.2 Legal structure provides an effective "enabling environment" for implementing integrated conservation management and sustainable economic utilization of natural resources.</p>
<p><i>Activity 2: Creation of a functioning administration unit for the administration of the Biosphere Reserve fully capable of implementing the management plan (200.38)</i></p>	<p>2.1 Physical existence of administration unit buildings, equipment and personnel with proven technical/managerial capacity to manage the integrated development of conservation and sustainable land-use in the Biosphere Reserve.</p>
<p><i>Activity 3: Preparation, in consultation with key stakeholders, of a "pilot period" (2.5 year) management plan and review / agreement by all parties. (235)</i></p>	<p>3.1 Existence of an integrated pilot management plan approved by all parties.</p>
<p><i>Activity 4: Development of long term management plan based on detailed evaluation of "pilot" management plan and in depth discussion with key stakeholders (85).</i></p>	<p>4.1 Existence of long term integrated management plan based on experience and lessons learned from pilot period.</p>
<p><i>Activity 5: Building public, local authority and rural community awareness, support and participation in biodiversity conservation and sustainable use (131)</i></p>	<p>5.1 Local government and communities involved and committed to biosphere reserve objectives and management goals</p>
<p><i>Activity 6: Capacity building of local authorities, key decision makers and rural communities to effectively plan and play a role in the conservation of biodiversity and sustainable utilization of natural resources (61)</i></p>	<p>6.1 Improved quality of decisions made by key stakeholders and increased role in management of biodiversity and natural resources in the Biosphere Reserve</p>
<p><i>Activity 7: Assistance to the Biosphere Administration in the long term conservation management of the area through demonstration and testing of new approaches to achieving sustainable natural resource use and thereby practical management models for reducing threats to biodiversity and generating revenue for management (422)</i></p>	<p>7.1 "Model" sustainable community forestry, livestock and fisheries management programmes implemented and community forestry/livestock management plans developed.</p> <p>7.2 Revenue generated on a sustainable basis by biosphere reserve from tourism/hunting and equitably sharing between key stakeholders occurring (national authorities, BR Administration and local communities).</p>

Activity 8: Evaluation and dissemination of lessons learned by the project to national and regional interested parties and stakeholders (76).

8.1 Successful methods and approaches applied in other protected areas in Uzbekistan / regionally.

8.2 Information sharing and dissemination mechanisms such as media outlets, electronic mail networking and internet functioning effectively.

12. Estimated budget (in US\$ or local currency):

PDF:	\$ 25,000	
GEF:	\$ 725,000	
GoU	\$ 480,380	
Co-financing:	\$ 22,000	NABU Germany
	\$ 152,000	UNDP
TOTAL:	\$ 1,404,380	

INFORMATION ON INSTITUTION SUBMITTING PROJECT BRIEF

13. Information on project proposer:

NABU (Naturschutzbund Deutschland, German Society for Nature Conservation). The NABU was established in 1899, it has 210,000 members in 14 regional groups and 1,300 local chapters. It is a German non-profit, non-government organization for nature conservation and sustainable development. The sources of revenue are membership fees and donor contributions.

NABU experts have extensive experience in biodiversity protection; development of protected areas and sustainable land-use in Europe and Asia and has initiated national parks, world heritage sites and biosphere reserves in the GDR, Georgia, Mongolia, Kyrgyzstan and Kazakhstan. NABU has been working on a program for biosphere reserves in Central Asia since 1993. A protocol concerning cooperation in the establishment of biosphere reserves in Uzbekistan has been signed between Uzbekistan and the project proposer.

NABU experts have regularly visited the Nuratau project site and have carried out interdisciplinary scientific and socio-economic research since 1993 based on a contract with the State Committee for Forestry of Uzbekistan. Over this period they have also held extensive informal discussion and consultation with local stakeholders, particular Nuratau Reserve staff and local communities. NABU organized a visit of the Chairman of the State Committee for Forestry of Uzbekistan to Germany in 1996 in order to provide information about existing biosphere reserves in Germany. As a result of NABU's support small business projects in the project area have been initiated with German Embassy grants.

14. Information on executing agency (if different from project proposer):

Government - State Committee For Nature Protection (SCNP): The SCNP is the government agency responsible for the overall monitoring and protection of the environment and for enforcement of environmental legislation in the country. It is a parliamentary committee (i.e. under authority of parliament not the Cabinet of Ministers). The SCNP has played a central role in the development of instruments for sustainable development including the National Biodiversity Strategy and Action Plan and the National Environmental Action Plan. Through its specialized unit "The Unit for Biological Control" (Gosbiokontrol) the SCNP has the overall mandate to control and regulate biological resource use in the country.

15. Date of initial submission of project concept:

April 1998.

INFORMATION TO BE COMPLETED BY IMPLEMENTING AGENCY

16. Project identification number: *UZB/98/G43*

17. Implementing Agency contact person:

*UNDP New York - Mr. Christopher Briggs, UNDP GEF Regional Coordinator for Europe and CIS
UNDP Uzbekistan Office: Mr. Richard Roemers (PO Env.), Mr. Mark Anstey, Biodiversity Consultant*

18. Project linkage to Implementing Agency program(s):

National Biodiversity Strategy and Action Plan Project, National Sustainable Development Commission Project, National Anti-desertification Action Plan Project.

PROJECT DESCRIPTION

PROJECT RATIONALE AND OBJECTIVES

The Nuratau Mountain range and the adjacent Kyzylkum Desert form an area of key national and global biodiversity value incorporating medium-sized mountains (maximum elevation of 2,169 metres), foothills, desert and wetland ecosystems uninterrupted in the past by any intensively used land. The project site is therefore representative of a large number of basic ecotypes in Central Asia. Its unique bio-geographical character, in combination with the presence of numerous globally endangered species, makes the area one of undoubted global biodiversity value.

However, in the last decades the area has come under increasing threat from inappropriate and over-intensive natural resource use, especially livestock husbandry. This is leading to an increasing level of desertification and deforestation. These trends, besides threatening biodiversity, are also a risk for the livelihood of the local population. The natural resource use problems and threats for biodiversity of the project site are typical of the semi-arid and arid zone of the former Soviet Union.

To address these threats this project will initiate new approaches to *in-situ* biodiversity conservation in Uzbekistan by integrating conservation and rural development objectives in order to achieve durable conservation and sustainable livelihood goals. To this end the project will establish, under the umbrella of a zoned Biosphere Reserve, a “multiple use” protected area incorporating strictly protected core areas, buffer zones and “transition” areas in which the establishment of sustainable land-use regimes and local economic structures will be pursued.

The project addresses the GEF’s operational programs ‘arid and semi-arid ecosystem’, ‘forest ecosystems’, and ‘mountain ecosystems’ and in addition directly coincides with the aims of the National Biodiversity Strategy and Action Plan for the expansion and redevelopment of protected areas. Furthermore, it will be important as a model for testing new approaches to biodiversity conservation and protected areas management in Uzbekistan and the region as a whole. Government commitment to the project is indicated by the fact that it was specifically listed in the National Biodiversity Action Plan of Uzbekistan and that agencies involved have committed long term financial and personnel resources to the area. Furthermore, the government has recently made additional resources amounting to 63 million som (approx. USD 50,400) available for BSAP implementation over the next 4 years, a proportion of which will be of direct and indirect benefit to the project area.

The broad objectives of the project are **1.** To promote a new and durable approach to biodiversity conservation within the project area through the integration of conservation and sustainable natural resource development; **2.** To promote local level awareness, ownership, capacity and commitment to the process of achieving biodiversity conservation and sustainable development in the project area; **3.** To provide a model for new approaches to the conservation of biodiversity in Uzbekistan / the region. In more detail objectives include:

- To conserve the unique global and national biodiversity value and the mosaic of natural and cultural landscapes in the project area;
- To reduce types of land use within the project area that have negative effects on the ecosystems diversity and to provide the basis for long term sustainable development of the area;
- To impart to local authorities and communities a better awareness and valuation of biodiversity resources and services and an understanding of the principles of sustainable development.
- To build the capacity of local authorities and communities to play an active role in the planning and management of natural resources and development of sustainable livelihoods.
- To develop and test new “inclusive” and sustainable human development orientated approaches to the conservation of biodiversity in the project area

- To test, demonstrate and disseminate new approaches to conserve biodiversity in Uzbekistan and the region as a whole

CURRENT SITUATION

Global and National Biodiversity Value

The project area is unique in Central Asia in that it contains three different landscapes including, mountains, semi-desert plains, and lakes. Within these broad ecological units, a large diversity of natural ecosystems / habitats exist, including all the major types of semi-desert ecosystems in the Kyzylkum and several mountain types within the Nuratau mountain range. In addition, there is an extensive semi-natural lake, Lake Aydar, which was significantly enlarged in 1969 by water management authorities and which constitutes a globally valuable wetlands resource.

The unique interest of the area is further enriched by the existence of special cultural landscapes created through centuries of human cultivation that are worthy of protection in their own right. Human involvement has ranged from orchard and forest garden development with an ancient and elaborate irrigation systems in some valleys, to low intensity livestock herding. The orchards and forest gardens are of particular interest as they have a high potential as a source of genetic material¹ and are an example of human activity actually adding rather than degrading biodiversity value, as they provide / preserve otherwise unavailable or rare ecological conditions and niches.

Central Asia is the place of origin of some of the largest plant families and genera of the Eurasian continent, including numerous species of cultivated plants. Due to the diverse landscape of the Nuratau area and its biogeographical location on the border between the Pamiro-Alai System and the Kyzylkum Desert, the flora is especially interesting. The mountain part of the project area contains approximately 1200 plant species (62 endemic), including species of potential commercial interest (medicinal herbs, ornamental plants, and food plants). The desert contains about 300 plant species.

The fauna of the project area is also of significant global biodiversity value - it is composed of species from both the Central Asian mountains and the continental deserts, and includes over 250 birds (approx. 150 species breeding), 29 reptile species, and 35 mammal species. There are several rare and highly endangered species of reptiles including the desert monitor lizard (*Varanus griseus*), the Central-Asian cobra (*Naja oxiana*) and the Levant viper (*Vipera lebetina*). Of particular importance are populations of globally endangered bird species, especially birds of prey such as the Eurasian griffin vulture (*Gyps fulvus*), Cinereous vulture (*Aegypius monachus*), Lammergeir (*Gypaetus barbatus*), and Golden eagle (*Aquila chrysaetos*), which are all commonly sighted. Other species of international importance are the Houbara bustard (*Chlamydotis undulata*), Dalmatian and White pelican (*Pelicanus crispus* and *P. onocrotalus*) and Black stork (*Ciconia nigra*). The proposed core area of the biosphere reserve also includes 95% of the world's remaining population of the Kyzylkum (Severtzov's) Urial (*Ovis orientalis severtzovi*), which is a globally endangered subspecies (IUCN Red List EN A2cde, C2b). Initial research has revealed a number of invertebrate species some of which are rare or endangered. At the present time about 1,873 (144 families, 22 orders) species of insects have been identified in the project area (see also annexed description of biodiversity).

Prior and Ongoing Efforts to Conserve the Area.

In an effort to protect the mountain ecosystem the soviet government founded the Nuratau State Conservation Area (Nuratinskiy Gosudarstvennyy Zapovednik) in 1975. It covers an area of 17,752 ha. and is currently managed by the State Committee for Forestry (SCF) of the Republic of Uzbekistan. The main justification for its creation was the protection of the endangered Kyzylkum (Severtzov's) Urial. By law a zapovednik is a strict protected area without economic activities. Along its borders buffer zones "okhrannaya zona" exist in which land-use without significant

¹ Walnut (*Juglans regia*) forests of Central Asia are considered to be relics of the mesophyllic forests of the Tertiary period. Due to changing climate conditions since that time their coverage has reduced to sites where optimum conditions still exist mainly in mountain valleys where water availability is highest and protection from cold northern air streams is provided. There has therefore existed for thousands of years a large number of distinct forest units each existing in its own valley, with specific local conditions and isolated from other populations. As a result a large number of different genetic races have developed, not only within the walnuts but also other important species associated with walnut forests such as Pistachio (*Pistacia vera*). In Nuratau this indigenous local genetic diversity has been further enhanced by human introduction of different races from other areas.

impact on natural processes is allowed. The staff of the zapovednik consists of 28 rangers, the director, the deputy director for science, 4 scientific collaborators, a laboratory assistant, and 6 administrative and technical personnel. The annual budget in 1998 was approximately 1.2 millions Uzb. Sum (equivalent of USD 14,000 at the official exchange rate of that time). Currently, the zapovednik covers only a part of the mountain ecosystems and thus a significant part of the overall species and landscape diversity of the area, particularly the desert and wetlands, are not adequately protected.

Over and above the SCF management of the zapovednik and forestry plantation areas, the State Biological Control Unit of the State Committee for Nature Protection (SCNP) has the responsibility for the overall regulation and protection of biological resources within the project area. These efforts are at the present time principally focused on fisheries and hunting controls around Lake Aydar and, in recognition of the importance of the area for globally important biodiversity (particularly migratory birds), Tuzkan Lake Zakaznik (seasonal or temporary state reserve) was created in 1997 covering approximately 415 km². Its status was renewed in perpetuity in 1998. The State Biological Control Unit, which is based in Farish town, has a field and administration staff of 28 plus 5 patrol stations, an inspection centre at Tuzkan Lake, and some limited equipment (a car, a boat and a radio). The State Biological Control Unit total annual budget for the area is equivalent of approximately USD 30,000 (1998).

In addition to the government inputs, the area has also received inputs from NABU experts who have regularly visited the project site since 1993 and have carried out interdisciplinary scientific research and initial work for the establishment of a biosphere reserve. Furthermore, with NABU's assistance, a number of small business projects in the project area have been initiated with German Embassy grants. These coincide with local community efforts to create other sources of income, such as the re-cultivation of former orchards and forest gardens and the founding of small enterprises such as mills and workshops.

At a national policy level the government has taken the significant step of developing a National Biodiversity Strategy and Action Plan with UNDP/GEF assistance which was approved by the President in April 1998. The BSAP identifies the redevelopment of the protected areas system in Uzbekistan as the priority issue to address. In addition, the BSAP emphasizes the need for protected areas to focus on achieving a representative ecosystem coverage and protection of key ecological services on which the state ecological security depends. Furthermore, the BSAP requires that new more inclusive approaches to protected area design and management be pursued rather than the strict "protectionist" approaches of the past.

Threats to biodiversity and sustainable natural resource use.

Despite all these efforts the major threats to the biodiversity of the area are still being inadequately addressed. The majority of the current ecological problems faced by the area can be linked to past economic development within the context of the soviet centrally planned economy. This caused fundamental alterations to traditional land use and cultural practices which are now being further disturbed by the collapse of Soviet Union and the uncertainties / vacuum left during the transition to a new political and economic status-quo. More specifically, the traditional economic structures of nomadic and transhumant livestock grazing, horticulture and crafts, were destroyed by collectivization and resettlement and the population became dependent on state employment and the supply of subsidized goods.

