TUNISIA
TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Project Appraisal Document

Middle East and North Africa Region
MNSRE

Date: October 19, 2001
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Project ID: P048315
Sector(s): VM - Natural Resources Management
Theme(s): Environment
Focal Area: B - Biodiversity
Poverty Targeted Intervention: N

Program Financing Data

[ ] Loan [ ] Credit [X] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Amount (US$m):

Financing Plan (US$m): Source	Local	Foreign	Total
BORROWER/RECIPIENT	3.54	0.86	4.40
LOCAL COMMUNITIES	0.19	0.00	0.19
GLOBAL ENVIRONMENT FACILITY	3.63	1.50	5.13
Total:	7.36	2.36	9.71

Borrower/Recipient:
Responsible agency:
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Estimated disbursements (Bank FY/US$m):

FY	2003	2004	2005	2006	2007	2008		
Annual	495.40	1350.30	1501.70	1001.60	565.50	210.70		
Cumulative	495.40	1845.70	3347.40	4349.00	4914.50	5125.20		

Project implementation period: September 2002- August 2007

OCS PAD Form: Rev. March, 2000

A. Project Development Objective

1. Project development objective: (see Annex 1)

The project's main development objective is the improved management and protection of selected national parks for the purpose of conserving biodiversity of global importance.

2. Key performance indicators: (see Annex 1)

Key performance indicators would include: (i) stabilization or improvement of demographic status of key bio-indicators specific to each national park (vegetative cover and distribution; local animal/bird populations); (ii) reduction in adverse impacts of resource use (grazing, forest products, etc.) on the biodiversity of project sites; and (iii) development and implementation of park management plans with the active participation of local communities. Under the latter, indicators would include the following:
(a) additional financing mechanisms (e.g., revenues from ecotourism) for financing of national parks management are put in place; (b) database on biodiversity is available after 3 years, updated and used regularly; and (c) number/percentage of families participating in alternative livelihood projects.

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: 20161-TN **Date of latest CAS discussion:** 04/27/2000

The proposed project directly supports the CAS objective of consolidating long-term development in the environment and natural resources management sector through the protection of Tunisia's natural resources. The project would assist the Government of Tunisia in improving the conservation of biodiversity within the protected areas through implementation of management plans at three national parks together with local communities and capacity building at the regional and local levels to assure sustainable ecosystems management and monitoring.

1a. Global Operational strategy/Program objective addressed by the project:

The proposed project complies with GEF operational strategy in the area of biodiversity conservation. It primarily addresses the GEF Operational Program in the Biodiversity Focal Area **OP 1** (Arid and Semi-Arid Ecosystems). It also addresses, to a limited extent, **OP 2** (Coastal, Marine, and Freshwater Ecosystems) in one of the project sites (Lake Ichkeul National Park).

Tunisia has ratified the following major international environmental conventions and agreements dealing with the protection of natural habitats and related species – CITES (1974); UNESCO World Heritage (1974); Ramsar Convention (1979); Bonn Convention (1986); Desertification Convention (1979); Berne Convention (1995), and the Biological Diversity Convention (1993). Tunisia is also one of 6 countries participating in the regional UNDP/GEF Conservation of Wetland and Coastal Ecosystems in the Mediterranean Region Project to conserve biodiversity in the coastal ecosystems. The proposed project will not include coastal ecosystems but the project sites (Dar Chichou, Korba Kelibia, and El Haouaria) and activities in the latter would strongly complement the proposed project's interventions.

The project is designed to support, through its relevant outputs, the following articles of the Convention on Biological Diversity:

- Article 6 - General measures for conservation and sustainable use (conservation

management plans for selected sites of biological and ecological interest);

- Article 7 - Identification and Monitoring
- Article 8 - In-situ conservation (strengthened protected areas and environmentally sustainable development in areas adjacent to protected areas, rehabilitation and restoration of fragile ecosystems);
- Article 11 - Incentive measures (Participatory programs implemented with local populations);
- Article 13 - Public education and awareness (improved public awareness on nature protection).

2. Main sector issues and Government strategy:

Sector importance: Of the 870 species of plants that are rare, threatened, or endemic in North Africa, about 150 occur in Tunisia. There are an estimated 2200 species of plants in Tunisia, but less than 2 percent represent globally threatened vascular plants (IUCN, 1997). At the national level, there are 239 rare and 101 very rare species. Tunisia's rare flora include 6 species endemic to the country, and about 80 species endemic to North Africa and the northern Sahara. Many of the plants are valuable as a genetic resource. Important forage plants (*medicago, hedysarum*), medicinal plants (*Myrtus communis, Urginea maritima, daphne gnidium*), fiber plants (*Stina tenacissima*) and plants of food value occur (*Olea, Capparis*). There has been a decline in forest cover – from 3.3 million hectares at the turn of the century to 841,000 hectares at present, but several activities through Bank-supported projects have addressed this issue and forest cover is improving again, albeit slowly.

Tunisian fauna is relatively less well studied, and has been in a substantive decline over the past century. At present, all large mammals (except the wild boar, *Sus scrofa barbarus*) are considered threatened. About 80 species of mammals, 362 species of birds, and more than 500 species of reptiles and fish can still be found. Several mammal species are endemic to North Africa. Rare and endangered mammals (IUCN Red Book, 1985) include the barbary hyena (*hyaena hyaena barbara*), barbary deer (*cervus elaphus barbarus*), dorcas gazelle (*gazelle dorcas massaesyla*), cuvier's gazelle (*G. cuvieri*), and the slender-horned gazelle (*G.leptoceros*). Rare and endangered birds listed in the IUCN Red Book that occur in Tunisia include, *inter alia*, the white stork, marbled teal, white-headed duck, red kite, peregrine falcon, bearded vulture, and the Houbara bustard. Globally threatened species (all) number 110.

Root causes of biodiversity loss: Forest and vegetation degradation still continues due to burgeoning population pressures with *overgrazing, fuelwood and fodder collection* being the primary culprits. This has exacerbated erosion (estimated soil loss: 11,000 ha./year) and contributes to the approximately 8,000 ha that are lost annually to desertification. Inappropriate cultivation techniques in the steppes have resulted in wind erosion and dune formation. Enforcement of protective measures is weak due to the absence of multi-disciplinary management plans, low awareness, and weak institutional capacity.

Absence of participatory approaches to protected area management: While the intent of the protected area system is well-founded and is of great importance for the preservation and enhancement of biological diversity, there is a clear need for the management systems currently in place to go beyond the traditional approach to conservation. Hunting, overgrazing, and inappropriate agricultural practices of local communities continue to pose a threat to the integrity of

many of the protected areas. Since about 10 percent of the Tunisian population (~ 1 million) live within forest areas and/or in the vicinity of protected areas, it is essential that the management of the protected areas integrate the needs of the local communities while conserving natural resources. Designing management plans that incorporate greater stakeholder participation with the objective of linking conservation of biological diversity in protected areas with improved local social and economic development will be essential to ensure long-term conservation.

Inadequate institutional capacity: The Ministry of Environment and Landuse Planning (MELP) is in charge of policy formulation, planning and regulation, with the Directorate General of Forestry (DGF) in the Ministry of Agriculture (MOA) being responsible for management of the protected areas through on the ground daily surveillance, protection and management activities. There is no substantial overlap in the two mandates, but coordination between the two Ministries is weak, and better integrative mechanisms (including budgetary allocations, data management) are required. Habitat loss and poaching are seriously threatening much of the national fauna. Fauna are in need of protection through improvement of law enforcement capabilities and control of illegal commerce in wildlife products. Budgetary constraints, lack of equipment and trained staff have reduced national park protection to the minimum.

Land tenure issues: Some of the national parks have local communities living within the park boundaries. In the Ichkeul N.P, there are about 65 families living within the park. It is GOT policy not to evict anyone already living in the park, although no new families are allowed to settle within park boundaries hereafter. In Jebil, the park is apparently still used seasonally by the adjacent tribes, including the Mrazig, the Sabria, and the Adhar and Ghrib. In the Spring months there are many families that go from Douz to spend time in the desert and there is still hunting (although forbidden), in part because of foreigners that come specifically for this purpose. There is lack of clarity on whether the tribes that previously used this area still consider that they have rights of access to the park area and its resources, primarily as a passage way to other grazing areas. The land tenure status of the former collective lands is also ambiguous.

Government strategy: Tunisia accords a high significance to biodiversity conservation and sustainable uses in its development effort. There is a strong political commitment towards enhanced conservation efforts and its successful integration into a wider economic, social and cultural context. There is a growing realization that earlier natural resources management interventions have sometimes failed to fully achieve their objectives because community participation and insight into the planning, prioritization, and management process was absent. There is now a high-level commitment to participatory natural resources management in the Ministry of Agriculture which is moving to a reorientation from top-down planning in favor of a collaborative approach with resource user groups such as the Development Committees (CDs) in the Bank-financed Natural Resources Management Project (Ln - 4162) and the Northwest Mountainous Development Project (Ln - 3691), and Groupements Forestiers d'Interet Collectif (GFICs; some of which were formerly Associations Forestieres d'Interet Collectif, AFICs) as in the Second Forestry Development Project (Ln - 3601). User groups have been promoted first with rural potable water and tubewell irrigation perimeters, but are still at their infancy among forest users and soil conservation groups, and are yet to be extended to rangeland users. The Ninth Development Plan (1997-2001) identifies protection of forests, national parks, and improved and rationalized management systems as a key element of a sustainable natural resources management strategy.

A National Biodiversity Strategy and Action Plan were developed in a very participatory manner under a Biodiversity Enabling Activity (GEF-funded; the World Bank being the Implementing

Agency) and were adopted by the Government in 1998. University academics, research institutes, and environmental NGOs (local and international) provided useful inputs into the preparation of the Biodiversity Strategy. The strategy also benefited from bilateral assistance from Germany and Sweden. The key priorities of the national strategy are strengthening the biodiversity knowledge base, prevention of the erosion of genetic resources, improved protection and management of critical ecosystems, integration of biodiversity conservation in relevant sectoral strategies, and strengthening of the institutional and regulatory framework. GoT is actively looking to GEF and other donors to finance the main elements of its Action Plan and meet its obligations under the Biodiversity Convention. GoT officially requested the Bank for assistance in obtaining GEF funds for a protected areas management project in July 1998.

3. Sector issues to be addressed by the project and strategic choices:

The proposed project will be the first to give concrete content to the Biodiversity Strategy adopted in June 1998. It will assist the Government of Tunisia in the implementation of integrated management plans with increased community participation that would provide a basis for replicability for management of other protected areas important for both national and global biodiversity. The proposed project would strengthen the capacity of the Directorate General of Forestry (DGF) to plan, implement, and coordinate biodiversity conservation at the local and national levels. The project preparation efforts will take a close look at complementarity and leveraging issues with other Bank-financed projects (Natural Resources Management Project (ongoing) and the Northwest Mountainous Areas and Forestry Development Project (under preparation) and a number of community-based and environmental education projects sponsored by UNDP, the EU, and GTZ. At the initial stage of preparation, this project was conceived of as an important element in the National Forest and Pasture Development Strategy, and as part of the Third Forestry Development Project (TFDP) which was to follow on from the Second Forestry Development Project (SFDP) which closed in May 2001. However, the National Forest and Pasture Development Strategy was delayed in its preparation and it is only now that a draft Strategy has been received. The Government of Tunisia (GoT) and the Bank are keen on reviewing the Strategy in depth before proceeding with any follow on project. In March 2000, the Japanese Bank for International Cooperation (JBIC) and GoT began implementation of a 5-year Integrated Forest Management Project in the north of the country. It is likely that the follow on project to the SFDP will commence in 2004 at which point the activities under this project are likely to be merged with the larger project. In the meantime, however, the experience under the SFDP with the pilot operations incorporating local participation in forest management has imparted many useful lessons to the design of this project the key ones being the importance of capacity building (of both the implementing agency as well as the beneficiary populations) and a phased implementation to permit a "learning by doing" approach. Overall, the results of this component were instrumental in ensuring the inclusion, for the first time, of funding for the socio-economic development of forest populations into GoT's 5-year Economic Development Plan (2002-2006). The project is thus fully in line with GoT's strategy in the forestry sector, and more broadly, natural resource management. Although it would have been preferable to mainstream this project with the TFDP, it was agreed with GoT that this project would proceed in order not to lose the momentum of the extensive preparation work already completed. The project would also liaise closely with the Northwest Mountainous Areas and Forestry Development Project which will also adopt similar participatory approaches to natural resources management. The project design and implementation will also involve the Office National du Tourisme Tunisien (ONTT) under the Ministry of Tourism who are part of the technical working group (along with the Ministry of Environment and the DGF, Ministry of Agriculture) constituted under the Steering Committee. The GoT has recently completed a national strategy on tourism management and development. The Government is aware of the positive linkages between cultural/natural heritage and the tourism industry, and the strong impacts on local employment from cultural tourism and nature conservation. Stagnant tourism revenues, competition within the Mediterranean region for tourism earnings, and the disadvantages of being perceived as a "sea and sand only" tourism destination have impelled GoT to acknowledge the need to adjust its tourism policies. As part of its wider objective to expand high-value and niche tourism, GoT is interested in developing the potential for ecotourism in the country's national parks. The seven sites selected under the Bank's Cultural Heritage Project (to be launched shortly) do not specifically include the three national parks under the proposed project. However, they form part of the larger sample of 31 sites of intervention developed by GoT which includes 5 national parks/reserves, of which two are included in the proposed project (Bouhedma and Ichkeul). The Ministry of Tourism expects to use

the proposed project as a vehicle to promote ecotourism initiatives. The proposed biodiversity project will build on the momentum generated by recent planning initiatives, and establish clear links with ongoing donor-financed projects and other national projects.

Selection of project sites:

The three project sites were selected primarily on the basis of their importance to global biodiversity. Since this is Tunisia's first major protected area management project, it was also deemed important to include representativeness as a criterion in the selection in order to develop ecosystem-specific management plans that could be replicated elsewhere in the country. Each of the ecosystems represented by the three sites is distinct and will present different challenges to its sustainable management. It was decided to limit the number of parks to three in order to keep the project size manageable by the existing institutional capacity.

C. Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

The project includes the following three components: (all $ amounts are indicative only)

Component 1: Institutional Strengthening ($2.03 M): The objective of this component will be to reinforce the institutional capacity of the Directorate General of Forestry (Ministry of Agriculture) and the Ministry of Environment in the sustainable protected areas management. This component will support the following: (i) support for the Project Management Unit; (ii) training; (iii) technical and scientific studies; and (iv) establishment of a national database which will integrate other existing databases and serve as a management tool for improved biodiversity monitoring. The park management, local governments at the regional Commissariats Régionaux de Développement Agricole (CRDA) level, and other potential partners (including the private sector and NGOs) in participatory approaches to protected areas management. It will also include training programs for the Directorate General of Forestry and the Ministry of Environment and Landuse Planning at the central level (where justified).

Component 2: Protected Areas Management ($U.S 6.98 M): The objective of this component would be: (i) manage and restore the ecosystems in the three national parks to protect the globally important flora and fauna; (ii) assist in the development of ecotourism activities; and (iii) establish, with the local populations, community development plans compatible with the objectives of sustainable biodiversity conservation. The three parks (out of 8) chosen include Ichkeul, Bouhedma, and Djebil. These three parks cover unique and distinctly different ecosystems – wetland, arid-mountain/pseudo savanna, and desert respectively (see Annex 2 for a brief description of each park). The project will develop detailed management plans, provide equipment, training and small infrastructural facilities in all three sites. In addition, it will establish mechanisms to reduce the unsustainable use of natural resources, particularly those resources that in the past were shared common resources such as grazing lands and forests. The project will develop strategies for ecotourism that will demonstrate the links between conservation and economic benefits for the local communities. The management plans will emphasize not only the technical aspects (inventory, infrastructure, surveillance), but also strategic and sustainability issues (participatory review and assessment of existing management plans and practices by local communities, negotiations with communities on priority activities to reduce pressures on the protected areas, support for alternative livelihoods consistent with biodiversity conservation and sustainable use of natural resources, scientific monitoring), and would be implemented during the project period.

Component 3: Public Awareness ($U.S0.7M): This component would aim to build public support for biodiversity conservation at the local/park level and governorate level. Action plans will target priority groups such as local/regional governments, site visitors, and local school children for raising the awareness of specific stakeholder groups about the importance of, and opportunities for, biodiversity conservation within the three parks. Possible delivery mechanisms include mass media, formal and informal education, and development of linkages with local NGOs, schools, tourism agencies, and other organizations to promote public understanding about biodiversity resources. Activities will be developed at the local/community level in order to develop the grassroots awareness necessary to sustain long-term biodiversity conservation.

Component	Sector	Indicative Costs (US$M)	% of Total	Bank financing (US$M)	% of Bank financing	GEF financing (US$M)	% of GEF financing
1. Capacity Building and Institutional Strengthening: * Training programs * Establishment of a national database on biodiversity and strengthening ability to monitor changes in biodiversity; * Studies on institutional issues including environmental legislation, revised and additional financing mechanisms for protected areas.	Institutional Development	2.03	20.9	0.00	0.0	1.61	31.4
2. Protected Areas Management: * Planning and management systems * Sustainable resource management * Alternative livelihood mechanisms * Ecotourism strategy	Natural Resources Management	6.98	71.9	0.00	0.0	3.02	58.9
3. Public Awareness and Education:	Other Education	0.70	7.2	0.00	0.0	0.50	9.7
Total Project Costs		9.71	100.0	0.00	0.0	5.13	100.0
		0.00	0.0	0.00	0.0	0.00	0.0
Total Financing Required		9.71	100.0	0.00	0.0	5.13	100.0

2. Key policy and institutional reforms supported by the project:

The likely policy and institutional reforms to be sought include:

Introduction of new recurrent cost financing mechanisms for protected areas management, possibly from increased ecotourism revenues, revolving funds, private concessions;
Development and implementation of an ecotourism action plans at the selected sites;

In addition, the participatory approach to protected areas management in the three project sites will require considerable change in organizational values and behavior from DGF personnel who will eventually be responsible for implementing the management plans with the local communities. The project will aim at developing a truly participatory approach to protected areas management and will adapt the approaches used in other projects (CDs and GFICs) to suit local conditions. The project will also support increased managerial autonomy at the park-level.

3. Benefits and target population:

Global and regional benefits: The project will result in global and regional benefits by contributing to sustainable conservation management in three of Tunisia's well-known national parks covering about 180,000 ha. representing diverse ecosystems with biodiversity of global and regional importance. The project will also establish linkages and collaboration to support and benefit from conservation initiatives in neighboring countries. The global benefits include: (a) conservation of critical saharan and wetland habitats and enhancing the probability of their long-term conservation; (b) development of incentives to maintain protected areas in the long-term; (c) established capacity to ensure adequate management of protected areas sustainably; and (d) new knowledge concerning the feasibility of community-based natural resource conservation approaches and the factors associated with success.

Two of the sites (Bouhedma and Jebil) are important priorities under the Bonn Convention for the conservation of Sahelo-saharan antelopes. The Ichkeul lake and marshes have long been recognized (together with Doñana in Spain, the Camargue in France and the El Kala region in Algeria) as one of the four major wetland areas in the western basin of the Mediterranean. Ichkeul National Park (covering an area of some 12,000 hectares) is one of the few sites listed under three international agreements: (a) Biosphere Reserve (1977); (b) World Heritage Convention (1979); and (c) Ramsar Convention (1980). The lake and marshes of the park provide habitat for hundreds of thousands of migratory birds (in particular ducks, geese, storks and flamingos). Improving the management of the park would help increase the numbers of wintering ducks and coots have decreased from an average of 200,000 individuals to a level situated around 50,000 at present. Other important species include the wintering geese, herons, egrets, the globally threatened Marbled Teal *(Anas angustirostris*), Purple Gallinule *(Porphyrio porphyrio*), and the White-headed Duck *(Oxyura leucocephala)* (also globally threatened). The national park of Bou Hedma is home to the extremely rare gazelle dorcas, and the oryx antelope. Other fauna of importance are the striped hyena, golden jackal and crested porcupine. The park houses 8 of the 14 species recognized as endemic in the National Biodiversity Study such as the *Acacia raddiana, Juniperus phoenicea, Pistacia atlantica, Thymelea sempervirens, Tetrapon villosus, Tricholena teneriffe, and Cenchrus ciliaris, and Digitaria communtata.* In addition, the park has potential for the re-introduction of fauna, relatives of species that once roamed but have since disappeared, such as the gazelle dorcas, oryx - the straight honed antelope, addax the desert antelope, and ostriches. Some of these have already been re-introduced in the park in limited numbers. The national park of Jebil is a relatively new park and consists of very unique Saharien ecosystems that have not been very well studied thus far. The park contains internationally important biodiversity, some of which is found only in Tunisia. Globally important species include the gazelle leptoceros, white gazelle (gazella abiod), and remarkable flora like calligonum that attain several meters in height in the sand dunes of the grand erg.

National benefits: Investments, training, and decentralized institutional arrangements would address priority conservation planning and management problems common to many important and threatened biodiversity sites throughout Tunisia and elsewhere in the region and would, therefore, provide models for replication in priority conservation sites in other parts of the country and region. The improved management of the protected areas and buffer zones will ensure the conservation of important plant and animal species some of which are endemic and would be conserved within their native habitats. The project would contribute to broadening the livelihood strategies of participating communities and contribute to the long-term stability of the ecosystems. National-level beneficiaries include GoT (MELP, DGF, ONTT) whose institutional capacity will be strengthened to address biodiversity conservation needs. The project will improve Tunisia's institutional arrangements and strengthen its capacity for biodiversity conservation while raising public awareness and providing improved opportunities for environmental and conservation education.

At the local level, the project would build mechanisms and capacity to assist local stakeholders, specifically, the local communities dependent on the resources of the protected areas, local governments, and NGOs to participate in the preparation and implementation of conservation management and development plans. Sustainable management of the project sites will benefit poor rural communities and local economies adjacent to the sites through stimulation of socio-economic development including ecotourism as well as activities based on the sustainable management of natural resources of protected areas. The public awareness component will be focussed on the local communities in and around the protected areas and at the local governments in order to develop the grassroots awareness necessary to sustain a participatory approach to protected areas management.

4. Institutional and implementation arrangements:

Implementation period: 5 years

An Interministerial Steering Committee with representatives from Ministry of Finance, Ministry of Economic Development, Ministry of Tourism, Ministry of Environment and Landuse Planning, Ministry of Agriculture, Ministry of Higher Education, Ministry of International Cooperation, and an NGO representative has been formed to provide oversight during project preparation. It is expected that this committee will be retained during project implementation. The committee will be responsible for providing project oversight advice and assistance in resolving issues associated with project implementation.

Project Management at the National Level: Currently, the Ministry of Environment and Landuse Planning (MELP) has overall responsibility for managing the project preparation grant and overall project preparation. However, due to the fact that the bulk of the activities during project implementation fall under the purview of DGF, the latter would be better placed to assume responsibility for project management during its execution phase. DGF also has a stronger presence in the field and greater experience in dealing with Bank projects and procedures compared to MELP. The MELP will be directly responsible for components that are directly under its purview (capacity building and public awareness - components 1 and 3). The transfer of responsibility from MELP to MOA during project implementation has been discussed with and fully supported by the Ministry of International Cooperation. The DGF (and MOA) will thus have overall responsibility during project implementation including procurement, disbursement, maintenance of project accounts and coordination of implementation. However, close coordination will be maintained with the other two Ministries directly involved - Environment and Tourism.

Project Implementation: Within DGF, the Project Management Unit (PMU) which was established during the First Forestry Development Project and reinforced during the ongoing SFDP will have the primary responsibility for coordination, management, and monitoring and evaluation of the proposed project. The PMU would be responsible for overall project implementation and coordination of the activities of the other directorates under the umbrella of the DGF, i.e., the Directorate of Forests Inspection, Directorate of Sylvo-pastoral Development, Directorate of the Second Forestry Development Project, and the Directorate of Forest Conservation. The latter, in turn, is sub-divided into 2 sub-directorates and 4 services, namely, Sub-directorate of Forest Protection (Forest Protection Service; Regulation Service) and Sub-directorate of Hunting and National Parks (Hunting Service; National Parks Service). At the regional level, the PMU would coordinate the project activities through the Arrondissements Forestiers (AFs) in each CRDA. In each governorate, the park administrator who is drawn from the AF would be the focal point for all park-related activities including ranger services, community outreach, and monitoring activities.

Local communities would participate in project implementation both financially and through the provision

of labor. They would participate through contractual arrangements, *Contrat Programmes* (CP), with the implementing agency, NGOs or other agencies with whom they may be involved. In addition, they would participate through the formation of Development Committees (CDs) and a Forestry Association (GFIC) in the case of Ichkeul. The CD approach has been tested in the ongoing projects (Natural Resources Management; North-West Mountainous Areas Development) and has proven to be successful.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

Project preparation considered and rejected the following alternatives:

- Focus on all 8 National Parks and 4 of 16 Reserves. This scenario was not selected due to the limited resources available to implement a project of this size. Sites were selected so as to include: (a) representation of different ecosystems; (b) examples of the major challenges to biodiversity conservation in Tunisia, and (c) biodiversity of national and global significance. In addition, the feasibility of implementing conservation management given the limited institutional capacity within the DGF towards a more participatory approach to protected area management was taken into consideration in selecting the location and number of sites. Experience gained at these three sites will allow for a phased "learning by doing" approach.
- Creation of a separate protected area management agency. There is no substantial overlap between the MELP, in charge of policy formulation, planning, and regulation, and the DGF which manages the protected areas. Joint management of the Ichkeul N.P is a good example of collaboration between the MELP and DGF. It was agreed with GoT that while efficiency gains would be sought through the project with specific emphasis on capacity and institution building, no major revamping through the creation of a separate agency would be required.
- Privatization of the protected areas: While this suggestion has merit in its potential for reducing Government costs associated with protected area management, the Government currently lacks adequate regulatory and monitoring mechanisms to ensure that biodiversity conservation concerns would not take second place to the drive for profit in areas where concessions are possible. The Government would also be loath to relinquish all control of parks management to the private sector. Further, it is not clear that there would be sufficient demand from the private sector to take over the complete management. However, the project preparation will examine the possibility of partial concessioning of activities to the private sector in order to increase revenues and improve efficiency.The project will help strengthen the Government's capacity to regulate and monitor biodiversity conservation, while exploring a range of options for future financing and decentralized management of protected areas, including revolving funds and concession management.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Participatory natural resources management; poverty alleviation	Natural Resource Management Project (Ln 4162, $26.5 m, ongoing)	S	S
Improved forestry management	Second Forestry Development Project (Ln 3601; $65m, closed May 2001)	S	S
Rural development; sustainable range, forest, and farming activities	Northwest Mountainous Areas Development Project (Ln 3691; $26.0 m, closed June 2001)	S	S
Coastal Zone Management (World Bank/GEF)	Gulf of Gabes Marine and Coastal Resources Protection Project (under preparation)		
Participatory natural resources management; poverty alleviation	Northwest Mountainous Areas and Forestry Development Project (under preparation)		
Other development agencies			
European Union/EC: Conservation of natural resources	Conservation of natural resources in the humid zones of the Mediterranean (Regional MEDWET Project: Tunisia Project Site: Sebkhat El Kelbia)-ongoing		
UNDP/GEF: Biodiversity conservation	Conservation of Wetland and Coastal Ecosystems in the Mediterranean Region (Tunisia project sites -Dar Chichou, Korba Kelibia, and El Haouaria)- ongoing		
UNDP/GEF/FFEM: Biodiversity conservation	Marine Protected Areas (under preparation)		
UNDP-GOT: Alternative livelihoods	Development of alternative livelihoods for populations in and around the N.P of El Feidja (ongoing)		
GTZ - environmental management	Ongoing technical assistance projects		
JBIC - Forestry Management	Integrated Forestry		

	Management Project		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

This is the first Bank-supported GEF project in Tunisia and the first GEF project focusing on protected areas management in Tunisia. Lessons learned have been drawn to a large extent from the Bank's experience in the forestry sector in Tunisia and other Bank/GEF projects in the region and elsewhere. The preparation process is also focussing on lessons learned from other community-based natural resources management initiatives.

