

ARAB REPUBLIC OF EGYPT  
Second Matruh Resource Management Project

## Project Appraisal Document

Middle East and North Africa Region  
MNSRE

<p><b>Date:</b> January 16, 2003  <b>Sector Manager:</b> Petros Aklilu  <b>Sector Director:</b> Letitia A. Obeng  <b>Project ID:</b> P074075  <b>Lending Instrument:</b> Specific Investment Loan (SIL)</p>	<p><b>Team Leader:</b> Marie-Helene Collion  <b>Sector(s):</b> General agriculture, fishing and forestry sector (100%)  <b>Theme(s):</b> Rural services and infrastructure (P), Civic engagement, participation and community driven development (P), Gender (P), Indigenous peoples (P), Social analysis and monitoring (P)</p>
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<p><b>Global Supplemental ID:</b> P077281  <b>Sector Manager/Director:</b> Petros Aklilu  <b>Lending Instrument:</b> Specific Investment Loan (SIL)  <b>Focal Area:</b> B - Biodiversity  <b>Supplement Fully Blended?</b> No</p>	<p><b>Team Leader:</b> Marie-Helene Collion  <b>Sector(s):</b> General agriculture (100%), fishing and forestry sector (100%)  <b>Theme(s):</b> Other rural development (P)</p>
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### Project Financing Data

Loan     Credit     Grant     Guarantee     Other:

**For Loans/Credits/Others:**

**Loan Currency:** United States Dollar

**Amount (US\$m):** 12.35

**Borrower Rationale for Choice of Loan Terms Available on File:**  Yes

**Proposed Terms (IBRD):** Fixed-Spread Loan (FSL)

**Grace period (years):** 5

**Years to maturity:** 17

**Commitment fee:** 0.85% for the first four years; 0.75% thereafter

**Front end fee (FEF) on Bank loan:** 1.00%

**Payment for FEF:** Capitalize from Loan Proceeds

**Initial choice of Interest-rate basis:** Auto. Rate Fixing by period 6 months

**Type of repayment schedule:**

Fixed at Commitment, with the following repayment method (choose one): level

Linked to Disbursement

**Conversion options:**  Currency     Interest Rate     Caps/Collars: Capitalize from Loan Proceeds

Financing Plan (US\$m):	Source	Local	Foreign	Total
BORROWER		9.49	0.88	10.36
IBRD		8.96	3.39	12.35
LOCAL COMMUNITIES		3.77	0.61	4.38
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT		11.66	1.04	12.70
GLOBAL ENVIRONMENT FACILITY		3.07	2.10	5.17
<b>Total:</b>		36.95	8.02	44.97

**Borrower/Recipient:** GOVERNMENT OF EGYPT

**Responsible agency:** MINISTRY OF AGRICULTURE AND LAND RECLAMATION

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**P074075 Estimated Disbursements ( Bank FY/US\$m):**

<b>FY</b>	2004	2005	2006	2007	2008	2009		
<b>Annual</b>	2.10	2.74	2.43	2.10	1.53	1.45		
<b>Cumulative</b>	2.10	4.84	7.27	9.37	10.90	12.35		

**P077281 (GEF) Estimated Disbursements ( Bank FY/US\$m):**

<b>FY</b>	2004	2005	2006	2007	2008	2009		
<b>Annual</b>	1.10	1.18	1.26	0.71	0.59	0.33		
<b>Cumulative</b>	1.10	2.28	3.54	4.25	4.84	5.17		

**Project implementation period:** 6 years: 2004-2009

**Expected effectiveness date:** 01/01/2004 **Expected closing date:** 12/31/2009

## **A. Project Development Objective**

### **1. Project development objective:** (see Annex 1)

The overarching objective of the Matruh Resource Management Project II (MRMP II) is to improve the livelihood of the more disadvantaged rural people living in the Northwest Coastal Zone thereby contributing to poverty alleviation. This will be achieved through community development, building their capacity to access services to improve their welfare and increase their incomes while at the same time strengthening their capacity to conserve, rehabilitate and use their natural resources in a sustainable manner.

### **2. Global objective:** (see Annex 1)

Within this framework of integrated resource management, GEF support will address global environmental concerns in the day-to-day management of resources and mainstream environmental dimensions into overall planning and implementation of development activities with the objective of comprehensive ecosystem management with a focus on biodiversity conservation, enhanced energy efficiency and improved land and water management.

### **3. Key performance indicators:** (see Annex 1)

Project impact, output and performance indicators have been developed to provide a baseline and targets for project monitoring and evaluation. The overall Project impact will be measured in terms of both the project's development objective and its global objective.

#### Indicators for the project's development objective of poverty reduction

a) Change in household welfare attributable to the Project, as measured by improved access to education, health, water supply and markets, and by proxies; such as type of housing, improved nutrition and kitchen practices, more efficient use of energy, increased off-farm revenue-earning activities for women, and increased revenue from marketed products.

#### Indicators for the project's global objective of integrated ecosystem management

- a) Formulation and adoption of appropriate policies and regulations to support the integrated ecosystem management: as assessed by the rate of implementation of appropriate resource management plans for the area, implemented with full community and stakeholder involvement;
- b) Reduction in adverse impacts of resource use on the biodiversity: as measured by improvement in demographic status of key species and the richness and diversity of habitats;
- c) Reduction in wind and water erosion; and
- d) Reduction in net emissions of greenhouse gases: as measured by improved energy efficiency, substitution of sustainable use of biomass and non-biomass for fossil energy and improved land management practices

## **B. Strategic Context**

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

**Document number:** 22163

**Date of latest CAS discussion:** June 2001

### 1.1. Project linkage to CAS objectives.

The Egyptian Country Assistance Strategy (CAS) is consistent with the country's development agenda, which emphasizes poverty reduction. The alleviation of rural poverty in particular is cited in the CAS as the most relevant target for the coming years.

“As 63% of the poor and 74% of the ultra poor in Egypt live in rural areas, increasing productivity of agriculture remains an important pre-requisite for increasing the incomes of the rural poor in a sustainable manner. More effort needs to be made to develop new crop varieties and agricultural techniques and to enhance small holder access to basic services, information, technology and extension. In addition, increased emphasis on non-agricultural sources of rural employment and income from rural handicrafts and industries will be needed for rural poverty alleviation.”

To address rural poverty, a key focus of the Bank's assistance strategy is to assist the GOE in its efforts to promote an export-oriented agricultural sector and provide gainful employment to an increasingly large labour force, through developing rural infrastructure, promoting natural resource management and enhancing local capacities. The present project addresses the issue of rural poverty alleviation through community-based rural development and natural resource management. The Project also seeks to mainstream a concern for natural resources conservation into rural/community development investment projects, through a fully-blended GEF component, in accordance with the stated CAS objective of mainstreaming environment into sectorial development projects.

This assistance is also in line with the GOE's strategy to integrate women in development. Attention to gender issues is part of the focus of the current GOE Five-Year Plan. The Government has requested Bank support in mainstreaming gender concerns, which has been reflected in the CAS.

As requested by the GOE, the CAS lists in part D, the follow-on "Matruh Resource Management Project" as part of the "Targeted interventions for poverty reduction" slated for FY2003.

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

The proposed Project complies with the GEF's Operational Strategy in the areas of biodiversity conservation, reduction of greenhouse gas emissions and sustainable use of water bodies, including watersheds. It addresses the Operational Program (OP 12) "Integrated Ecosystem Management," which provides a comprehensive and cross-sector approach to address many of the goals of global environmental conventions, including the United Nations Convention on Biological Diversity (UNCBD), the Framework Convention on Climate Change (UNFCCC) and the Convention to Combat Desertification (UNCCD). Such an integrated approach allows for the adoption of comprehensive management interventions that integrate ecological, economic and social goals to achieve both local and global benefits. It addresses three of the identified program objectives of OP 12, as follows:

- a. Conservation and sustainable use of biological diversity, as well as equitable sharing of benefits arising from biodiversity use;
- b. Reduction of net emissions and increased storage of greenhouse gases in terrestrial ecosystems; and
- c. Conservation and sustainable use of water bodies, including watersheds and coastal zones.

Egypt has ratified all the major international environmental conventions and agreements dealing with the protection of natural habitats and related species, as well as addressing global climate change. The Project is designed to support through its relevant outputs related to rangeland management and

biodiversity conservation, many of the articles of the Convention on Biological Diversity (CBD) such as:

Article 6 – General measures for conservation and sustainable use

Article 8 – In-situ conservation

Article 13 – Public education and awareness

The project will also promote sustainable forms of agriculture and land management in light of climate change considerations, as well as contribute to improving the efficiency of use of biomass and non-biomass energy sources for rural households in the project area. In addition, the Project will continue with work initiated under Phase I for sustainable watershed development and range management based on community ownership and participation.

In achieving these objectives, the Project will seek to establish institutional mechanisms to facilitate integrated and cross-sector management practices between the local communities and relevant local and national level Government authorities responsible for development planning in the region. The Project will also liaise closely with the approved regional GEF/UNDP project “Conservation of Wetlands and Coastal Ecosystems in the Mediterranean Region” (MedWet) of which Egypt is one of six participating countries. One conservation area in this MedWet project close to the current project area is situated along the coast at the El Omayed Protectorate (70 km west of Alexandria). Lessons learnt from this and other MedWet areas will be used by the project. The Project will also seek to collaborate with the recently approved GEF/UNDP project on the “Conservation and Sustainable Use of Medicinal Plants in Arid and Semi Arid Areas of Egypt.” This will ensure that national level activities implemented by the latter are utilized to support local level efforts with the Bedouin communities in the North West Coastal Zone (NWCZ) area, where the utilization of medicinal and herbal plants is common for a variety of purposes.

## **2. Main sector issues and Government strategy:**

### **2.1 Sector Issues**

Agriculture contributed about 17% to GDP and 12% of the value of total exports in the 1990s, but captured only 7% of total investments. Almost 60% of the industrial sector’s income comes from agricultural-based operations such as cotton spinning and weaving and food processing industries. Agriculture provides food for about 65 million people living in the Delta and the Nile Valley.

Over the last two decades, Egypt’s agricultural sector pioneered the economic reform process, with substantial success achieved in price liberalization of inputs and outputs and the elimination of land-use controls for most crops. During the 1990s, the focus was on increasing agricultural productivity of land and water through more efficient use of these limited resources. Thus, the performance of the agricultural sector improved, from an average annual growth rate of 2.7% in the 1980s to 3.2% in the 1990s, and the food gap narrowed significantly. Notwithstanding this progress, much more needs to be done to harness the full potential of this sector to increase agricultural production and rural incomes, and alleviate poverty. In addition to rural poverty, already cited above, the following issues appear as the most relevant for the coming years:

- Water scarcity, a prime challenge for the future of Egypt. The Nile is the country’s life-sustaining water resource. It provides about 95% of Egypt's water requirements and 90% of water supplies for its irrigated agriculture. Rainfed agriculture occupies a very small percentage of agricultural land, - only 4 percent. Per capita water availability has already dropped below the scarcity level of 1,000m<sup>3</sup> per capita/year and below the regional average (950 to 1,200 m<sup>3</sup>/c/year). It is expected to fall to 670 m<sup>3</sup>/c/year by 2017. The Project area depends entirely on rainfed agriculture and water availability is

well below the average. Thus, managing the scarce water supply is critical.

- Land and water degradation. Annual loss of land due to urban encroachment is estimated to be between 15,000 and 30,000 feddan per year (1 feddan= 0.42 ha). As to land degradation, its major causes are poor irrigation drainage, soil salinization, inadequate crop rotation and soil erosion. In addition, water quality is deteriorating because of salinity and increased concentrations of municipal and industrial pollution loads entering the water bodies, particularly in the downstream reaches of irrigation and drainage canals. In the Project, the coastal zone area is relatively little developed, but vacation villages are being built and more are planned. It will be a challenge to ensure that unregulated development does not occur, especially on sites of ecological importance. Where development occurs, a proper environmental assessment should be undertaken before plans are approved and once approved environmental directives must be enforced.
- Below-potential development of agricultural exports. Revenues from agricultural exports, excluding cotton, have remained low and volatile during the 1990s, owing to the incomplete liberalization of prices and marketing mechanisms for some products. Other reasons, especially for the horticulture sub-sector, identified as the most promising sub-sector for exports, are import barriers in major potential markets, poor quality control and the lack of reliable supporting infrastructure and other services to allow private sector competitive involvement. The Project area grows figs and olives and has some potential to develop medicinal/herbal products.

Thus, rural development is dominated by the critical need to manage scarce arable land and water resources more efficiently and sustainably, in order to meet the needs of a rapidly growing population while maintaining biodiversity. Further scope for agricultural growth and exports is contingent upon deepening the policy and institutional reforms successfully undertaken in the 1990s, being mindful of the government's environmental policy and strategy.

## 2.2 Government's strategy

The relevant elements of the GOE's agricultural strategy, as expressed in the Ministry of Agriculture and Land Reclamation (MALR) "*Strategy for Agriculture Development until year 2017*" are as follows:

- The maintenance and development of the natural resource base through a more efficient allocation and use of soil and water resources, including strict checking of encroachment of urban activities on agricultural land and rationalizing water use in the major water-consuming crops: wheat, rice, maize, cotton and sugarcane. Soil reclamation and soil amelioration will be given priority to overcome the problems of soil salinity and water logging.
- As part of the strategy to safeguard agricultural land against desertification, green belts, hedges and shelterbelts will be encouraged.
- Agricultural exports will be promoted, based on quality assurance and product safety, removing obstacles to private sector development and improving rural infrastructure.
- The role of rural women in development will be promoted through literacy programs and the enhancement of women-led small and micro-enterprises to increase women's access to economic opportunities in the livestock, indigenous resources (e.g. medicinal/herbal plants), marketing and processing sub-sectors.

In the environmental sector, Law 102 of 1983 provides the legal framework for the declaration and



management of protected areas and regulates the conservation of natural resources. Since the first Protected Area was established in 1983 at Ras Mohammed, 23 Protected Areas, covering over 90,000 km<sup>2</sup> have been established (EEAA 2002). The EEAA has full executive authority over the management of the Protected Areas (Baha El Din 1998). A National Study on Biological Diversity was completed in 1996, followed by the release of the National Biodiversity Strategy and Action Plan (NBSAP) in 1998. The principal strategic goal is the proper management and protection of natural resources and biodiversity. Capacity building, improving awareness, and strengthening the private sector, NGOs, and research institutes involved with the Project are all part of the strategy and action plan. Based on this strategy, the Nature Conservation Sector of EEAA has undertaken an assessment of new potential protected areas according to established global and national criteria (Baha El Din, 1998), four of which fall within the MRMP Project zone.