These supports have to a large extent broken down since Uzbekistan's independence. In the absence of other sources of income the population have had to resort to a subsistence economy based mainly on livestock grazing. High numbers of livestock and inappropriate and inefficient management has caused overgrazing in the region. Overgrazing is the main factor leading to biodiversity loss, desertification and increasing water shortages. The poor supply of alternative energy sources has also led to increasing fuel-wood cutting, which is reinforcing the desertification processes brought on by over-grazing. As the areas surrounding the settlements are effected by deforestation, overgrazing, erosion and land slides, the population have to fall back on areas of previously unused and more intact land. Pressure on vulnerable areas of the Nuratau Range is thus mounting and the sustainability of local livelihoods is in danger in the short to medium term.

In recent years the zapovednik and related activities have not been a sufficient means to guarantee full protection of the area due in part to this increasing pressure and its insufficient coverage but also because of the difficulties of the transition period which have heavily impacted state investment and support. This has led to a significant reduction, in real terms, of financing, absence of training and equipment and decline in staff morale. Thus, throughout the year various types of illegal activities take place in the zapovednik, e.g. grazing of livestock, cutting of shrubs and poaching and in the buffer zones there is little or no control of detrimental activities. Outside the zapovednik and buffer zone there is currently no institution which effectively controls overall natural resource use and little awareness or understanding within local authorities, rural communities and the public generally, of ecological and sustainable development issues and the value of biodiversity resources/services. Even when such awareness exists, the unreformed and extremely centralized management systems of the past prevent any significant local authority or community initiatives to address problems.

One of primary requirements to address the threats described above is the establishment of an adequate legal and administrative framework for the protection of biodiversity and the integration of ecological and sustainable development issues into the overall land-use management of the area. However, there is at the present time insufficient technical and financial capacity within the responsible government agencies to bring such a framework into being and a lack of basic understanding or commitment, both within local authorities and people, to achieving biodiversity conservation and sustainable natural resource use goals. The project will utilize GEF funds to remove these barriers by helping to build the necessary awareness and technical capacity within responsible agencies and local authorities/people to adequately address the threats and through the establishment of an appropriate legal and administrative framework (see annexed project logical framework table).

EXPECTED PROJECT OUTCOMES

The proposed project is expected to establish the basis for the development and testing of an integrated and participatory approach to biodiversity conservation and rural development in the project area. In doing so, it will assist the government in initiating the process to redevelop and expand the protected areas system, in accordance with the objectives and plans of the approved National Biodiversity Strategy and Action Plan. By addressing initial barriers to the implementation of this new approach, GEF resources will secure the conservation of biodiversity in the project area in the medium to long term. In addition, through use of the project area as a model, GEF resources will contribute to the effectiveness of efforts to redevelop the rest of national protected areas system. Furthermore, GEF approval of the project will result in the area being designated a UNDP "focal area" in Uzbekistan for related poverty alleviation and rural development assistance which is complementary and supportive of the Biosphere Reserves objectives².

In specific terms expected outcomes of the project will be as follows:

- i. Establishment of a Biosphere Reserve, on the basis of full stakeholder consultation, which provides an effective legal and administrative framework for the achievement of integrated conservation and sustainable rural development objectives, and an enabling environment for the development of appropriate income generation and small business activities.
- ii. A detailed integrated management plan for the Biosphere Reserve which has been operationally tested during the project (pilot management plan) and upgraded/revised on the basis of this experience and the recommendations of the stakeholders.
- iii. Increased awareness and valuation of biodiversity and its services by the public and local authorities / decision makers.

² Discussion was initiated by UNDP in August 1999 with the Dutch NGO NOVIB concerning a project proposal intended to directly complement the GEF MSP through support to sustainable income generation activities and civil society capacity building in the area (See Annex 5). Further progress concerning this project will await confirmation of GEF support for the Biosphere Reserve establishment and clarification during initial GEF project implementation of local NGO capacity and socio-economic needs.

- iv. Increased capacity of stakeholders (local conservation/natural resources authorities, rural communities) to influence and play a role in the conservation/appropriate use of biodiversity resources and pursuit of sustainable local development.
- v. Increased knowledge and experience of methods and approaches to address the major threats to biodiversity in the project area through community based land and natural resource use pilot projects.
- vi. Practical examples for protected areas authorities in Uzbekistan, and regionally, of new approaches to biodiversity conservation and key lessons / factors important for development of similar initiatives.
- vii. Heightened profile of the area, increased capacity and opportunity to attract other relevant and complementary initiatives by UNDP / partners / co-financers, and improved legal/administrative environment for sustainable income generation initiatives and small businesses.

ACTIVITIES AND FINANCIAL INPUTS

In broad terms the project activities can be classified into four focal areas: 1. activities to establish an overall legal and administrative framework and develop medium to long term management planning; 2. activities to build the awareness, capacity and empowerment of local authorities and rural populations to participate in the planning processes and its execution; 3. activities which seek to develop models for addressing the key threats to biodiversity and sustainable livelihoods in the project area; 4. activities to ensure the dissemination of lessons and experience gained by the project to those involved in similar initiatives nationally and regionally. In more detail activities and finances include:

Outcome 1: Establishment of Biosphere Reserve as legal and administrative framework for integrated conservation and sustainable rural development in the project area

Activity 1: Preparation and enactment of all basic documents for establishing the Nuratau-Kyzylkum Biosphere Reserve including:

- a) detailed zoning plan on the basis of criteria/data gained during PDFA and discussion with stakeholders;
- b) boundary survey and demarcation;
- c) detailed assessment and consultation to identify legal/administrative instruments required to meet the full objectives of the Biosphere reserve and drafting of legal/administrative documents (e.g. preparation of all legal documents required for establishment and management of the biosphere reserves);
- d) submission of legal / administrative documents and active follow-up / lobbying to ensure timely approval/enactment.
- e) UNESCO Biosphere Reserve nomination form preparation, submission and follow up.

USD 165,000 (GEF110,000 UNDP5,000 GoU50,000)

Activity 2: Creation of a functioning administration unit for the administration of the Biosphere Reserve which is capable of implementing the management plan (see Activity 3 and 4)

- a) In accordance with the management requirements and needs, provide support to the government in the identification and recruitment of personnel, procurement of equipment, etc., to establish the tangible aspects of the administration.
- b) Provide initial training and technical guidance to administration personnel to establish its operational role and presence
- c) Procure limited new equipment

USD 200,380 (GEF 20,000 UNDP30,000 GoU150,380)

Outcome 2: A detailed integrated management plan for the Biosphere Reserve which has been operationally tested during the project (pilot management plan) and upgraded/ revised on the basis of this experience.

Activity 3: Preparation, in consultation with key stakeholders, of a "pilot period" management plan and review / agreement by all parties. More specifically:

- a) Collection of all relevant data (ecological, land-use, socio-economic, current management resources, legal framework, etc.) and establishment of appropriate information management system.
- b) Identification/ description of key management plan components (goals and detailed objectives, operational procedures and approaches, annual action programmes, training, financing, budget and work-plans) together with key stakeholders.
- c) In depth participatory review with all stakeholders and finalization.

USD235,000 (GEF100,000 UNDP5,000 GoU130,000)

Activity 4: Development of long term management plan based on detailed evaluation of "pilot" management plan and in depth discussion with key stakeholders.

- a) Carry-out jointly with senior staff of Biosphere Administration Unit an evaluation of the sufficiency / effectiveness of the pilot management plan.
- b) On basis of this evaluation prepare a draft long term (5 to 10 years) management plan
- c) Review draft management plan with key stakeholders, make necessary revisions and have it adopted

USD 85,000 (GEF40,000 UNDP5,000 GoU40,000)

Outcome 2: Increased awareness and valuation of biodiversity and its services by the public, local authorities / decision makers and rural communities

Activity 5. Build public, local authority and rural community awareness, support and participation in biodiversity conservation and sustainable use, including

- a) establish an information centre to act as a focal point and resource base for public awareness, education and participation development in the biosphere reserve (library, museum; events, exhibition etc.)
- b) production of conservation/environmental education materials and development of effective dissemination mechanisms (community extension, meetings, local radio, TV, print, other),
- c) training of educators/multipliers, including BR staff (especially rangers), local teachers, traditional and religious leaders etc.

USD 131,000 (GEF100,000 UNDP 1,000 GoU30,000)

Outcome 3: Increased capacity of stakeholders (local conservation/natural resources authorities, district government and rural communities) to influence and play a role in the conservation/ appropriate use of biodiversity resources and pursuit of sustainable local development.

Activity 6: Capacity building of local authorities, key decision makers and rural communities to effectively plan and play a role in the conservation of biodiversity and sustainable utilization of natural resources. More specifically:

- a) support to the development of local and community level associations, clubs, NGO's, etc. with appropriate conservation and/or sustainable natural resource use objectives.
- b) Training of key local decision makers on issues of biodiversity conservation and sustainable natural resource use and planning through production of practical advisory documents and workshops.

USD 61,000 (GEF40,000 UNDP1,000 GoU20,000)

Outcome 4: The demonstration and testing of methods and approaches to address the major threats to biodiversity in the project area through community based land and natural resource use pilot projects

Activity 7: Assistance to the Biosphere Administration in the long term conservation management of the area through demonstration and testing of new approaches to achieving sustainable natural resource use and thereby practical management models for reducing threats to biodiversity and generating revenue for management

- a) Development of community based sustainable forest utilization and restoration at a number of model sites.
- b) Development of more appropriate and sustainable types of livestock farming at a number of model sites both in the mountains and in desert pastures.
- c) Development and trial of economic income generation mechanisms via strictly controlled utilization within high biodiversity / landscape value areas (i.e. eco-tourism and trophy hunting).
- d) Development, on the basis of the existing initiatives by local protection staff, a fully operational demonstration programme of community-based fisheries at Tuzkan Lake Zakaznik (State Reserve).
- e) Evaluation of new approaches and models tested and integration of best practices and approaches into final management plan.

USD 422,000 (GEF265,600 UNDP97,000 GoU 40,000 NABU 20,000)

Outcome 5: Practical demonstration to protected areas authorities in Uzbekistan, and regionally, of new approaches to biodiversity conservation and key lessons / factors important for development of similar initiatives and information exchange / net.

Activity 8: Evaluation and dissemination of lessons learned by the project to national and regional interested parties and stakeholders.

- a) Project evaluation mission and preparation of project evaluation report
- b) Dissemination to relevant national and regional interested parties and stakeholders
- c) Workshop to review lessons learned with national, regional and international interested parties and stakeholders
- d) Development of a networking mechanism (with emphasis on electronic media such as Email nets and internet if technically practical) between project area and other similar protected areas within the country / region.

USD 76,000 (GEF50,000 UNDP6,000 GoU20,000)

The total costs of the project activities, including PDFA activities, are estimated as \$ 1,404,380 (GEF:750,000 UNDP:152,000 NABU:22,000 GoU 480,380).

SUSTAINABILITY ANALYSIS AND RISK ASSESSMENT

The following activities and approaches are designed to ensure the long term sustainability of biodiversity conservation management in the project area: **a.** establishment of long term administration and oversight structures which are dominated by local level stakeholders with direct interest in the projects success rather than centralized national authorities **b.** awareness and capacity building of local authorities, institutions and communities to ensure understanding, participation and ownership of project activities and outcomes; **c.** the linking of biodiversity conservation with that of sustainable development / livelihoods thereby encouraging a more rational valuation of biodiversity and its services and ensuring its integration into future development planning processes; **d.** the linking of the project activities to national level objectives / plans for redeveloping the national protected areas system thereby helping to ensure national commitment and support to the long term success of the project **e.** the development of mechanisms for generating and retaining revenue within the biosphere reserve so as to reduce the burden on central government of the areas conservation and maintenance.

The most important project risks and their significance are as follows:

1. That central government will fail to adequately support the long term financing and recurrent costs of the Biosphere Reserve: This is, under the current economic circumstances, a significant risk. The project will seek to minimize it in the following ways:
 - firstly, by ensuring that within the UNDP project document, obligations, prerequisites and long term financing and recurrent cost commitments of the government are clearly articulated and agreed;
 - secondly, within the project implementation, by clearly articulating both the long term financial costs and the overall environmental, social and economic benefits of the biosphere reserve thereby providing a clear cut basis for the national budgetary agency to justify the allocation of resources;
 - thirdly, during the legal framework development to identify and develop mechanisms by ensuring that locally generated revenues (environmental taxes, illegal activity penalties, hunting and other use fees, etc) are retained and reinvested in the biosphere reserve management;
 - fourthly, by developing and testing means by which the biosphere reserve can generate its own income and thereby, at least partially, address its own financing and recurrent costs.

In addition, the project will seek to build long term donor interest in the area through raising its national and international profile, facilitating efforts by local government and biosphere reserve management bodies to generate appropriate support, and other efforts which are to be identified during project implementation.

2. That local authorities, institutions and communities will lack commitment to the objectives and activities of the project: This also is a significant risk given the historic lack of importance attached to environmental issues, and in particular the lack of awareness and understanding of biodiversity values, at all levels of society. The project will address this risk by placing great emphasis on awareness and education activities both for the decision making level in local authorities and community/general public level. In addition, the project will also seek to provide practical demonstrations of new approaches and means which prove that the integration of biodiversity/natural resource conservation with achieving adequate livelihoods is possible and preferential.
3. That administrative problems / lack of coordination will occur due to the inclusions of numerous oblast (region) and rayon (district) borders within the biosphere reserve: This risk is of small to medium significance. The project will seek to minimize this risk by ensuring that the oblast / rayon administrations are adequately represented within the biosphere reserve decision making and oversight structures and that interregional discussion and information sharing is maximized.
4. That pilot projects will fail to successfully demonstrate alternative or more appropriate natural resource use. This is a medium to high risk particularly given the difficult policy, management, legal and economic environment for initiating small scale businesses and economic activities. The project proposer (NABU) has sought to minimize this risk through lengthy assessment and in depth discussion with local communities to ensure real priorities are addressed. Furthermore the project during implementation will seek to minimize this risk in a number of ways. Firstly, attempts will be made during the legal establishment of the biosphere reserve to address legal constraints to appropriate small scale economic activity within the biosphere reserve so by providing an “enabling environment” for such initiatives. Secondly, the extensive experience of other UNDP and international development projects in this field of activity in Uzbekistan will be utilized to avoid common pitfalls. Thirdly, initiatives will be largely based on proposals and ideas originating from local communities / entrepreneurs and thus will be based on real needs, practical local knowledge and strong commitment.

Stakeholder Involvement and Social Assessment

The project proposer (NABU) has been working in the region since 1992 in collaboration with the protected areas staff to carry out an initial biodiversity assessment. Due to the past highly centralized and authoritarian system and an absence of almost any form of civil society structures, many obstacles exist in Uzbekistan to ensuring full stakeholder involvement. For this reason, the participation process was initiated gradually. However, since 1995 contacts with the local people intensified and social assessment work was started. Small economic initiatives by locals and the foundation of a local environmental NGO were supported. PDF funding from GEF and NABU has been used to conduct workshops, carry out discussions with leading collaborators of the khokimiyats (local administration) and the main land users such as sovkhazes (farm units) and leskhazes (forestry units) and a large

number of informal interviews with local inhabitants. Workshops and individual meetings with the main state agencies in charge of nature protection and the leadership of local administrative structures took place. Basic social, demographic and economic data of the project area was collected.