From QAG review of GEF-supported biodiversity projects in Africa: (i) Integration of the biodiversity conservation agenda into the broader national development agenda is essential; (ii) Biodiversity projects need to focus more on methods for dealing with socio-economic pressures in perimeter zones where populations may be dependent on forest exploitation; (iii) Project design should take into account technical and stakeholder reviews in the final design; and (iv) Clearly defined goals and objectives are essential to focus on project efforts, monitor progress, and demonstrate impact. On a broad level, the QAG's recommendation to include more environmental expertise in developing the CAS has been implemented in the Tunisia case. The new Country Assistance Strategy (CAS) has had a substantial input from the environment/rural development sectors with a special mission that prepared the Environmental Input to the Tunisia CAS report. The CAS includes the proposed Bank/GEF projects in its focus on consolidating long-term development in environment and natural resources management. The proposed project would also seek to identify complementarities with ongoing environment/natural resource management projects in order to better mainstream biodiversity conservation. The biodiversity conservation efforts in the proposed project will seek to emphasize the underlying causes of biodiversity loss (overgrazing, fuelwood overexploitation etc.). The proposed project design supports detailed social analyses of the park populations and would define options and mitigation strategies to endangered livelihoods if there is to be a limitation in the use of resources.

From Bank-wide Portfolio Review of Biodiversity Projects: The portfolio review identified 9 criteria to assess the strengths and weaknesses of biodiversity projects in quality at entry: borrower ownership; stakeholder participation; clarity of objectives and components; application of lessons learned; identification of critical risks; integration of biodiversity into project design; detail of implementation planning; analysis of institutional capacity; use and adequacy of indicators. In the proposed project, borrower ownership is high. Since it is a free-standing biodiversity project, integration of biodiversity into project design is a given. The proposed project supports preparatory studies that will address the other criteria in detail.

From Bank Review of Issues in Ecotourism and Conservation: In a review of 23 protected areas with projects designed to generate local economic development found that while many projects promoted ecotourism, few generated substantial benefits for either parks or local people. In most countries, ecotourism alone will not promote conservation - rather, it is one component with other elements like improved education, improved access to information, improvements in park management, and increased economic opportunities other than just ecotourism. The review also recommends zoning as a management tool to ensure controlled tourism does not degrade the park's biodiversity resources as was the case with the Tangkoko DuaSaudara Nature Reserve in Indonesia where "ecotourists control Tangkoko, probably to the detriment of wildlife", and the Royal Chitwan Park in Nepal where despite well organized education programs, "disturbances to the ecology have become obvious features". The proposed project will explore the potential for ecotourism in each park and zoning will be an essential feature in defining how visitation

will take place. In Tunisia, the disturbances due to increased tourism is a negligible risk. Indeed, the challenge would be how best to develop this potential while mitigating any negative effects. Baseline surveys will be carried out on the seasonality of tourism interest, activities of tourism in the park including the type of tourist attracted, type of visitor experience desired by the tourist and the associated infrastructure expected, in addition to strong baseline data on the ecosystem characteristics. Any promotion of ecotourism in the project sites will be strictly managed. Public awareness and environmental education are important components of the proposed project.

Tunisia Forestry Development Project (Ln 2870-TUN; closed) and Second Forestry Development Project (Ln 3601-TUN; ongoing): As the first forestry operation financed by the Bank in Tunisia, the Forestry Development Project (FDP) was the testing ground to provide the technical and institutional basis for the follow-on Second Forestry Development Project (SFDP). The FDP eliminated price distortions and monopolistic situations in the sector, and the implementation agencies and population developed a new awareness of the need for environmentally sound exploitation of forest resources. The FDP and SFDP have underlined the need for participation by the local populations in forest and pasture management. The ongoing experience with OPDIs (Pilot Operations of Integrated Development) has indicated that capacity-building of NGOs as well as user groups is critical to ensure successful implementation. The proposed project will draw from the lessons of the OPDIs that have been implemented (1 thus far) and will pay particular attention to the experience of user groups such as the CDs and the GFICs.

Jordan: Conservation of the Dana and Azraq Protected Areas Project (GEF/World Bank/UNDP): The key factor behind the success of Dana was the involvement of the local population (Bedouins inside the reserve and villagers around it) in the forefront of the project from the very start. Building on local skills and initiatives, mixed with a new vision and new ideas, opportunities were created for local people to gain a livelihood from the nature reserve without destroying it. Carefully-regulated ecotourism gives local people a fair share of the action and dividends while "putting nature first". The institutional strengthening component of the Royal Society for the Conservation of Nature (RSCN) produced a revitalized RSCN with a clear vision, with a trained and motivated staff and, most importantly, with the will to make the protection of Jordan's natural heritage succeed in practice. The proposed project has also identified similar issues and has included in the project design a detailed participatory process involving local communities and local/regional institutions, NGOs to develop and implement management plans for the protected areas that will balance the need for protecting the parks and meeting the needs of the local people. Institutional strengthening of the DGF is also an important component of the project. The project preparation phase includes a study tour to Dana for the park conservators, and other DGF and MELP personnel to learn from the Jordanian experience and work with RSCN to set up customized training programs for Tunisian staff.

Morocco: Protected Areas Management Project: Although this project is still in an early implementation phase, the key aspects in project design were a decentralized implementation structure and the involvement of the local populations in the preparation of the six Douar Development Plans to be implemented in the first year as part of the conservation management plans. The proposed project will bring together the local communities, and NGOs, with the local forestry arrondissements in the respective governorates in a participatory fashion to gain the commitment of the local people.

4. Indications of borrower and recipient commitment and ownership:

The Government of Tunisia has established a proper strategic framework for biodiversity protection and environmental management: (i) A National Environmental Action Plan (NEAP) and the State of the Environment were completed in 1997; (ii) a number of international conventions (Biodiversity, Bonn, Ramsar, etc.) have been ratified, and (iii) A National Biodiversity Strategy and Action Plan were developed in a very participatory manner under a
biodiversity Enabling Activity (GEF-funded; the World Bank being the Implementing Agency) which were adopted by the Government in 1998. University academics, research institutes, and environmental NGOs (local and international) provided useful inputs into the preparation of the Biodiversity Strategy. The strategy also benefited from bilateral assistance from Germany and Sweden. Tunisia accords a high significance to biodiversity conservation and sustainable uses in its development effort. There is a strong political commitment towards enhanced conservation efforts and its successful integration into a wider economic, social and cultural context. There is a high-level commitment to participatory natural resources management. Ongoing World-Bank financed natural resources management/forestry projects have involved local communities in a participatory approach to project implementation. The recent Tunisia CAS (FY00-FY03) includes the proposed project in the lending/grant operations.

The Government requested assistance from the World Bank to prepare a possible GEF project for protected areas/biodiversity in July 1998. The preparation grant is being executed by the Ministry of Environment and Landuse Planning (MELP). An Interministerial Steering Committee was formed in 1999 to oversee preparation and implementation of the project. This committee comprises representatives from the Ministry of Environment and Land Use Planning (MELP), Ministry of Agriculture (DGF), Office National de Tourisme Tunisien (ONTT), Ministry of Tourism, Ministry of Finance, Ministry of Economic Development, Ministry of Education, *Agence Nationale de la Protection de l'Environnement* (ANPE), *Agence de Protection et d'Aménagement du littoral* (APAL), Ministry of International Cooperation, and ATLAS (NGO). The technical working group (with representatives from MELP, DGF, and ONTT) has been closely involved in the formulation of the terms of reference for the preparatory study which was approved by the Steering Committee in April 2000. This group was also responsible for the preparation of the bidding documents, and the bid evaluation which were completed in December 2000. The French-Tunisian consortium which was awarded the contract for the preparation study commenced work in mid-February 2001.

5. Value added of Bank and Global support in this project:

The Bank has had a long-standing dialogue with Tunisia in the forestry sector and, more broadly, natural resource management through the two Forestry Development Projects, Natural Resource Management Project, Northwest Mountainous Area Development Project. In the environment sector, the Bank has been involved in technical assistance through the Mediterranean Technical Assistance Program (METAP) mainly in the area of Environmental Impact Assessment, and policy support in the integration of the environment into specific sectors of waste management, water, tourism, transport, and trade. The proposed project will be the Bank's first GEF operation in Tunisia. Despite considerable bilateral support for the environment sector in Tunisia, the Government has requested that the Bank continue to be engaged in order to continue the policy dialogue, secure donor coordination, and bring international best practices to bear on the design and implementation of the country's first GEF protected areas management project.

The GEF value added comes from its global experience in the design, implementation, and financing of biodiversity projects. The GEF support is justified by the regional and global value of the project sites' biodiversity. GEF funding will help raise visibility and global support for the management of Tunisia's protected areas and reserves. It will also enable the project to target globally valued and threatened plants

and habitats. Other GEF/Bank biodiversity projects in the region (notably, Morocco, Jordan) will provide opportunities for promotion of exchange of ideas, cross-fertilization with other GEF projects, and strengthened biodiversity monitoring and evaluation, review, and scientific oversight.

Consultation, Collaboration and Coordination between Implementing Agencies (IAs): The project has been developed in close consultation with UNDP who are currently working with the Government in an alternative livelihoods project in the national park if El Feidja. Lessons learned from this project are included in the project design. In addition, UNDP is also preparing a GEF project on marine protected areas which has been coordinated with this project as well as the Bank's Gulf of Gabes project also under preparation. The local UNDP representative has participated in several wrap-up meetings after Bank missions. GTZ which has a strong presence in the Ministry of Environement has assured the Bank of support during project implementation.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

○ Cost benefit NPV=US$ million; ERR = % (see Annex 4)
○ Cost effectiveness
● Incremental Cost
○ Other (specify)

A standard cost-benefit analysis is not usually conducted for GEF biodiversity projects. Instead, an incremental cost analysis has been carried out as part of project preparation. The project design seeks to emphasize cost-effectiveness through minimizing budget impact, maximizing involvement of the local communities, using existing institutions, and building on existing studies and experience.

Incremental costs: The incremental costs are expected to cover project expenditure on components that have global benefits. Project activities that have global benefits are eligible for GEF-financing. The baseline expenditure scenario has been calculated to establish current and planned funding amounts for biodiversity conservation and protected area management at the three project sites and for national-level planning, during the life of the project. The estimated difference between the cost of the baseline scenario and the cost of the GEF alternative represent the incremental costs. This represents the incremental cost of achieving global environmental benefits through strengthening policy and institutional frameworks for protected areas management and biodiversity conservation, developing mechanisms for sustainable resource use in the buffer zones, strengthening local and national capacity for conserving globally significant biodiversity, and enhancing public awareness of global environmental issues pertaining to biodiversity conservation. It is expected that the GEF contribution towards the incremental costs would be of the order of $5.1 million. GoT is committed to funding the baseline costs from its own budget and through mobilizing additional (parallel) cofinancing if necessary. (See Annex 4 for IC analysis)

2. Financial (see Annex 4 and Annex 5):

NPV=US$ million; FRR = % (see Annex 4)

Conventional financial rate of return analysis is usually not carried out for GEF biodiversity projects. Total government financing during the project implementation period is estimated to be about U.S$ 2.3 million equivalent. This will mainly go towards meeting baseline costs that result in primarily national benefits. The incremental costs, which generate the global environmental benefits, will be financed through the GEF grant and will be of the order of $5 million equivalent. However, it is expected that some part of the baseline costs would also be cofinanced through bilateral sources of grant funding.

The project preparation will also examine options for ensuring financial sustainability of the park management in the long-term, inter alia, revolving funds, private concessions, share of ecotourism revenues etc. It is expected that the financial mechanisms as well as the management approaches identified during this project will provide the basis for mainstreaming these aspects in the broader government strategy for national parks management.

Fiscal Impact:

The project is not expected to have a significant fiscal impact on the GoT budget. Recurrent costs of the project are estimated at about $400,000 annually on average which represents about 1% of the total budget of the DGF.

3. Technical:

The project is technically justified on the basis of the urgent need to address growing threats to Tunisia's biodiversity that result from human pressures and the absence of effective conservation management systems. Consequently, the project will establish functioning models of best practice for protected area management, and build national capacity to replicate this experience and mainstream biodiversity conservation in forest and protected area management. The project concept and components have been developed in a participatory manner by DGF and MELP. The project will augment the existing capacity for protected areas management with new skills needed to manage and conserve biodiversity in the changing socio-economic circumstances. Needed new technical skills include multi-stakeholder participatory planning and management of natural resources and reserves, site interpretation, awareness raising, biodiversity conservation research and monitoring, and protected area management. It is often difficult to find sufficient alternative livelihood activities to substitute for reduced unsustainable exploitation. The results of the social assessment have indicated the possible options at each site (see Annex 2).

Replicability:

The Government of Tunisia is seeking to replicate the results of this project in the five other national parks in the country. This project is viewed as an opportunity for learning-by-doing and the choice of the three sites offers a variety of ecosystems and management approaches that can be replicated elsewhere in the country. The community participation aspects in particular are expected to be utilized in the management plans of the other national parks and reserves, as well as in natural resource management projects. The approach used in the southern desert park of Jebil can be replicated in the proposed national park of BasDraa in southern Morocco with a similar ecosystem. The latter is currently in the World Bank/GEF pipeline for detailed preparation later this year.

4. Institutional:

4.1 Executing agencies:

Currently, MELP is responsible for project preparation with oversight by the multi-disciplinary steering committee. However, during project implementation, DGF (Ministry of Agriculture) will take the lead for overall project coordination. This is due to the fact that most of the field-level activities will fall directly under the domain of the DGF and hence, would be better placed than MELP to carry out implementation. The working group (MELP, DGF, and ONTT) will continue its activities to ensure active collaboration between the three Ministries during the preparation and implementation phases.

4.2 Project management:

The proposed project will have a project management design that is synonymous with the Ministry of

Agriculture's (MOA's) management of its overall investment budget. Project accounts and financial management will be an extracted sub-set of the MOA's detailed accounts for its investment budget. The decentralization of the investment and recurrent cost budgets to the CRDAs initiated in the Second Forestry Development Project (SFDP) will continue with overall guidance and M&E being undertaken by DGF at the central level. The PMU created under the SFDP will be retained for this project.