Law 4 of 1994 'Promulgating the Environment Law' defined the scope and responsibilities of the EEAA and established an environmental protection fund. Articles 17 to 23 require environmental impact assessments prior to development. The law also forbids hunting and habitat destruction of specified types of wild birds and animals as well as protection of air, land and water from various types of pollution. Following a three-year grace period, monitoring and enforcement of the law is being undertaken by an inspection unit within EEAA in cooperation with the relevant competent authorities. Significant progress has been achieved in the last five years, although limited enforcement capacity and weak inter-sectoral coordination mechanisms continue to provide barriers.

In addition to the national laws, Egypt is also party to several international conventions and agreements. Conventions that Egypt has signed with implications for biodiversity are the African Convention on Conservation of Nature and Natural Resources (Algiers 1968); Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar 1971); Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Washington, D.C. 1973); Convention of the Conservation of Migratory Species of Wild Animal (CMS)(Bonn 1983); Convention on Biological Diversity (Rio 1992); particularly Protected Area Protocol of the Barcelona Agreement; and the African-Eurasian Migratory Water Bird Agreement (AEWA) (The Hague 1995).

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

#### **3.1 Sector issues**

**Background.** The Project area is situated in the North West Coastal Zone (NWCZ), a rainfed area, which extends about 500 km from El-Saloum in the West, on the border with Libya, to Alexandria in the East. It is bound by the Mediterranean Sea on the North and the Sahara Desert, about 60 km. to the South. The natural habitat is dry to very dry rangeland, with an annual rainfall ranging from about 140 mm in the NE to about 20 mm in the SE.

The Project area itself runs easterly along the coast from the border with Libya for about 320 km. and inland from the coast for about 44 km. By mid-2002, it is anticipated that the population will reach 230,000 (30,000 households), a 40,000 increase since 1992, although there is some uncertainty with these figures as the Bedouin move between Egypt and Libya and some people have migrated to Cairo and other urban areas. Small areas along the coast, especially in the SE are being developed as tourist villages.

The area is inhabited by Bedouin people (85% of the population), living off of an extensive dryland production system of sheep/goat-barley-tree (fruit) crops. Four agro-ecological zones are distinguished in the project area. (i) a narrow coastal strip, about 5 km inland, which has good alluvial soils and horticulture is the main farming activity, with livestock and barley; (ii) a mixed production strip, 5-15 km

inland, of lower rainfall and soil quality, and a mixed small ruminants-barley FS prevails with orchards grown in the *wadis*; (iii) a rangeland strip, 15-50 km inland, of semi-nomadic population, largely used for small ruminants grazing, with scattered barley cultivation in land depressions; and (iv) an open-range area lies beyond 50-km inland, where a nomadic population are living on animal production, mainly camels. Tourist villages provide seasonal work for some of the young Bedouin.

The Project area differs from most other parts of Egypt in that the traditional tribal structure is still very much alive and a strong force for the integration of society. Customary laws still apply for local administration, adjudication and common issues. There are 40 tribes (*qabila*) made up of clans (*aila*), which are patri-lineages of 5-7 generations: these are further divided into extended households or lineages (*bayt*) of 3-4 generations. Leaders are designated at each tribal level, forming a customary law council (*majlis' urfi*). The tribal hierarchical social structure, traditions and customary laws (*urf*) organize the Bedouin community life. Pronounced solidarity is maintained with recognized responsibility at each hierarchical level. Though the State does not formally recognize the *urf*, it allows the Bedouins to resolve conflicts through the *urf*, praised as a highly effective social system for conflict resolution and dispute settlement.

The rangeland is allocated for *usufruct* between tribes, clans and lineages, except in the southern part where communal rangeland still exists. The Egyptian law does not consider tribal ownership of land. All desert land or "undeveloped land" is considered as state property. However, the GOE informally recognizes the usufruct of land (*wad' yad*, meaning "placing the hand"), except in the case of the Ministry of Defense, which has taken over some land for strategic purposes without provision for involuntary resettlement.

Most of the population lives in scattered settlements. The decrease in nomadic lifestyle that occurred in the last few decades in the NWCZ has transformed traditional, ecologically balanced, pastoral systems to potentially unsustainable sedentary agriculture. This transformation has increased human and animal pressures on the fragile resource base and ecosystems of the arid environment, creating a cycle of resource degradation and human poverty, threatening biodiversity, and accelerating environmental deterioration. In addition, the Bedouin people have limited experience in sustainable resource management in a sedentary environment and thus have limited coping strategies. This transition has occurred more rapidly in the Eastern parts closer to Alexandria and in the Northern strip adjacent to the Mediterranean Sea. Poverty is also accentuated by limited government services, particularly for health and education, and the lack of economic opportunities other than agriculture. These issues are reviewed below.

Issue # 1. Management of scarce land and water resources. Human settlements and land use are entirely dependent on rainfall and on various forms on water harvesting. Annual rainfall, restricted to the winter months and to a narrow 20 km strip along the coast, averages between 140 mm in the West to 75 mm in the East. Rainfall tapers off very rapidly with distance from the coast. Rainfall patterns are extremely erratic, with high fluctuations spatially as well as within and between years. Productive or potentially productive areas in terms of runoff accumulation and soils are concentrated within a small number of *wadis* and depressions, mainly along the Coast. There are 218 *wadis* with their watersheds or sub-watersheds in the targeted area. One of the main issues is to increase the efficiency of runoff water use for human and animal consumption and cultivation, and to minimize soil erosion. To improve run-off efficiency necessitates constructing water harvesting structures; cisterns, and dykes. Water stored in cisterns is mainly used for domestic and livestock, and partly for summer irrigation of trees. Dykes are exclusively used for spreadsheet irrigation. Generally, a hard layer underlies the soils, determining soil depth. This layer has a useful function in the water harvesting system by hindering water loss through deep percolation. Groundwater potential is limited, and of low productivity and poor quality.



Issue # 2.      Degradation of rangeland and vegetative cover. Historically, the NWCZ of Egypt has been quite rich in natural habitats and biodiversity. Plant biodiversity includes a multitude of domesticated (indigenous or exotic) agricultural germplasms, and wild plant species. The vegetative cover has been exposed to a severe degradation process as a result of erratic rainfall patterns and wind erosion, combined with demographic pressure and the settlement process. This process occurred without technical support to devise schemes to adapt the semi-nomadic traditional production systems to a sedentary lifestyle. This led to unsustainable land-use practices in these fragile eco-systems, expansion of barley cultivation into marginal land, excessive firewood gathering and over-exploitation of the rangeland. Uncontrolled tourist development along the coast is also taking its toll with arable land lost to tourist villages and quarrying, unregulated use of off-road vehicles which has disturbed topsoil, and spoiled valuable scenic and pristine landscapes.

Natural resource degradation has been reflected in reduced bio-diversity, endangered species and declining availability of pastures for herds. The traditional extensive livestock production system has been transformed to a semi-intensive system, with over 50% of the feed requirements supplied by concentrates. Based on published information and field observations, the species that merit the highest priority for conservation action are as follows: *Allium mareoticum*, *Ebenus armitageei*, *Echinops taeckholmianus*, *Helianthemum sphaerocalyx*, *Zillia baiparmata*.

The problem of identifying range management systems that would be sustainable, socially acceptable and economically sound remains an important part of the agenda.

Issue # 3.      Crop and livestock production systems. With so limited rainfall, extensive sheep/barley based farming system is dominant with tree crop production and patches of intensive vegetable production in areas where runoff water can be stored. Production strategies are characterized by flexibility and diversity to take into account precipitation variability: enterprise/activity diversity within households as well as spatial diversity in resource use. New or improved technologies, adapted to the agro-climatic and socio-economic conditions, are required to increase the efficiency of extensive production systems that are no longer appropriate, given the demographic pressure and the settlement process. A number of constraints have been identified as follows:

Crop production: low yields of local cultivars; insufficient seed supply; limited options for crop diversification; improper crop management practices; post-harvest handling and processing problems; marketing difficulties.

Animal production: inbreeding of stock; pursuit of quantity rather than quality; disequilibrium between natural feed resources and animal population.

Issue # 4. Marketing and agro-processing. For the current level of development, marketing has not been a major problem except for figs. However, if agriculture and off-farm income generating activities are going to become a source of increased income, marketing and agro-processing will be a major concern. New, market-driven, products (such as medicinal plants) will have to be identified, as well as new/increased outlets for traditional products. These include: major cities (Alexandria and Cairo), increased local market demand to cater for tourism at certain periods of the year (May to September) and the Arab Gulf countries, especially for livestock. For figs, agro-processing (drying) will become necessary to absorb any increased production. Improved quality and quality control, appropriate packaging and handling will be important concerns if producers are to obtain higher prices. For marketing purposes, producers should organize themselves as a bargaining unit so as to be in a better position to negotiate with traders and wholesalers. The present cooperative system, which developed around government subsidies, now suppressed, may no longer be dynamic enough. Other types of producer organizations may have to be encouraged. Accurate and timely marketing information will also become crucial. Thus, information and communication technology will play an increasing role.

Issue # 5. Off-farm activities. Though there is certainly scope to increase agricultural production and marketing, agriculture alone will be insufficient to provide substantial increase in income to most of the rural people in the NWCZ, especially as the population is increasing at about 2% per-year. The first project provided support to rug weaving and handicraft production by women. However, these activities suffer from insufficient support for marketing. Capacity building, including the provision of market intelligence related to quality and more effective communication systems should be emphasized to enable rural people, especially women to take advantage of existing off-farm income generating activities. The production of medicinal and herbal plants is a possibility that requires supply surveys of such plants and market research.

Issue # 6. Rural roads. There is a lack of surfaced roads, except along the coast. This curtails the supply of goods and services, increases their costs and leads to haphazard development of dirt roads and tracks (mainly for donkey cart transport). For some of the N-S roads that have been constructed, sand drifts are common in parts. Of some concern is the use of off-road four-wheel drive vehicles for hunting purposes. This is having an adverse effect upon the landscape and placing some fauna under severe pressure. The proposed Project will contribute to paving dirt roads of particular importance given the number of population they serve.

Issue #7. Lack of cross-sectoral coordination for planning and resource management. Regional development plans are elaborated by central planning authorities without much feedback from the local level or the target communities. In particular, plans are devised by combining sectoral projections and needs with a lack of coordination among the different sectors, often resulting in low attention to environmental sustainability or social equity. The Project will aim at strengthening capacities at the local level for integrated ecosystem management and the building of public/community/private sector partnerships for the planning and implementation of local development plans for the area.

Issue # 8. Availability of services and gender issues. In the remote areas of the NWCZ, access to education and training and health services is a major problem, especially for women and girls. Whether government services can extend their operations to these remote and low-population density places in the medium-term is a moot point. This is where the Project may be of some assistance by supplying informal education and training including environmental training. For the long term, the Project will have promoted a culture of participatory service delivery amongst government services in the Governorate (education, health) along with self-help principles on the part of the communities.

Issue # 9. Access to rural micro-finance. There are two commercial banks operating in the NWCZ:

PBDAC and the National Bank, both with offices only in Marsa Matruh, the main city. It may not be viable for them to open branch offices: the volume of operations that they would have, given the estimated potential demand for rural credit, is too low to enable them to cover their fixed costs. As a result, rural people have little access to modern rural finance, except in the close vicinity of Marsa Matruh. There is no NGO or any other form of micro-finance institution that could perform the function of micro-finance institution. Credit needs however are important and covered by moneylenders or retailers at an hidden lending rate that varies between 60 and 200 % a year. All of them provide credit in kind. The proposed Project will take on a micro-finance approach to rural lending, as a pilot operation, offering credit under terms and conditions that can take into account the specificities of the target rural population.

### 3.2 Government strategy under MRMP I and the project's achievements

The GOE began to address the above issues under the current Matruh Resource Management Project (MRMP I) with IDA funding, focusing on natural resource management, agricultural development and community development. The innovative aspect of the existing project has been its participatory approach, which combines technical innovations and the socio-economic and institutional development needs of the Local Communities. Local communities have elected representatives and prepared Community Action Plans (CAPs) for implementing resource management and economic and social activities.

MRMP I made considerable progress in addressing the shortage of water through its water harvesting and watershed management component. It helped the local communities construct underground cisterns and reservoirs and rehabilitate some cisterns that date back to the Roman times. A total of 7,000 cisterns and 310 reservoirs have been constructed or rehabilitated, representing over 1.1 million m<sup>3</sup>, - four times the target at appraisal, thus increasing water availability to participating communities by more than 45%. There are also 218 wadis in the region running from South to North. Sixty-four wadis have been selected for watershed development, based on dike construction to retain both water and arable soil, enabling the cultivation of 4,000 feddan. The local communities have expressed a strong interest in this component. Watershed management and water harvesting investments are still likely to be the most demanded intervention under the follow-on project.

The range adaptive research and technology transfer program of the on-going project was aimed at rehabilitating rangelands to reduce the feed gap. The program yielded a number of adaptable research results that were extended to herders. It helped the local communities establish fodder trees and shrubs on 12,000 feddan, over-seeded 2,000 feddan of rangeland and establish 250 range management units. New stock was introduced and the swapping of rams and billy goats for breeding purposes was encouraged.

The present Project has put valuable emphasis on adaptive research and extension for crop and livestock production improvement, with the construction and staffing of the Matruh Adaptive Research Center (MARC) and the five sub-regional support centers for extension. A farming system approach guided the technology generation and transfer program: a number of technologies have been tested, adapted and extended. The packages that have been developed enabled to increase productivity on farmers' demonstration plots, as follows: barley 70%, olive & fig 60%, vegetables: 27%. The issue is to extend these technologies to many more farmers, after having tested and adapted them to different agro-ecological and socio-economic contexts.

As far as access to services is concerned, the alternative to establishing sustainable government services for these areas, at least as a transition strategy, was for the project to provide these services with its own

resources. Thus, the Project helped the local communities link with other government services to provide literacy classes for women and girls and extension workshops to increase nutrition and health awareness.