The social assessment carried out during the PDF project, which was based on existing data and findings from earlier work, was completed using participatory rural appraisal techniques supported by the American NGO "Counterpart" and NABU. Findings from the appraisal indicate the importance of integrating in the project's activities those issues related to diversification of livelihoods, appropriate zoning and management of protected areas, and issues related to the current difficult legal and tax environment for small scale economic activity. It was clearly identified that without reducing dependence on livestock based incomes and without reducing unsustainable types of land-use, there is little prospect in the area for either sustained rural livelihoods or the conservation of biodiversity.

PROJECT BUDGET (in US\$)

Component	GEF	GoU ⁷	NABU	UNDP(TRAC)	Project total
PDF:	25,000	0	2,000	2,000	29,000
Personnel ¹ :	253,500	282,700	0	0	536,200
Subcontracts ² :	290,000	0	20,000	97,000	407,000
Training ³ :	50,000	0	0	0	50,000
Equipment ⁴ :	13,700	95,230	0	35,000	143,930
Travel ⁵ :	30,000	15,000	0	0	45,000
Evaluation mission(s):	15,000	0	0	0	15,000
Project support ⁶ :	72,800	87,450	0	18,000	178,250
Project total (PDF + project costs):	750,000	480,380	22,000	152,000	1,404,380

¹ Project personnel includes the national project director, national experts, administrative support staff, international CTA and TA (UNV - see footnote) for 80 months and all protected areas personnel.

² Subcontracts will be the following: a) Community Forestry; b) Livestock; c) Tourism/hunting; d) Information management system; f) Education and Awareness and g). Fisheries. Subcontracts c), d) and g) will only be partially financed by GEF.

³ Workshops, *in-situ* training and experience exchange. Additional training activities are covered within sub-contracts

⁴ GEF funds will cover some of the costs of basic office equipment plus some staff equipment. UNDP/Gov. will cover remaining Project and BR Administration equipment including mechanic workshop, one 4x4 vehicle, motor boat, ranger kit, and horses. In addition, some specialized equipment will be purchased within subcontracts. GoU will provide upgraded and new equipment for PA's

⁵ Local travel costs to and within project area for international and local consultants, project partners and stakeholders.

⁶ Represents O&M for project equipment, project buildings, local logistic support, project office recurrent costs and reporting costs.

⁷ All GoU inputs will be "in-kind" mainly in the form of personnel, buildings, equipment, transportation, data acquisition, etc. by the four main government stakeholders (State Unit for Biological Control, Zapovednik Administration, Local Forestry Dept., and district authorities).

PROJECT IMPLEMENTATION PLAN

The project will be executed in accordance with UNDP's national execution modality by the State Committee For Nature Protection and implemented by the State Unit for Biological Control (Gosbiokontrol). Important sub-implementers will include the State Committee for Forestry, specifically the Nuratau State Reserve Administration and district forestry units, local fisheries organizations, and district government authorities. Local level ownership and involvement, both in the overall project and the long term management of the biosphere reserve itself, will be assured through the establishment of a "Biosphere Reserve Management Board" with members including relevant national agency, local authorities, resource users and civil society representatives. All major decisions and actions

will be reviewed and endorsed by this entity before implementation. In addition, a participatory and inclusive approach will be utilized in the implementation of all project activities, particularly those related to testing and demonstrating sustainable natural resource use.

A full time local project manager and international technical adviser UNV (for first two years³), plus a part time CTA, will be employed to be directly responsible for achievement of project activities. They will be supported by a number of project support staff. Furthermore, specific activities, particularly in regard to awareness, participation and sustainable use activities, will be sub-contracted to relevant specialized organizations with preference being given to NGO's (particularly local NGO's if sufficient capacity can be demonstrated).

Duration of Project (in months): 54									
ACTIVITIES Completion of project activities	PROJECT-MONTHS								
	6	12	18	24	30	36	42	48	54
Activity 1: Preparation of all basic documents for establishing the Nuratau-Kyzylkum Biosphere Reserve (18 months)									
Activity 2: Creation of a functioning administration unit for the administration of the Biosphere Reserve and the implementation of the management plan (18 months).									
Activity 3: Preparation of a "pilot period" management plan and review / agreement by principle stakeholders (18 months)									
Activity 4: Development of long term management plan based on detailed evaluation of "pilot" management plan and in depth discussion with key stakeholders. (12 months)									
Activity 5: Building public, local authority and rural community awareness, support and participation in biodiversity conservation and sustainable use (30 months)									
Activity 6: Capacity building of local authorities, key decision makers / rural communities to effectively plan and play role in the conservation of biodiversity and sustainable utilization of natural resources (24 months)									
Activity 7: Addressing the major threats to biodiversity through demonstration of new approaches to achieving sustainable natural resource use and livelihoods (36 months)									
Activity 8: Evaluation and dissemination of lessons learned by the project to national and regional interested parties and stakeholders (24 months)									

PUBLIC INVOLVEMENT PLAN

STAKEHOLDER IDENTIFICATION

Due to the long duration of NABU's involvement in the area it has been possible to develop a detailed picture of stakeholders in the project. Local stakeholders include the rural population of the Nuratau-Kyzylkum area in general (approx. 41,000 people), and more specifically land-users, representatives of traditional bodies and structures, teachers, local NGOs, state and private farms / businesses (including over 20 collectives), the zapovednik administration, and the oblast and rayon administrations (3 oblast and 5 rayons). Important stakeholders are sub-populations of vulnerable groups, e.g. inhabitants of villages bordering the buffer and core areas (approx. 10,000 people), women, and poorer households who are expected to benefit from the project. The total population estimated to inhabit the area covered by the proposed biosphere reserve is around 41,000. Though historically a significant number of people practiced extensive nomadism, having no permanent settlement and traveling large distances, this

³ Advanced and very positive discussion is ongoing with UNV and German Government concerning the possibility of financing the UNV post for either the entire period of the project (releasing USD60,000 of funds for other activities) or for 2.5 additional years.

is no longer the case and seasonal grazing movements occur around a settled base. Thus the areas overall population does not fluctuate significantly.

Stakeholders on the national level include: the National Commission for Biodiversity and the National Action Plan Coordination Group; the National Commission for Sustainable Development; State Committee for Forestry, the State Committee for Nature Protection; the Uzbek Academy of Science, the Uzbek Man and Biosphere Committee (UNESCO); other governmental agencies in charge of economic development, infrastructure, environmental education and NGOs. On the international level stakeholders are the GEF, the UNDP as implementing agency, NABU and other conservation and sustainable development organizations/co-financing agencies.

INFORMATION DISSEMINATION AND CONSULTATION

The project design allows for continuous consultation and dissemination of information with local and national stakeholders. At the overall project implementation level this will be achieved through the establishment of a Biosphere Reserve Management Board with representatives of all key stakeholder groups, national, local and international. During the project implementation the preparation of the management plan will include an exhaustive consultation and consensus building process which will be supported by the education, awareness and capacity building components of the project. Furthermore, the implementation of sub-contracts related to the development and testing of sustainable use and livelihoods will be, by their nature, heavily dependent on information exchange and consultation with local communities if they are to be successful. Finally, the concluding stage of the project will concentrate largely on participatory evaluations of both project components and overall results. These will be widely disseminated to all stakeholders and will form the basis for discussion and future planning "post project". Effective mechanisms for dissemination and network building will be fully investigated and tested including use of national/local media (press, radio, TV) and electronic mail networks and the Internet.

SOCIAL AND PARTICIPATION ISSUES

Two of the key underlying threats to the biodiversity and future sustainable development of the project area (and the country / region as a whole) relate to participation and social issues. Historically, under the highly centralized Soviet system, virtually no efforts or mechanisms for ensuring consultation and participation of local people or authorities were made or in place. This was true also of protected areas such as the Nuratau Zapovednik, which resulted in little understanding of their purpose, costs rather than any benefits for local people / authorities and subsequently a lack of support or, more often, opposition to their existence. The National Biodiversity Strategy and Action Plan recognizes this as a key issue, particularly in view of the need to greatly expand the territory of protected areas to achieve a viable system. For this reason the BSAP lays emphasis on the development of an integrated approach to new protected areas development. Furthermore many of the land use problems faced today, and the resulting threat to biodiversity, stem from the traumatic disruption of social arrangements and traditional practices during collectivization, compounded now by the reduction of state economic and social support during the post soviet transition phase. Thus rural populations are being forced to undergo two social and economic revolutions in the space of 70 years.

In view of the above almost the whole rationale and design of the project is based on addressing participation and social issues so as to effectively address the threats to biodiversity. It is also recognized that adequately addressing these issues in Uzbekistan and the project area specifically, is a much greater challenge than in most countries outside the former Soviet Union because of the legacy of the centralized and authoritarian approach to management and the lack of a developed civil society. For the above reasons this project places great emphasis and focuses a majority of financial and other resources on addressing these issues.

MONITORING AND EVALUATION PLAN

Standard UNDP M&E and reporting procedure for Nationally Executed (NEX) projects will apply. These include: an annual performance report and tripartite review meeting (TPR); a terminal report and TPR; and quarterly work/expenditure plans and reports. In addition, each sub-contract will include obligations to evaluate and report on performance of services and their impact. Finally, during the final stages of the project an outside technical

evaluation mission will be conducted, on the basis of which long term plans for the project area will be finalized and key results / lessons disseminated.

In regard to M&E for the Biosphere Reserve itself a specific component of the management plan will address this issue and appropriate systems for data recording, processing and dissemination put in place.

ANNEX 1: INCREMENTAL COST ASSESSMENT

A. Broad Development Goals:

1. The government of Uzbekistan is strongly committed to the conservation and sustainable use of biodiversity and was one of the first countries in Central Asia to ratify the Convention on Biological Diversity (1995). Since independence 8 years ago Uzbekistan has moved rapidly towards the development of "post Soviet Union" plans and actions to address biodiversity conservation and use issues in the Republic. This includes the development of a National Biodiversity Strategy and Action Plan, which was approved in 1998, establishment of an inter-agency National Biodiversity Commission and the development of a framework document for the redevelopment of the protected areas system. More recently the government allocated financing amounting to 63 million Uzbek Sum (USD 504,000) as additional support to the implementation of priority objectives in the Action Plan.
2. Uzbekistan has also become a member/ratified a number of other international conventions and agreements related to biodiversity conservation and environment, including CITES, the Bonn Convention, the Ramsar Convention and the Convention to Combat Desertification. In addition to the National Biodiversity Strategy and Action Plan, the republic has developed, with the assistance of the World Bank, a National Environmental Strategy which should be approved in the near future. This document addresses overall strategic approaches to environmental protection during the republic's future economic development and incorporates the basic strategic objectives of the BSAP and places it within this context.

B. Baseline:

3. As described in other sections of the project brief, the Nuratau-Kyzylkum is bio-geographically a unique region within Central Asia an area of significant global biodiversity importance. However, the entire area is undergoing a steady process of degradation due to a range of threats which have developed and intensified during the last decade. The situation and threats experienced in the Nuratau-Kyzylkum area are typical of those facing important biodiversity sites and protected areas throughout Uzbekistan and the Central Asia as a whole.
4. The majority of the current ecological problems faced by the area can be linked to past economic development within the context of the soviet centrally planned economy, socio-economic impacts of the *post-soviet* transition phase and the continued existence of rigid and highly centralized management approaches. This has led to a spiraling of unsustainable land use practices, declining livelihood security, environmental damage and mounting pressure on biological diversity both outside and within the Nuratau State Reserve.
5. In recent years efforts have been made in the project area by both local authorities (the State Biological Control Unit, regional/district governments) and international organizations (NABU, German Embassy) to initiate activities and developments to address the situation. However, these efforts have been limited due to the diminishing availability of financial resources, a lack of appropriate experience or technical capacity and an absence, until this year, of a national strategic framework and action plan upon which to base new initiatives. The approval in 1998 of the National Biodiversity Strategy and Action Plan and the development during early 1999 of a framework document for the redevelopment of the protected areas system has now removed the latter barrier. The framework document focuses on the requirement to expand overall coverage of protected area and the need to develop more integrated and participatory approaches to their management and development. At this point in time the next critical steps of actually putting these plans into action is the uppermost issue and one with significant long term implications for the success or failure of efforts to conserve the Republic's biodiversity. However, at the current time the relevant national and local authorities, both in the Nuratau-Kyzylkum area and elsewhere, still lack both practical models of how to implement such approaches, and the technical and financial resources to test them. Furthermore, the soviet legacy of highly centralized management approaches and an undeveloped civil society, means that serious obstacles to the incorporation of local authorities and rural populations into a participatory management and decision making process must still be overcome.

6. In the baseline there will be the continued provision of existing infrastructure and equipment for the Nuratau State Reserve and other biodiversity and forestry management operations in the area. In addition, there is included 10 % of recent funds (63 million Sum) allocated for support of the Action Plan implementation, relevant investments planned by the regional and local governments in education / appropriate industrial development (i.e. that which enhances profitability/sustainability of natural resource use) and relevant infrastructure development (i.e. such as gas pipeline construction which has an impact on fuel wood demands and tree felling). In addition an international donor (Nord-Sued-Brueken) is investing in some limited local income generation infrastructure (water powered oil press). Though these efforts will make a contribution to improving or at least maintaining the situation, they will in no way be sufficient to achieve the long term conservation and sustainable use of globally important biodiversity in the area. In particular they will not address: the underlying socio-economic issues causing unsustainable land use; the technical, legal, organizational and financial constraints of local protected areas agencies to plan and enact relevant developments; or the lack of participation and commitment of local populations / authorities in biodiversity conservation planning and management. Baseline efforts must therefore be scaled up and significantly augmented by activities specifically addressing these issues.
7. The government has clearly demonstrated its commitment to the conservation of biodiversity and more specifically the redevelopment of the protected areas system. Furthermore, despite extremely difficult economic circumstances, it is committed to maintaining, and to the extent possible, adding financial inputs to biodiversity conservation in the Nuratau-Kyzylykum area. However, it is equally clear that without assistance to overcome some barriers to the implementation of certain crucial developments, effective long term biodiversity protection in the area is unlikely.

C. Global Objective

8. The global environmental objective of this project is to conserve, enhance and sustainably manage an area containing globally important biodiversity and natural landscape features through the creation of a Biosphere Reserve covering approximately 3,000 km² in the Nuratau-Kyzylykum bio-geographical region of Uzbekistan. An additional objective is to provide a model for similar activities in Uzbekistan and the Central Asian region to conserve globally important biodiversity.

D. Alternative

9. The alternative strategy is to address the barriers to the long term effective conservation of globally important biodiversity in the Nuratau-Kyzylykum area by providing the additional technical / financial resources and capacity building needed to develop a Biosphere Reserve (BR) which utilizes integrated and participatory management plans and approaches. The GEF alternative will therefore focus on developing the new legal / administrative structure required, management planning, awareness / capacity building of local authorities and communities to participate / play a management role, and reduce threats to biodiversity from rural natural resource use and livelihoods. In addition to ensuring the effective conservation of biodiversity in the BR itself, the project will also make an important contribution to the establishment of other such areas by providing a practical model. Thus the project will also include activities to ensure evaluation and dissemination of practical lessons.