Audits:

GOT will appoint an auditor acceptable to the Bank to carry on an annual audit. The auditor will perform the audit according to: (i) the International Standards of Auditing as issued by the International Federation of Accountants, (ii) Bank's Guidelines (e.g. Financial, accounting, reporting and auditing handbook, "FARAH"), and (iii) specific Terms of Reference (TORs) acceptable to the Bank. The auditor will express a professional opinion on the annual project financial statements and will submit to the Bank an annual audit report within 6 months after the end of each government fiscal year.

4.3 Procurement issues:

Under the SFDP, capacity-building of the CRDAs in all aspects of project management (technical, administrative) is ongoing. The CRDAs have gained considerable experience in procurement matters through the implementation of ongoing Bank-financed projects. The decentralization of procurement will continue under the proposed project. The experience gained under the SFDP will prove useful in the implementation phase of the proposed project in the CRDAs of Bizerte (Ichkeul N.P), Kebili (Jebil N.P), and Gafsa/Sidi Bouzid (Bouhedma N.P).

Disbursement Issues:

Disbursements from the GEF grant would be made on the traditional system (reimbursements with full documentation and against Statements of Expenditure – SOEs, and direct payments). As with other operations, all efforts would be made to ensure better coordination between physical and financial implementation aspects.

4.4 Financial management issues:

The DGF will provide, with effective and efficient staff input, the essentials of a Project Management Unit. This unit was created under the ongoing SFDP and will continue for this project. It will maintain computerized project accounts and supporting documentation and records so as to permit a comprehensive itemized trace of all transactions. Copies will be forwarded to the Central Bank of Tunisia which will manage payments out of a Special Account. These accounts and procurement documentation processes have already been tested under the ongoing SFDP and have proven fully satisfactory. The DGF will also implement a reporting system acceptable to the Bank.

5. Environmental: Environmental Category: C (Not Required)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

The project is not expected to have any negative environmental impacts of any kind. It is expected to generate significant positive environmental benefits through the establishment of effective systems to conserve the natural integrity and biodiversity of Tunisia's ecosystems in three protected areas. Infrastructure-related activities are expected to be small-scale involving mainly the refurbishment of visitor centers, marked trails, and signage. They will be carried out in a manner that minimizes negative environmental impacts. This will be done through ensuring that the relevant environmental provisions in accordance with Bank guidelines are specified in the terms of reference (TORs) and all construction

contracts. The protected area management plans to be developed under the project will involve definition of land and resource use zones within the parks and define specific measures to be undertaken to ensure sustainable management of the biodiversity resources. Key stakeholders will include the local communities, CRDAs, and NGOs. The development of the management plans will include all the key stakeholders and is in itself an environmental management plan. No resettlement is envisaged.

5.2 What are the main features of the EMP and are they adequate?

n.a

5.3 For Category A and B projects, timeline and status of EA:
Date of receipt of final draft: n.a

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

n.a

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

Monitoring indicators include biodiversity indicators as well as indicators of public participation.

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

Social analyses have been carried out at each of the project sites as part of project preparation. These have included a thorough analysis of previously existing documents and studies as well as field consultations with a broad range of stakeholders, including government, institutional, local tourist and commercial organizations, and direct beneficiaries. Annex 12 provides a detailed summary and conclusions of these assessments. These have
identified area-specific issues and constraints that will be incorporated in the protected area management plans to be developed and implemented with the direct participation of beneficiaries, NGOs and government agencies adhering to the guidelines prescribed in *Guidelines for Using Social Assessment to Support Public Involvement in World Bank-GEF Projects.*

6.2 Participatory Approach: How are key stakeholders participating in the project?

Participation in project identification and preparation: The basic concept and objectives of the proposed project were identified as top priorities in the National Biodiversity Study and Action Plan. This plan was developed under a Biodiversity Enabling Activity (GEF-funded; the World Bank being the Implementing Agency) and was adopted by the Government in 1998. University academics, research institutes, and environmental NGOs (local and international) provided useful inputs into the preparation of the Biodiversity Strategy. The project preparation has been guided by an Interministerial Steering Committee which has representatives from all the key Ministries as well as NGO representation, and in consultation with local level governments and stakeholder/beneficiaries. The detailed preparation will be undertaken in consultation with the major stakeholders at the local and national levels.

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

The NGO, Atlas, is a member of the project's national steering committee. In addition, other NGOs have also been involved with DGF in the pilot integrated development operations component (OPDIs) of the

SFDP. Experience under the SFDP has shown that many of the NGOs are new and do not have sufficient capacity to carry out the training and awareness-raising that were foreseen under the OPDI component. Nonetheless, NGOs which are sufficiently mature will be tapped where possible for information exchange and collaboration. In addition, the community groups such as the Comites de Developpement (CDs), and the *Groupements Forestiers d'Interet Collectif* (GFICs) (formerly known as AFICs) could also serve as potential collaborators in the planning and development of the protected area management plans. In some case, the GFICs have been formed directly without pre-existing AFICs. The project will also work with other conservation NGOs such as the WWF Alliance in North Africa to ensure complementarity of activities and benefit from any possible synergies.

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

The project envisages the creation of protected area management plans that are based in the regional CRDA and DGF that will incorporate the population in and around the protected areas. Specific institutional arrangements needed at each of the proposed sites will be different in each case, but the broad principles will be that the management functions will be shared between the CRDA-DGF and the groups of primary beneficiaries organized at the local levels specifically for this project. The stakeholders' own reaction has been that the best guarantee of success, and achievement of the planned social development outcomes, is to guarantee genuine participation of all stakeholders.

6.5 How will the project monitor performance in terms of social development outcomes?

The creation of management plans will be a first step in raising the awareness of the population of beneficiaries and other interested stakeholders. These plans will establish mechanisms for appropriate local participatory monitoring and evaluation by the concerned stakeholders and beneficiaries. The indicators to monitor performance will be focused on the social development outcomes with the population directly responding on these outcomes and their accrued benefits.

7. Safeguard Policies:

7.1 Do any of the following safeguard policies apply to the project?

Policy	Applicability
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	● Yes ○ No
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	● Yes ○ No
Forestry (OP 4.36, GP 4.36)	○ Yes ● No
Pest Management (OP 4.09)	○ Yes ● No
Cultural Property (OPN 11.03)	○ Yes ● No
Indigenous Peoples (OD 4.20)	○ Yes ● No
Involuntary Resettlement (OD 4.30)	○ Yes ● No
Safety of Dams (OP 4.37, BP 4.37)	○ Yes ● No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	○ Yes ● No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	○ Yes ● No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

The project is in full compliance with OP 4.04. By its very nature, the project design and implementation is meant to support natural habitat conservation and is aimed at integrating conservation of natural habitats and the maintenance of ecological function into national and regional development. Furthermore, the project would also achieve the objective (as stated in the OP) of promoting the rehabilitation of degraded natural habitats.

The proposed project is in its entirety devoted to solve the questions of biodiversity conservation with a participatory approach. There is no anticipated action that will result in resettlement or in any further restriction of access to the resources in the existing parks. Nonetheless, the project team as well as the team responsible for the preparation studies have taken into account all appropriate safeguard policy issues. The major challenge faced by the project is that of legalizing or otherwise recognizing the current occupants of the parks, and in the case of Jebil, of recognizing the legitimate users of the park spaces.

F. Sustainability and Risks

1. Sustainability:

Social sustainability: The project design envisages the participation of local communities and other stakeholders in the development and implementation of the park management plans which should ensure social sustainability. Active participation of NGOs and the potential participation of CDs and GFICs (where applicable) are also envisaged. The Government's continuing commitment to decentralization will also contribute to the social sustainability of the project.

Financial sustainability: The continued recurrent cost funding of the park management after the project closes has been assured by the Government of Tunisia through the Ministry of Finance to the Directorate General of Forestry, Ministry of Agriculture. The government recognizes that an effective system of protected areas is an essential element of sustainable forest management and have committed to contribute to the baseline costs of the project. The track record of the Government in earlier Bank-financed projects, specifically in the area of natural resources management in this regard has been good. Examples include the Northwest Mountainous Area Development Project, First and Second Forestry Development Projects, and the Agricultural Sector Investment Project. However, it is also recognized that current public expenditures on management of the other five national parks will be insufficient to develop and maintain the necessary management plans for effective conservation of biodiversity. Discussions during project preparation have indicated that the Government is willing to allocate a share of the ecotourism revenues to support the management of the three parks in the project. The government has carried out a study of ecotourism potential in five national parks (of which two are included in this project) as part of its new tourism strategy. The government will finance a more detailed feasibility study on ecotourism in this project to address the issue of financing long-term recurrent costs. In addition, the government is also considering setting up of trust funds for each park with the sponsorship of large public and private sector enterprises. Other mechanisms under consideration include a earmarked share of sales revenue of a line of special products from the national parks and earmarking special taxes on lodging and transport in the national parks. The capitalization of the specific financing mechanisms for the three parks in the project as well as the other five parks will be finalized during project appraisal. This will be a condition of effectiveness of the project.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective Fiscal constraints may reduce the priority that GoT places on biodiversity conservation and endanger local counterpart financing of project activities;	N	Exploration and possible establishment of alternative mechanisms for assuring financial sustainability of protected area management systems; commitment of GoT towards project costs during implementation and after project closure;

A realistic timeframe is adopted for the development and implementation of the management plans;	M	Sufficient time is allowed for the development of participatory approaches with local communities and user groups like the GFICs. The management plans will adopt a long-term perspective recognizing that the project will be implemented over 5 years.
Local communities/economic agents see the benefits and relevance of participating in the development of the management plans;	M	The project will work closely with communities and user groups. Alternative livelihood mechanisms will be developed to ensure that communities benefit from sustainable resource use.
From Components to Outputs		
Financial and physical resources are adequate and released in a timely manner;	N	Agreement to be reached with MOF and DGF to allocate the CRDAs funds in advance.
Timely procurement of goods and services;	M	Adequate preparation of procurement approach during preparation and appraisal.
Willingness of stakeholders to participate in the implementation of field-based activities;	M	Local public awareness programs; consultative workshops; proposed alternative livelihood measures generate adequate revenue.
Availability of competent staff in the parks.	M	Project will provide training and resources to enhance capacity of park personnel to carry out their duties.
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

3. Possible Controversial Aspects:

G. Main Conditions

1. Effectiveness Condition

2. Other [classify according to covenant types used in the Legal Agreements.]

H. Readiness for Implementation

☐ 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.

☐ 1. b) Not applicable.

☐ 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
☐ 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
☐ 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

☒ 1. This project complies with all applicable Bank policies.
☐ 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.

Shobha Shetty	Doris Koehn	Christian Delvoie
Team Leader	**Sector Manager/Director**	**Country Manager/Director**

Annex 1: Project Design Summary

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Sector-related CAS Goal: Consolidating long-term development through protection of the environment and sustainable use of natural resources.	**Sector Indicators:** Successful protected area management approaches replicated in other national parks and reserves in Tunisia with a resulting improvement in biodiversity conservation.	**Sector/ country reports:** Biodiversity monitoring system	**(from Goal to Bank Mission)** Continued political support at all levels for sustainable protected area management and biodiversity conservation; Protecting biodiversity contributes positively to local communities and the national economy.
GEF Operational Program: OP#1: Arid and Semi-Arid Zone Ecosystems; OP#2: Coastal, Marine and Freshwater Ecosystems	Abundance of global and rare/threatened species (flora, fauna)		

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Global Objective: Management and protection of biodiversity in three selected protected areas (PAs) in Tunisia is improved.	**Outcome / Impact Indicators:** Stabilization or improvement in natural habitat cover (extent and quality); Local animal/bird populations (for each PA); climatic monitoring; Reduction in adverse impacts of resource use (grazing, forest products, etc.) on the biodiversity of project sites;	**Project reports:** Baseline surveys; remote sensing; scorecards; transects in key areas; Reports on scientific monitoring of biodiversity in protected areas; meteorological observations; Progress and supervision reports.	**(from Objective to Goal)** GoT continues to implement policies/programs aimed at promoting sustainable management of protected areas; Public support for biodiversity conservation may develop more slowly than the rate that would have been required to support government actions in time to avoid permanent damage to Tunisia's biodiversity.

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Output from each Component:	**Output Indicators:**	**Project reports:**	**(from Outputs to Objective)**
Institutional Strengthening: Capacity at the regional (governorates, CRDAs) and local (community) levels for biodiversity conservation and protected area management is improved;	Number of people attending training programs pertaining to conservation and protected areas management;	Training reports; supervision reports.	Appropriate counterpart staff are made available to work on key aspects of the project;
	Local development committees (CDs) oriented towards management of biological resources;	Number of CDs and activities;	Inappropriate response of CRDA/DGF to the CDs and joint management;
	Additional financing mechanisms (e.g., revenues from ecotourism) for protected areas management are put in place;		Fiscal constraints may reduce the priority that GoT places on biodiversity conservation and endanger local counterpart financing of project activities;
Knowledge on biodiversity is available and the database is operational;	Institutional analyses are carried out and the recommendations implemented over 5 years;	Regular publications on biodiversity evolution; reports.	Training is conducted to ensure data quality and maintenance;
Research and scientific monitoring activities contribute to the management of the protected areas;	Database on biodiversity is available after 3 years, updated and used regularly;	Research reports from local scientific institutes; records of management decisions.	
	Research results, M&E are utilized by park management;		
Protected Areas Management: The CRDAs, other regional authorities, and local communities have jointly improved the management of the three protected areas.	Protected area management plans are developed and operational, accomplishing x% of stated objectives by end of project;	Project progress reports; supervision reports; beneficiary surveys; project management reports.	Counterpart funds are released in a timely manner;
	Participatory rural appraisal procedures are understood and applied routinely by local authorities with the communities;		A realistic timeframe is adopted for the development and implementation of the management plans;
	Illegal activities in the parks have decreased by x% over 3 years;		Local communities/economic agents see the benefits and relevance of participating in the development of the management plans;
Pressure of local populations on the parks is reduced;	Number/percentage of families participating in	Field surveys + groundtruthing; project management reports.	Changes in visitor rates and composition will not

	alternative livelihood projects; Annual increase in number of visitors to the parks; Lodging capacities are increased by x% over 5 years; At least 2 new tourist tours are created over 5 years;	Visitor statistics; reports;	overwhelm the park management;
Public Awareness: Attitudes and behavioral patterns regarding biodiversity conservation in the three protected areas and the associated governorates are improved.	Increased public awareness of the importance of biodiversity conservation over the baseline at the park level and the governorate level; Annual increase in the number of visitors to the project sites; Ecological education packages are developed and used in local schools;	Visitor statistics and survey reports;	People may understand the connection between biodiversity and livelihoods but still not be concerned about long-term problems; Teachers may be reluctant to add to their pedagogic responsibilities;