Finally, the Project also tackled the issue of access to credit. Credit was to be made available on a pilot basis, through locally-established banks, the PBDAC and the National Bank of Egypt, with the PBDAC playing a prominent role. Prolonged negotiations between the Project and these institutions did not lead to any agreement on terms and conditions for loans, nor on mechanisms for credit delivery. In addition to the fact that opening branches outside the main city may not have been a viable operation, there were at least five other difficulties:

- (i) the need for a guarantee/collateral, difficult to arrange in the project area;
- (ii) the risk associated with repayment of agricultural loans under recurrent drought conditions;
- (iii) the interest rates charged by commercial banks for urban and industrial undertakings were too high (13 to 15%), especially in the presence of alternative soft loans and grant funding available for the same target groups under the Social Fund for Development and the “Shuruq” Fund (between 7 and 9%);
- (iv) the strong religious Bedouin convictions, against paying interest; and
- (v) the geographical dispersion and remoteness of the communities.

Another tentative to establish credit mechanisms through the Central Agricultural Cooperative was equally unsuccessful.

Since institutionalizing micro-finance through commercial banks failed, the first project established a small revolving fund, which provided seed money, in particular for women, for income-generating activities, such as poultry rearing, nursery establishment, as well as incentives for environmental protection (purchase of gas ovens). The recovery rate achieved for this credit without interest is 98%. It was well managed financially at the time of the second in-depth project review (November 2000).

### 3.3 Strategic choices

The first project set out to break the cycle of natural resource degradation and poverty. The overarching objective of the follow-on Project will be rural poverty reduction through sustainable community-driven development. MRMP I achieved considerable success in pioneering the participatory approach in the challenging environment of a traditional (male dominated) tribal social system and in gaining the trust and confidence of the Bedouin people. MRMP II will build upon the successes of the first project, to further the participatory process and empower local communities to achieve sustainable development. This entails greater responsibility and authority being passed to local communities that have been prepared, trained and given the requisite guidance for such responsibilities.

Thus, the follow-on Project will move towards a community-driven development (CDD) approach, tailored to fit the socio-economic conditions of the communities. The CDD approach will be implemented incrementally. Gradually, it will require a greater involvement by local communities in decision making regarding resource allocation, as well as their involvement in implementing, monitoring and evaluating all project activities.

The GEF-funded activities will give an increased and much needed emphasis to environmental conservation. They will be fully integrated within the MRMP II as a blended Project and under the technical responsibility of the Nature Conservation Sector of the Egyptian Environmental Affairs Agency, as well as the Matruh Governorate.

## C. Project Description Summary

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

The proposed MRMP II will comprise the following six components to be implemented over a six-year period from 2003 to 2008.

- A. Community Development
  - A1. Capacity Building of Communities
  - A2. Strengthening of Women's Development Capacity
  
- B. Integrated Natural Resource Management
  - B1. Water Harvesting and Watershed Management
  - B2. Range Management
  - B3. Biodiversity Conservation and Environmental Management Plan Implementation
  
- C. Productive Activities Development
  - C1. Agricultural and Livestock Services
  - C2. Off-farm Productive Activities
  
- D. Rural Roads
  
- E. Revolving Fund/ Rural Micro-finance
  
- F. Project Management

A summary of the various components is given below.

### **Component A. Community Development** (US 8.2 million)

**A1. *Capacity building of communities.*** The objective of this sub-component is to further the participatory approach initiated under MRMP I. To achieve this objective the Project will provide support to local community representatives (*mandoubeen*) at the level of the clan (*aila*) for the design of Community Action Plans (CAPs), including: (i) an initial training focusing on the roles and responsibilities of the *mandoubeen*; (ii) the criteria and processes for identifying disadvantaged households; and, (iii) the process for establishing development priorities and prioritizing resource allocation. Following the initial training, further training and facilitation will be provided for the local communities to:

- (i) acquire negotiating skills and management capacities of their community affairs;
- (ii) understand the basic concepts of biodiversity conservation, and environmental assessment;
- (iii) set in place the process for monitoring the implementation of their activities and evaluate the results; and
- (iv) become legally recognized, upon their request.

The representation of the local communities will also be facilitated at higher levels, i.e., at the Sub-regional Support Center levels and Project headquarters level for participation in the decision-making processes regarding Project resource allocation. It will also provide improved access to information and communication facilities within the communities. This component will also support local community initiatives, not foreseen at the time of Project preparation.

**A2. *Strengthening of women's development capacity.*** The Project will promote a two-pronged approach to strengthening women's development capacity by:

- (i) ensuring that women take part in the overall participatory planning process (albeit through separate meetings) and that they have the same access to information as men, to allow them to influence processes through their informal channels.
- (ii) soliciting their views on such aspects as: a) the criteria for defining the disadvantaged households, b) the selection of beneficiary households, and c) the allocation of resources for different activities, particularly communal facilities, whilst also separately addressing the special needs and interests of women.

The Project will support the construction of basic two-room social centers, with community contribution and community involvement in management, in order to provide a venue for literacy classes, training programs, environmental awareness and other community activities. Literacy classes for women and primary education programs for girls will be conducted in collaboration with the Education Department. The Project will assist women to reduce work load for domestic chores through access to labor saving assets such as hand pumps, ovens and carts for transport under shared financial arrangements (partly project financed, partly women's own contribution). The Project will support the construction of latrines and nutrition, hygiene and health sensitization programs, through enlisting the support of the Health Department. With GEF funding, the Project will also promote environmental awareness programs through formal and informal environmental education in schools and at the community centers. Also with GEF funding, affordable alternative energy sources for cooking, particularly renewable sources, will be demonstrated in selected communities and introduced through partial financing to promote wider-scale use to enhance conservation of biomass.

**Component B. Integrated Natural Resource Management** (US\$ 21.1 million)

**B1. *Water harvesting and watershed management.*** The key issue of lack of water will be addressed through a major program for water harvesting and storage and watershed management. Implementation will be carried out using the proven successful water harvesting and storage techniques and infrastructure (underground cisterns/reservoirs and various types of dikes for water and soil retention in the *wadis*) integrated within an overall strategy of watershed management. Watershed management may require the involvement of several communities having rights over the same watershed, to assist in the designing and implementation of sustainable watershed management plans taking into consideration the different land use systems, the communities' diverse needs for water, and reducing, or eliminating potential conflicts amongst users. Protection of the upper catchment areas will continue to be promoted with GEF contribution, through micro-catchment water harvesting measures, shelterbelts against wind erosion and re-seeding of range areas. GEF funds will also support adaptive research to establish water run-off coefficients and to investigate improved water harvesting techniques.

**B2. Range management.** The objective of this sub-component is to develop a strategy for the sustained use of the communal resources, based on a community-managed rangeland rehabilitation and utilization. Such an approach, based on the establishment of pilot grazing management units (PGMUs), will aim at managing the vegetation together with the animals. The underlying principle is to simulate the large herd movements of the past by dividing the land under management into several plots which animals graze one after the other, providing the plants enough time to recover. All features of such schemes (size, number of participants, grazing calendar, etc.) are left to the decision of the herders' group, according to the state of degradation of their land, social constraints, and their experience and managerial ability.

With GEF funding, biodiversity concepts will be introduced into range management activities. GEF will finance adaptive research and extension on assessing/monitoring the rangeland resources, germ plasm resource enhancement; evaluation of rangeland restoration technologies; and, advice to producers on the best use of planted fodder shrubs. Research will help establish optimal length of time that major rangeland plants require for their regeneration under different climatic conditions. This data is essential for grazing management planning. Four Protected Plots will be established to provide in situ source of germ plasm of desirable perennial range species which have little opportunity to produce seed under present grazing conditions.

**B3. Biodiversity Conservation and EMP Implementation.** This sub-component will be entirely funded by GEF grant. It represents an enhanced focus on biodiversity conservation and integrated environmental management from the previous project. It will be implemented through an integration of some of its activities with the other components:

- Integrating environmental education and awareness into community capacity building activities and introducing alternative fuel sources (Component A);
- Integrating ecosystem conservation concepts into range and water management activities with the communities (sub-component B.1 and B.2); and
- Supporting sustainable income-generating activities to reduce resource over-exploitation (Component C).

In addition to the above activities, specific activities targeting biodiversity conservation will be implemented. The Project will monitor and update the records on the status of biodiversity in the area, develop strategies for enhancing eco-tourism based on community involvement and conservation concepts and strengthen local level capacity for environmental monitoring and planning. This will be done through the funding of additional staff and equipment and the provision of training on environmental matters, including: resource inventory and evaluation; environmental assessment, multi-disciplinary resource management, socio-economic surveying; integrated land use planning, and species monitoring and evaluation. It will support the creation of community managed biodiversity conservation areas; and participatory training on specific environmental issues.

The Project will assist the GOE in the establishment and initial management of two Protected Areas (PAs) in the NWCZ (El Qasr and Saloum). Local populations will take part in the elaboration of the Protected Area development plans and their management. The plans will include activities promoting biodiversity conservation and rangeland management. In addition, alternative income generating activities will be promoted in case of any loss or restriction of access to resources for the local communities following the establishment of the Protected Areas. These can include off-farm income generating activities and payment for targeted community conservation mechanisms for potentially affected beneficiaries, to be funded through Local Community grants. Visitors centres will be constructed for public education programmes and staff recruited to manage the Protected Areas.



Finally, the sub-component will implement the Environmental Management Plan. The EMP identifies the environmental mitigation measures, screening process, capacity-building and monitoring activities that will be undertaken during Project implementation to ensure that any potential adverse environmental impacts are either eliminated or minimized.

### **Component C. Productive Activities Development (US\$ 5.0 million)**

**C1. *Agricultural and livestock services.*** The principal focus of the sub-component is the dissemination of those technologies already developed under MRMP I that offer the best promise of improvement of existing farming systems at minimal cost and risk. There will be more farmer involvement and a new community-based extension outreach effort through the training of Community Technical Contact Persons (*wakil/wukala*), one per Local Community. These facilitators, chosen by community members, will serve as resource persons to handle the most common farming advisory demands and liaise with their Sub-Regional Support Centre for technical support.

Extension will be accompanied by a tailoring of the adaptive research program to meet farmer needs through contractual arrangements with the Matruh Adaptive Research Center. The agronomic research will be complemented by farm financial and economic evaluation of adaptive research findings:

- For livestock production, the approach will focus on lessening the dependence on concentrates, better use of crop by-products, more value added to animal products at the farm level e.g., through fattening and ensuring the sustainability of the rangeland. Livestock productivity interventions will include extending the ram exchange and goat genetic improvement program. Improvements in animal nutrition will be promoted through the demonstration of feed blocks, urea treated straw and mineral blocks. Work in collaboration with the Strengthening of Women's development capacities sub-component will focus on improved husbandry practices for poultry, pigeon and turkeys.
- For crop production, the emphasis will be on barley and associated crops such as vetch, focusing on the testing of new varieties, improved systems of cultivation and of water supplementation, and inter-planted fodder shrubs in alley cropping systems.
- For tree crops and horticulture, the emphasis will be on figs, olives and watermelons focusing on improved husbandry practices, quality control and market grading measures, and the testing of dried fig varieties and higher olive oil content cultivars. In addition, new work on medicinal and aromatic plant domestication and culture will be supported through the GEF contribution.

**C2. *Off-farm Productive Activities.*** The objective of this sub-component is to increase and diversify rural household income through the development of: (a) household or cottage agroprocessing (production of shelled almonds, dried figs and pickled olives); and (b) traditional Bedouin handicrafts. The component will be market driven, building upon Bedouin resources, skills and organization, and taking into account women socio-economic environment and their life-style priorities. It will focus on:

- providing access to market information (quality, prices, market locations, transportation, and conditions of market entry);
- improving the quality of products to respond to a market demand as well as to create new market niches (building upon a "Matruh" label, to be promoted);
- facilitate provision of inputs for producers;
- ensure the regular sale of the end products;
- promote and train local community-based organizations that will be able to manage the operation when the break-even point will be reached. These community-based organizations will be gender specific (i.e. women organizations for specific women activities); and

- ensure that the promoted activities are environmentally sustainable, through integration into the overall area development plans and respective sub-project environmental reviews.

These functions will be ensured by community marketing professionals with the aim to develop an economically sound and sustainable production and marketing operation that should reach a break-even point within three or four years. These professionals will be responsible for: (a) the recruitment and training of local people who will participate in the operation (quality control), (b) the management of the operation until the break-even point is reached and the operation handed over to local community-based organization(s); and (c) technical assistance to these organization(s), declining in intensity over time, to help them run the operation.

GEF contribution under this sub-component will be geared towards provision of technical assistance to investigate those activities that have global environmental benefits and ensure environmental sustainability. These include supply surveys and market investigation for medicinal and herbal plants, based on the domestication of wild indigenous species, drawing from the experience of the GEF “Medicinal Plants” project at St. Katherine’s Protectorate in Sinai.

**Component D.            Rural Roads (US\$ 4.0 million)**

The Project will surface unpaved feeder roads (for a total of about 135 km.). Six dirt roads have already been identified as part of an overall program of 300 km of feeder roads, 200 km of which have been implemented with the World Food Program. It will also give advice on the alignment of new roads and their protection against erosion (use of techniques to bind the soil and prevent drifting). As under the World Food Program, the communities will participate in road construction through the gathering and stockpiling of stones along the side of the road, for the contractor to use. The purpose is to provide the communities with an additional source of income and build a sense of ownership for later maintenance. The local communities will be trained for basic and simple maintenance. The roads will be handed over to the Road Works Department after completion.

**Component E.            Revolving Fund/Rural Micro-Finance (US\$ 3.6 million)**

The present project has been managing a small revolving fund. For sustainability, the MALR agreed that an independent pilot micro-finance scheme should be tested with mobile credit retailers initially based in the Sub-Regional Support Centers, and local traders, to deliver credit in kind. The Project will provide:

- a revolving fund to initiate the lending process; and,
- funding to support training and establishment of professional credit retailers in the Project area.

**Component F. Project Management** (US\$ 2.9 million).

The Project will fund the necessary equipment, vehicles, staff development, technical assistance and monitoring and evaluation system for efficient and effective management of the Project. A line item in the budget will be used to explore the scope and feasibility for extending the participatory approach to other areas in the Governorate (Siwa) or other rainfed areas in Egypt through commissioning special studies and assessment visits to these areas by key Project staff for interaction with the local government, communities, etc.