E. Scope of Analysis

10. The scope of the incremental cost analysis covers all activities, country and donor funded, that are directly relevant to the project objectives of in-situ conservation and sustainable use of biodiversity in the Nuratau-Kyzylykum area and coincide with the 4.5 year implementation period of the project. The geographical area of the project considered in the analysis includes the projected boundaries of the proposed biosphere reserve which encompass a viable segment of the bio-geographical area. Benefits will be accrued beyond the 4.5 year duration of the project as once initial barriers to development are overcome the biosphere reserve becomes an established, self-sufficient and locally supported entity. In addition, the experience and momentum of the project will play

an important role and example to other protected areas initiatives planned and thus have significant impact on the long term redevelopment of the protected areas system in Uzbekistan.

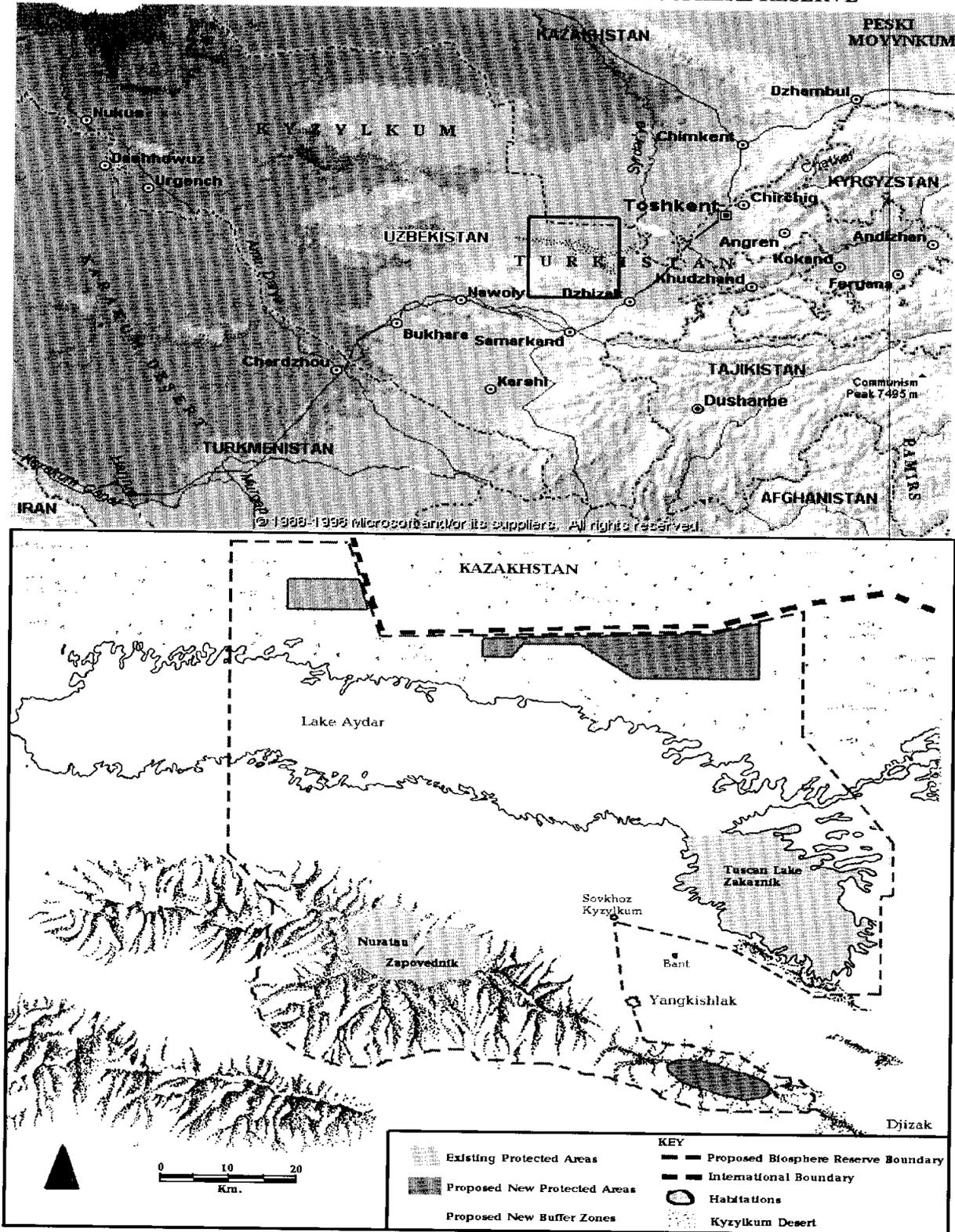
F. Incremental Domestic Benefits

11. The key threat to the biodiversity of the project area is the lack of sustainability of local natural resource use and a crucial aim of the project is addressing this threat. To achieve this activities within the project are targeted at assisting local rural communities and government agencies to achieve sustainable livelihoods from more efficient and diverse use of biodiversity and natural resources. In addition, emphasis is laid within the project on building the capacity of local government and communities to undertake such activities and various support mechanism will also be put in place to support this process. These activities, though aimed principally at achieving global biodiversity benefits, also have significant domestic benefits for the socio-economic, civil society development and livelihood security of rural people in the area. In fact, these benefits are crucial for the long term success of the project as they will ensure continued local support and commitment to the existence and objectives of the biosphere reserve.

G. Costs and Incremental Cost Matrix.

12. In total the baseline funding over the 4.5 years of the proposed project equals USD 361,100 of which USD 93,400 is for biodiversity protection and control, USD 105,600 for forestry activities, USD 156,600 is for related rural development and education, and USD 5,500 is external assistance (Nord-Sued-Brueken for water powered oil seed press).). The cost of the GEF alternative, which complements resources available in the baseline, is USD 1,765,480 (GEF750/UNDP152/GoU841.48/NABU22). The incremental cost is USD 1,404,380. Over forty seven percent (47%) of this will be co-financed by international donors and the government (USD 174,000 in cash by UNDP/NABU and USD 480,380 in-kind by government). GEF funds are requested for the remaining incremental cost of USD 750,000, which will be utilized for activities directly focused on achieving global biodiversity conservation benefits (the legal/administrative establishment of the biosphere reserve; management planning; conservation awareness, education and capacity building; and addressing unsustainable natural resource use threats to biodiversity).

ANNEX 2: MAPS OF THE PROPOSED NURATAU-KYZYLKUM BIOSPHERE RESERVE



NB. The biosphere reserve boundaries indicated in the above map are for illustrative purposes only. Actual definition of the biosphere reserve and core areas boundaries will occur within activities of the project on the basis of full consultation and consensus with all project stakeholders.

ANNEX 3: Significance of the Proposed “Nuratau-Kyzylkum Biosphere Reserve Area for Biodiversity Conservation.

The project area is unique in Central Asia in that it contains elements of two bio-geographical regions, namely the Central Asian Mountains and the Turan lowlands, and is therefore characterized by an extraordinary biodiversity. The Nuratau Mountains are the northwest spur of the Turkestan range of the Pamir-Alia system and form the southern border to the Kyzylkum desert.

Ecosystems:

- * The ecosystems of the Nuratau mountains stretch from the foothills, at about 500m above sea level, to high mountain regions above 2,000 m in the central part of the mountains. Types of vegetation range from: sagebrush semi-desert (*Artemisia* sp., *Carex pachystylis*, *Poa bulbosa*); drought resistant shrub formations, mainly populations of several almond species (*Amygdalus* sp.), honeysuckle (*Lonicera* sp.), dwarf medlars (*Cotoneaster* sp.) and pistachios (*Pistacia vera*); dry mountain steppes (dominated by *Elytrigia trichophora* and other grasses) to populations of shrubs and hemichamaephytes (*Ephedra* sp., *Lepidolopha* sp.) and spiny cushion chamaephytes (*Acantholimon* sp.). Only isolated specimens of juniper trees (*Juniperus saravshantica*), which originally grew in large numbers on high ground, have survived. In valley bottoms forest ecosystems exist usually strongly influenced by human activity (both positive and negative). For example in areas developed as orchard and forest gardens the valley bottoms are dominated by walnut (*Juglans regia*), apricot and mulberry. On higher terraces the tree layer is dominated by *Armenica vulgaris*, *Malus sieversii*, *Acer semenovi*, and *Morus alba* and *nigra*. In inaccessible gorges entirely natural formations dominated by *Populus* sp. and *Salix* sp. occur.
- * The border Kyzylkum desert contains the most important types of desert ecosystems, ranging from loam desert with sagebrush and umbellifers (*Artemisia* sp., *Ferula assa-foerida*) to areas of sandy desert with dunes on which several types of woody plants grow, mainly saksaul (*Haloxylon* sp.), and sand acacias (*Ammodendron* sp.). The Kyzylkum desert borders directly on the medium-sized Nuratau mountains (max. elevation of 2,169 metres) without any interposed intensively farmed or irrigated agricultural land. This is an extremely rare landscape feature.
- * Lake Aidar is an expanded lake formed in a historically marshy desert depression by a deliberate diversion of water from the Charadara reservoir in 1969 and its level has risen since at irregular intervals. The site contains several wetland ecosystem and has become an important breeding and resting ground for water fowl (including many species of seagulls and limicoline birds, ducks, white pelicans and globally endangered Dalmatian pelicans (see table at end of this Annex describing biodiversity value of Tuzkan Lake, one component of the Aidar Lake system)
- * The unique interest of the area is enhanced by the existence of a number of specific cultural landscapes created over centuries of human influence. Human involvement ranges from orchards with ancient and elaborate irrigation systems in some valleys (where walnut and many other fruit trees were cultivated) to low intensity livestock herding. These could form a basis for sustainable development. The orchards are potential valuable for their high genetic variability.

Flora

- * Central Asia is the place of origin of some of the largest plant families and genera of the Eurasian continent (i.e. milk vetch *Astragalus* and leek *Allium*). The flora of the Nuratau area, because of its

diverse landscape and its bio-geographical location, is especially interesting and includes 1,174 vascular plant species in 475 genera and 84 families. The mountain part of the project area forms the core of a distinct botanical region (the Nuratau area of the Afghani-Turkestanic floral province). Its flora contains approximately 1,000 plant species in 412 genera and 75 families (62 endemic species). The semi-desert contains about 300 plant species. The Red Data Book of Uzbekistan lists 24 species occurring in the project area. In the last few years several scientifically interesting new species were discovered. Many species are of potential commercial / agro-biodiversity interest (orchard and nut trees, medicinal herbs, ornamental plants, and food plants).

Fauna

The fauna of the project area is also of significant global biodiversity value. It is composed of species from both the Central Asian Mountains and the continental deserts.

- * The fauna contains 35 mammal species. The planned core area of the biosphere reserve includes 95% of the world's population of Kyzylkum Urial (*Ovis orientalis severtovi*) which is globally endangered and is placed in Annex II of the Washington Convention on International Trade in Endangered Species. In the deserts adjoining the mountains Persian gazelles (*Gazella subgutturosa*) previously occurred in large numbers and probably still occur (though no official sightings were made in recent years). The area was identified as a primary site in Uzbekistan for introduction of gazelles by the Djeiran Breeding Centre (near Bukhara).
- * The project area contains more than 250 bird species (approx. 150 breeding), several of which occur in the Red Book of the USSR and the Washington Convention. Of particular importance are populations of globally endangered species, in particular birds of prey such as Eurasian griffin vultures (*Gyps fulvus*), Cinereous vulture (*Aegypius monachus*, Lammergeir (*Gypaetus barbatus*), golden eagles (*Aquila chrysaetos*) and others, which exist in large numbers. Other species of international importance are the Houbara bustard (*Chlamydotis undulata*), Dalmatian and White pelican (*Pelicanus crispus* and *P. onocrotalus*) and Black stork (*Ciconia nigra*). Many species of birds rest in the project area on their migration or hibernate there. The species Slender-billed Curlew (*Numenius tenuirostris*) and Siberian Crane (*Grus leucogeranus*), both listed in the Bonn Convention, potentially utilize the project area.
- * The region's herpetofauna is particularly diverse, with at least 29 species. There are several rare and highly endangered species of reptiles including the desert monitor (*Varanus griseus*), Central Asian cobra (*Naja oxiana* and Levant viper (*Vipera lebetina*).
- * Initial research has revealed a number of invertebrate species some of which are rare or endangered. About 900 species of insects have been identified in the project area to date but more than 2,000 are estimated to probable occur. The species present in the area have not been fully studied yet. Several species have been found for the first time in Uzbekistan or Central Asia. Some new species have also been discovered. Rare and endangered species include mainly butterflies (*Papilionidae*, *Pieridae*), beetles (*Carabidae*), lacewing flies (*Mantispa*) and syrphid flies (*Syrphidae*).

Table Summarizing Biodiversity Value of Tuzkan Lake [Data compiled by the Uzbek Wetland Working Group (1999)].