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Project Components / Sub-components:	**Inputs: (budget for each component)**	**Project reports:**	**(from Components to Outputs)**
1. Capacity building and institutional strengthening 1.1 Organizational development 1.2 Interpretive and education capacity 1.3 Training 1.4 Research and monitoring programs 1.5 Institutional strengthening equipment 1.6 Policy studies	U.S $ 2.0 M	Progress reports for each project component; Documents on procurement and disbursement; Audit reports	Financial and physical resources are adequate and released in a timely manner; Timely procurement of goods and services; Willingness of stakeholders to participate in the implementation of field-based activities; Availability of competent staff in the parks.
2. National parks: management of the three parks 2.1 Park management planning 2.2 Equipment and small civil works 2.3 Ecological, socioeconomic surveys	U.S $ 4.0 M		
3. Public awareness and education 3.1 Development of educational packages 3.2 Development of media programs promoting biodiversity conservation 3.3 Outreach and education programs for local communities	U.S $ 0.5 M		
4. Project management	U.S$0.25		

Monitoring and Evaluation Plan:

Monitoring of the project will be divided into two: (a) scientific monitoring and evaluation, which will allow the development of biological indicators and the analysis of the effects of management measures used by the project on the biological resources; and (b) monitoring of project physical and financial implementation, taking into account project progress. M&E will be carried out by DGF and the CRDAs.Existing GIS systems will be utilized as far as possible. Monitoring and evaluation will be in accordance with the indicators presented in Annex 1, but the full M&E system will be strengthened during project appraisal. In line with guidance received from the STAP reviewer, a specific and simple monitoring mechanism would be prepared in order to allow the personnel to know when and what to measure, to take maximum advantage of patrols, and to guarantee a systematic data collection. The design will include the selection of indicators to evaluate communities, animal and plant populations and other processes identified as priority within the national parks. In the absence of long-term baseline data, appropriate consultants will be hired in DGF to identify the necessary biological indicators who will also be able to train the necessary staff. The design would consider the evaluation of monitoring activities and the suitability of indicators, in order to make improvements in the mechanism. Guidelines suggested by the STAP review will be followed.

At the local level, because of the diverse nature of the stakeholders, clauses will be introduced in the contracts/conventions with the different beneficiary groups/NGOs to assure the prompt delivery of the necessary information necessary for monitoring project progress to the local Development Committees (CDs). The CDs will be responsible for updating the CRDAs on the progress of their community development plans in order to receive supplementary funds. The community development facilitators (animateurs) will assist in the collection and validation of the data. The CRDAs will furnish quarterly progress reports to the PMU which will be housed in the DGF. The PMU will then consolidate the individual reports with the help of the monitoring and evaluation consultant. The reports will be prepared every three months and would include the monitoring indicators including physical, outcome and financial progress indicators. The project will have an in-depth mid-term review. The review would assess progress and redesign project elements as necessary.

List of Monitoring Indicators

Annex 2: Detailed Project Description

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

By Component:

Project Component 1 - US$2.03 million

Institutional strengthening:

The objective of this component will be to reinforce the institutional capacity of the Directorate General of Forestry (Ministry of Agriculture) and the Ministry of Environment in the sustainable protected areas management. This component will support the following: (i) support for the Project Management Unit; (ii) training; (iii) technical and scientific studies; and (iv) establishment of a national database which will integrate other existing databases and serve as a management tool for improved biodiversity monitoring. (i) Project management: The project will support the strengthening of the Project Management Unit in the DGF through technical assistance for assuring the monitoring and supervision of the project. This will include recruitment of specialized M&E consultants, and equipment and software necessary for financial management. This sub-component would also include support for the mid-term review in the third year of project implementation.

(ii) Training: The training programs would focus on the personnel responsible for the day-to-day management of the park as well as staff in the relevant Ministries who are involved in the administration of the parks. This sub-component would be critical in assuring the smooth implementation of the project since the current staff do not possess the necessary capacities in order to carry out all the functions pertaining to protected areas management. Specifically, the emphasis on the participatory approach in this project demands relatively new skills of the DGF personnel who have been used to a more classic "command and control" approach. The program also envisages the training of people outside the administration who are, nevertheless, closely involved in the management of protected areas in the country such as NGOs, local associations, tourism operators etc. It is estimated that around 100 persons will be trained in this regard. The program would also support the recruitment of a specialized training consultant who will provide the necessary trainers (national and international) to carry out the proposed program. The program will include the following: (a) *on-the-job training*: This would include 5 modules, each module organized around several thematic sessions including management of a GEF/World Bank project; conservation management; environmental education; improving public awareness of the importance of the environment/biodiversity; (b) *training of trainers*: It is proposed to create a "pole" of 5 students specializing in conservation management who would benefit from more detailed instruction through 13 weeks of in-depth training in France and Tunisia. This will be done through a contract with an appropriate training institution - local institutions identified as potential candidates include the ISP in Tabarka, INAT, and IRA; and (c) *Diploma training*: Currently, Tunisia lacks specialists trained in the scientific domains related to biodiversity conservation and management. The project would support scholarships for graduate students desiring to specialize in disciplines pertaining to ecology and biodiversity conservation. Four scholarships are envisaged: mediterranean ecology, flora and fauna of ecosystems, Tunisian biodiversity, and socio-economic community development. This component would also include the financing of scientific monitoring studies with an aim to (i) assure the scientific monitoring of the three national parks to promote improved management; and (ii) carry out in-depth studies on the ecology of key species in order to improve conservation methods. This component would also support the development of an integrated GIS to serve as a repository of scientific information as well as a management tool.

Project Component 2 - US$6.90 million

Protected Areas Management: The objective of this component would be: (i) manage and restore the ecosystems in the three national parks to protect the globally important flora and fauna; (ii) assist in the

development of ecotourism activities; and (iii) establish, with the local populations, community development plans compatible with the objectives of sustainable biodiversity conservation. The three parks (out of 8) chosen include Ichkeul, Bouhedma, and Jebil. These three parks cover unique and distinctly different ecosystems – wetland, arid-mountain/pseudo savanna, and desert respectively. The components under the community development and ecotourism components for each of the parks are detailed in the social assessment presented at the end of this section.

Ichkeul N.P: This component would support the park management with the necessary infrastructural improvements (buildings, improvements in trails/routes in the park), equipment, vehicles, and the development of a participatory approach for including the local populations in the management plan of the park. A local management committee which would include the local authorities, the park administration and representatives of the communities would be established. Under the management and restoration of ecosystems, four programs will be financed: the first involves technical assistance for the direct management of the park including the training and equipment of 10 ecoguards, elaboration of a program of internal planning and regulation, with zoning and sectoral aspects. The latter would be carried out in the field with the participation of the users of the park. A preliminary public awareness campaign is envisaged in order to sensitize the local populations. The second program pertains to the rehabilitation of the lake's ecosystem. This would include establishment of a permanent monitoring system to monitor the additional flows of fresh water into the lake; mechanization of the existing sluice which governs the flow of water between the lakes of Ichkeul and Bizerte; maps and bathymetric control; dredging; and an observatory for monitoring fish production. The third program would address the rehabilitation of the marshes, and the fourth program would address the vegetation of the mountain (*jebel*) ecosystem.

Bouhedma N.P: As in Ichkeul, this component would support necessary infrastructural improvements (buildings, improvements in trails/routes in the park), equipment, vehicles, and the development of a participatory approach for including the local populations in the management plan of the park. The project would also finance the construction of lodgings for the park agents, an entry post with a deep well; improvement in the capacities of the CRDAs that would house the local GIS. As with Ichkeul, a local management committee which would include the local authorities, the park administration and representatives of the communities would be established. Under the management and restoration of ecosystems, four programs will be financed: the first will include support for the direct management of the park including the financing of a motorized corps of ecoguards (6), and elaboration of a program of internal planning and regulation, with zoning and sectoral aspects. The second program would address the rehabilitation of the acacia raddiana steppe. The third would focus on the improvement of the protection of the wild animals in the park and lastly, this component would support the potential for reintroduction of large animals in close collaboration with the proposed FFEM regional project on the reintroduction of the sahelian antelopes.

Jebil N.P: This component would support the CRDA of Kebili with necessary infrastructure, vehicles, and equipment for managing the work at the field level, and the development of a participatory approach for including the local populations in the management plan of the park. For improved logistics, a base would be established at the port of entry in the north of the park with the necessary lodgings, offices, deep wells, and fuelling station. As with the other two parks, a local management committee which would include the local authorities, the park administration and representatives of the communities would be established. In addition to the programs for the direct support for the management of the park per se, this component would also include a program for the protection of the *Gazella leptecerosi*, protection of the vegetative cover of the Grand Erg, and the reintroduction of large animals in close collaboration with the proposed FFEM regional project on the reintroduction of the sahelian antelopes.

Project Component 3 - US$ 0.70 million

Public Awareness: This component would aim to build public support for biodiversity conservation at the local/park level and governorate level. Action plans will target priority groups such as local/regional

governments, site visitors, and local school children for raising the awareness of specific stakeholder groups about the importance of, and opportunities for, biodiversity conservation within the three parks. Possible delivery mechanisms include mass media, formal and informal education, and development of linkages with local NGOs, schools, tourism agencies, and other organizations to promote public understanding about biodiversity resources. Activities will be developed at the local/community level in order to develop the grassroots awareness necessary to sustain long-term biodiversity conservation.

Annex 3: Estimated Project Costs

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Project Cost By Component	Local US $million	Foreign US $million	Total US $million
Institutional Strengthening	1.24	0.60	1.84
Protected Areas Management	5.47	0.80	6.27
Public awareness and education	0.39	0.24	0.63
Total Baseline Cost	7.10	1.64	8.74
Physical Contingencies	0.34	0.08	0.42
Price Contingencies	0.49	0.06	0.55
Total Project Costs[1]	7.93	1.78	9.71
Total Financing Required	7.93	1.78	9.71

Project Cost By Category	Local US $million	Foreign US $million	Total US $million
Goods	0.94	0.61	1.55
Works	2.20	0.00	2.20
Services	1.52	0.84	2.36
Training	0.52	0.29	0.81
Community works	1.10	0.00	1.10
Project management	1.69	0.00	1.69
Total Project Costs[1]	7.97	1.74	9.71
Total Financing Required	7.97	1.74	9.71

[1] Identifiable taxes and duties are 0 (US$m) and the total project cost, net of taxes, is 9.71 (US$m). Therefore, the project cost sharing ratio is 52.77% of total project cost net of taxes.

Annex 4Incremental Costs and Global Environment Benefits

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Overview

1. The objective of the GEF Alternative is to strengthen the national system of protected areas in Tunisia and promote sustainable conservation management, with increased participation of local populations, within the ecosystems of the project-supported areas. The project supports, through relevant project outputs, Articles 6, 8, 11, and 13 of the Convention on Biological Diversity, ratified by Tunisia on August 21, 1995. Article 6: General Measures for Conservation and Sustainable Use; Article 8: *In-situ* Conservation; Article 11: Incentive Measures; Article 13: Public Education and Awareness. Specific project components include: (a) implementation of conservation management plans in three national parks; (b) capacity-building for the Forestry Department and the Ministry of Environment targeted towards protected areas management; (d) and improved public awareness about biodiversity conservation. The GEF Alternative intends to achieve these outputs at a total incremental cost of US$ 9.71 million. The proposed project should be viewed as complementary to existing activities in Tunisia.

Context and Broad Development Goals

2. Of the 870 species of plants that are rare, threatened, or endemic in North Africa, about 150 occur in Tunisia. There are an estimated 2200 species of plants in Tunisia, but less than 2 percent represent globally threatened vascular plants (IUCN, 1997). At the national level, there are 239 rare and 101 very rare species. Tunisia's rare flora include 6 species endemic to the country, and about 80 species endemic to North Africa and the northern Sahara. Many of the plants are valuable as a genetic resource. Important forage plants (*medicago, hedysarum*), medicinal plants (*Myrtus communis, Urginea maritima, daphne gnidium*), fiber plants (*Stina tenacissima*) and plants of food value occur (*Olea, Capparis*). There has been a decline in forest cover – from 3.3 million hectares at the turn of the century to 841,000 hectares at present, but several activities through Bank-supported projects have addressed this issue and forest cover is improving again, albeit slowly.

3. Tunisian fauna is relatively less well studied, and has been in a substantive decline over the past century. At present, all large mammals (except the wild boar, *Sus scrofa barbarus*) are considered threatened. About 80 species of mammals, 362 species of birds, and more than 500 species of reptiles and fish can still be found. Several mammal species are endemic to North Africa. Rare and endangered mammals (IUCN Red Book, 1985) include the barbary hyena (*hyaena hyaena barbara*), barbary deer (*cervus elaphus barbarus*), dorcas gazelle (*gazelle dorcas massaesyla*), cuvier's gazelle (*G. cuvieri*), and the slender-horned gazelle (*G.leptoceros*). Rare and endangered birds listed in the IUCN Red Book that occur in Tunisia include, *inter alia*, the white stork, marbled teal, white-headed duck, red kite, peregrine falcon, bearded vulture, and the Houbara bustard. Globally threatened species (all) number 110.

4. *Root causes of biodiversity loss:* Forest and vegetation degradation still continues due to burgeoning population pressures with *overgrazing, fuelwood and fodder collection* being the primary culprits. This has exacerbated erosion (estimated soil loss: 11,000 ha./year) and contributes to the approximately 8,000 ha that are lost annually to desertification. Inappropriate cultivation techniques in the steppes have resulted in wind erosion and dune formation. Enforcement of protective measures is weak due to the absence of multi-disciplinary management plans, low awareness, and weak institutional capacity.

5. Tunisia has done extremely well in addressing poverty, in raising living standards, and in promoting

human development. The country now faces new challenges in integrating its economy to the world economy and in addressing the needs of a young urbanized population entering the labor force in greater numbers.