<b>Component</b>	<b>Indicative Costs (US\$M)</b>	<b>% of Total</b>	<b>Bank financing (US\$M)</b>	<b>% of Total</b>	<b>GEF financing (US\$M)</b>	<b>% GEF financing</b>
A. Community Development	8.21	18.3	3.60	29.1	0.39	7.5
B. Integrated Natural Resource Management	21.05	46.8	1.07	8.7	4.02	77.8
C. Productive Activities Development	4.95	11.0	2.14	17.3	0.76	14.7
D. Rural Roads	4.04	9.0	3.00	24.3	0.00	0.0
E. Rural Micro-Finance	3.63	8.1	1.65	13.4	0.00	0.0
F. Project Management	2.94	6.5	0.76	6.2	0.00	0.0
<b>Global Components</b>	0.00	0.0	0.0	0.0	0.00	
<b>Total Project Costs</b>	44.82	99.7	12.22	98.9	5.17	100.0
<b>Front-end fee</b>	0.13	0.3	0.13	1.1	0.00	0.0
<b>Total Financing Required</b>	44.95	100.0	12.35	100.0	5.17	100.0

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

Working towards community-driven development. The activities of the on-going project have been essentially designed and implemented by the Project Coordination Unit, with some participation from the local communities. With the help of the Project, the local communities will take charge of the planning, implementation, monitoring and evaluation of the activities. In particular, they will prepare their Community Action Plan (CAP), outlining the general framework for the activities to be carried out in their local community over the life of the Project. For the execution of the CAP, the local communities will prepare an Annual Work Program and Budget (AWPB). The activities included in an AWPB will be funded through a Local Community Grant. Each local community will be aware of the annual funding available for activities in their community. However, the PCU will still be responsible for activity implementation. For the long-run, the objective is to strengthen local community capacity in order to transfer progressively some of the implementation to them. In order to achieve that objective, the Project will support the registration of local communities, so that they will become legally recognized entities.

Mainstreaming access to social services (health and education). Some major breakthroughs have been accomplished under the on-going project in particular with regard to women and girls' functional literacy and numeracy, thanks to the community development approach taken by the project. The Governorate Health and Education services will be more closely associated during the Second Project. These services will be represented on the Project Coordination Committee. The Project will provide them with financial resources to allow their staff to work under the Project. Ways to mainstream these activities into the Health and Education services once the Project ends will be investigated under the course of Project implementation. With GEF funded activities, environmental education will be incorporated into the formal and informal education system.

Access to credit. An innovative rural micro-finance scheme will be introduced as a pilot. The scheme

will involve as partners a technical assistance company supervising professional credit retailers.

Institutional sustainability for the Matruh Adaptive Research Center (MARC). Created under the present project, MARC should now be institutionalized under an existing research institute. Three possibilities are being investigated, namely, the Agricultural Research Center, the Desert Research Center or ICARDA, the International Center for Arid, Rangeland and Dryland Areas. The first has the mandate for research and extension in Egypt. The second has been created with the specific mandate for desert and arid areas, covering the North Coast. The third possibility is an international research center, member of the CGIAR (Consultative Group for International Agricultural Research), with headquarters in Aleppo and which may be interested in having an outreach center. Thus, the Project will no longer finance MARC operating costs directly. MARC research teams will be working under contractual arrangements on specific research themes, identified with local communities.

Mainstreaming some of the PCU functions. The on-going Project is being implemented by a Project Coordination Unit (PCU), operating separately from the MALR services in Matruh and specifically set up for the purpose of Project management. The PCU staff are MALR employees on secondment. The sub-regional support centers, under the PCU, are also staffed with seconded MALR employees. During the course of MRMP II implementation, the future of the PCU functions will have to be discussed taking into consideration the need for continuity while recognizing that the nature and intensity of community support will decrease over time and will eventually be terminated. In addition, GEF will fund environmental staff in the Governorate's office. They will be funded by the Governorate after Project completion. EEAA will take full responsibility for the Protectorates after Project completion. PCU staff will gradually pass responsibilities to the Governorate and other concerned bodies, including ministries, so that by 2008 they are fully in charge.

Regional planning with an environment focus. Coordination among the different sectors (local Government, Tourism Development Authority, Ministry of Planning, North West Coast Development Agency and the Army) is necessary to ensure that land use and regional development plans reflect the needs of the local communities and take into account the conservation of endangered habitats and ecosystems. At present, regional plans for the Governorate are urban in focus and centrally planned, but the Project-supported environmental officers will help switch the focus to rural areas. Also, multi-sector environmentally-centered planning for the Siwa Oasis has been initiated recently through support from the Italian Government, and the approach and lessons learned will be used by the Project in implementing the relevant activities with GEF funding.

### **3. Benefits and target population:**

#### **3.1 National Benefits**

The main benefits from the project are:

(a) improved welfare for the poorest segments of the rural Bedouin households estimated at 17,600 out of 22,000 rural households. They will benefit from: (i) increased income and income security from off-farm income generating activities, improved range management practices, watershed management and better farm technology; (ii) improved living conditions through increased and more reliable water availability through water harvesting and, especially for women, improved access to social services and labor saving devices; and (iii) greater empowerment and human capacity development, especially for women.

(b) environmental rehabilitation and biodiversity conservation.

### 3.2 Global Environmental Benefits

The Project will result in global and regional environmental benefits through the fully integrated implementation of the described interventions. Specific benefits targeting biodiversity of global significance will be attained (see Annex 13). In addition, benefits resulting from range rehabilitation will serve also the objectives of biodiversity conservation. Improvements in soil integrity and water management will ensure the sustainability of achieved global environmental benefits. Important lessons can be learned from the monitoring of multiple benefits and documentation of successful participatory management methods. The following outputs are expected:

- (i) biodiversity conservation and improved integrated natural resource management through watershed and range management, establishment of protected areas, local biodiversity conservation areas; support for community-based species conservation initiatives;
- (ii) reduced net emissions of greenhouse gases through biomass conservation achieved with alternative fuel source uses and improved range management; and
- (iii) local and national capacity established for adequate planning and management of the resources in an integrated and sustainable manner.

### 3.3 Replicability

Replicability potential for the results of this Project are high, both within Egypt and in the region. In terms of approaches chosen, the successful implementation of an integrated development approach at the local level and the related strengthening and capacity building of local institutions is extremely useful for the Government of Egypt's efforts in decentralized management, and can be used as a model for other remote and rural-based Governorates. This Project is the first of its kind in the country to attempt the establishment of a bottom-up cross-sectoral planning and implementation mechanism that takes into consideration aspects of environmental and social sustainability as well as the full involvement of the communities. This is captured in the process of designing and implementing Community Action Plans (CAP)s.

In terms of overall technical lessons, the integrated resource management techniques, with a strong conservation bias, can serve as models in similar rainfed areas of the country and the region. Outputs of this Project can be used to formulate an integrated dryland management strategy for the country, and lessons disseminated to other countries along the Mediterranean. Environmental curricula developed for the local communities will be utilized by EEAA in the awareness programmes of other Protected Areas in Egypt.

During Project implementation, a number of activities will be undertaken to ensure dissemination of results for enhanced replicability. Part of the Project's activities is to bring farmers and government officials from outside the project area to demonstrate the various aspects of the Project and encourage the participants to establish similar schemes in their areas. By reinforcing the environmental arm of the Governorate's office, the Project's initiatives can be spread to the rest of the Governorate. In addition, there has been and will continue to be videos, articles and newsletters, etc. expounding the successes (and failures) of various interventions. Common activities will be planned with the related GEF/UNDP projects in biodiversity conservation to share results and experiences.

#### **4. Institutional and implementation arrangements:**

Project management arrangements will largely follow the structure established under MRMP I, but other stakeholders will be involved to reflect the enhanced focus on environmental and participatory aspects. Execution responsibility will be assigned with autonomous funding to the Egyptian Environmental Affairs Agency (EEAA) for the implementation of the biodiversity conservation activities. Coordination will be enhanced with the Governorate and relevant Ministries to ensure the sustainability of services beyond the project life.

##### Governing bodies.

The expression of local community requests, the coordination and the consistency of activities to be implemented will be ensured by 4 committees located at the national, regional and sub-regional levels :

- the National Coordination Committee (NCC);
- the Project Coordination Committee (PCC) and the Local Communities' Regional Committee; and
- Local Communities' Sub-regional Committees at the SRSCs level (one at each SRSC).

The National Coordination Committee under the chairmanship of the National Coordinator appointed by MALR includes a representative from the Egyptian Environmental Affairs Agency (EEAA) and the Director of Foreign Agriculture Relations of the Ministry of Agriculture. When appropriate, representatives of other services or bi/multi-lateral projects being executed in the project area will be co-opted. Under MRMP II, this Committee should take a more active role in the affairs of the project. The NCC: (i) provides guidance on issues of policy and strategy consistent with national programming concerns; (ii) facilitates and supports the work of the Project management team; and (iii) monitors the performance of the Project.

At the Governorate level, the Project Coordination Committee (PCC) is a coordinating mechanism between the Project, the local communities' representatives and the other Governorate entities. It will have its mandate and membership updated to ensure representation of the Health, Education and Social services which were not part of the PCC under the first project. The Governorate Environmental Management Unit (EMU) which will be involved under the Project with GEF funding as well as the Biodiversity Conservation Unit, whose staff is nominated by NCS/EEAA, will be represented on the PCC. An important innovation is the fact that local communities will be represented on the Project Coordination Committee, with two representatives, whereas under MRMPI, the PCC was exclusively an administrative body.

The Project Coordination Committee meets four times a year. It: (i) ensures a two-way flow of information between the project, the governorate and the sectoral services; (ii) ensures coordination in planning and implementation between CAPs and project activities on the one hand, and governorate annual investment plan and sectoral plans on the other hand; (iii) facilitates the provision of additional required services to local communities as need may arise; and (iv), resolves any issue that may arise during implementation that are beyond the scope of the Project.

Local communities are represented at the Sub-regional Support Center level (2 representatives per Local Community). The five Local Community Sub-regional committees will each choose two representatives for the Local Community Regional Committee which in turn, will elect two representatives to the PCC. These committees are communication and consultation mechanisms for the Local Communities, enabling them to exchange experience and learn from each other. In addition, the regional level committee has specific functions, as follows: (i) identify implementation problems and make proposals to solve them;

(ii) prepare the Project Coordination Committee; and (iii) organize feedback information to local communities. Therefore it meets four times a year as the Project Coordination Committee does: each session includes a meeting before and after the PCC meeting.

The additional functions of the Local Community Sub-regional Committee is to: (i) identify the sub-regional priorities to be discussed with local popular councils and sectoral services; (ii) identify activities that cut across or show effects across community boundaries; and (iii) prepare the Local Community Regional Committee.

Project implementation arrangements. The Project Coordination Unit (PCU) will coordinate the implementation of the project activities through its five Sub-Regional Support Centers (SRSCs), supported by research carried out by the Matruh Adaptive Research Center (MARC) or other research institutes as the need may arise. The PCU has delegation of authority regarding the disbursement of project funds and procurement. Over the years, it has acquired considerable experience with the implementation of the first MRMP.

Modifications will be made to the organizational structure to reflect the changes in emphasis, namely, the greater focus on community planning, gender, environmental protection, range management and off-farm income generating activities, including more efficient access to and dissemination of project-related information within the Project and between the Project and the communities. There will be six implementing units under the PCU regrouped under three Directors:

- Community Development and Gender Units, under the Director of Community Development;
- Land and Water Management Unit (including Roads); Range Management Unit; and Biodiversity Conservation Unit (EEAA/NCS seconded staff), all under the Director for Natural Resource Management;
- Agricultural and Livestock Services Unit, and a supervisor, in charge of monitoring the implementation of the off-farm productive activities and the micro-finance scheme, under the Director for Productive Activities Development.

Each Unit is headed by its own manager, responsible for managing its own budget and preparing its annual work program. The Unit managers, together with the head of the Financial Management Unit and the Directors of the Sub Regional Support Centers constitute the **Project Management Committee**, an internal task force for coordinating the planning and the implementation of the activities. This task force : (i) ensures consistency of unit work programs with the Local Communities' Annual Work Program. The task force: (i) reviews the unit work programs, approves them, or requests revision in case of inconsistency; (ii) reviews unit progress reports; and (iii), ensures facilitation, mediation, and conflict resolution. The PMC meets at least monthly and is chaired by the DDG.

The Biodiversity Conservation Unit will be headed by a NSC/EEAA appointed manager, and will be composed of three staff appointed by the NCS/EEAA. This unit will be located in the PCU to enhance coordination and the adoption of multi-disciplinary approaches to implementation. However, it will manage a separate budget. It will be technically affiliated to EEAA, while being administratively under the PCU to ensure overall coherence of project implementation. In addition, two Protected Area Management (PAM) offices will be created and staffed for the two PAs in El Qasr and Salloum. The recurrent costs of these PAM offices will be gradually taken up by EEAA so as to ensure financial sustainability of this supporting structure, to facilitate its integration within the network of Protected Areas of EEAA when the Project ends. Initially, the PAM office will be housed in one of the SRSCs until preparatory work and official declaration is completed.



Change in Management Culture. The core concern of MRMP II is achieving sustainability through fostering self-reliance and promoting community ownership of the development process. This will require some changes in the Project management culture in order to create the space for the communities to develop their own managerial capabilities. It will require Project staff to adopt a supportive and facilitating role, rather than merely an implementing role. Changes will include in particular redefining the terms of reference and staff profiles for all senior project staff (both managerial and technical).

Local communities' role. Local communities will be playing a more active role than under the first project: (i) they will elaborate their Community Action Plans (CAPs) and Annual Work Program and Budgets, indicating their priorities in terms of resource allocation; Project actions will be based on the aggregation of the AWPBs; (ii) they will identify the poorest households for targeted interventions; and (iii) they will be more involved in the implementation: not only digging cisterns, but also managing the range, undertaking biodiversity conservation actions; participating in the management of the Protected Areas and other areas of biodiversity importance; taking part in the diffusion of knowledge and information through the *wukala*; organizing the production and the marketing of their handicrafts and processed agri-products; providing the basic material (stone gathering and stockpiling) for road construction.