Species	Data		
BIRDS			
Nos of bird species recorded	286	101B, 256M, 71W	
Highest waterfowl counts	Winter 53,000 (1982)	27,500 (1988)	115,500 (1989)
Nos of IUCN RDB spp.		12	
Nos of Uzbek RDB spp.		13	
IUCN RDB Species:			

Pygmy cormorant <i>Phalacrocorax pygmaeus</i>	B ⁴
Ferruginous duck <i>Aythya nyroca</i>	B / M ⁵
White-headed duck <i>Oxyura leucocephala</i>	M/W
Red-breasted goose <i>Branta ruficollis</i>	rare M/W
Dalmatian pelican <i>Pelecanus crispus</i>	B ⁶
White-tailed eagle <i>Haliaeetus albicila</i>	M/W
Pallas' sea eagle <i>H. leucoryphus</i>	M/W
Lesser kestrel <i>Falco naumanni</i>	B
Gyr falcon <i>Falco xx</i> (<i>Vanellus gregarius L</i>)	M
Pale harrier <i>Circus macrourus</i>	M
Corncrake <i>Crex crex</i>	M
Great bustard <i>Otis tarda</i>	W
Uzbek Red Data Book species	
Little egret <i>Egretta garzetta</i>	B?
Eurasian spoonbill <i>Platalea leucorodia</i>	B
Common crane <i>Grus grus</i>	M
Demoiselle crane <i>Anthropoides virgo</i>	M
White stork <i>Ciconia ciconia</i>	M
Black stork <i>C. nigra</i>	M
Mute swan <i>Cygnus olor</i>	B?
Great black-headed gull <i>Larus ichthyaetus</i>	M/W
Houbara bustard <i>Chlamidotis undulata</i>	B/M
Black-bellied sand grouse <i>Pterocles orientalis</i>	B/M
Steppe eagle <i>Aquila sp.</i>	M / W
Golden eagle <i>Aquila crysotus</i>	M / W
Imperial eagle <i>Aquila sp.</i>	M / W
FISH	
Nos of fish species recorded	22
Nos of Central Asian endemics	6 sub spp.
Turkestan barbal ** <i>Barbus capito conocephalus</i>	B
Aral white-ear <i>Abramis sapa aralensis</i> **	B
Aral pike <i>Aspius aspius iblioides</i> **	B
Aral shemaya ** <i>Chalcalburnus chalcoides aralensis</i>	B
Turkestan gudgeon ** <i>Gobio gobio lepidolaemus</i>	B
Aral roach <i>Rutilus rutilus aralensis</i> **	B
MAMMALS	
Nos mammal species recorded	28
IUCN RDB species:	
Persian gazelle <i>Gazelle subguttarosa subguttarosa</i>	Present
Sand cat <i>Felis margarita</i>	Present
Corsac fox <i>Vulpes corsac</i>	Present
Uzbek RDB species:	
Long-clawed ground squirrel ** <i>Spermophilopsis leptodactylus</i>	Present
Severtzov's gerboa <i>Allactaga severtzovi</i> **	Present
Piebald shrew <i>Diplomesodon pulchellum</i> **	Present
Long-eared hedgehog <i>Hemiechinus auritus</i>	Present
Brandt's hedgehog <i>H. hypomelas</i> **	Present
Reed cat <i>Felis silvestris (ornata)</i>	Present
REPTILES	
IUCN RDB species:	
Grey monitor lizard <i>Varanus griseus</i>	Present
Central Asian tortoise ** <i>Agryionemys horsfieldi</i>	Present

⁴ significant breeding population

⁵ 290 recorded on migration in 1987 and 36 recorded breeding in 1991

⁶ former breeding with up to 26 in 1986

FLORA	
Tugai formations	small areas
Tugai-Reed formations	large areas
<u>IUCN Red Data Book plants</u>	
<i>Calligonum paletzkianum</i>	Present
<i>C. elegans</i>	Present
<i>C. matieianum</i>	Present
<i>Cousine strobulocephala</i>	Present
<i>C. sogdiana</i>	Present
<i>Tithymabus scerocyathium</i>	Present

** Denotes Central Asian endemic

NB. Full Species lists for Flora and Fauna within the project area are available if requested

ANNEX 4: Project Logical Framework

Intervention Logic	Objectively Verifiable Indicators	Source of Verification	Imp. Assumptions
<p>Project Goal</p> <p>To conserve the globally important biodiversity, landscapes and cultural assets of the Nuratau Mountain Range and the adjacent Kyzylkum Desert and to provide a model for protected area development in Uzbekistan / the region.</p>	<p>The long term continued existence and security of globally important biodiversity, landscapes and cultural assets in the area and the number of replications of similar protected area development in other parts of Uzbekistan/the region.</p>	<p>Biosphere Reserve long term monitoring records and management plan evaluation and reviews</p> <p>NBSAP periodic review reports and relevant agency reports</p>	
<p>Immediate Objectives</p> <p>1. To conserve the unique national and global biodiversity value and the mosaic of natural and cultural landscapes in the project area</p> <p>2. To impart to local authorities and communities a better awareness and valuation of biodiversity resources and services and an understanding of the principles of sustainable development.</p> <p>3. To build the capacity of local authorities and communities to play an active role in the planning and management of natural resources and development of sustainable livelihoods.</p>	<ul style="list-style-type: none"> Increased scope and scale of protection of biodiversity resources and ecological processes within the project area measured by: a. increase in area of core, buffer and transition zones b. stable or increased population of key / indicator species c. number of examples of sustainable traditional resource use practices revived Increased understanding and commitment of local authorities and communities to objectives of the Biosphere Reserve measured by tangible contributions (buildings, personnel, finances, administrative support) and specific survey and assessment exercises. Increased technical capacity measured by the ability of local authorities and communities to implement activities and influence decision making The existence of a management plan with specific components aimed at increasing role of all stakeholders 	<ul style="list-style-type: none"> Government records and project progress reports Management plan biological monitoring reports Project evaluation report Project progress reports Awareness sub-contract progress and evaluation reports Project evaluation report Project progress reports Project evaluation report 	<p>That project activities will create the correct environment for achieving this objective.</p> <p>That long term commitment will be provided by government <i>post</i> project</p> <p>That increased awareness and valuation of biodiversity and its services will lead to better decision making and commitment to biodiversity conservation.</p>

<p>4. To reduce within the project area types of land use with negative effects on the ecosystems and to provide the basis for the long term sustainable development of the area</p>	<ul style="list-style-type: none"> The number of economic and social programmes for the sustainable use of the biodiversity and natural resources of the project area. 	<ul style="list-style-type: none"> Project progress reports Project evaluation report 	
<p>5. To develop and test new "inclusive" and sustainable human development orientated approaches to the conservation of biodiversity in Uzbekistan</p>	<ul style="list-style-type: none"> The level of local participation in the management of the biosphere reserve and degree of ownership and capacity of communities/local government to undertake appropriate actions The number of duplications within other national and regionally protected areas, of approaches demonstrated and lessons learned by the project 	<ul style="list-style-type: none"> Annual Tripartite Reviews meeting reports / conclusions Project evaluation report 	
<p>Project Outputs</p>		<p>Source of Verification</p>	
<p>Objectively Verifiable Indicators</p>		<p>Imp. Assumptions</p>	
<p>1. Establishment of a Biosphere Reserve which provides a legal and administrative framework for the achievement of integrated conservation and sustainable rural development objectives.</p> <p>2. A detailed integrated management plan for the Biosphere Reserve which has been operationally tested during the project (pilot management plan) and upgraded/ revised on the basis of this experience.</p>	<p>1.1 Biosphere Reserve legal instruments and framework developed and approved by yr.2 q4</p> <p>1.2 Key administration assets of the Biosphere Reserve in place (administration buildings, office equipment, vehicles, staff) by end 2 yr.</p> <p>1.3 Effectiveness of Biosphere Reserve Administration, measured by timely achievement of key activities / components of management plan</p> <p>2.1 Development, consensus and approval of "pilot" management plan by end yr. 2.</p> <p>2.2 Development, consensus and approval of "long term" management plan by end yr. 4</p> <p>2.3 Effectiveness of management plan in achieving stated management objectives measured by number of key objectives met within specified time / budgetary parameters.</p>	<ul style="list-style-type: none"> Government decrees and reports Project progress reports and UNDP PO site visits Project evaluation report 	<p>That relevant government agencies and the Cabinet of Ministers / Parliament show adequate commitment to the timely approval and enactment of required legislation</p>
		<ul style="list-style-type: none"> Project progress reports Project evaluation report Biosphere Reserve Administration annual management plan review 	<p>That sufficient consensus is developed between the various stakeholders to ensure a truly integrated approach to conservation and sustainable natural resource use management in the Biosphere Reserve</p>

<p>3. Increased awareness and valuation of biodiversity and its services by rural communities, local authorities / decision makers and the general public</p>	<p>3.1 Number of relevant items (articles, reports) in the media at 6, 18, 30 and 42 months</p> <p>3.2 Increasing number and/or membership of NGO, associations, community groups with relevant focuses / interests / activities by end yr.3.</p> <p>3.3 Change in number of hours per week of relevant teaching in schools within project area by end yr 3.</p> <p>3.4 Measures of changing awareness and valuation based on survey / assessment during relevant project activities by end yr.4.</p>	<ul style="list-style-type: none"> - Sub-contractor reports and impact evaluations - Project evaluation reports 	<p>That increased awareness and valuation of biodiversity and its services will lead to better decision making and commitment to biodiversity conservation.</p>
<p>4. Increased capacity of stakeholders (local conservation / natural resources authorities, rural communities) to influence and play a role in the conservation/appropriate use of biodiversity resources and pursuit of sustainable local development.</p>	<p>4.1 Existence of relevant legal and structural instruments to allow all key stakeholders to play an appropriate role by end of yr.2.</p> <p>4.2 Increased technical capacity measured by: a. number of staff having received formal/informal training b. an evaluation of the impacts of the technical capacity building components of the project by end yr.3.</p>	<ul style="list-style-type: none"> - Project progress reports. - Project valuation report 	<p>That increased capacity will lead to increased role and better decision making</p>
<p>5. The demonstration and testing of methods and approaches to address the major threats to biodiversity in the project area through community based land and natural resource use pilot projects</p>	<p>5.1 Between 2-3 "model" sustainable community forestry and livestock management programmes implemented and community forestry/livestock management plans developed by yr. 4.</p> <p>5.2 A model community fisheries programme at Tuzkan Lake implemented and its benefits for sustainable fisheries and biodiversity conservation proven by yr. 4</p> <p>5.3 Revenue generated on a sustainable basis by biosphere reserve from tourism/hunting (i.e off-take of equal or less than annual rate of increase of hunted populations and minimum of disturbance / damage from tourism / hunting) by yr.4 q.2</p> <p>5.4 Equitably sharing of revenue generated from tourism / hunting between key stakeholders (% received by national authorities, BR Administration and local communities) by yr.4 q2</p>	<ul style="list-style-type: none"> - Sub-contractors progress and impact evaluation reports - Project progress reports - Biosphere Reserve Administration financial accounts - Project evaluation report 	<p>That pilot projects will successfully demonstrate alternative or more appropriate natural resource use which reduce / remove threats to biodiversity.</p>

<p>6. Practical demonstration to protected areas authorities in Uzbekistan, and regionally, of new approaches to biodiversity conservation and key lessons / factors important for development of similar initiatives.</p>	<p>6.1 Number of relevant personnel from national and regional protected areas authorities who are informed about the project a. by visiting project site b. through workshop/seminars c. information materials (Email network, internet, printed information, media) by yr.4 q.4</p> <p>6.2 The number of information sharing and dissemination mechanisms such as media outlets, electronic mail networking and internet functioning by yr. 4 q.4</p> <p>6.3 Number of attempts to apply methods and approaches demonstrated / proven by the project in other protected areas in Uzbekistan / regionally by yr 4 and post project</p>	<p>- Project progress reports and TPR</p> <p>- Post project impact evaluation report</p>	<p>That sufficient government commitment and support exists to allow similar developments at other protected areas.</p>
<p>7. Heightened profile of the area and increased capacity and opportunity to attract other relevant and complementary initiatives by UNDP / partners / co-financers.</p>	<p>7.1 Increased number of reports on the area or inclusions in reports by government, NGO's, donors, national / international media of the project area yr.4 and post project</p> <p>7.2 Increased success of the area in attracting development support measured by number of new projects and overall increase in investment (including government and donor investment) post project.</p>	<p>- Aid Coordination Unit of Cabinet of Ministers, State Committee of Macro-economics and Statistics, oblast and district authorities</p> <p>- Donor meeting reports</p>	<p>That heightened profile of the area will be sufficient to bring about increased investment</p>
<p>Project Activities</p>		<p>Costs</p>	
<p><u>Activity 1:</u> Preparation and enactment of all basic documents for establishing the Nuratau-Kyzylkum Biosphere Reserve</p>	<p>1.1 detailed zoning plan on the basis of criteria/data gained during PDFa and discussion with stakeholders;</p> <p>1.2 boundary survey and demarcation; detailed assessment and consultation to identify legal/administrative instruments required to meet the full objectives of the Biosphere reserve and drafting of legal/administrative documents (e.g. preparation of all legal documents required for establishment and management of the biosphere reserves);</p> <p>1.3 submission of legal / administrative documents and active follow-up / lobbying to ensure timely approval/enactment.</p> <p>1.4 UNESCO Biosphere Reserve nomination form preparation, submission and follow up.</p>	<p>USD 165,000</p> <p>(G EF110UNDP5GoU50)</p>	<p>Pre-conditions</p> <p>That appropriate government agencies and legislation bodies assist and implement activities required to complete development and enactment of legislative framework.</p>

<p><u>Activity 2:</u> Creation of a functioning administration unit for the administration of the Biosphere Reserve fully capable of implementing the management plan</p>	<p>2.1 In accordance with the management requirements and needs, provide support to the government in the identification and recruitment of personnel, procurement of equipment, etc., to establish the tangible aspects of the administration.</p> <p>2.2 Provide initial training and technical guidance to administration personnel to establish its operational role and presence</p> <p>2.3 Procure limited new equipment</p> <p>2.4 In accordance with the management requirements and needs, provide support to the government in the identification and recruitment of personnel, procurement of equipment, etc., to establish the tangible aspects of the administration.</p> <p>2.5 Provide initial training and technical guidance to administration personnel to establish its operational role and presence</p> <p>2.6 Procure limited new equipment</p>	<p>USD 200,380 (GEF20UNDP3GoU150.38)</p>	<p>That relevant government agencies and authorities (State Committee Nature Protection, State Committee Forestry, Oblast/rayon authorities) provide in-kind co-financing as described in project brief.</p>
<p><u>Activity 3:</u> Preparation, in consultation with key stakeholders, of a "pilot period" (2.5 year) management plan and review / agreement by all parties.</p>	<p>3.1 Collection of all relevant data (ecological, land-use, socio-economic, current management resources, legal framework, etc.) and establishment of appropriate information management system.</p> <p>3.2 Identification/ description of key management plan components (goals and detailed objectives, operational procedures and approaches, annual action programmes, training, financing, budget and work-plans) together with key stakeholders.</p> <p>3.3 In depth participatory review with all stakeholders and finalization.</p>	<p>USD 235,000 (GEF100UNDP5GoU130)</p>	<p>That all key stakeholders are committed to working together and can achieve consensus</p>
<p><u>Activity 4:</u> Development of long term management plan based on detailed evaluation of "pilot" management plan and in depth discussion with key stakeholders</p>	<p>4.1 Carry-out jointly with senior staff of Biosphere Administration Unit an evaluation of the sufficiency / effectiveness of the pilot management plan.</p> <p>4.2 On basis of this evaluation prepare a draft long term (5 to 10 years) management plan</p> <p>4.3 Review draft management plan with key stakeholders, make necessary revisions and have it adopted</p>	<p>USD 85,000. (GEF40UNDP5GoU40)</p>	<p>That local authorities and relevant central government bodies assist and support the development of non-government organizations including their registration if necessary</p>
<p><u>Activity 5:</u> Building public, local authority and rural community awareness, support and participation in biodiversity conservation and sustainable use</p>	<p>2.1 establish an information centre to act as a focal point and resource base for public awareness, education and participation development in the biosphere reserve (library, museum, events, exhibition etc.)</p> <p>2.2 production of conservation/environmental education materials and development of effective dissemination mechanisms (community extension, meetings, local radio, TV, print, other),</p> <p>2.3 training of educators/multipliers, including BR staff (especially rangers), local teachers, traditional and religious leaders etc.</p>	<p>USD 131,000 (GEF100UNDP1GoU30)</p>	<p>That local authorities and relevant central government bodies assist and support the development of non-government organizations including their registration if necessary</p>