6. Tunisia also has a strong policy for sustainable development in place. In 1993, a National Commission for Sustainable Development was created to coordinate among different actors and reconcile economic and social development with the protection of natural resources. The Government's commitment for environmental protection is also reflected in its public expenditures – planned investments in ecology and environmental protection were increased 67% in the Ninth Plan (1997-2001) in comparison to the Eighth Plan, representing 1.6% of GDP. The Bank Group's support as outlined in the recent CAS (FY2000-2002) will consolidate long-term development through, inter alia, improved natural resources management and rural development activities, and supporting economic reforms to enhance competitiveness and increase employment.

Baseline Scenario

7. Tunisia accords a high significance to biodiversity conservation and sustainable uses in its development effort. There is a strong political commitment towards enhanced conservation efforts and its successful integration into a wider economic, social and cultural context. There is a growing realization that earlier natural resources management interventions have sometimes failed to fully achieve their objectives because community participation and insight into the planning, prioritization, and management process was absent. There is now a high-level commitment to participatory natural resources management in the Ministry of Agriculture which is moving to a reorientation from top-down planning in favor of a collaborative approach with resource user groups such as the Development Committees (CDs) in the Bank-financed Natural Resources Management Project (Ln - 4162) and the Northwest Mountainous Development Project (Ln - 3691), and Groupements Forestiers d'Interet Collectif (GFICs; some of which were formerly Associations Forestieres d'Interet Collectif, AFICs) as in the Second Forestry Development Project (Ln - 3601). User groups have been promoted first with rural potable water and tubewell irrigation perimeters, but are still at their infancy among forest users and soil conservation groups, and are yet to be extended to rangeland users. The Ninth Development Plan (1997-2001) identifies protection of forests, national parks, and improved and rationalized management systems as a key element of a sustainable natural resources management strategy. The government recently passed a decree to allow informal groups, (Development Committees, CDs) to be formalized into Agricultural Development Groups (GDA), which have the mandate to manage their own finances, as well as allow easier access micro-credit from formal institutions.

8. A National Biodiversity Strategy and Action Plan were developed in a very participatory manner under a Biodiversity Enabling Activity (GEF-funded; the World Bank being the Implementing Agency) and were adopted by the Government in 1998. University academics, research institutes, and environmental NGOs (local and international) provided useful inputs into the preparation of the Biodiversity Strategy. The strategy also benefited from bilateral assistance from Germany and Sweden. The key priorities of the national strategy are strengthening the biodiversity knowledge base, prevention of the erosion of genetic resources, improved protection and management of critical ecosystems, integration of biodiversity conservation in relevant sectoral strategies, and strengthening of the institutional and regulatory framework. GoT is actively looking to GEF and other donors to finance the main elements of its Action Plan and meet its obligations under the Biodiversity Convention. GoT officially requested the Bank for assistance in obtaining GEF funds for a protected areas management project in July 1998.

9. **Costs.** At present, a number of activities underway by other development agencies are targeted towards natural resource management in general and biodiversity conservation in particular. These include:

♦ The World Bank's proposed Northwest Mountainous Areas and Forestry Development Project in five governorates Only the governorate of Bizerte is common to both projects. would contribute to an improved socio-economic status of the populations in the mountainous and forestry zones of the northwest region, while ensuring sustainable management of the natural resources. Specifically, the project would aim to increase household incomes through the development of off-farm income generation activities and the improvement and diversification of production systems. With regards to forestry areas, the project would finance capacity building measures for forest dwelling communities to increase their participation in forest management and harvesting activities. The project would use a community driven development approach (CDD) in achieving the project objectives, and thereby contribute to increasing sustainability of investments made. Total project expenditures under the natural resource management and forestry categories is $25.0m (jncluded in the baseline scenario).

♦ UNDP/GOT community-based conservation management activities in the Feidja National Parks. Total project cost: US$ 560,000.
♦ Regional Project (French GEF/GOT) on reintroduction of sahelian antelopes in Bou Hedma and Jebil National Parks: $1 m
♦ GOT's development of ecotourism in 2 of the 3 national parks: Total project cost: $1.6 million
♦ Forestry management, community participation in forestry management: Total project cost: US$2.0 million.
♦ GTZ bilateral support to the Ministry of Environment: $3.0 million.
♦ UNDP/GEF's Regional Mediterranean coastal wetlands project. Project cost: US$1.8 million (for the Tunisia component).
♦ USDA/ICARDA/GOT Medicinal Plants Conservation Project: Total project cost: $ 375,000
♦ UNDP/GEF project on marine protected areas (under preparation)
♦ World Bank/GEF Gulf of Gabes Coastal Zone Protection Project (under preparation)

10. The total cost of Baseline Scenario investments of the Government of Tunisia and the donor community, as described above, is US$33.5 million, not including the UNDP/GEF project of US$1.8 million..
11. **Benefits.** Implementation of the Baseline Scenario will result in limited protection of biodiversity, increased domestic environmental benefits related to forest and natural resource management as well as soil conservation, increased participation in conservation, and some improvement in protecting coastal areas in Tunisia's protected areas. Development of ecotourism will result in improved infrastructure facilities but in the absence of clear management plans, there is also the risk of increased destruction of existing biodiversity. Progress will be made in achieving broader development goals related to strengthening environmental management and improved social and rural development.

Global Environmental Objective

12. As a consequence of the current course of action, regarded as the Baseline Scenario, Tunisia's protected areas will likely continue to be managed in an ad hoc manner, without the participation of the local populations in a systematic and meaningful manner. Poorly-managed recreational uses may degrade the biodiversity in the national parks and reserves. The long-term implications of these activities includes the steady loss of globally significant biodiversity over the next two decades.
13. Scope. The GEF Alternative would build on the Baseline Scenario by protecting three representative major ecosystems; conserving threatened remnant ecosystems and species; providing opportunities for local

populations in and around protected areas; increasing public awareness about biodiversity conservation; and supporting participatory approaches to sustainable natural resource conservation. Principal project areas benefiting from the GEF Alternative include:

- Ichkeul National Park, in the north of the country, which is part of an important flyway for migratory birds; is a Ramsar site, biosphere reserve, and a world heritage site.
- Bou Hedma National Park, in central Tunisia is a Man and Biosphere (MAB) site and
- Jebil National Park, in one of the most isolated southern areas of Tunisia contains high value, though not well studied saharien biodiversity and is likewise the home for rare species, including the white gazelle.

14. Costs. The total cost of the GEF Alternative is estimated at US$ 48.81 million, as presented in the matrix.

15. Benefits. Implementation of the GEF Alternative would make possible activities and programs that would not have been possible under the Baseline Scenario. For instance, the proposed project will fill one of the key gaps in protected areas management in Tunisia through the introduction of scientific management plans and promoting biodiversity conservation through monitoring and evaluating the status and distribution of species and of ecosystems. Likewise, while both the Baseline Scenario and the GEF Alternative support biodiversity conservation in Tunisia's national parks, with both domestic and international benefits, only the latter option would ensure long-term conservation and sustainable utilization through strengthened on-site management, outreach to and involvement of local communities and local governments, and development of viable approaches to sustainable natural resource use in national and natural parks.

Incremental Costs

16. The difference between the cost of the Baseline Scenario (US$ 39.1 million) and the cost of the GEF Alternative (US$48.81 million) is estimated at US$ 9.71 million. This represents the incremental cost for achieving environmental benefits through strengthening policy and legal frameworks for protected areas management, developing mechanisms for sustainable resource use among local communities, and strengthening local and national capacity for conserving globally significant biodiversity. This incremental cost is expected to be financed through a GEF grant of US$5.1 million and the GOT contribution of $4.61 million.

Component	Cost Category	US $million	Domestic Benefit	Global Benefit
Forestry and natural resource management	Baseline	27.9		
Conservation Management Plans for three national parks	Baseline	6.31		
	With GEF alternative	13.3		Protection of globally significant biodiversity in three national parks. Increased opportunities for alternative income generation based upon sustainable utilization of biodiversity in buffer zones and protected areas. Increased collection and analysis of information vital for conserving endemic flora and fauna. Meaningful participation of local stakeholders and participatory schemes for sustainable natural resource management.
	Incremental	6.99		
Capacity building for biodiversity conservation	Baseline	3.1		
	With GEF Alternative	5.13		Increased public sector capacity to manage protected areas; increased participation of private sector in conservation .
	Incremental	2.03		
Public Awareness	Baseline	1.75		
	With GEF Alternative	2.44		Increased public awareness of issues related to biodiversity conservation and participatory schemes with local NGOs to promote outreach and sustainable

				natural resource management.
	Incremental	0.69		
Totals	Baseline	39.1		
	With GEF Alternative	48.81		
	Incremental (GEF only)	5.1		

Annex 5: Financial Summary

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Years Ending
'$000

	IMPLEMENTATION PERIOD						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Total Financing Required							
Project Costs							
Investment Costs	1234.0	3622.0	1688.1	938.1	571.4	0.0	0.0
Recurrent Costs	231.6	270.4	341.4	381.9	430.3	450.0	450.0
Total Project Costs	1465.6	3892.4	2029.5	1320.0	1001.7	450.0	450.0
Total Financing	1465.6	3892.4	2029.5	1320.0	1001.7	450.0	450.0
Financing							
IBRD/IDA		0.0	0.0	0.0	0.0	0.0	0.0
Government		2509.2	461.0	271.7	410.2	226.1	436.8
Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provincial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Co-financiersGEF	495.4	1350.3	1501.7	1001.6	565.5	210.7	0.0
User Fees/Beneficiaries	0.0	32.9	66.8	46.7	26.0	13.2	13.2
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Financing	495.4	3892.4	2029.5	1320.0	1001.7	450.0	450.0

Main assumptions:

Annex 6: Procurement and Disbursement Arrangements
TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Procurement

Procurement methods (Table A)

Table A: Project Costs by Procurement Arrangements
(US$ million equivalent)

Expenditure Category	Procurement Method[1]				
	ICB	NCB	Other[2]	N.B.F.	Total Cost
1. Works	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2. Goods	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3. Services	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4. Miscellaneous	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Total	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

[1/] Figures in parenthesis are the amounts to be financed by the Bank Grant. All costs include contingencies.

[2/] Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Table A1: Consultant Selection Arrangements (optional)
(US$ million equivalent)

Consultant Services Expenditure Category	Selection Method							
	QCBS	QBS	SFB	LCS	CQ	Other	N.B.F.	Total Cost[1]
A. Firms	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
B. Individuals	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Total	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)

1\ Including contingencies

Note: QCBS = Quality- and Cost-Based Selection
QBS = Quality-based Selection
SFB = Selection under a Fixed Budget
LCS = Least-Cost Selection
CQ = Selection Based on Consultants' Qualifications
Other = Selection of individual consultants (per Section V of Consultants Guidelines), Commercial Practices, etc.
N.B.F. = Not Bank-financed
Figures in parenthesis are the amounts to be financed by the Bank Grant.

Prior review thresholds (Table B)

Table B: Thresholds for Procurement Methods and Prior Review [1]

Expenditure Category	Contract Value Threshold (US$ thousands)	Procurement Method	Contracts Subject to Prior Review (US$ millions)
1. Works			
2. Goods			
3. Services			
4. Miscellaneous			
5. Miscellaneous			
6. Miscellaneous			

Total value of contracts subject to prior review:

Overall Procurement Risk Assessment

Frequency of procurement supervision missions proposed: One every months (includes special procurement supervision for post-review/audits)

[1] Thresholds generally differ by country and project. Consult OD 11.04 "Review of Procurement Documentation" and contact the Regional Procurement Adviser for guidance.

Disbursement

Allocation of grant proceeds (Table C)

Table C: Allocation of Grant Proceeds

Expenditure Category	Amount in US$million	Financing Percentage
	0.00	
	0.00	
	0.00	
Total Project Costs	0.00	
Total	0.00	

Use of statements of expenditures (SOEs):

Special account:

Annex 7: Project Processing Schedule

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Project Schedule	Planned	Actual
Time taken to prepare the project (months)		
First Bank mission (identification)		
Appraisal mission departure		
Negotiations		
Planned Date of Effectiveness		

Prepared by:

Preparation assistance:

Bank staff who worked on the project included:

Name	Speciality

Annex 8: Documents in the Project File*

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

A. Project Implementation Plan

B. Bank Staff Assessments

C. Other

*Including electronic files

Annex 9: Statement of Loans and Credits

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

			Original Amount in US$ Millions						Difference between expected and actual disbursements[a]	
Project ID	FY	Purpose	IBRD	IDA	SF	GEF	Cancel.	Undisb.	Orig	Frm Rev'd
		Total:								

TUNISIA
STATEMENT OF IFC's
Held and Disbursed Portfolio

In Millions US Dollars

		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
	Total Portfolio:								

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic
	Total Pending Commitment:				

Annex 10: Country at a Glance

TUNISIA: TUNISIA: PROTECTED AREAS MANAGEMENT PROJECT

Additional
Annex 11

STAP Review and Response:
Reviewer: Hernán Torres

1. Assessment of the scientific and technical soundness of the project.

The scientific value of the proposed project is based on the fact that the three national parks were selected on the basis of their importance to the regional and global biological diversity. Each of the ecological regions represented by the three national parks is distinct and will present different challenges to its effective management.

Technically, the project is well structured to achieve the main goal intended, which is: To improve the management and protection of the selected national parks for the purpose of conserving biological diversity of global importance.

To reach this goal the project is organized in three components well articulated among each other. Their contents should allow the achievement of the desired goal if the project is implemented appropriately.

From a conceptual point of view, the project proposes an important tool which is the participation of local communities in the management of the national parks by establishing local Development Committees. In addition to this, the project will look for appropriate technical approaches, institutional frameworks and monitoring and evaluation mechanisms.

It was decided to limit the number of national parks to three in order to keep the project size manageable by the existing institutional capacity. This is extremely important, considering that this is the Tunisia´s first major protected areas management project.

2. Identification of the global benefits of the project.

The important biological diversity protected in the three selected Tunisian national parks is well known. Bouhedma and Jebil National Parks are important priorities under the Bonn Convention on Migratory Species of Wild Animals. Ichkeul National Park is listed as World Heritage Site under the Convention on World Heritage and as Ramsar Site under the Ramsar Convention on Wetlands. The UNESCO´s Man and the Biosphere Program recognizes Ichkeul National Park as a Biosphere Reserve.