Contracting out. Contracting out tasks whenever possible, instead of recruiting staff to perform them, will stimulate the development of local expertise to serve the needs of the Local Communities and enhance sustainability of project actions. It is hoped that this expertise will continue to be available after the Project closes. In particular, for the off-farm income-generating activities (handicrafts and agro-processing), a technical assistance firm will supervise community marketing professionals, recruited to set up the system and provide training and backstopping to producer groups. Similarly, a specialized technical assistance company will be responsible for the set up of the micro-finance credit scheme. Finally, most of the watershed development will be contracted out to local enterprises, as well as all the road works.

Financial Management and Accounting. Financial management, accounting and financial reporting will be assured by the Financial Management Unit of the PCU. The FMU will maintain accounting records for project components, prepare and disseminate project accounts and Financial Monitoring Reports (See Section E. 4.4 for Financial management issues and Annex 6B). If needed, it will be backstopped by a financial management firm.

## **D. Project Rationale**

### **1. Project alternatives considered and reasons for rejection:**

Except for the institutional arrangements envisaged under *Section 3. Key policy and institutional reforms to be sought* and the progressive transfer of implementation responsibilities to the communities, no alternative to the present project set up is being considered:

- (i) MRMP II will move towards a community-driven development approach, which presupposes that the communities decide on resource allocation, and that the responsibilities for implementation get progressively transferred to them;
- (ii) MARC, which will be operated under the Project, should become a unit of an established research institute;
- (iii) a micro-finance scheme should be established by a professional service provider; and
- (iv) some of the functions of the PCU will be streamlined into the services of the governorate by the end of the project (health, education and environment).

**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)
<b>Bank-financed</b>			
Natural Resource Management	Matruh Resource Management Project	S	S
Agriculture	Agricultural Modernization	U	U
Agriculture	East Delta Agricultural Services Project	S	S
Irrigation	Irrigation Improvement Project	S	S
Drainage	Second National Drainage Project	S	S
Drainage	National Drainage Project	HS	HS
Irrigation/Drainage	Second Pump Station Rehabilitation Project	HS	HS
Irrigation/Drainage	Third Pump Station Rehabilitation Project	S	S
<b>Other development agencies</b>			
UNDP/GEF Biodiversity Conservation	Conservation of Wetlands and Coastal Ecosystems in the Mediterranean Region		
UNDP/ GEF Biodiversity Conservation	Conservation and Sustainable Use of Medicinal Plants in Arid and Semi Arid Areas of Egypt		
Italian Cooperation	Sustainable Development of the Siwa Region		

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

**3. Lessons learned and reflected in the project design:**

The World Bank MENA region recently financed a review of eight projects with a community-driven development (CDD) approach, including the MRM project. The region organized regional workshops as well as a workshop at headquarters, based on the conclusions and recommendations of this study (see Annex 18 and Moncef Zghidi: *Review of Community-Driven development Projects in MNA: Case study of Matruh Resources Management Project (April 2001)*). In addition to the lessons already incorporated in *Section 3: Key policy and institutional reforms to be sought*, the following supplementary lessons from this review were taken into account in project preparation:

- (i) *Effective demand-driven approach.* A rigid budget with specific activities already identified at the design phase of the Project would contradict the demand-driven approach. Hence, the initial budget allocation among components and cost tables (Costab) can only be indicative. At implementation stage, all the activities subject to local communities' decision and recorded under their Community Action Plan

will be financed out of one line item in the Project budget: *Local Community Grants*, whatever the component and whatever the disbursement category, i.e. civil works, goods and equipment or consultant and training.

(ii) *Capacity-building, targeting communities.* MRMP I emphasized capacity building of a technical nature for project staff, but little was done for capacity building of the communities themselves, other than for women. Thus, MRMP II will put particular emphasis on local community capacity building. (Component A).

(iii) *Criteria for resource allocation to target the poorest and independent external evaluation of their implementation.* Project managers as well as community representatives can be under considerable political and social pressure to allocate resources in ways that will not necessarily target the poorest. Elite capture is a common phenomenon. Therefore, while the problem of political and social pressure, and elite capture cannot be completely avoided, Project preparation has been emphasizing the definition of criteria for resource allocation and agreement thereupon with the communities. External independent evaluations will be scheduled during implementation to monitor compliance. See Section E.6.4. *Summary Project Analysis - Social.* (Page 29).

(iv) *Marketing issues.* Promoting increased agricultural production, agricultural diversification, processing and handicrafts will run into difficulties if marketing issues are not addressed up-front. The off-farm income-generating activity component integrates the chain of functions, from production to markets.

#### **4. Indications of borrower and recipient commitment and ownership:**

The following are positive indicators of the borrower's commitment and ownership for the Project:

- (i) The GOE, going by the highly successful results of the current MRMP, has officially requested the Bank to take a lead role in preparing the follow-on project and to cooperate with other donors such as IFAD;
- (ii) The GOE has also requested the Bank to obtain a Japanese PHRD grant for preparation of the project;
- (iii) The GOE utilized funding under the TA component of IDA Credit (Cr. 2504-EGT) for project preparation until the PHRD grant became effective to ensure preparation work did not suffer any delay;
- (iv) The GOE provided additional funding of about LE 11 million to enable the continuation of project activities in the remaining period to closure of the MRMP I, which was extended by one year to close on December 31, 2002; the GOE also provided LE 3.8 million, to finance the salaries of staff and a minimum amount of activities between the time MRMP I closes and the time the IBRD loan for MRMP II becomes effective; finally, the Ministry of Planning already earmarked counterpart funds to be available on July 1, 2003, or as soon as the IBRD loan is effective

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

The Bank is involved in the implementation of community-driven development projects and natural resource management projects in many countries, in the Mediterranean and North Africa Region (MNA) and other regions. The MNA region recently financed a review of eight projects with a community-driven development (CDD) approach (see above, lessons learnt). The Bank also played a leading role with IFAD, given its experience in the first project.

The GEF value added comes from its global experience in the design, implementation and financing of

biodiversity, climate change and international waters projects. The GEF support is justified by the total regional and global benefits attained from the integrated approaches to land, water and biodiversity management in the project area. Coordination with other GEF projects in the country and region will enhance the opportunities for exchange of ideas, information and integrated monitoring and oversight.

## **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)

MRMP II will aim at reducing rural poverty by potentially targeting all 22,000 households in the Project area. However, based on criteria determined by the communities, the Project will allocate its resources with priority to the poorer segments of the target population. Direct benefits from Project activities: increased income and income security, and improved living conditions, measured as incremental net farm income, will accrue to the target population. The economic analysis is based on six representative farm models with different combinations of the most common cropping and livestock activities and which reflect two farm sizes. The "with project" alternative comprises operational budgets for agricultural activities, yield effects of erosion control, and on-farm investment costs for orchards plantation, water harvesting measures, fodder shrub plantations and animal sheds. Rainfall probabilities and yield response to rainfall variation are used to account for the risk associated with rainfed agriculture.

The financial internal rates of return (IRR) at farm level range from 14.8% for the "small new tree crop plantation and livestock" system under poor rainfall conditions to 90.6% in the "small tree, barley, livestock" system in the high rainfall scenario. Financial IRRs based on average yield effects weighted by rainfall probabilities would not fall below 27.8% for any of the six tested farm models. By year 20 after the start of project implementation, the farm income would have increased by 30%, 26%, 70%, 59%, 109% and 83% in the six farm models, respectively, compared to the income situation in the "without project" alternative. In general, the proposed resource management improvements show good financial returns in all farm models. As expected, the farm model combining trees, annual crops and livestock shows the highest returns and the least vulnerability with regard to climatic conditions. Only under persistent drought conditions and only in the case of new orchards, farmers will get close to risking financial losses if they adopted the proposed innovations. Adoption rates can be expected to be comparatively high as long as subsidized or free services and infrastructure support of high quality are provided.

The economic attractiveness of Project activities was assessed through a regional model based on the average rainfall scenario, aggregating farm models according to their occurrence in the region and taking into account adoption rates as observed during the preceding MRMP I, converting financial to economic prices, and including the full economic cost of the Project. The economic IRR of 18.8% shows that project interventions are profitable from an overall economy's viewpoint, even if only the direct benefits in the farm households are taken into account. The actual economic attractiveness can be assumed to be higher if non-quantified benefits from community-focused and environmental activities are included, such as the strengthening of community and women development capacity, the support to off-farm income activities and marketing, the paving of rural roads, and biodiversity conservation. However, the economic viability of the Project is particularly sensitive to changes in the total cost and benefits, and to adoption rates of the developed and proposed innovations. The continued application of a farming

systems approach viewing the farm-household as a decision-making unit that allocates family resources to a number of competing but often inter-related farm and off-farm activities under external socio-economic constraints; high-quality, efficient and institutionalized dissemination mechanisms by the Project and other service providers; as well as strong community participation will be crucial for adoption and long-term sustainability.

An Incremental Cost Analysis was undertaken for GEF funded project activities with global benefits. These include improved biodiversity conservation, with a focus on globally significant species, increasing biomass cover in rangeland areas and reduced losses from wind and water erosion. The baseline expenditure was calculated to establish the current and planned funding amounts for integrated resource management having a national benefit. The GEF alternative proposes complimentary or substitution activities that are required to ensure that global environmental benefits are attained. The difference between the cost of the baseline scenario and the cost of the GEF alternative represents the incremental cost. The GEF contribution towards the Incremental Cost is US\$5.17 million, while GOE, IBRD and IFAD are committed to funding the baseline scenario as well as to co-financing part of the increment costs. (See Annex 11: Incremental Cost analysis).

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

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

The beneficiaries will contribute US\$4.4 million or 9.8 percent of total project cost in the form of voluntary labor contributions and local materials for the construction and maintenance of water harvesting structures, social centers and roads, equity contributions to credit-financed income-generating activities and financial support to community resource persons. In order not to prejudice the involvement of poor households, the communities will define mechanisms for differential contributions.

The contribution of the Government of Egypt (GOE) will be US\$10.4 million (23.1 percent of total project cost) of which US\$2.1 million will be taxes and duties. GOE will finance 87% of salaries and allowances and 72% of total recurrent cost, broadly in line with the present financing arrangements under MRMP I. This will include full coverage of the maintenance responsibilities for the roads constructed under the Project. Governmental funds will be provided through the budget of MALR. MALR will be responsible for including the Project in its budget submissions to GOE Department of Finance. Co-financing arrangements with IFAD and GEF will provide for at least 45 percent concessionality and thus meet GOE's requirements of a minimum of 40 percent grant element.

### **Fiscal Impact:**

See above

## **3. Technical:**

Identifying sustainable rangeland management practices that are effective and appropriate for the herders will be one of the key issues addressed by the research and extension teams. Under the first project, a number of technologies have been proposed to farmers/herders including fodder trees and shrub plantations, inter-cropping barley with nitrogen fixing annuals such as vetch, alley-cropping with nitrogen fixing trees and over seeding existing rangelands. These technologies were addressing the feed gap issue, but not appropriate range management under the new sedentarized conditions. Water harvesting will be refined as a result of experience gained under MRMP I. This should increase the supply of water for crops and kitchen gardens (as well as households) and reduce the incidence of erosion.

## 4. Institutional:

### 4.1 Executing agencies:

The Ministry of Agriculture and Land Reclamation (MALR) will have the overall responsibility for the execution of the Project, which will be entrusted to the Project Coordination Unit (PCU) in Marsa Matruh, established to implement the current MRMP. The Egyptian Environmental Affairs Agency (EEAA) will be a full partner in the implementation of the Biodiversity Conservation activities, with separate funding. Four full-time staff will constitute the Biodiversity Unit within the PCU structure, in addition to the staff and rangers of the two Protected Areas. Support for two part-time environmental experts in the Governorate's Environmental Management Unit (EMU) will be provided. These will assist the PCU, the five sub-regional support centers and the 38 communities in environmental matters.

The Off-farm Income Generating Activities Sub-component will be implemented by an NGO or private firm. The pilot micro-finance credit scheme will be implemented by a professional service provider. Local Communities themselves will have an important role to play in implementation (see Section C. 5).

### 4.2 Project management:

The Project management will be carried out by the PCU, situated at Marsa Matruh (See Section C. 5. for details).

### 4.3 Procurement issues:

The procurement capacities of the PCU was assessed during Appraisal. Although the project team developed some experience in dealing with procurement under Bank-financed projects during the first project, the Procurement Unit (PRU) should be strengthened, particularly in the selection and employment of consultants, and procurement planning. A centralized filing system, with individual files for each procurement action from tendering to contract award and administration should be set up. Intensive training is recommended as part of project preparation. The World Bank Office in Cairo will provide on the job-training as the need arises, and continuous follow-up. Two additional staff will be either recruited or assigned to the PRU. One of the PCU trained staff, who attended the training in procurement of goods and consulting services at ILO, Turin, and the Bank workshop in Sharm El Sheikh, Egypt, will be assigned to the PRU. The profile of the person who will be designated as the head of the procurement unit will have to correspond to the profile defined by the World Bank procurement specialist. The results of the procurement assessment is that overall, there will be a substantial procurement risk until intensive training has been completed and the unit adequately staffed. Until the training is completed, a short-term consultant may be hired by the PRU on a retainer basis.

The total value of contracts subject to prior review represents 30% percent of the total Loan amount. For the rest of the procurement, the Borrower shall furnish all information and documents that Bank may reasonably request, as part of the post review. A procurement plan was prepared during appraisal, as well as a procurement manual as part of the Project Operation Manual.

### 4.4 Financial management issues:

The present financial management capacities of the PCU and arrangements no longer meet the Bank's present requirements. A financial management action plan was agreed with the project and its successful implementation is a condition for effectiveness. The detailed financial management assessment is included in Annex 6b and in project files. The identified financial risks for this Project are the following:

Country Financial Management Risks: ROSC draft report (2002), Mini-CFAA (1997), preliminary



CFAA process (2002), and CPPR report (2002) identified major weaknesses in the Egyptian financial accountability, in both the Egyptian public and private sectors. Also, in Transparency International's Corruption Perceived Index (CPI) for 2001, Egypt scored 3.6 out of 10, suggesting high levels of perceived corruption in government and public administration. To strengthen accountability, the Project will be controlled and accounted for by the PCU.