<p><u>Activity 6:</u> Capacity building of local authorities, key decision makers and rural communities to effectively plan and play a role in the conservation of biodiversity and sustainable utilization of natural resources</p>	<p>6.1 support to the development of local and community level associations, clubs, NGO's, etc. with appropriate conservation and/or sustainable natural resource use objectives. 6.2 Training of key local decision makers on issues of biodiversity conservation and sustainable natural resource use and planning through production of practical advisory documents and workshops.</p>	<p>USD 61,000 (GEF40UNDP1GoU20)</p>	<p>That government and non-government agencies ensure the availability and participation of relevant personnel for training.</p>
<p><u>Activity 7:</u> Assistance to the Biosphere Administration in the long term conservation management of the area through demonstration and testing of new approaches to achieving sustainable natural resource use and thereby practical management models for reducing threats to biodiversity and generating revenue for management</p>	<p>7.1 Development of community based sustainable forest utilization and restoration at a number of model sites. 7.2 Development of more appropriate and sustainable types of livestock farming at a number of model sites both in the mountains and in desert pastures. 7.3 Development and trial of economic income generation mechanisms via strictly controlled utilization within high biodiversity / landscape value areas (i.e. eco-tourism and trophy hunting). 7.4 Development, on the basis of the existing initiatives by local protection staff, a fully operational demonstration programme of community-based fisheries at Tuzkan Lake Zakaznik (State Reserve). 7.5 Evaluation of new approaches and models tested and integration of best practices and approaches into final management plan.</p>	<p>USD 422,000 (GEF265UNDP97GoU40NABU20)</p>	<p>That local authorities and government agencies not directly involved with sub-projects nevertheless are fully committed to and provide administrative / bureaucratic support to sub-projects That an adequate legal and administrative framework exists for small scale sustainable income generation activities</p>
<p><u>Activity 8:</u> Evaluation and dissemination of lessons learned by the project to national and regional interested parties and stakeholders</p>	<p>8.1 Project evaluation mission and preparation of project evaluation report 8.2 Dissemination to relevant national and regional interested parties and stakeholders 8.3 Workshop to review lessons learned with national, regional and international interested parties and stakeholders 8.4 Development of a networking mechanism (with emphasis on electronic media such as Email nets and internet if technically practical) between project area and other similar protected areas within the country / region.</p>	<p>USD 76,000 (GEF50UNDP6GoU20)</p>	<p>That relevant government agencies allow the full participation of appropriate personnel from around Uzbekistan / the region in workshops and other events aimed at disseminating the lessons learned from the project</p>

ANNEX 5: SUB-PROJECTS

Summary Information

Purpose: Addressing the major threats to biodiversity through demonstration of new approaches to achieving sustainable natural resource use and livelihoods

- a) Development of community based sustainable forest utilization and restoration at a number of model sites.
- b) Development of more appropriate and sustainable types of livestock farming at a number of model sites both in the mountains and in desert pastures.
- c) Development and trial of economic income generation mechanisms via strictly controlled utilization within high biodiversity / landscape value areas (i.e. eco-tourism and trophy hunting).
- d) Development, on the basis of the existing initiatives by local protection staff, a fully operational demonstration programme of community-based fisheries at Tuzkan Lake zakaznik (State Reserve).

Financing:

	USD	Source
Sub-Contract 1 (Forestry)	60,000	UNDP
Sub-contract 2 (Livestock)	120,000	GEF/UNDP
Sub-contract 4 (Eco-tourism and hunting)	75,000	GEF/NABU
Sub-contract 7 (Community Fisheries)	50,000	GEF/UNDP

Related / Complementary UNDP Activities:

Discussion is currently underway with the Dutch NGO NOVIB concerning an additional support activity targeted at providing technical and financial (micro-grants/credits) support to local entrepreneurs and community groups to develop sustainable and appropriate small scale income generation activities in the GEF project area.

Community Forestry and Afforestation Sub-Project

Duration: 36 months

Total Budget: USD 60,000

Source: UNDP

Key Players: Site communities, State Committee for Forestry, Biosphere Reserve Administration.

Execution: Sub-contract to International / local firm or NGO

Problem statement: A major threat to the biodiversity of the area is the extensive loss and degradation of the natural forestry, semi-natural forest gardens and fruit / nut woods which is occurring. This loss, like most land use issues of the area, can be linked to the two major socio-economic upheavals that have occurred in the past 60 years: namely the initial transfer to a soviet collectivized rural economy, followed by independence and the sudden transition to a market orientated economy. The first upheaval resulted in a disruption and breakdown of traditional practices and controls on forest use, population trans-location, an increase in the intensity of livestock production and a dependence on state wages. The second upheaval has thrown the population back to a semi-subsistence situation in which rural populations are often forced to over exploit forestry and other natural resources to survive and traditional practices and controls have been weakened or lost. In more specific terms current problems include: the abandonment / felling of forest gardens and fruit/nut woods thereby reducing their productivity and biodiversity value (including potentially highly significant global agro-biodiversity values of

the numerous local races of walnut, pistachio and other important species); over exploitation of hillside and desert shrubs and trees for fuelwood, grazing and fencing, leading to erosion problems, destabilization of hillsides and fragile desert, and reduced water retention capability; rapid population growth resulting in increase pressure on resources.

Current Activities: Current efforts to redress the situation are almost entirely undertaken by the state through local branches of the State Committee for Forestry. This mainly consists of poplar plantations for local timber use and poplar & fruit tree propagation in nurseries for sale as seedlings. Within deserts some plantations of white saksaul (*Haloxylon*) have been made as a measure against erosion. Other efforts to regenerate hillside vegetation have been attempted but without great success due to a lack of protection from grazing and the insufficient involvement or support by local populations. Regulation of forest use, which is also a responsibility of the State Forestry Committee, is inadequate or none existent. At the present time private or community involvement in forestry development is limited to some fruit tree and poplar growing, although interest in redevelopment of forest gardens and fruit/nut woods is now growing in many mountain villages.

Current efforts are insufficient to adequately address the decline in forestry and loss of biodiversity resources in the area. Major barriers to the effectiveness of these efforts are: a lack of adequate training and awareness within the State Forestry organs; a lack of adequate state financing; and finally, the almost total lack of public and community involvement / ownership.

Goal and Objectives:

Goal: To address biodiversity threats from forest loss/degradation by developing sustainable forestry use and restoration models which are easily replicable, are founded as far as possible on traditional existing / historical practices and customs, and provide sufficient socio-economic benefits as to make widespread adoption likely.

Objectives:

- * To restore and redevelop the forest garden and fruit/nut wood land use system at one or a number of model sites / villages.
- * To establish one or more community based forestry management plan/s and mechanisms for the area around a village/s based as far as possible on traditional practices and customs (this maybe combined with community livestock grazing plans)
- * Develop joint community and State Committee of Forestry initiatives for establishing and maintaining village fuelwood and environmental protection reserves and plantations (on slopes and in desert).
- * Identify and test innovative or new approaches/techniques for sustainable use and protection of forests.

Expected Outcomes/Benefits

- ⇒ Reduced threats / restoration of natural and semi-natural forest ecosystems in the project area
- ⇒ Improved food security, incomes and livelihoods of local communities and thus reduced need for unsustainable natural resource use and more positive attitude to the biosphere reserve
- ⇒ Improved environmental stability and reduced dangers from mud slides, erosion, hydrological change.

Broad Sub-project Strategy

There are a number of key elements in the project strategy: firstly, emphasis will be placed on community orientated activities rather than the previous state orientation i.e. activities which have direct relevance and value to the community / individuals and for which they have principle ownership. Activities should as a result be more likely to be sustained and supported in the long term. Secondly, an emphasis will be placed on utilizing traditional knowledge and customs as far as is practically possible, thereby building on existing skills and helping to ensure appropriateness of activities for local conditions. Thirdly, though at initial stages the project may take the financial burden of some developments, emphasis will be place on ensuring that activities demonstrated by the project can be continued and replicated without continued outside assistance.

Activities

- Identification of models sites on basis of availability of forest resources, needs and interest of local communities, importance for biodiversity / environmental protection
- In depth assessment and consultation with chosen communities, local authorities, State forestry committee, to identify concrete and realistic activities at each site to achieve objectives outlined above.
- Together with communities, local authorities and state forestry committee, prepare an implementation plan and budget for each site
- Assist in the establishment at each site of the community structures for implementing activities and identify / recruit key individuals who will be involved.
- Organizational and technical assistance to community structures, key individuals, state forestry committee etc. in implementation of activities.
- Continuous monitoring and evaluation of each site to identify and rectify problems regarding activities design, implementation, community involvement, etc.
- Terminal evaluation report / recommendations for replication of activities in other sites within the Biosphere Reserve area.
- Organise and prepare study trips / information materials / guidelines for interested individuals, communities and organizations to encouraging replication of successful activities in other sites

Sub-project Implementation Arrangements

An international or local organization with appropriate skills and capacities will be sub-contracted to ensure effective execution of the project. In addition selected communities will also play a large and critical role in both the formulation of detailed concrete activities and their execution. Likewise the State Committee of forestry will play a critical role in some aspects of the project, particularly in regard to seedling production and plantation activities.

Interactions with other components of the GEF Project / other initiatives:

Education and Awareness: This will be relevant in ensuring an improved awareness and understanding of sub-project participants and rural populations generally of the importance and benefits of protecting and sustainable utilizing forest resources in the area.

Livestock Sub-Project: One of the major threats to forestry and its regeneration is livestock grazing in the area. For this reason some activities (such as village forestry management plans and grazing management plans) may have to be integrated into general village natural resource plans.

Technical and financial support to the development of appropriate income generation activities Project: This proposed UNDP/NOVIB project could play an important role in providing a long term mechanism in which traditional and new appropriate forest utilization initiatives can be supported and financed (i.e. provision of investments needed to reconstruct forest garden irrigation canals and tanks, start up capital for cottage industries utilizing forest products, etc.)

Livestock and Range-land Management Sub-Project

Duration: 36 months

Total Budget: USD 120,000

Source: GEF/UNDP

Key Players: Site communities / Sovhoz, Farmers Association, Biosphere Reserve Administration.

Execution: Sub-contract to International / local firm or NGO

Problem Statement:

Almost throughout the project area overgrazing is the single most serious threat to biodiversity. In the desert areas it has reduced the productivity of desert range-lands and threatens extreme desertification in some places, while in the mountains it has in some areas destroyed or retarded woody plant growth and reduced the stability of slopes bringing erosion, dangerous mud slides and reduced capacity for water retention. There are two main factors for overgrazing: a. over stocking and b. inefficient and altered management patterns.

Over Stocking: Livestock numbers in the Nuratau region have exceeded a safe carrying capacity for many years with clear indicators of degradation being noted by scientists and herders since the early 1980's. During recent years the numbers of animals held by the state sector (*Sovhoz* and their successors) has reduced but this has been matched by an increase in private livestock and the loss of thousands of hectares of pasture to the rising waters of Lake Aydar. Information from local farmers and scientists indicate that a sustainable stocking density for the desert range-land is around 0.5 to 0.3 sheep or goats per hectare and around 0.2 cattle/horses per hectare. This situation is not met anywhere in the area and common stocking densities for sheep/goats range from 0.7 to 1.2 per hectare. In the mountains, where almost all livestock are privately owned, clear degradation is occurring around villages and on fragile slopes. Incidence of gullying and serious mud slides are increasing and quantity / duration of mountain stream flow is said to be reducing.

Inefficient management: Formerly within the desert plains livestock grazing was carried out in a semi-nomadic manner with frequent changes in pasture allowing regeneration to occur. Today permanent grazing is often practiced in the vicinity of artificial wells constructed during the soviet era and this has caused local overgrazing extending many square kilometers (this is very obvious from aerial photographs of the area in the late 1980's). In these areas overgrazing may result in a total destruction of vegetation cover. On the other hand some pastures have been under utilized for many years resulting in a build up of a soil crust and reduced water absorption and productivity. In the mountains failure to maintain traditional seasonal changes of pasture has resulted in heavy overgrazing and damage in the vicinity of villages and use/damage to fragile slopes and areas that could more productively be used for hay and vegetable production. Overgrazing has particularly impacted woody plant growth and is an important factor in preventing natural / artificial regeneration of forestry.

Underlying Causes: The causes of these problems can be linked to changes brought about both during the soviet era and the transition following independence. During Soviet times collectivization resulted in a dislocation of traditional practices and the permanent resettlement of people in areas formerly used in a nomadic manner. New intensive management approaches were introduced and infrastructure to facilitate this, such as new wells, constructed. Furthermore, ownership of land and animals shifted from individuals/communities to the state thus reducing incentives for sound management. Following independence, reform of management approaches to livestock farming has been minimal but incomes have dropped significantly due to the current lack of access to former markets in the Soviet Union and a general decline in the economy during the transition period. Thus, many of the negative management features of the Soviet era remain but have been compounded by the need for people to keep larger private herds to off-set devaluation of livestock products and as a "security net" against inflation and poverty.

Goals and Objectives:

Goal: To reduce threats to biodiversity from over intensive and inappropriate livestock grazing by testing and developing models for more efficient and sustainable livestock management, which are easily replicable, are founded as far as possible on existing / or historical traditional practices and customs, and provide sufficient socio-economic benefits as to make widespread adoption likely.

Objectives:

- * To provide replicable models of how to reducing livestock grazing pressure on desert and mountain pastures within the biosphere reserve, through the improvement of the effectiveness of grazing management
- * To provide practical and tested means by which to reduce livestock grazing pressure on desert and mountain pastures through reduction of stocking densities

- ★ To ensure awareness of communities and relevant state structures within the biosphere reserve of the activities undertaken in model sites and encourage / facilitate replication

Outcomes / Benefits

- ⇒ Reduction of the most serious single threat to biodiversity in the project area
- ⇒ Improved food security, incomes and livelihoods of local communities and thus reduced need for unsustainable natural resource use and more positive attitude to the biosphere reserve
- ⇒ Reduced impact on forestry and fragile desert/mountain slope vegetation and thus improved environmental stability and reduced dangers from mud slides, erosion, hydrological change, etc.

Broad Sub-project Strategy

The sub-project strategy is to test and demonstrate within model sites and communities mechanisms and approaches applicable throughout the biosphere reserve area which will reduce impacts on biodiversity and improve the sustainability of livestock farmers' livelihoods. Reestablishment of traditional livestock grazing customs and practices will be pursued whenever appropriate and practical. Likewise emphasis will be placed on full involvement and empowerment of stakeholders (principally the state farm and communities) as their previous lack of any substantial role in the management of livestock has been identified as a key issue. Three broad approaches will be used to address livestock problems: the first will focus on the regulatory and tenure / ownership issues that need to be addressed to provide an effective control on livestock damage and provide sufficient incentive for livestock farmers to improve practices; the second will focus on improving economic returns per animal and thus allowing a reduction in stocking densities without decline in incomes; the third will address inefficient grazing patterns through the reintroduction of traditional regulations and grazing patterns – this should also contribute to improved productivity and thus declining need for high stocking densities. Within the context of the legal and administrative development of the biosphere reserve and the greater knowledge gained during the initial stages of the project, a mixture of activities will be identified and undertaken to test specific mechanisms that can be replicated at a biosphere / regional level.