- Bouhedma National Park protects an important habitat for rare artiodactyls such as the Dorcas Gazelle *(Gazelle dorcas)* and the Oryx *(Oryx dammah)*. The national park also protects 8 of the 14 endemic plant species of the country.
- Jebil National Park protects unique Saharan ecosystems and internationally important biological diversity, some of which is found only in Tunisia. The national park protects a globally important antelope species such as the Slender-Horned Gazelle *(Gazella leptoceros)* and a unique plant species (*Calligonum*) which attain several meters in height.
- Ickeul National Park is recognized as one of the four major wetland areas in the western basin of the Mediterranean. The other three are Doñana National Park in Spain, the Camargue in Southern France and the El Kala region in Algeria. The national park is a critical habitat for the globally threatened Marbled Duck (*Anas angustirostris*) and the White-Headed Duck (*Oxyura leucocephala*).

Both Bouhedma and Jebil national parks also have potential to be re-populated with species from other parts of the Sahelo-Saharan region. An important fact considering that recently the Government of Tunisia has worked to re-introduce extirpated antelope species in the country. This is part of an overall action plan which the governments of several Sahelo-Saharan countries, together with specialists from the World Conservation Union (IUCN), World Wild Fund for Nature and local groups have worked out under the Bonn Convention on Migratory Species of Wild Animals to reestablish viable populations of six antelope species in a large area.

Therefore, the successful implementation of the project in the selected national parks is globally significant and the World Bank/GEF support is justified for the following reasons:

- It will strengthen the conservation of critical Saharan and wetland habitats;
- It will develop incentives to maintain these protected areas in the long term;
- It will establish capacity to ensure adequate management of these protected areas in the long term;
- It will promote community participation in the management of the national parks selected; and
- It will establish links and collaboration with neighboring countries.

3. Evaluation of the project compliance with GEF objectives, operational strategy and guidance in biodiversity focal areas.

The project will strengthen the management of key national parks in Tunisia with increased participation of local communities for the purpose of conserving biological diversity of global importance. This coincides with the GEF Operational Strategy in terms of biological diversity conservation and with the operational programs N° 1: Arid and Semi-Arid Zone Ecosystems and N° 2: Coastal, Marine and Freshwater Ecosystems.

4. Assessment of the project´s significance and potential benefits.

The project is significant because it will increase and improve the existing protected areas management capacity with new skills needed to manage and conserve important biological diversity.

The improvement of the existing management capacity will be achieved by implementing the following components:

- Capacity building and Institutional Strengthening. This component includes training programs, establishment of a national database on biodiversity and strengthening the ability to monitor changes in biodiversity, studies on institutional issues including environmental legislation and additional funding mechanisms for protected areas.
- Protected areas management. This component includes the application of new skills in planning and management of protected areas, sustainable resource management, alternative livelihood mechanisms and ecotourism strategy.
- Public awareness and education. This component includes the development of an awareness and education strategy by using mass media, formal and informal education mechanisms, and by developing

links with local non-governmental groups, schools, tourism agencies, and other organizations to promote public understanding about biological diversity resources.

The implementation of these components is an adequate way to conserve critical habitats and to enhance the probability of their long term conservation. It will also make possible to establish effective management capacity, develop incentives to maintain protected areas in the long-term and to introduce the community participation as a new protected area management approach.

5. Potential replicability of the project to other sites.

The inclusion of multiple stakeholders participation in the management of protected areas by establishing *Development Committees* is an experience that can be replicated in other areas of the country and in the region as well. At the same time the management approaches to be applied such as protected areas planning and management including site interpretation, awareness raising activities, research and monitoring will certainly serve as models to be replicated in the other five protected areas of Tunisia.

Morocco has proposed the establishment of BasDraa National Park which has a similar ecosystem as that of Jebil National Park. The experience gained in Jebil can be replicated in BasDraa, due the fact that they face the same management challenges.

6. Estimation of the project´s sustainability in institutional, financial and technical terms.

The description of the project indicates that it will be institutionally, financially and technically sustainable. An interministerial *Steering Commitee* with representatives from the Ministry of Finance, the Ministry of Economic Development, the Ministry of Tourism, the Ministry of Environment and Land Use Planning, the Ministry of Agriculture, the Ministry of Higher Education, the Ministry of International Cooperation, and non governmental organizations has been formed to provide oversight during project implementation.

The *Steering Commitee* will be retained during project implementation and will be responsible for providing project oversight advice and assistance in resolving issues associated with project implementation.
At the national level the *Directorate General of Forestry (DGF)* will assume the responsibility for project´s management during its execution phase. A *Project Management Unit* (PMU) will be established and will have the responsibility for coordination, management, and monitoring and evaluation of the project´s development.

At the regional level, the PMU will coordinate the project activities through local institutions and the national park administrator who will be selected in agreement with local institutions will be the coordinator of management activities including guard services, community outreach, and monitoring activities. Local communities will participate in the project´s implementation through the formation of Development Committees and a Forestry Association in the case of Ichkeul National Park.

The experience gained in this project, in terms of financial mechanisms and management approaches, will provide the basis for mainstreaming these factors in the broader government strategy for national parks management.

7. Extent to which the project will contribute to the improved definition and implementation

of the GEF strategies and policies.

The project is an important attempt in the strengthening of protected areas management as a means to achieve the conservation of biological diversity in Tunisia. This is an important strategy in the implementation of the GEF policies.

The project will be the first World Bank/GEF experience in the country and will certainly contribute to increase awareness and global support for the management of Tunisia´s protected areas. In addition to this, the project has been developed in close consultation with the UNDP/GEF, which at present is working with the Government of Tunisia in an alternative livelihood project in Feija National Park. UNDP/GEF is also preparing a project on marine protected areas which has been coordinated with this initiative.

Other World Bank/GEF biodiversity conservation projects in the region (Morocco and Jordan) will offer opportunities to exchange experiences in terms of biodiversity monitoring and evaluation, review, and scientific oversight.

8. Linkages to other focal areas.

The proposed project is also linked to the operational programs N° 1: Arid and Semi-Arid Ecosystems and N° 2: Coastal, Marine and Freshwater Ecosystems. The project design and implementation is meant to support natural habitat conservation and is aimed at integrating the conservation of natural habitats and the maintenance of ecological function into national and regional development. The project also promotes the restoration of degraded natural habitats.

In addition to this, the project will serve as important tool for Tunisia´s response to international conventions such as Ramsar Convention, World Heritage Convention, Bonn Convention on Migratory Species of Wild Animals, and the Convention on Biological Diversity. The National Biodiversity Strategy, already prepared, will be greatly enhanced by this project.

9. Degree of involvement of relevant stakeholders in the project.

The project concept and its components have been prepared with a participatory approach. This active participation of multiple stakeholders will continue during implementation of the proposed activities through the *Steering Committee* and the formation of *Development Committees* and a *Forestry Association* in the case of Ichkeul National Park.

In addition to this, the project will build mechanisms and capacity to assist local stakeholders -in particular the local communities dependent on the resources of the national parks, local governments, and non-governmental organizations- to participate in the preparation and implementation of management plans. The effective management of the selected national parks will benefit poor rural communities and local economies adjacent to the national parks through stimulation of ecotourism as well as activities based on the sustainable management of natural resources of the national parks.

10. Role, potential and importance of capacity building elements and innovativeness of the project.

The project will establish operating models to improve protected area management and build management capacity at the local level in order to replicate this experience and mainstream biological diversity conservation in other national protected areas and natural resources management projects.

The participation of multiple stakeholders in the management of protected areas by establishing *Development Committees* is the main innovativeness of the project. The public awareness action will be focused on the local communities in and around the national parks and the local governments in order to develop the grassroots awareness necessary to sustain a participatory approach to national parks management.

11. Comments on evaluation and monitoring.

The evaluation of project performance will be based on the following general indicators:

- Stabilization or improvement of demographic status of key bio-indicators specific to each national park (vegetative cover and distribution; local animal/bird populations)
- Reduction in adverse impacts of resource use (grazing, forest products, etc.) on the biological diversity of the national parks.
- Development and implementation of management plans with the active participation of local communities including additional financing mechanisms, database on biodiversity and number of families participating in alternative livelihood projects.

This evaluation scheme seems appropriate to measure the progress in the implementation of the project on the ground. To take advantage of this approach could be useful to prepare and implement a specific and simple monitoring mechanism in order to allow the personnel to know when and what to measure, to take maximum advantage of patrols, and to guarantee a systematic data collection. The design should include the selection of indicators to evaluate communities, animal and plant populations and other processes identified as priority within the national parks.

The design would consider the evaluation of monitoring activities and the suitability of indicators, in order to make improvements in the mechanism. The following monitoring guidelines may be considered:

- ***Climatic monitoring:***
  In certain cases, the lack of climatic information of national parks makes it difficult carry out management activities, therefore there is a need to install meteorological stations and to complement those already existing and the current data processing, if any.
- ***Monitoring of fauna and flora populations:***
  The objective is to make a record of specific populations important for conservation, based on the abundance and biology of some species. This work should be carried out mainly by the national park personnel and should be concentrated on key species. However, there will be a need for support from specialized personnel.
- ***Monitoring of human activities:***
  A follow up of human activities including the local communities´ use of resources and tourism activities should be carried out to prevent and to control their environmental impact, based on the appropriate indicators.
- ***Monitoring of ecosystems and sensitive sites:***
  A monitoring of ecosystems and sites defined by zoning, fragility and ecological importance should be designed. This is important considering issues such as the evidence of climatic

changes and of the expansion of deserts that are more important in the dry regions. In the case of this project, it seems necessary to carry out monitoring activities to learn the dynamics of water resources and their influence on biological diversity.

Response to STAP Review:

It is encouraging to note that the STAP review is, in general, extremely positive. The project team is fully in agreement with the guidance proposed by the STAP reviewer regarding the monitoring aspects. The M&E system presented in Annex 1 has been revised appropriately. Climatic monitoring has also been included in the indicators. The overall M&E will be further strengthened during project appraisal.

Additional
Annex 12

Social Assessment

Lake Ichkeul National Park.

The area covered by the park has been considered a unique site since the XIII century. In modern times, different areas of the park came under various jurisdictions: the lake under one agency, the mountain and surrounding areas under the Domaine Publique, and later (1974) the marsh area of Ichkeul under the jurisdiction of the Département Général des Forêts (DGF). The National Park was formed by decree in 1980 and under the tutelage of the DGF, which continued to pursue the management philosophy of establishing enclosures and forbidding access to the natural resources under their jurisdiction.

The park currently is subdivided into three distinct areas: the mountain, the marsh, and the lake, each with a different set of rules and development objectives. The mountain and marsh have rules oriented primarily to the conservation of natural resources, while the lake has been the subject of economic exploitation and concomitant protection of the fishing interests. There is intensive farming and livestock raising in the areas immediately outside the park boundaries.

The ancestors of the current inhabitants of Ichkeul came from the surrounding areas of Sejnane and Joumine and were primarily subsistence farmers and livestock raisers. There were also fishermen that subsisted on fishing from the lake with traditional methods. The employment picture changed when the marble quarries opened in the mid-twentieth century, creating an employment growth pole in the midst of the Ichkeul natural region. This encouraged the settlement in the park of the poorest families in the Governorate of Bizerte that came to be employed in the quarries. A 1991 census showed that there were 130 households and 700 inhabitants. Many of these employees were left in Ichkeul when the quarries closed in 1993, but because of the restrictions imposed on the use of park resources these numbers have declined to 63 to 65 households and about 320 people (in 2001). The majority of these people live in several small settlements at the southern foot of Ichkeul Mountain, and they continue to have rights to live in their traditional homes for the moment, with the tacit understanding that under current rules of the DGF the households will slowly disappear as the population ages and there are no available sources of livelihood.

This situation makes for a very impoverished population of primarily day laborers (42 out of 62) receiving an income from either the fishing (two households under the current concesionnaire) or employees of the park (30 positions total of which 15 are generally given to the people living within Ichkeul) that are irregular, and opt for the daily wage of 3.5 Dirhams a day for a total of 24 days maximum, which results in an income of 80 DT a month whereas the minimum salary is 200DT (with social benefit coverage). These “hadhira” [The term from the Arabic *al haadr* means workers on a site, typically associated with a construction site, but the workers are paid under the Regional Programs of Fight Against Poverty as a safety net against total unemployment and destitution, administered by the municipalities. There are three categories: unskilled, Baccalaureat, and Bac + 2 with the highest paid being the latter at minimum salary levels.] employees accept this wage because of the lack of alternative employment in the immediate area. The households in Ichkeul self-estimated their revenues by category of employment as follows: the “hadhira” employees have an average annual income of 1,000 DT; the employees of the quarries and other surrounding construction sites have an annual average income of 3,700 DT; the households with high number of livestock have the highest income levels, averaging about 10,000 DT a year including livestock sales and sharecropping.

The social assessment data show that livestock raising is one source of subsistence as well as savings for some of the inhabitants of Ichkeul. However, it should be highlighted that these people are not livestock raisers by tradition as is the case in many other areas of the country. Today, livestock raising for the people of Ichkeul and the immediate surrounding area constitutes a coping device and strategy for survival. The distribution of livestock shows this clearly. Livestock is distributed unevenly. The cattle within the park belongs to an indigenous race, which occupy primarily the mountain zone and run wild. There are only 36 families out of a total of 65 that actually have cattle, most households average about 8.5 head, and only one owner has more than 200. In other words, a single owner can use the resources that 25 households could have with 8 head of cattle a piece. This creates a source of pressure for the poor inhabitants to apply the rules of access more equitably since there is currently unequal use and access to resources. Over half of the households in Ichkeul do not own any sheep, and only one household has over 200 head. The average per household is 20 sheep. However, these are used as a source of subsistence, and four households actively raise sheep for the market as well as take in sheep from external households to raise them within the park boundaries which is another source of friction between the households within the park boundaries. Goats are raised almost exclusively for subsistence and not often sold. Almost all the households have some chickens used for subsistence, but there is a high mortality rate since there are no veterinary services available and vaccination is not commonly practiced.