Project Financial Management Risk: The present PCU financial management system (responsible for implementing Matruh I) no longer meets Bank requirements. It is a manual accounting and budgeting system. Informal accounting policies and procedures are used, not recorded in any manual. Staff in the finance department need capacity building in the areas of finance, accounting, computer, and English. Annual audits for MRMP I were carried out by the Central Auditing Organization (CAO) which is no longer accepted by the Bank for new projects. Finally, since MRMP II has one more funding source and another executing agency (EEAA), financial management will undoubtedly be more complex than for the first project.

Financial mitigating measures: A qualified FM consultant has been hired to establish a sound financial management and reporting system within the PCU. The consultant is also responsible to prepare a financial management and accounting manual and train staff. As part of this work, a computerized financial management system will be put in place, and staff trained. Also, annual audit for the Project will be handled by a private, qualified, and independent auditor. This will be complemented by a close and intense supervision by the Bank for the Project. If need be, the contract of the FM consultant will be extended during the first year of the Project to provide backstopping upon request.

Counterpart funds availability risk: Allocation of counterpart funds will be made annually within MALR's budget. Unlike other projects in Egypt counterpart funds were timely available for MRMP I and there is no reason to expect otherwise for MRMP II: GOE is committed to the objectives of the Project, as demonstrated by the fact that some funding is made available even during the interim period of the two projects.

Banking arrangements: The Banking system in Egypt is relatively strong. MRMP II will have the project's Special Accounts in a reputable commercial bank in Matruh (National Bank of Egypt).

## **5. Environmental: Environmental Category: B (Partial Assessment)**

**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.**

An environmental assessment process for the Project was carried out prior to Appraisal. The team surveyed the completed activities under MRMP I, visited the proposed areas for the new Project, including the two proposed Protected Area sites and held a number of consultation meetings with local community representatives in the different project areas. Based on the field work, an Environmental Management Plan (EMP) and Environmental Guidelines Manual were prepared and the findings shared with various stakeholders at the local and national level. The final documents have been publicly disclosed at a number of locations, including the Matruh Adaptive Research Center (MARC), the Egyptian Environmental Affairs Agency, the Library of the National Research Center and the World Bank Office in Cairo.

There are only limited environmental issues that have been identified by the environmental assessment process. The first limited impact issue concerns drinking water quality, while the second relates to screening the demand-driven activities to identify potential environmental impacts and related mitigation measures. For drinking water quality, it is recommended as a matter of prudence to implement proper mitigation measures to minimize any potential risks. Mitigation measures at the source include improved



water management practices and water quality monitoring. Mitigation measures are also proposed for the planning and implementation of activities (community centres, latrines and cisterns) and the construction of rural roads.

The environmental assessment process verified the overall positive impacts of the Project. The second Project will continue to promote sustainable resource use measures with the active participation of the stakeholders. The GEF component will emphasize best crop and livestock production systems as well as community biodiversity conservation practices. It will provide hands-on training to the communities regarding environmental conservation practices. By reducing runoff and increasing vegetative cover, the project will restore the productivity of degraded soils and improve prospects for sustainable natural resource management. Furthermore, the introduction of water conservation methods and the planting of shelterbelts and improved rangeland management practices will contribute to combating desertification. Finally, the establishment of the two proposed Protected Areas will ensure that globally significant biodiversity is properly managed and conserved.

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

The EMP (see Annex 14) identifies the environmental mitigation measures, screening process, capacity-building and monitoring activities that will be undertaken, as well as the institutional arrangements to ensure that any potential adverse environmental impacts are either eliminated or minimized.

The EMP integrates social, financial, institutional, technical and economic aspects of the Project, proposes an implementation schedule for undertaking these activities and indicates their costs which have been included in the project budget. The proposed EMP activities are fully integrated with the overall Project approach of integrated ecosystem management, and adequately complement and build upon the GEF supported efforts in biodiversity conservation, community participation in environmental management and decentralized environmental planning and implementation.

The Environmental Guidelines Manual provides additional details and safeguard screening procedures for activities, as well as identification of good practices for environmental mitigation. Hence all Project activities will be screened by the Biodiversity Conservation Unit for any potentially negative environmental impacts following the guidelines presented in the Environmental Guidelines Manual.

The Project will not support the procurement of pesticides or pesticide application equipment, nor will the project affect pest management in a way that could cause harm. Interviews conducted with farmers revealed that no chemical pesticides/herbicides are being used to control pests, only biological products. No significant conversion or degradation of natural habitats or critical natural habitats will result from the small-scale project interventions. In fact, the measures taken to conserve the ecosystems both within and outside the Protected Areas will have positive impacts on the status of the habitat.

### 5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: May 31,2002

EA start-up date:	March 1, 2002
Date of first EA draft:	March 31, 2002
Date of Public EA Disclosure:	June 12, 2002

The Project was placed in environmental screening category "B" and after a field based environmental review, it remains in that category. The Project will have mostly beneficial impacts on the environment, however, some safeguard policies are triggered: World Bank Policy, OP 4.01 (Environmental

Assessment), OP 4.20 (Indigenous Peoples) and OP/BP 4.12 (Involuntary Resettlement) are triggered.

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?

The proposed Project has been prepared using participatory assessment workshops, whereby local representatives took part in the preparation exercise. Environmental issues were also discussed with the local community representatives during the preparation stage. The draft EMP and the Environmental Guidelines Manual were discussed with the key stakeholders at the local and national level. These included current and proposed GOE implementing agencies (MALR and EEAA), PCU staff at the head office and sub-regional support centers, community representatives (*mandubeen*) of the 38 local communities, as well as general meetings with community groups at large. Following these discussions, some sections have been modified based on lessons learned or to better suit the local conditions.

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?

A thorough M & E system has been established and will be enlarged under MRMP II to build capacity within the M&E Unit, as well as in the newly-created Natural Resource Management Unit, to perform specific environmental monitoring and evaluation functions for the Project. The Biodiversity Conservation Unit will assume responsibility for monitoring compliance with environmental screening requirements and implementation of any mitigation measures for sub-projects required as a result of environmental screening. Furthermore, the Biodiversity Conservation Unit, in coordination with the M&E Unit will periodically monitor specified indicators of environmental impacts of the projects (e.g., drinking water quality, incidence of water-borne diseases, terrestrial biodiversity, rangeland regenerative capacity). This environmental monitoring will be incorporated into the overall MRMP II monitoring plan required as part of Project performance by the World Bank. The results of such monitoring will be recorded and reported in the PCU's bi-annual progress reports to the Bank and will be reviewed by Bank supervision missions. In the context of the GEF program, the Biodiversity Conservation Unit will develop a specific monitoring program, with verifiable indicators (e.g., changes from baseline conditions in diversity of flora and fauna, area devoted to community conservation efforts), to monitor and evaluate progress in achieving and sustaining expected global environmental benefits. This program will be integrated into the overall M&E system for the project to reflect the full integration of environmental dimensions into project planning and monitoring. A set of performance indicators for the implementation of the EMP has been included in the Environmental Guidelines Manual.

## **6. Social:**

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

MRMP I has built upon the Bedouin tribal organization, identifying 38 "local communities." A "local community" is a geographically and socially coherent unit. It corresponds to a "territory" with its watersheds, and the people who live from its resources. Most of the 38 local communities are made of clans that belong to two or three tribes. (see Annex 16).

The core concern of MRMP II is achieving sustainability through fostering self-reliance and promoting community ownership of the development process and strengthening relations with existing Government institutions and services. Under the Second Project, the implementation strategy will evolve towards a more community-driven process, building upon the existing tribal social structure and promoting women involvement (See Annexes 17 and 18). The key social issues, arising out of this goal therefore include:

- (a) Giving communities greater responsibility for planning, managing, implementing and monitoring their own development activities so that they are better prepared for, and able to carry on the development of their communities on their own initiative and with their own resources after the completion of the Project. To achieve this, the relationship between the Project staff and the local communities must evolve, and the capacities of the local communities need to be strengthened.
- (b) Ensuring transparent processes and accountability between community representatives and PCU, and a two-level flow of communication between *mandoubeen* and other community members. Under the first project, planning stopped at the local community level. Under the Second Project, planning will start at the level of the *aila*.
- (c) Ensuring that communities will be able to interface with other agencies after the completion of the Project. To this end, the Community Action Plans will include all the activities that a Local Community will want implemented, whether by the Project or other agencies. Local communities will be encouraged to seek support outside the Project.
- (d) Promoting a self-help process, so as to promote self-reliance.
- (e) Aiming for inclusiveness, ensuring that all heads of households in the community have an input in the decision-making process and are aware of the allocation of resources.
- (f) Ensuring that *mandoubeen* apply clear criteria to target the poorest households.
- (g) Ensuring that women are integrated into the participatory planning and implementation process and that resources are allocated for women capacity building.

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

Each Local Community will be responsible to prepare its Community Action Plan and an Annual Work Program and Budget (AWPB) for the first year with the help of Project staff and a professional NGO recruited by the Project for that purpose (See Annex 18). Subsequent AWPBs will be prepared every year based on an evaluation of the past year achievements, emerging demands and opportunities, and annual resource allocations. This process will allow for modifications in communities' priorities as new opportunities may develop.

The CAPs will be prepared at the *aila* level and presented to meetings of all heads of households for approval prior to aggregation at the community level (several *ailaat*) and submission to the PCU. Resource allocation will be decided by the communities themselves, which requires that each community knows the amount of funding available to them, so that they can decide how much they want to allocate to each of their priorities. The implementation of the AWPBs will be jointly monitored and evaluated by the communities and the Project staff.

The AWPBs will form the basis of the Project annual work plan (WP) and budget, which will be an amalgamation of the AWPBs. The AWPBs will be the sole mechanism for allocating Project resources to household and community investments, but private investments will also be encouraged. The AWPBs will not only include requests for infrastructure investments, but also for training and advisory services. Hence the extension program of work will be based upon the aggregation of the requests for advisory services from each AWPB. This will also be used to guide the focus and content of the adaptive research programs for the coming year.

Collaboration with the local communities involves cost sharing. The levels of participants' contributions will depend on the type of activities. If it is an immediate revenue-earning activity, the benefit can be individually appropriated and the contribution will be higher than for public goods. Environmental conservation measures are likely to have long-term and collective benefits, thus contributions may be forgone. The various levels of community and household sharing will be decided at the time of the first planning exercise.

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

The projects build upon the tribal organization structure as described under Section E 6.1 and E 6.2 above. In addition, for areas which are not the domain of expertise of the MALR, that is, Component C2 "Off-farm productive activities" and Component E "Revolving Fund/Rural Micro-finance," the Project will contract the implementation to a professional NGOs or specialized service provider.

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

For MRMP II, a Community Development Unit and a Gender Unit have been created, headed by a Community Development Director. A professional NGO, specialized in community development methodology and processes is training CDU staff and helping them work with the Local Communities to develop their six-year CAP and first annual work program and budget.

The issue of targeting the poorest is critical. To ensure targeting of the relatively more disadvantaged people, *mandoubeen* will be responsible for establishing the criteria for identifying the disadvantaged households within their community, undertaking wealth ranking to categorize these households (to be checked against the Project's database) and for selecting beneficiaries in accordance with the outcome. The criteria and ranking will be discussed and agreed upon with *mandoubeen* during workshops to be conducted during the first planning exercise. *Mandoubeen* will then use the criteria and ranking when deciding resource allocation within their community. At mid-term review, independent external consultants will assess whether these procedures are being adhered to.

In the process of resource allocation, communities will address the requirements for beneficiary contributions to project investment e.g. cisterns. The emphasis will be on equity issues through making provision for poorer households to contribute less (in kind mainly through labour) whilst better off households will contribute more, in line with their greater ability to pay. Communities will be required to make a specific resource allocation for women's development activities and the staff of the Gender Unit will assist the women to prioritize their development activities.

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

An active Monitoring and Evaluation Unit has been established under MRMP I, which currently carries out M&E work, Beneficiary Contact Surveys and Case Studies to evaluate the value of project interventions. In view of the difficulties encountered in recruiting an experienced socio-economist under the first project, and in order to provide an independent assessment, an institution will be contracted to undertake the evaluation of the project activities. This will include undertaking a small sample baseline diagnostic survey to update the project's knowledge of the socio-economic circumstances of households within the project area, with a particular emphasis on the coping strategies of poor households. A small, but fixed sample of households will be surveyed on an annual basis. In addition, an interim and completion evaluation will be undertaken prior to the Mid-Term Review and in the final year. The data and information collected will be used to assess, on a yearly basis, the impact of the Project on different stakeholders, and to make adjustments if and when needed. Part of the GEF contribution will be used to

undertake socio-economic surveys, especially dealing with fuel use, water use and kitchen practices.

However, it should be noted that whatever the observed changes in household and individual well-being, they cannot be attributed to project interventions, in the absence of a control group. The PCU cannot keep a group of households out of the Project intervention, for the purpose of establishing a control group, for obvious social and equity reasons.

The proposed social and economic monitoring indicators are given in the Annex 1.

## 7. Safeguard Policies:

### 7.1 Are any of the following safeguard policies triggered by the project?

Policy	Triggered
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Forestry (OP 4.36, GP 4.36)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Pest Management (OP 4.09)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Cultural Property (OPN 11.03)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Indigenous Peoples (OD 4.20)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Involuntary Resettlement (OP/BP 4.12)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Safety of Dams (OP 4.37, BP 4.37)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	<input type="radio"/> Yes <input checked="" type="radio"/> No

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

**OP 4.01 (Environmental Assessment):** An environmental assessment process was completed prior to appraisal and the findings reflected in the EMP. The Environmental Guidelines Manual provides safeguard screening procedures for all Project activities, as well as identification of good practices for environmental mitigation. The implementation of the EMP is designed to ensure adequate compliance with OP 4.01, and will be monitored by the PCU and EEAA throughout project lifetime.

**OP 4.20 (Indigenous Peoples).** The objective at the center of OD 4.20 is to ensure that indigenous peoples do not suffer adverse effects during the development process. In the case of MRMP II, the Bedouin people comprise the entire population living in the target area, and therefore OP 4.20 is triggered. However, since: (i) the Bedouins are the sole project beneficiaries; (ii) MRMP II was prepared using a participatory approach; and, (iii) all project interventions have been designed to improve the status of the Bedouins (poverty alleviation, access to water, access to health and education, improved rangeland management, etc.) while taking into account and building upon their cultural specificities, there is no need for the preparation of an Indigenous Peoples Development Plan.