Activities:

- ◆ To carry out an in-depth study of problems and issues relating to livestock farming in the biosphere reserve area, particularly in regard to tenure / ownership, the potential / limitations of reestablishing traditional grazing management practices, and the best options for increasing per unit economic returns on a sustainable basis and thus lower stocking densities.
- ◆ To develop, in consultation with *sovhoz* and relevant communities, agreed livestock grazing management plans at model sites both in the desert plains and mountains and follow-up on their implementation.
- ◆ To develop in consultation with *sovhoz*, relevant communities, the farmers association, local authorities and other relevant bodies, initiatives and mechanisms by which to improve sustainable economic returns and lower stocking densities (improved quality control and breeding, improved livestock product processing, increased and more secure markets).
- ◆ To develop basic guidelines on sustainable levels of range-land and pasture use in the biosphere reserve transition zone, design a range-land and mountain pasture monitoring and evaluation system including basic indicators (stocking densities, vegetation composition, erosion levels) and recommend low cost sustainable mechanisms for data collection (community / *Sovhoz* based).
- ◆ To develop in consultation with livestock farmers (state and private), local agricultural/land use authorities, and the biosphere reserve administration, workable and realistic mechanisms and measures for regulation and control of livestock damage and sustainable use of pastures.
- ◆ Encouraging replication of successful activities in other sites through study trips / information materials / guidelines for interested individuals, communities and organizations.

Sub-project Implementation Arrangements

An international or local organization with appropriate skills and capacities will be sub-contracted to ensure effective execution of the project. In addition selected communities and *sovhoz* administrations/members will also play a large and critical role in both the formulation of detailed concrete activities and their execution. Likewise the local government, ministry of agriculture and farmers association will play a critical role in some aspects of the project, particularly in regard to initiatives to improve economic returns per unit from of livestock farming.

Interactions with other components of the Project:

Education and Awareness: This will be relevant in ensuring an improved awareness and understanding of sub-project participants and rural populations generally of the importance and benefits of protecting and sustainable utilizing grazing resources in the area.

Forestry Sub-Project: A number of livestock grazing and forestry issues are strongly interrelated (grazing impact on woody plants regeneration, deforestation for fencing materials, etc.) and, particularly in the mountains, an integrated approach to natural resources use around villages is essential. For this reason village / community forestry and grazing plans will be integrated if possible.

Technical and financial support to the development of appropriate income generation activities Project: This proposed UNDP/NOVIB project could play an important role in providing a long term mechanism in which new livestock initiatives can be supported and financed (i.e. provision of investments needed to improve breeding, processing and marketing).

Eco-tourism and Trophy Hunting Sub-Project

Duration: 36 months

Total Budget: USD 75,000

Source: GEF/Other

Key Players: Site communities, State Bio-Control Unit, Biosphere Reserve Administration., others.

Execution: Sub-contract to International firm or NGO

Background

Tourism: Tourism in Uzbekistan is currently very narrowly focused on the heritage sites such as Samarkand, Bukhara and Khiva (*The Action Plan for Sustainable Development of Tourism in Uzbekistan* APSDT 1998). Though some limited "activity holidays" (climbing, river rafting, etc.) have in recent years emerged, as yet there has been little or no utilization of protected areas for wildlife or "eco-tourism". In fact few if any protected areas have the legal possibility or administrative / infrastructure capacity to undertake such revenue generating activities. Furthermore, there is little knowledge or experience of how to operate such activities or what is wanted by tourists, particularly foreigners. The APSDT identified the narrow heritage focus as a significant limitation for the development of tourism in the country as the diversification of tourism "products" would not only enhance the core heritage business but also attract additional visitors. In addition, it is likely that within Uzbekistan itself there will be a growing demand for new recreation and touristic opportunities both from resident expatriates and the indigenous growing urban middle classes.

Despite many intrinsic attractions such as interesting and diverse landscapes (mountain, desert, and wetlands), rare and observable wildlife (Kyzylkum Urial, avian fauna) and interesting local cultural features, the project area itself currently receives no tourists and visitors have been limited to local recreational outings, scientists and foreign development workers. The primary reasons for this are the general lack of focus or attention to "non-heritage" tourism and the historical absence of tourism within the management scope of protected areas. As a result until recently no-one has contemplated this as a development opportunity or had the knowledge/capacity to take action. In fact the most attractive area from a tourist point of view, the Nuratau State Reserve, is legally prevented from allowing access to anyone besides scientists.

Benefits and Risks from Tourism Development in the Biosphere Reserve

Potential Benefits: The most important benefit would be the revenue that could be sustainably generated by appropriate tourism activities within the BR. In view of the difficult economic circumstances of the country and thus the both limited and potentially insecure recurrent costs financing for the BR, the availability of a long term source of reliable additional revenue would be highly beneficial. In addition, the attraction of local and international tourists to the area could have significant economic benefits for populations within the BR, particularly those living close to core zone who pay the greatest costs for conservation. Non-monetary benefits would include a higher national / international profile for the area and thus greater long term security from inappropriate development. Another factor could be an improvement in some basic infrastructure around core zone thereby facilitating the work of visiting scientists and BR staff. Due to lack of relevant experience / activities in Uzbekistan concrete figures for potential revenue from eco-tourism are difficult at this stage to elaborate and would in any case depend on the level of impact identified as acceptable by the Biosphere Reserve management.

Potential Risks: The most significant risk is that of inappropriate development of tourism in the BR which is incompatible with its objectives. Fundamentally, tourism is only justifiable if it provides significant benefits (revenue and incomes for BR Administration and local people, higher profile/security, useful infrastructure) with minimal damaging impacts on environment, biodiversity, and local culture / society. It is recognized that inappropriate tourism development is a real risk in the BR due to the lack of knowledge and experience available both in the area and Uzbekistan as a whole concerning tourism planning, development and management. Generally, expectations are too high, plans grandiose, and significant differences existing between what is thought international / expatriate tourist want and what they actually need. Thus, during the planning for tourism development in the BR careful consideration of what impacts from tourists are acceptable must be made and awareness building of local counterparts undertaken. This will help define what kind of tourists should be targeted and which kind of facilities / services will be required.

Another significant risk is that revenues and economic benefits from tourist activities will not be equitably shared between stakeholders, particularly rural populations in the periphery of core and buffer zones. Historically, no formal system for benefit sharing with local populations have existed (see trophy hunting below) and so attention will have to be focused on establishing means to ensure a fair distribution of revenues/benefits between the BR administration, local communities and other stakeholders.

Trophy Hunting: Trophy hunting by foreign hunters, mainly of mountain sheep/goats (Siberian Ibex, Markhor, Kyzylkum Urial, etc.) has been an established part of the wildlife management and "tourism" activities in Uzbekistan for at least the last decade. In the project area the shooting of 2-10 Kyzylkum Urial rams annually for this purpose is permitted by license with each license costing around USD 2,000 (1996). In addition to license fees a significant income can be derived from support services such as transport and accommodation (total cost of hunting trip to shoot one Kyzylkum Urial advertised for USD 16,800 by US company in December 1999). The majority of hunters appear to originate from America or Western Europe. Currently little or no revenues earned from trophy hunting in the area are derived by either the zapovednik (State Reserve) or local communities. Some potential for hunting of wildfowl, waterbirds and sport fishing may also exist but the viability of these activities is still to be carefully assessed and, with the possible exception of sport fishing, are unlikely to be justifiable.

Potential Benefits: Compared to the limited funds available for management of the Nuratau State Reserve (around USD 14,000 / annum at official exchange rate in 1998) and an average rural family incomes of around USD 300/annum, the revenues possible from trophy hunting are significant. In the context of an adequately protected and growing Urial population they could make a valuable and sustainable contribution to the BR recurrent financing and local communities incomes/ investment funds.

Potential Risks: The most significant risk is that the possibly large sums of money involved will provide a strong temptation to either overexploit the Urial population or for corruption and misuse of revenues. A second risk is that, as with the current system, much or all benefits will be appropriated by national level authorities and that few economic benefits will be derived by either the BR administration or local people. This latter scenario would be highly detrimental for the BR as, besides the financial loss, local peoples attitude to the hunting restrictions placed on them would be bound to suffer. Thus, if organized trophy hunting is to be attempted in the BR a number of prerequisites will be required: firstly, a strict control system based on good scientific data, clear cut regulations and a transparent accounting procedure should be in place; second, regulations and mechanisms for ensuring equitable sharing of revenues between the principle stakeholders (National authorities, BR administration, local communities must be elaborated and in place.

Goal, and Objectives

Goal: To secure sustainable revenues for support of the BR management and the benefit of local people through appropriate developments of tourism and trophy hunting activities.

Objectives:

- * To develop the basis for appropriate and sustainable tourism development within the BR
- * To ensure the equitable sharing of benefits from appropriate tourism development.
- * To develop a scientifically based, sustainable and rigorously controlled system for the implementation of trophy hunting activities in the BR.
- * To create mechanisms for ensuring the equitable sharing of benefits from hunting operations

Broad Sub-project Strategy

The basic strategy of this sub-project is to utilize the tourist and hunting resources of the area to provide a sustainable source of additional financing for the BR and benefits for local people. However, there are some important underlying prerequisites to this strategy i.e. that tourism and hunting activities must not have serious impacts contrary to the conservation objectives of the BR and must have significant direct financial / economic benefits for the BR and local people. In addition, particular emphasis is laid on ensuring benefits for local people as this historically has not occurred or even been attempted and developing robust mechanisms to achieve this will be needed.

Activities:

- Establishment of specialized department within BR Administration for Tourism, Hunting and Sport Fishing with the function of providing overall strategic development, management, guidance and regulation of tourism and hunting/fishing activities in the BR
- Evaluation, together with Dept. THF, of tourism potential and resources of the BR including: listing of attractions/activities/facilities; predictions of visitor use impacts and estimates for acceptable numbers / activities; identification of target groups; mechanisms for attracting identified target groups/types (directly, or via national/international tourist agencies, etc.), itemization of basic facilities and services required to meet needs of identified target groups/types.
- Prepare, together with the Dept. THF and in consultation with local communities / local government, a Tourism Development Plan for the BR which details the basic objectives and strategic approach to be used, plans for initial development and organizational structure for administration and management.
- Initial implementation of tourism development and activities on a "test basis" (some basic infrastructure development, planning / development of services, marketing to target tourist groups and bookings, organization and management of tourist visits for a test period)
- Assessment of initial activities, revision of plan if necessary and preparation of guidelines for future development, operation and management.
- Detailed evaluation of potential for trophy hunting and sports fishing in the BR including: collection of hard data on potential target species population dynamics; detailed study of regulatory system and economics; potential market.
- On basis of the above evaluation and relevant international experience, develop a plan for the execution of hunting / fishing activities in the BR including: detailed research and regulatory mechanisms for ensuring sustainable off-takes and conservation of identified target species; transparent and accountable mechanisms for ensuring equitable revenue and benefit sharing; detailed outline of organization and management of

actual hunting operations (including whether they are to be carried out by commercial operators for a fee or directly by the BR Admin.)

- Implementation of plan for a trial period to test its operational effectiveness followed by revision if necessary.
- Capacity building and on-job training of Dept. THF and relevant local communities / individuals to take over long term operation and management of activities.

Sub-project Implementation.

An international organization will be subcontracted to ensure the effective overall execution of the sub-project activities. Following its establishment the BR Dept. for Tourism Hunting and Fishing will play an important role in both the development and operational aspects of the sub-project. Relevant local communities, and the State Biological Control Unit will also be deeply involved as well as other local stakeholders.

Development of fully operational demonstration programme of community-based fisheries at Tuzkan Lake

Duration: 36 months

Total Budget: USD 50,000

Source: GEF/UNDP

Key Players:, Tuzkan Lake Zakaznik Protection Administration of State Bio-Control Unit (Gosbiokontrol), Local fishing communities / brigades, Biosphere Reserve Administration, Uzbryba and local commercial fisheries corporations, others.

Execution: Sub-contract to International firm or NGO.

Background

Tuzkan lake is part of the larger Aidar-Arnasai lake system which consists of Lake Aidar, Tuzkan, the Arnasai canal and Arnasai lakes. These lakes are formed in a natural depression in the Kyzylkum desert within which wetlands ecosystems of some kind have always existed (the extent of which has in the past depended on prevailing climatic conditions). Following an extremely wet year in 1969 a large amount of water was diverted from the Chardara reservoir on the Syrdarya river which resulted in the significant expansion of the water volume within the system making it the biggest in the country (covering an area of about 3,096 km² and containing a volume of about 32.69 km³ of water). Due to the significant fisheries and biodiversity benefits resulting from this enhancement, water levels in the lake system have been deliberately maintained since that time. In recent years water levels have actually increased mainly due to the disruption of regional water management operations during the early years of the Central Asian countries independence and the disappearance of a centralized Soviet Union management body. As a result many of the separate lakes, including Aidar and Tuzkan, have become linked.

Tuzkan lake covers an area of about 415 km² (1993 data) and has an average depth of 10 m. (maximum of 17 m.). The shores in the northern and south-western part are steep but are fairly gradual in the east and west. There are many shallow bays with reed and developing tugai vegetation on the latter shores. The lake is feed by two sources: on the one hand by waste water from the irrigated areas to the south east; and on the other hand by water flowing from Lake Aidar. The former is continuous with volume peaking in summer and with a comparatively high salinity (averaging 8 g/l.) while the latter, which is of low salinity, occurs when Lake Aidar volume is high (i.e. in wet years or when diversions from Chardara reservoir are made). Average water salinity is 7.1 g./l. The lake sometimes freezes in extreme years, usually between the months of January – March. Vegetation zones include the following: furthest from the shores typical desert plants such as *Haloxylon persicum*, *Astragalus amarus*, and *Ferula caspica*; waterside tree and shrubs near the shore and on islands (such as *Salix* and *Tamarix sp.*); reed formations along the shoreline (*Phragmites communis* and *Typha angustiflora*); and water plants (as deep as 4 metres) such as *Potamogeton lucens*, *Miriophyllum spicatum*, and *Ceratophyllum demersum*.

Biodiversity value: The most significant global importance of the area for biodiversity is as an important site for migratory birds. The lake provides nesting areas and migration re-fueling sites for about 250 bird species including a number of globally threatened waterbirds such as the ferruginous duck *Aythya nyroca*, Dalmatian pelican *Pelecanus crispus* and pygmy cormorant *Phalacrocorax pygmeus*. In addition twenty-two fish species have been recorded, with 6 endemic sub-species, including the endangered Turkestan barbel *Barbus capito conocephalus*. The surrounding desert areas are of particular significance for many species of reptiles, including the desert monitor and various Agamidae and Gekkonidae lizards, and the endangered Central Asian tortoise *Agryionemys horsfieldi*. Houbara bustard *Chlamydotis undulata*, a regionally threatened and declining species, uses the peripheral desert areas during breeding and migration. (See table in Annex 3 of Tuzkan Lake biodiversity value)

Lake Management and Protection:

Tuzkan Zakaznik (Reserve): A special ornithological Zakaznik was established in Tuzkan Lake in 1998/7 and this status renewed indefinitely in 1998. The zakaznik boundary is defined by all territory lying within 500 m of the shoreline (this is a problematic definition given the frequent changes in water level). As in the rest of the lake system "controlled" fishing is allowed but all hunting is prohibited, though until 1983 hunting of musk rat for furs was allowed. Thus the zakaznik provides refuge for species during the open hunting season. Within the rest of the Aidar-Arnasia Lake system commercial controlled fishing is allowed and some areas are set aside for hunting on a seasonal basis.