This combination of unequal access to and use of available resources and lack of alternative sources of employment and has been an important issue raised by the inhabitants of Ichkeul who see that their joint effort to participate in the management of the park and its resources will improve their lot and make the rules transparent and applicable to all. The remaining households with the park boundaries reflect that they constitute the “last bastion” of a rapidly dwindling population and way of life, but all recognize that the existing inequalities are the critical problems leading to degradation of resources in the park.

In spite, or perhaps because of, the impoverished condition of the inhabitants of Ichkeul there is a strong feeling of solidarity among them and this has contributed to many community initiatives and attempts to call the attention of government to improve their quality of life and to regularize their rights to continue to live within the park boundaries. However, part of the problem arises because the institutional actors involved in Ichkeul have no coordination, and this has resulted in contradictory or piecemeal actions. For the most part, the government agencies have not focused on the human development part of the park but rather the biological and ecological elements. Similarly, the NGOs that have been involved have no coordination and their actions are sporadic and uncoordinated.

The analysis of the constraints posed by the creation of the park without consultation of the affected population and the rapid deterioration of natural resources point to the need to come to a rapid dialogue between the agencies and the concerned population. The perception of the community that they are the guardians of the lake and the mountain and they are at one with their environment is an important element to consider in this dialogue. There is a need and recommendation for negotiation of viable solutions that will improve and restore the natural resources of the park yet permit the impoverished inhabitants to improve their economic and social situation. Many solutions have been proposed by the affected people to reduce the charge on grazing and limit the numbers of all livestock. During the community consultations, a Comité de développement (CD) was created representing different stakeholders. This group is a grass roots organization that has no formal affiliation with government yet. The recommendation of the preparation studies is that such groups be legitimized and established as representatives of the local stakeholders under the NGO law of 1988-93 in order to maintain their autonomy concerning the development activities that they can undertake so that they can participate in the management of natural resources while also undertaking other actions external to the park in the surrounding areas to promote alternative livelihoods.

These groups could also undertake to form an AFIC to manage the high marsh areas. A team of two community development facilitators (animateurs) will be recruited under the project to work with the CD. They will be closely involved in the training of the CD members for park management as well as activities that have ben identified, including the rehabilitation of the hammams (public baths), electrification, improvement in the raising of poultry and rabbits, and support for organic agriculture where permitted, as well as initial ecotourism activities and products. The community consultations also showed that there is a potential role for NGOs like the local WWF and the Association for the development of Ichkeul to be involved closely with the CDs.

Bou Hedma National Park

The natural area of the region between Gafsa and Gabès was traditionally a forest steppe of *Acacia raddiana* . The degradation of this environment began as a result of the sedentarization of the population which was, until the first quarter of the twentieth century, transhumant and nomadic. The national park was created in order to save this environment in 1936 but it was never delimited. At that time the inhabitants had access to lands within the "boundaries" on *habous* lands to which they kept their rights. However, when the Tunisian State abolished collective and habous lands in the 1960s, only some of the people revindicated their rights to those lands as individuals but the recognition of the title was denied by legal intervention in 1961, and continues to this date. According to the State, their occupation is precarious and illegal, but nonetheless the local people contest this and thus the clearings within the park boundaries that existed already in 1936 continue to exist now.

The area that is now the park was subject to more pressure when during World War II Libyan tribes related to the local ones in the area settled in Bou Hedma fleeing the Italian occupation. During the period of 1950 through the 1970s different efforts took place to replant the Acacia and to improve the deteriorating natural vegetative cover. Bou Hedma was integrated into the international network of Biosphere Reserves in 1977. Finally the park assumed its current configuration in 1980 when it officially was designated a national park by decree and thus placed under the tutelage of the Direction Générale des Forêts.

The park has two zones of "temporary occupation" localized in the Communes of Bou Hedma and Haddej, with approximately 320 households and a total population of 2,400. This population contests the legal status conferred on the clearing classified as "zones of temporary occupation", which in effect blocks the possibility for regularizing and clearing the titles to occupancy. Many households were displaced from the time of the creation of the park through the early 1990s in order to create the core of the park. Today, young couples have to settle in neighboring communes because there is no possibility of expanding the original plots, and leave having received a mostly symbolic compensation. Because of this irregularity in the status of the occupants, the park authorities have come to see them as "undesirables" occupying a space that is destined to be closed.

The complicated land tenure issue is accentuated by the total ignorance on the part of the population about the rationale for the park's existence and its objectives. The social assessment found that in general there was no awareness on the part of the population as to what a national park is or why they exist. There is universal ignorance of the concept of biodiversity because there has never been any communication. No women or young girls had ever visited the eco-museum or the park. Previously some of the past conservators established a rigid and inflexible approach that banned the external population from visiting the park at all. This has begun to gradually change in most recent years, but the conflict remains that until now the population has been ignored and detached from its environment because of a lack of rapprochement between administrators, scientists, and the local population. This situation must change at

all costs if there is to be a future in Bou Hedma, taking stock of the social reality in which the inhabitants live.

The population has depended traditionally on the extensive grazing of sheep, and to a lesser extent camels, that were the mainstay of the nomadic economy, even with the dramatic reduction of grazing resources due to closures and drought. The closure of the park automatically restricted access to these formerly used resources and began a cycle of impoverishment as well as economic change for the population. Some of the people turned to rainfed agriculture and there are patches of small irrigated agriculture. However, the efforts are limited by the lack of access of these people to the development programs that exist in the region because of the precarious nature of their occupancy rights.

Given the high level of risks to agriculture and drought together with the limited grazing areas, the only recourse of many households is to try to obtain employment within the park. There is little doubt that there is a need for manpower and workers in the park. In fact, some of them have worked there for decades but all are still considered "temporary workers" because of budgetary considerations within the DGF. The only recourse is to be employed as "hadhira" which is the only safety net other than total unemployment with a total annual revenue of 1,555 DT. As in Ichkeul, there is a wide variation in income distribution, from 3,000 DT per household a year (an average per capita income of 253 DT or USD $177) to about 5,000 DT a year. This means that half of the population is below the poverty line. In fact, the majority of the households in the park are considered officially indigent, which gives them access to medical services with a payment of 10DT a year, and reduction in the costs of medicines. This classification has two consequences. First, only the households where there are no permanent salaried persons can qualify for this classification, which leaves bereft of treatment the very poor that have "hadhira" types of salaries (3.5 DT a day). Even with the low cost of the coverage required, there are households so poor in Bou Hedma that they cannot afford to give 10 DT a year to obtain coverage and are thus totally unable to secure medical assistance. The access to medical services is equally precarious since the closest dispensaries are at a 4 kilometer distance and the waiting time to see a medical nurse practitioner or doctor is at least 6 hours. Complicating the health situation is a high natality and mortality rate combined. This in spite of the national efforts of family planning that have dramatically reduced the size of families elsewhere. In Bou Hedma there are many families with 6 to 8 children. The preferred marriage pattern continues to be the traditional endogamous cross cousin marriage which also has consequences for a higher incidence of some diseases.

Under conditions of such impoverishment the people do not understand the penalties imposed for trespassing or using some of the resources that they need for survival. They also explain that some of these prohibited resources, including alfa grass for example, are being degraded because they are not being used. That alfa requires periodic cutting for its continued survival, and, most of all, the women say that they know the alfa requirements, they have never degraded the alfa because it was one of the local products on which their very existence depended.

In spite of the material economic poverty of the people of Bou Hedma, the traditional culture remains vibrant. Women produce traditional artisan work such as carpets, flij (tent strips), cereal bags, all woven on traditional looms. Basket weaving is also well known in the region, but is declining due to restrictions on the use of alfa grass in the park. There is also traditional pottery, as well as physical culture to maintain in the form of petroglyphs, some Berber ruins, and Roman villas all of which are of interest to archaeologists but have not been well studied. There has been no commercialization of the crafts and local arts, but the strong traditional knowledge and capacity of the artists and artisans make this a potentially important source for income improvement and for the provision of alternative livelihoods.

The problems of the area, in addition to the relation of the people to the park and their poverty, is the remoteness of the area and the lack of access to social services. There is limited access to running water, roads, health and education facilities, electrification and sanitation, all have rendered the population's existence even more precarious. Currently there are no community associations except for two water users'associations for the existing potable water systems.

However, in the course of the community consultations it became evident that there was total consensus on the urgent needs that have to be met, including the establishment of a local high school and improved public transport. In addition, of course, the demand for the clarification of the land tenure situation is primordial. But the community has expressed willingness to work with the park administration to jointly use the park's resources in a sustainable manner (production of honey, aromatic and medicinal plants, ecotourism, etc.). More than anything, these people want recognition that they exist as part of the park, that they have been there for generations, and fought for Tunisian independence with others, that they are recognized and not invisible. If there is this recognition, there will be considerable opening for joint efforts to manage the park and its resources because they would have real as well as symbolic ownership and would insist on maintaining its integrity.

The proposed approach would be to establish a local Development Committee (as in Ichkeul, and under the same conditions of autonomy) to bring together representatives of various groups of stakeholders. Three community facilitators would be recruited to assist in the process of group formation. Additionally, there is a need to identify persons that could act as resource persons in the promotion of education and general sensitization of the population to ecological and biodiversity issues. Discussions during project preparation with the key government officials have already assured the programming of certain priority actions to improve the access of the community to the outside world, notably the improvement of the road network, electrification, and improvement in potable water supply.

Jebil National Park

The Jebil National Park has recently been created as part of the government's program of planning to balance the disparities that have always existed between north and south. The Tunisian South is particularly challenging because it has been perceived as a "marginal" area divested of resources and with limited human capital development potential. The emergence of tourism in the southwestern part of the country began to change these perceptions, and with them the focus of government to increase development in these regions. The creation of a national park symbolizes the presence of the state and defines the modalities and orientations for its development. It is against this background that the park must be seen.

The park area was identified in 1986-87 but the official decree creating the park was issued in October, 1994. Since then several constructions have begun to delimit the park but the park cannot be said to be "functional". As with other national parks the decree places it under the tutelage of the DGF. The Jebil park includes areas that were considered state domanial lands as well as collective grazing lands. A total of 18,200 hectares of collective grazing land was given to the domain of the state under dubious contractual conditions.

The park covers 150,000 hectares situated at the center of a great natural desert region of the Nefzaouoa, an ancient geographic and territorial entity with a mixture of salt soils, rocky outcrops, and sand, dotted by some palm trees and covered in the southernmost point by the Grand Erg. It is of difficult access, a minimum of 2 hours from Douz by trail in the heart of marginal lands of the Nefzaoua, and its limits were defined by general physiographic characteristics and on a map without consideration of ecological characteristics and identify a rational ecological perimeter for the local fauna as well as boundaries that are

easily understood by the populations using these spaces. It is generally acknowledged that the objectives of the park and the criteria of viability and functionality will require a reconsideration of the existing park limits.

There is no permanent habitation in the park. There have always been temporary users of these spaces, including traditional nomads, some small village agglomerations, and recently, tourism. The four main tribes of the Nefzaoua are the Ouled Yacoub, the Merazigues, the Adharas, and the Ghribs-Sabria. Once all traditional nomads, they have been progressively sedentarized and have increasingly established themselves in adjacent village areas while reducing the area of transhumance progressively. Today, the space of the park continues to be used differently by all the populations of the area, but most distinctively:

(a) The Merazigues sedentarized in Douz, Kebili and Tozeur, who pay shepherds to take care of their flocks of sheep and goats.

(b) The transhumant population including Merazigues and Sabria, that circulate between the Saharan oases and the Saharan grazing areas, alternating between temporary occupation close to the oases and movement of flocks.

(c) The local nomads belonging to the Tunisian groups, including Sabria and Adharas.

(d) The grand nomads, above all located in the areas south of the Grand Erg including the Rebaya and the Souf from Algeria that move with large herds without concern for political boundaries, these tend to exploit the southern and western part of the park.

Even within these categories the social assessment showed that there is a typology of different users and seasons of use that must be understood to ensure the success of any management plan, particularly because the park area is one of the important areas of passage between ecosystems and therefore of strategic importance for the pastoral groups. Although the statistics stopped counting “nomadic households”, in 1966 there were still 3,000 households in the Tunisian south. Unofficial sources indicate that there are still about 200 households in this area that are “mobile in search of grazing”.

If there is a feeling of attachment to the land on the part of the inhabitants in Ichkeul and Bou Hedma, in Jebil, there is more than just attachment, because nomadic culture is defined in relation to spaces. This identity is shown in myth and in everyday life. Because of this identity, the claim to being a part of the territory that is now within the park boundaries is one that must be understood above and beyond land tenure and rights. Even if this population is sedentarized, their ancestral identity continues to show through their culture, social organization and use of space. This space, so essential for the life of these people, was deconstructed with the establishment of the park. Not only did they lose large areas of grazing land, but they also were de facto recognized as having no rights to these areas by their exclusion from the decisions on the delimitation and use of the space within the park.

It is unfair and difficult to assign a degree of interest and cultural complexity to the social assessment, but the community consultations in Jebil were among the most productive and revealing. Many stakeholders were consulted, including government agencies, travel bureaus, travelers and tourists, hunters’ associations, and other clubs. The most pressing recommendation to emerge from these consultations is the need to establish a management plan that will be a joint effort between the local stakeholders and the government agents in charge of the park administration. The consensus emerged that the largest cause of loss of biodiversity in the Jebil park is not only human presence and animal pressure, but much more attributable to hunting by large foreign parties, illegal use of motorcycles and four by four vehicles, a lack of means on

the part of the local authorities to actively manage the park and impose sanctions for the transgression of rules, and the total absence of communication between park authorities and the locally affected population.

Thus, the emerging agenda for action makes it clear that the first block to build an effective management structure is the consultation and dialogue with the local populations. These consultations should take into consideration the ecological characteristics and requirements of the local wildlife and vegetation making use of the existing and prevailing local knowledge of the park area by its traditional users, prior to redefining its boundaries. The local culture and population should be given the same consideration and protection as the gazelles and other endangered species. The employment generated by the park should as a priority be given to the "sons of the desert" adapted to this harsh environment and the best insurance for its continued maintenance.

The Development Committee approach that was favored as a medium of action in the other two parks was also favored here by the local population. A separate assessment was also conducted to investigate the potential for ecotourism in the area of Jebil given the high profile of tourism already in the area.