**OP 4.12 (Involuntary Resettlement).** The Project will undertake the identification and declaration of two protected areas (PAs) in the project zone. These will be defined, based on their biodiversity significance, status of degradation and potentials for conservation and alternative economic activities that can be built on the new conservation status. The process will be undertaken with the full participation of the local communities in the identification of the PAs and the design and implementation of the PA management plans, as is the case in other similar established PAs in Egypt. The issue of possible loss of income or means of livelihoods resulting from the loss of access to resources triggers OP 4.12 (para 36 on access to natural resources). These losses will be assessed when the boundaries of the PAs will have been established. If it is established that the PAs will result in loss of income or means of livelihood, the Project will provide compensation through supporting alternative economic activities. The preparatory and consultation work with the stakeholders and local communities to determine the boundaries is expected to take two years. The GOE prepared a Process Framework outlining the steps and participatory process to: (i) determine the boundaries of the PA; (ii) design the Protected Area Management Plan; (iii) define the criteria of eligibility for vulnerable and affected persons and the means to assist the affected persons, if any, in their efforts to improve their livelihoods or at least restore them; (iv) identify the

potential conflict resolution mechanisms and the monitoring and follow-up arrangements (see Annex 15).

No other activities financed under the Project trigger OP 4.12. In particular, works financed under the Project do not entail any involuntary resettlement or involuntary land acquisition issues.

## **8. Business Policies**

### **8.1 Check applicable item.**

Financing of recurrent costs average	<b>(OMS 10.02).</b> Cost sharing above country 3-yr  <b><u>(OP 6.30, BP 6.30, GP 6.30).</u></b> <b><u>(OP 12.10, BP 12.10, GP 12.10).</u></b> <b><u>(OP 10.02, BP 10.02).</u></b> <b><u>(GP 14.70).</u></b>
Retroactive financing above normal limits	
Financial management	
Involvement of NGOs	

### **8.2 Issues.**

*For the business policies checked above, describe issue(s) involved.*

Financing of recurrent costs: To ensure that the PCU is fully funded and able to carry out implementation, the Project will provide some financing of recurrent cost as was the case for MRMP I. The GOE contributes US\$8.3 millions above and beyond taxes and duties which represent 18.7 percent of total project costs and 72 percent of recurrent costs. Some of the project activities such as water harvesting and income generating activities will be funded on a cost-sharing basis with beneficiaries. The beneficiaries will contribute US\$4.4 millions or 9.8 percent of total project costs.

NGOs will be involved in project implementation, under contract with the Borrower, for the Off-farm income generating activity sub-component and the micro-finance component.

## **F. Sustainability and Risks**

### **1. Sustainability:**

The core concern of MRMP II is achieving sustainability through fostering self-reliance and promoting community ownership of the development process and strengthening relations with existing Government institutions and services. This will be achieved through Component 1, Capacity-building of local communities.

The sustainability of services provided to the communities will depend on the mainstreaming of the Matruh Adaptive Research Center and of some of the services now funded by the PCU, in particular health and education. It will also depend on the extent to which the Project can transfer some of the implementation responsibility to existing NGOs and help establish a micro-finance scheme.

Sustainability of services and mechanisms established under the GEF will depend on the capacities of local communities and Government agencies to continue the formulation and adoption of integrated management plans in the area. It will be addressed through targeted capacity building programs, as well as the inclusion of the relevant Government agencies in the implementation from the start. As previously stated this includes supporting field presence of the NCS/EEAA for the management of protected areas jointly with the communities, as well as ensuring that communities themselves undertake their own 'informal' conservation schemes. Support for the enhanced environmental management capacity in the



Governorate will also hopefully have a positive impact on the quality of services and mechanisms of development planning in the future.

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

<b>Risk</b>	<b>Risk Rating</b>	<b>Risk Mitigation Measure</b>
<p><b>From Outputs to Objective</b> Local community representatives do not apply the criteria and procedures agreed upon during project preparation to target the poorest and the women for project resource allocation.</p>	M	<p>Funds will be disbursed within the framework of an agreed upon annual work program where targeted groups will be clearly identified.</p> <p>Staff of the Community Development Unit will be in charge of helping ailaat and mandoubeen prepare their Community Action Plan and related annual work program. Their role will be to sensitize the mandoubeen to target the most disadvantaged households. In addition, there will be information and communication campaigns through mass media. A publicly-informed community is the best way to mitigate against some members of the communities capturing benefits.</p>
<p><b>From Components to Outputs</b> A1 Capacity Building of Communities Local community capacity is inadequate to transfer resource allocation responsibilities. CDU team staff do not have the capacity to carry out their new facilitating (rather than doing) role. Technical units do not leave the decision making effectively in the hands of the local communities. Project Coordination Unit is unwilling to transfer responsibilities to local communities.</p> <p>A2 Strengthening of Women's Development Capacity Cultural practices prohibit the participation of women. Resources allocated to women activities are insufficient.</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p>	<p>CDU plus technical assistance from a professional NGO will provide training for the local communities.</p> <p>Technical assistance and close monitoring should ensure that CDU as well as other project staff are trained in their new role as facilitators. It should also help CDU delegate responsibilities to local communities. As to decision-making process, the local communities will know their budget allocation and know that they can choose from a menu of activities. Activities to be carried out within a Local Community are left open since they are funded out of a Local Community Grant line</p> <p>A professional NGO will work with the local communities and identify with them acceptable mechanisms for women participation.</p> <p>The PCU will negotiate a minimum percentage from the local community budgets to be</p>

B1. Land and Water Resource Management		allocated for women activities. Local Community capacity to deal with drought conditions will be strengthened, building on their already considerable know-how.
Beneficiaries unable to coordinate maintenance of structures and unable to coordinate actions on watershed management.	S	Part of the training and sensitisation of local communities will deal with the maintenance aspects, how to check the structures prior to the rainy season; how to carry out basic maintenance according to the Maintenance Manual; and the need to keep a maintenance and emergency repair fund.
B2. Range Management	M	
Establishing a water supply facility in the open range could result in further deterioration of the range.	M	The construction of a cistern in the open range will only be undertaken if the LC has set up a comprehensive range management plan that ensures that both water and vegetation are likely to be used in sustainable manner.
Lower than expected rainfall, with the results that the grazing management scheme does not show any conclusive result.	S	No mitigation measures.
B.3 Biodiversity Conservation	N	Careful validation of proposed environmentally friendly practices; staff and farmer/herder training; public awareness campaigns.
Herders and farmers are unwilling to take on improved environmentally practices		
Stakeholders do not agree to establish National Protectorates and/or community conservation areas/environmental hotspots.	M	Agreement, in principle, has already be obtained, provided that boundaries are agreed upon and communities involved in elaborating the management plans and can benefit from additional income generating activities.
Protectorates and conservation area boundaries not respected.	N	Agreement will be sought with communities for boundaries and management plans that include rewards and penalties.
Medicinal/herbal plants initiative unsuccessful.	M	The initiative will be based upon a detailed market analysis once seeding systems and demonstration plots are established; production and processing should be technically and financially feasible.
Environmental education not included.	M	Work closely with Ministry of Education to ensure curricula acceptable and that materials and equipment provided.
C1. Agriculture and Livestock	S	Introducing drought-tolerant barley varieties and minimum tillage practices, small-scale home gardens irrigated techniques.
Lower and more erratic than expected rainfall.		
E. Revolving Fund/Rural micro-Finance.	S	As part of its terms of reference, the professional technical assistance company will assist the contracted credit officers to form their own micro-finance intermediary firm.
The scheme piloted is not sustainable at the end of the contract of the technical assistance company.		

		The Board of Trustees will be the guarantor of the Fund in the long run.
		Negotiations with the three commercial banks which demonstrated an interest for setting up a micro-finance scheme in Matrouh during project preparation will continue during the pilot phase so that one of them will be ready to take over.
F. Project Management. Procurement capacities are limited.	S	Two additional procurement staff will be nominated before the start of the Project. The Head of the unit will be nominated with terms of reference and profile acceptable to the Bank. Procurement staff will receive training.
Financial Management is no longer in line with Bank requirements.	S	A financial management firm is putting a new financial management system in place and will be retained to provide backstopping to the Project for the first year if need be. Independent external financial firm will be recruited to audit the accounts of the Project.
<b>Overall Risk Rating</b>	M	See above all measures taken

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

### 3. Possible Controversial Aspects:

None foreseen

## G. Main Loan Conditions

### 1. Effectiveness Condition

The Borrower will be expected to:

- Have nominated the Director General, the Deputy Director General, and the heads of the three major units: Community Development Unit, Natural Resource Management Unit and Productive Activities Development Unit and the head of the Procurement Unit with profiles and terms of reference acceptable to the Bank;
- Have appointed the necessary staff from EEAA to work in the Biodiversity Sub-Unit;
- Have set in place a financial management and accounting system acceptable to the Bank; and
- Have submitted to the Bank the Financial Management part of the Project Operation Manual.

### 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):
  - An NGO was recruited to strengthen the capacity of the Community Development Unit in their work with the Local Communities to prepare their Community Action Plans. The Community Action Plans will provide the basis for preparing the first Annual Work Program and Budget.
  - A financial management firm is working with the Financial Management Unit to set in place an improved financial management system. The firm will elaborate the financial part of the Project Operation Manual.
  - The Procurement part of the Project Operation Manual was elaborated as part of the Appraisal mission and has been found satisfactory.

### **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.

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Marie-Helene Collion  
**Team Leader**

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Petros Aklilu  
**Sector Manager**

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Letitia A. Obeng  
**Sector Director**

## Annex 1: Project Design Summary

### ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
<b>Sector-related CAS Goal:</b> Rural poverty alleviation.	<b>Sector Indicators:</b> Poverty rates reduced. Rural well-being increased.	<b>Sector/ country reports:</b> MALR Reports and statistics.	<b>(from Goal to Bank Mission)</b> GOE's strategy for rural development, natural resource management, and poverty alleviation effectively implemented.
<b>GEF Operational Program:</b> OP#12: Integrated Ecosystem Management	<b>Outcome / Impact Indicators:</b> Comprehensive regional development plans integrating ecological, social and economic goals developed Sustainable community conservation measures for land & water resources and biodiversity in place	Governorate masterplan and sectoral development plans	
<b>Output from each Global Component:</b>	<b>Output Indicators:</b>		
<b>Project Development Objective:</b> (i) Contribute to the welfare of the more disadvantaged rural people in Matruh governorate.  <u>Global Objective:</u> (ii) Conserve, rehabilitate and sustainably use natural resources, including globally significant biodiversity.	<b>Outcome / Impact Indicators:</b> - Literacy rates (gender differentiated) (%); - Volume of water per capita (m3); - Daily calorie intake; - Off-farm income per HH (amount); and - Sick days per capita per day (number).  - Vegetation cover (%); - Distance to closer perennial plant (centimeters); - Governorate master plan and sectoral plans include environmental concerns	<b>Project reports:</b>  Reports from the M&E unit of the PCU. Socio-economic surveys.  NSC/EEAA reports. M&E Unit of the PCU Reports. Socio-economic surveys.	<b>(from Objective to Goal)</b>  Local community representatives apply the criteria and procedures agreed upon during project preparation to target the poorest and the women for project resource allocation. Project management recruits external consultants to monitor the implementation of criteria to target the poorest.  Other relevant stakeholders willing to participate. No extreme drought conditions

	(Y/N); - Increased awareness of environmental issues in range management and arable agriculture (Y/N); and - Improvement in demographic status of key species and diversity of habitat (Y/N).		
<p><b>Output from each Component:</b></p> <p><b><u>Component A:</u></b> <b><u>Community Development</u></b> <b><u>Sub-component A1:</u></b> Capacity-building of communities.</p> <p><b><u>Sub-component A 2:</u></b> Improve the general living conditions of women.</p> <p><b><u>Component B.</u></b> <b><u>Integrated Natural</u></b></p>	<p><b>Output Indicators:</b></p> <ul style="list-style-type: none"> <li>- Local community with an official status (number);</li> <li>- Number of activities included in the AWPBs and number of activities implemented (ratio);</li> <li>- Rules and procedures to allocate resources among community members are: (i) written in a local community document, (ii) known by community members, and (iii) implemented (Y/N).</li> <li>- Project meetings attended by sub-regional level representatives (number);</li> <li>- Women activity registered in Annual Work Program (number);</li> <li>- Community events covered by a radio (number).</li> <li>-Community teachers per LC (number)</li> <li>-Women informed about the planning process (in %)</li> <li>-Women having new economic activities (number); and</li> <li>- LC with trained midwives (number).</li> </ul>	<p><b>Project reports:</b></p> <p>Reports from local community representative meetings at the sub-regional and regional levels. Reports from Sub-regional support centers.</p> <p>Reports from M&amp;E Unit Socio-economic surveys. Reports from Governorate's office.</p>	<p><b>(from Outputs to Objective)</b></p> <p>Local community capacity adequate to transfer responsibilities for implementation. Project management unit willing to transfer responsibilities.</p> <p>Mandoubeen agree to allocate a percentage of the LC resources to women activities.</p>