The zakaznik is under the management and control of a local unit of Gosbiokontrol which has its regional headquarters in the district capital of Farish rayon (Yangkishlak). In addition to the zakaznik the local Gosbiokontrol unit is responsible for inspection and regulation of fisheries throughout the Aidar-Arnasai lake system and for regulation / management in hunting zones. To this end the unit has a field staff of 25 and administration staff of 3, 5 patrol stations around the lake system plus an inspection centre at Tuzkan Lake, and some limited equipment including a car, a boat and a radio. Additional temporary inspection staff are employed for specific operations and are paid from a percent of proceeds from resulting fines.

Commercial fisheries: Since the lake system expansion in 1969 commercial fishing in the area has become an important economic activity. 15 of the 28 species of fish are commercially fished. A "closed season" is enforced between May and August to allow natural and some artificial restocking to occur. No effective or applicable fish ecology data of use in developing / sustainable managing the fisheries seems to currently be available (i.e. commercial fish migrations, life cycle, habitat, etc, and their interaction with non-commercial species and other wildlife). However, the fish fauna appears to be fairly dynamic depending on prevailing salinity levels, natural restocking rates / immigration and artificial stocking of commercial fingerlings (John Howe pers.com. 1999).

The commercial fisheries are indirectly controlled by the "Uzbekistan Department of Fisheries" (Uzbryba) who, under the authorization of the Oblast (region) Khokim's (governors) have established four fisheries corporations that control harvesting, stocking and marketing of fish from the entire Aidar-Arnasai lake system, with the exception of Tuzkan Lake zakaznik. Under these four corporations are 67 fishing brigades or units ranging in size from families to groups of several tens of people. The main corporation of interest to the project is the "Djizak Baluk" corporation of which 26% of capital is held by Uzbryba. This corporation has 18 full time staff and currently (1999) has contracts with 48 brigades totaling ca. 300 people. Each contract includes the following:

- Section on payment which is based on tonnage of fish caught - due to shortage of cash each brigade is now usually paid with 25% of their own catch.
- Section regarding responsibilities to protect nature and natural resources
- Section regarding employment conditions
- Section regarding fishing laws and regulations.

On their part the corporation is supposed to supply equipment and materials (boats, nets, fuel, etc), undertake artificial restocking of commercial species, provide technical advice on fisheries management, provide refrigeration facilities and be responsible for all marketing and distribution.

Problems:

Since independence the system originally established during the Soviet Union era has begun to break down. Key issues or reasons for this include:

- failure of the corporations to meet obligations in terms of equipment and materials due to short term rather than long term commercial interests
- move from payment in cash to payment in kind has reduced actual value of incomes for brigades and reduced their economic independence due to limited local markets and lack of access, except through the corporations, of wider markets.
- falsifying of actual catches by brigades to hide "unofficial catches and sales" from corporation staff due to worsening income situation
- lack of long term incentives for brigades to manage or develop the fisheries and protect biodiversity / natural resources due to absence of any tenure or resource rights
- lack of a holistic approach to lake management and absence of ecological / fisheries monitoring due to the corporations narrow economic objectives and lack of overall systems management
- increased illegal hunting of wildlife (mainly birds) due to worsening incomes and socio-economic circumstances for brigade members.

Ongoing Initiative to address these issues:

The local unit of Gosbiokontrol have recognized that under the current situation the sustainability of commercial fisheries is doubtful and that this is a threat to the biological value of the area because of:

1. direct damage such as over fishing
2. indirect damage resulting from declining incomes and thus increasing pressures to illegally hunt
3. lack of local community ownership of fishery resources and thus absence of long term incentives to protect / develop them.
4. Difficulties monitoring catches and implementing effective management due to prevailing relationship between brigades and the fishing corporation.

As a result in July 1999 Gosbiokontrol initiated within Tuzkan zakaznik (where they have full control of all biological resources) three pilot fisheries schemes to assess the socio-economic feasibility of allowing fishing brigades to operate independently of Uzryba and the corporations.

Sub-project Goals and Objectives:

Goal: To reduce threats to the biodiversity, particularly the globally important bird life, in the Aidar – Arnasai Lake system within the Biosphere Reserve through the demonstration of more sustainable community based approaches to fisheries and lake management.

Objectives:

- * To provide replicable models of community based fisheries and wetlands management.
- * To increase capacity of local biodiversity protection staff to undertake programmes to develop the role of fishing communities in lake management and protection.
- * To increase the capacity of local biodiversity protection staff and other relevant parties to benefit from and support fisheries orientated small businesses by local communities.
- * To assist in the development of an integrated and cooperative approach to fisheries and lake ecology information gathering and monitoring.
- * To ensure awareness of communities and relevant state structures within the biosphere reserve of the activities undertaking in model sites and encourage / facilitate replication.

Broad Sub-project Strategy

The basic strategic approach of this sub-project is to utilize and build upon the experience gained by an existing local initiative targeted at identifying and testing new community orientated approaches to fisheries management and wetlands resource use within the Biosphere Reserve. Emphasis will be laid on recognizing the need for local communities to have a direct long term stake and role in management of fisheries resources if sustainable use is to be achieved and testing / demonstrating approaches by which this can be brought about.

Activities:

- Review economic feasibility and outcomes of the three Gosbiokontrol community fisheries pilot projects initiated at Tuzkan Lake between 1999 and 2000.
- With full stakeholder consultation design and implement a larger scale fisheries demonstration programme building on the successes and mistakes of the pilot projects.
- Provide training for UzRyba and Gosbiokontrol staff in community involvement, business and investment planning for a sustainable fishery. Use training to develop small-business plans for down-stream sales and marketing in order to capture a higher return on investments and ensure sustainability of programme.
- With the direct involvement of fishing communities, develop and implement a comprehensive fisheries monitoring programme as a basis for fishery management decision making (e.g., set quotas and establish set-aside areas and closed seasons for endangered species).
- Prepare plan of how lessons learned by the Tuzkan Lake programme can be applied in other areas of the Aidar-Arnasi Lake system and Uzbekistan as a whole.

Sub-project Implementation Arrangements

An international organization with appropriate skills and capacities will be sub-contracted to ensure effective execution of the project. Their main role will be an advisory one i.e. to provide to the Tuzkan Lake Zakaznik staff with technical/organizational advice based on a wider international experience of implementing such activities. In addition they will be responsible for ensuring the effective monitoring and control of funds disbursed and the timely execution of activities.

Small Scale Sustainable Incomes Generation Project Proposal
(to be executed as a separate project if co-financing can be agreed)

Duration: 30 months

Total Budget: USD 120,000

Source: NOVIB/UNDP

Key Players: Site communities, local partner organization, Biosphere Reserve Administration.

Execution: UNDP National Execution

Problem Statement:

The main underlying causes for biodiversity loss and unsustainable natural resource use in the project area stem from the previous socio-economic dislocation during the Soviet era and the current difficulties resulting from the transition towards a market orientated economy. The GEF project intends to address these threats to biodiversity by establishing a legal and administrative framework for ensuring the effective strict conservation within "core zones" and reducing the pressures in the surrounding "transition zone" through encouraging more sustainable approaches to natural resource use and rural livelihoods.

The sub-projects (Community Forestry, Livestock, Eco-tourism) are targeted mainly at addressing the latter objective (i.e. encouraging sustainable use of natural resources). For these, and similar initiatives, to succeed they are highly dependent on local entrepreneurs and community groups being able to successfully develop small-scale commercial initiatives (horticulture, small scale food / livestock processing, appropriate cottage industries, etc.). Throughout Uzbekistan there are currently three serious obstacles to such small scale income

generation activity: firstly, the legal, tax and administrative environment for private commercial activity is still developing and is confused and highly problematic; secondly, there is little or no spare capital and no mechanisms for providing "micro" level financing to small-scale entrepreneurs and enterprises, particularly in rural areas; thirdly, there is a lack of basic business development and management skills due to the ban of such activity during Soviet times. Due to this it was identified during the GEF project preparation that an important focus for additional support to the area would be the development of a support mechanism for those locally initiated activities which meet the objectives of the GEF project. Originally this was planned as a component of the GEF MSP but due to time constraints this is being pursued as a separate, but linked, project.

In addition to providing a long term mechanism to support micro-enterprises and community initiatives it was also identified during the GEF project development that some limited technical advice specific to various initiatives would be highly beneficial. For example, development of cottages industry activities concerning handicrafts could benefit from technical inputs regarding manufacturing techniques or horticultural activities could benefit from technical advice on cost effective and sustainable pumping systems, etc. During the period of the project the Forestry, Livestock and Eco-tourism sub-projects would be in a position to provide much of these technical inputs. However, this will only last for the period of the sub-projects and thus a longer term mechanism for ensuring such support will be important.

Current Efforts: There has to date been very few efforts within the project area to provide the population with any kind of assistance regarding small-scale economic activities of any kind. However, at the country level there have been a number of initiatives by the government and international agencies. UNDP in particular has been active in this regard and has specific experience of direct relevance resulting from the "Business Incubator" Project, the "Karakalpakstan Micro-credit" Project and the "NGO Capacity Building for Socio-economic Development in Kashkadarya District" Project (funded by NOVIB). The experience gained by UNDP and its local / international partners in these projects will be of direct practical application in this project. This project would differ from any previous ones in that it will be the first time UNDP or any other international / national agency has implemented such activities in the context of support to environmental objectives.

Goal and Objectives.

Goal: To provide technical and financial credit support to sustainable use of biodiversity components of the GEF/UNDP Nuratau Kyzylkum project and similar relevant activities in the area.

Objectives:

- * To provide "business" support and advisory services to local entrepreneurs, family units, community groups and enterprises seeking to develop small scale and appropriate income generation initiatives which meet the objectives / criteria of the project and the Biosphere Reserve Administration.
- * To establish an effective mechanism for the provision of small-scale (micro) credits to finance above mentioned initiatives.
- * To establish a mechanism by which technical advice regarding implementation and development of appropriate initiatives can be provided either directly or via referral to other specialized bodies / sources
- * To capacity build local institution/s or NGO/'s to undertake in the long term the services outlined above.

Outcomes / Benefits

- ⇒ Increased sustainable incomes for rural populations allowing improved sustainability of livelihoods and thereby reduced pressures on the environmental and threats to biodiversity
- ⇒ Provision of direct benefits by the BR establishment to local people and thus compensation for limitations imposed by the BR (i.e. removal of core zone and restrictions on buffer and transition zones use) and improved security of livelihoods.
- ⇒ Empowerment and capacity development of local institutions and people and thereby greater self sufficiency

Activities:

- Assessment of similar activities undertaken in Uzbekistan and identification of relevant lessons which can be learnt
- Identification of local partner organization/s (local institutions/NGO's) - if none exist it will be necessary to help establish
- In consultation with partner organization/s, develop detailed plans for establishment of income generation support services (business support/advise and micro-credit), including mechanisms to ensure the long term financial self-sufficiency of operations.
- Establish one or a number of micro-business support units / incubators to assist appropriate local initiatives which meet agreed criteria in terms of sustainable use / environmental impact (recruitment and training of partner organization staff, building, equipment).
- Establish and the initial operation of a micro-credit facility (recruitment and training of staff, building and equipment, identification of test communities and sites, on-job and formal training of partner organization etc.).
- Monitoring of trial operation period for the partner organization and final evaluation report / recommendations for future operations.

Implementation Strategy and Arrangements

Strategy: The project strategy is to provide key support services aimed at empower rural populations in the transition zone of the BR to undertake appropriate income generation activities themselves and enhance / complement other project activities aimed at improving the sustainable use of local natural resources. This will contribute to the overall biodiversity objectives of the project by reducing natural resource use pressure thereby increasing the security of core areas and reducing biodiversity / environmental damage in the transition zone. The most important emphasis of the sub-project is on ensuring that a local partner organization be involved from the start and that in the long term they are provided with the capacity, knowledge and financial security to continue operations after the GEF project termination.

Implementation Arrangements: The project would be executed using standard UNDP National Execution procedure (NEX). Details concerning executing and implementing agencies still need to be worked out in detail.

ANNEX 6: Brief Summary of TOR's For Sub-contracts 5 and 6

Sub-contract 5: Information Management System

Activity 2.a (2nd part): Compilation of all relevant data (ecological, land-use, socio-economic, current management resources, legal framework, etc) *and establishment of appropriate information management system.*

Total amount: USD 15,000

Source: UNDP

Duration: 6 m

Contract type: UNDP standard contract for Professional Services, pre-agreed price, payment on basis of specified milestones and submission of invoices.

Main outputs: a. An appropriate and durable computer based information management system with direct and practical application for the BR management and monitoring b. trained personnel and basic equipment (hardware and software).

Brief description of tasks/duties:

- * Assess and identify, in consultation with the BR senior staff and international advisers, the key information requirements for the practical management and decision making of the BR and biological, socio-economic, etc. monitoring requirements.
- * Design workable mechanism and procedures for collection of basic data for input to the Information Management system (IMS) based on already available / low cost software (Idrisi GIS, locally available database packages)
- * Complete the procurement of required hardware/software and carry out the required input and organization of base data.
- * Operate the data base for a trial period and carry out training of BR personnel in the operation and its practical application to BR management and monitoring.

Sub-contract 6: Environmental Education, Participation and Capacity Building

Activity 5. Building public, local authority and rural community awareness, support and participation in biodiversity conservation and sustainable use, including

- a) establishment of information centre to act as a focal point and resource base for public awareness, education and participation (library, museum; events, exhibition etc.)
- b) production of conservation/environmental education materials and development of effective dissemination mechanisms (community extension, meetings, local radio, TV, print, other),
- c) training of educators/multipliers, including BR staff (especially rangers), local teachers, traditional and religious leaders etc.

Activity 6: Capacity building of local authorities, key decision makers and rural communities to effectively plan and play a role in the conservation of biodiversity and sustainable utilization of natural resources. More specifically:

- a) support to the development of local and community level associations, clubs, NGO's, etc. with appropriate conservation and/or sustainable natural resource use objectives.
- b) Training of key local decision makers on issues of biodiversity conservation and sustainable natural resource use and planning through production of practical advisory documents and workshops.

Total amount: USD 97,000

Source: GEF (90,000), UNDP (7,000)

Duration: 36 m

NB. GoU will support with USD 12,000 in-kind and a proportion of USD 50,000 for training will be utilizable for in-service and study tours/fellowships

Contract type: UNDP standard contract for Professional Services, pre-agreed price, payment on basis of specified milestones and submission of invoices.

Main outputs: a. A functioning information centre b. education / awareness materials and mechanisms for dissemination c. trained educators/multipliers d. established viable NGO's, clubs, associations, etc., d. trained / educated local decision makers.

Brief description of tasks/duties:

- * initial assessment and preparation of plan for realization of expected outputs
- * implementation of plan including infrastructure refurbishment, procurement/repair of equipment, personnel recruitment, etc.
- * terminal evaluation report and recommendations for future

ANNEX 7: Letter of Endorsement from GEF Operational Focal Point