<p><b><u>Resource Management</u></b> Protect and enhance water resource availability, moderate peak run-off rate, reduce soil erosion and conserve rainwater for crops.</p>	<ul style="list-style-type: none"> <li>- Additional volume of underground water storage (m3) <ul style="list-style-type: none"> <li>- Wadi (number) and wadi area under cropping (feddans); and</li> <li>- Area of woody biomass increase in wadi catchment areas (feddans, m3).</li> </ul> </li> </ul>	<p>M&amp;E reports Reports from PCU.</p>	<p>Communities actively involved in self-help water harvesting and watershed management schemes.</p> <p>Environmental concerns mainstreamed into decision-making process of communities.</p>
<p><b><u>Sub-Component B2.</u></b> Conserve, rehabilitate and sustainably use rangelands.</p>	<ul style="list-style-type: none"> <li>-PGMs established (number);</li> <li>-Herds and animals involved in the area under management (number);</li> <li>-Frequency of conflicts in the area under management (number)</li> <li>-Time of effective implementation of the plan in the area under management (%); and</li> <li>-Rate of replenishment of veterinary pharmacies revolving funds (%).</li> </ul>	<p>M&amp;E reports. Reports from PCU. Consultant reports.</p>	<p>Communities actively involved in self-help rangeland management and improvement schemes.</p>
<p><b><u>Sub-Component B3.</u></b> Conserve and improve biodiversity.</p>	<ul style="list-style-type: none"> <li>-Endangered species protected (number);</li> <li>- Protected Areas established (number);</li> <li>- PA management plans agreed with communities (number)</li> <li>- Community conservation areas established (number);</li> <li>- Fuelwood used (kilo);</li> </ul>	<p>M&amp;E reports. Reports from BDCU/ PCU. flora and fauna surveys. Consultant's reports. NCS/EEAA reports.</p>	<ul style="list-style-type: none"> <li>-Areas of biological importance delineated by local communities and used as plant source (Hotspots and community conservation areas);</li> <li>-Local communities actively involved in the management of hotspots and community conservation areas and undertaking flora and fauna surveys; and</li> <li>-Sustainable collection of seeds, fibres and herbal plants from hotspots and community conservation areas.</li> </ul>
<p><b><u>Component C.</u></b> <b><u>Productive Activities</u></b> <b><u>Development</u></b> <b><u>Sub-Component C1.</u></b> Develop, demonstrate and disseminate appropriate agricultural and livestock production technologies.</p>	<ul style="list-style-type: none"> <li>-Feddan under improved barley (number);</li> <li>-Average farmer yields of improved barley vs. average farmer yields of traditional</li> </ul>	<p>M&amp;E reports. Reports from PCU. Consultant's reports.</p>	<p>-Technologies offered to farmers adequately address their production constraints and are economically viable.</p> <p>-Farmers are willing to</p>



	<p>varieties (%);          -Area under figs of local ("Sultan") variety and new ("Turkish") drying variety of figs (feddan);          -Areas under home gardens (feddans); and          -Agriculture, livestock and veterinary "wukaka" operating (number).</p>		<p>experiment with new varieties of crops and farming systems and take up improved animal husbandry techniques.          -Credit is available if the technology requires up front investments.          -No extreme drought conditions prevail.</p>
<p><b>Project Components / Sub-components:</b>  <u>Sub-Component C2.</u>          Develop off-farm income-generating Activities.</p> <p><b>Component D</b>  <u>Rural Roads</u>  <u>Sub-Component D1.</u>          Connect the inland areas with the existing main roads to facilitate access to markets and reduce transport costs.</p> <p><b>Component E.</b>  <u>Revolving Fund/Rural Credit</u>  <u>Sub-Component E.1</u>          Improve rural people access to credit for income-generating activities.</p> <p><b>Component F.</b>  <u>Project Management</u>  <u>Sub-Component F1.</u>          Well-managed project</p>	<p><b>Inputs: (budget for each component)</b></p> <p>-Community gross revenue for off-farm activities (amount);          -Producer involved (number);          -Proportion of HH involved in the community (%);          -Local organization created/promoted to run the business (number); and          -People involved in growing medicinal and herbal plants (number).</p> <p>-Length of dirt roads paved/improved/realigned (kilometers).</p> <p>-Small loans per income group (number);          -Total amount lent per income group (amount);          -Repayment rate (%); and          -Small loans related to women activities (number).</p> <p>-Time required to process</p>	<p><b>Project reports:</b></p> <p>M&amp;E reports.          Reports from PCU.          Consultant's reports.          Community reports.</p> <p>M&amp;E reports.          Reports from PCU.          Consultant's reports.          Reports from communities.</p> <p>Bank annual reports.          Reports from PCU.          Consultant's reports.</p> <p>Supervision reports.</p>	<p><b>(from Components to Outputs)</b></p> <p>Professionals are recruited to set up the scheme for off-farm activities production and marketing.          M/H plants domesticated and commercialized.          Markets and prices provide sufficient incentives for producers and processors.</p> <p>Communities actively involved in self-help road building and road protection.          Of road tracts made by all terrain vehicles controlled by local communities.</p> <p>-Revolving Fund managed by a technical service provider;          -Loan requirements/conditions agreed by communities; and          -Loan repayment rate financially acceptable.</p> <p>Communities trained to take on</p>

<p><b><u>Component A.</u></b> <b><u>Community Development</u></b> <b><u>(US\$8.21 m.)</u></b></p>	<p>contracts (days); -SOE per year (number); -Aggregate financial tables available as needed -Audit reports on time and unqualified (Y/N); -Participation of LC representative (Y/N); -Institutional assessment (Y/N).</p>	<p>M&amp;E reports. PCU, EEAA and Governorate reports. Consultant's reports.</p> <p>M&amp;E reports. PCU, EEAA and Governorate reports. Consultant's reports.</p> <p>M&amp;E reports. PCU, EEAA and Governorate reports. Consultant's reports.</p> <p>PCU reports. Community reporting.</p> <p>Bank reporting. Loan repayment information.</p> <p>Progress reports.</p>	<p>management responsibilities and increasingly do so. Procurement unit capacity strengthened. Financial management system in place and functioning.</p> <p>Increased quality and quantity of products and marketing initiatives expand income base.</p> <p>Improved access enables more marketing of goods and services.</p> <p>Access to funds enables individuals and communities to obtain loans for enterprise use.</p> <p>Procurement and Financial management units operate adequately.</p>
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**Annex 2: Detailed Project Description**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**A. Project Objectives**

1. MRMP I set out to break the cycle of natural resource degradation and poverty. The overarching goal of MRMP II will be: rural poverty reduction through sustainable, community-driven development and natural resource management. To achieve this, the specific objectives of the project will be to:

- (a) assist communities, including women and the poor, to organize themselves and participate in community-based planning and implementation of development activities;
  - (b) assist communities to conserve, rehabilitate and sustainably manage the natural resource base through developing appropriate, community-based institutional processes and mechanisms;
  - (c) improve small holder sustainable agriculture, horticulture and livestock productivity;
  - (d) promote market-driven off-farm income generating activities, mainly targeting women;
- and
- (e) provide improved access to technical, financial and commercial services.

Within this framework of integrated resource management, GEF support is sought to address global environmental concerns in the day-to-day management of resources, as well as mainstream environmental dimensions into overall planning and implementation of development activities in the area.

**B. Target Group and Targeting**

2. There are about 22, 000 rural households in the project area, 17,600 of these households are estimated to be below the poverty line. The poverty line has been defined by under the first project through a combination of a number of criteria such as number of sheep, access to arable land, number of cisterns and cash income. Around 9,000 households have already benefited from MRMP I of which 6,700 are below the poverty line. This leaves approximately 11,000 below poverty line households who have received no assistance. These households will constitute the target group for MRMP II to benefit from Project investments such as cisterns and dykes, rangeland and livestock improvement measures, etc.

3. Households above the poverty line will not be eligible for private, household level investments. However, all members of communities will be potential beneficiaries from extension advice and access to improved technologies arising from adaptive research programs. In addition, all members of communities will also be considered as potential beneficiaries from community level investments (e.g. feeder roads, communal range management schemes, social centres, literacy programs, health and environmental awareness programs, conservation initiatives, etc.).

4. To ensure targeting of the poor, communities will be responsible for establishing the criteria for identifying the poor and disadvantaged households within their community and for selecting beneficiaries. The eligibility of the selected households will be checked against the Project's database.

5. In addition to poverty criteria, other specific criteria will apply for the selection of beneficiaries for cisterns, dykes and rangeland development and improvement. These are as follows:

· Cisterns: the poverty level of the household and the absence of a cistern will be the governing criteria. An additional criterion will be the main use of the cistern with priority given to domestic needs, followed by needs for livestock and, for high-value, small-scale agricultural production. It is estimated that around 8,700 households still do not own a cistern and these will be the priority target group for cistern construction.

· Dykes: the poverty level of the household and the absence of a dyke will be the governing criteria. The potential number of dykes in a wadi will be determined by the overall water balance through watershed modelling. Those dykes will then be allocated to the poor households (according to local community criteria agreed upon) who currently do not have access to a dyke. Very poor households may benefit from both a cistern and a dyke as both may be required in order to make a significant impact on the earning capacity of the household.

### **C. Project Implementation Approach**

6. The core concern of MRMP II is achieving sustainability through fostering self-reliance and promoting community ownership of the development process and strengthening relations with existing Government institutions and services. A principal objective is to strengthen local community capacity in order to progressively transfer responsibilities to them. This means that the key features of the implementation approach to be followed under MRMP II include:

(a) Giving communities greater responsibility for planning, managing, implementing and monitoring their own development activities (included the ones implemented by the Project on their behalf) so that they are better prepared for, and able to carry on the development of their communities on their own initiative and with their own resources after the completion of the Project;

(b) Ensuring transparent processes and accountability by close coordination between community representatives and PCU and a two-level flow of communication between *mandoubeen* and other community members;

(c) Assisting communities at their request, to establish legally-recognized, community-based organizations able to interface with other government agencies after the completion of the Project;

(d) Aiming for inclusiveness, ensuring that all heads of households in the community have an input in the decision-making process and are aware of the allocation of resources.

(e) Promoting a self-help process. The Project will promote the principle that individual household and community obligations go hand-in-hand with access to Project resources. This will be exercised through, among other things:

(i) Genuine contributions from households/communities to infrastructure development, in the form of voluntary labour and locally-available materials; and

(ii) Encouraging the formation of “common interest groups” amongst producers in their pursuit of common goals through cooperation, mutual assistance and seeking access to markets.

7. To achieve this, MRMP II will introduce the following key changes to the participatory planning process:

- (a) An initial participatory planning exercise will be undertaken at the *aila* (clan) level, facilitated by the *mandoubeen*, the Project staff and a local NGO. The objective of the exercise will be for each LC to come up with a Community Action Plan, which will present the development objectives that the LC wants to achieve over the course of the Project and the broadly defined activities to be implemented. Following the CAP, the LC will prepare an Annual Work Program and Budget (AWPB) which will detail the specific activities to be implemented during the first year and their costs. To prepare their AWPB, each Local Community will be assigned an allocation of financial resources on an annual basis by the Project management, which will form the Local Community Grant for the year. The Local Community will be responsible for deciding on the allocation of these resources between different activities, based on a menu of activities eligible for Project financing and in accordance with the technical criteria and conditions established by the Project for different activities. The only requirement will be that a minimum percentage of resource allocation (the minimum percentage will be decided in collaboration with the communities) for women's development activities and environmental conservation activities. This will be done by each *aila*.
- (b) Local communities will be encouraged to re-assess their choices of *mandoubeen* in the light of the new requirements under MRMP II. This process could be repeated in Year 3 to ensure the accountability of the *mandoubeen* to their constituency. However, it is up to the local communities to replace their *mandoub* whenever they feel it is needed. They do not have to wait until the next suggestion is made to them to re-assess their choice;
- (c) The Project's technical teams will provide guidance with regard to the feasible technical opportunities available, particularly in relation to water harvesting and watershed management interventions, and crop/livestock-related activities, in order to help the Local Communities make sound investment decisions;
- (d) Each *aila* will select the beneficiaries with a requirement to focus on assisting the more disadvantaged and resource poor households in their unit;
- (e) The Project will ensure that women are an integral part of the planning and decision making processes through providing women with the same level of information as men through separate meetings
- (f) The activities and beneficiary selection for each *aila* will be submitted to a meeting of heads of households, members of the *aila*, for approval prior to submission to the Community Group for aggregation into the Local Community CAP. Separate meetings will be held for men and women;
- (g) The CAPs and their Annual Work Programs and Budgets will be the principal mechanism for allocating resources to household and community-level investments; and,
- (h) The activities under the decision of the Local Communities will be funded from a line item in the Project budget, *Local Community Grants*. Each Local Community will be attributed a share of the funds available under *Local Community Grants* budget, based on a number of criteria: the percentage of low income households in the community, the location of the Local Community (i.e. Zone I, II and III from North to South), development potentials (i.e whether a road is planned or a watershed development is feasible), and the amount of previous investments in the Local Community.

#### **D. Project Components**

9. The proposed MRMP II will comprise the following six components and sub-components to be

implemented over a six-year period.

- A. Community Development  
Capacity Building of Communities  
Strengthening of Women's Development Capacity
- B. Integrated Natural Resource Management  
Land and Water Resource Management  
Rangeland Management  
Biodiversity Conservation and Environmental Management Plan Implementation
- C. Productive Activities Development  
Agricultural and Livestock Production Advisory Services  
Off-farm Income Generating Activities, Agro-Processing and Marketing
- D. Rural Roads
- E. Revolving Fund/Rural Micro-finance
- F. Project Management

10. The Project will follow a more flexible, process-oriented and demand-driven approach whereby the communities will determine their priority activities through a participatory planning process. Hence the number and types of investments described below are only indicative and should in no way be considered a blueprint. The investment program will be defined each year through the each LC Annual Work Plan and Budget (AWPB) which will be the key tool for reflecting the communities' investment priorities.

**A. Community Development (US\$ 8.2 million, GEF Contribution US\$ 0.4 million)**

11. **Capacity Building of Communities:** The project will be implemented through a stronger and systematic community-driven development process. The participatory approaches initiated under MRMP I will be deepened in order to: (a) develop effective mechanisms that will involve all members of the community in decision making, enhance community ownership and (b) enable communities to gain the skills and experience to seek funding from other local funding agencies (e.g. the Social Fund for Development, Shuruq Fund, the Governorate education and health services, etc.) for assistance after the end of the Project.

12. To achieve these objectives the project will provide information and training to the local community representatives (*mandoubeen*) and other community members. The initial training will focus on the overall strategy and processes to be followed under MRMP II, the roles and responsibilities of the *mandoubeen* and the communities, the criteria and processes for identifying disadvantaged households, defining the community's development objectives, the processes for establishing development priorities and prioritizing resource allocation as the basis for the design of the Community Action Plans (CAPs) and their Annual Work programs. Following the initial training, support to Local Community will be provided to:

- assist the local communities to become legal entities;
- acquire negotiating skills and management capacities for their community affairs;

- receive basic training in environmental protection (including range management) and environmental assessment;
- set in place the process for monitoring the implementation of their activities and evaluating the results; and,
- develop their own internal and external information and communication system

13. Local communities are represented at the Sub-regional Support Center level (2 representatives per Local Community). The five Local Community Sub-regional committees will each choose two representatives for the Local Community Regional Committee which in turn, will elect two representatives to the PCC. These committees are communication and consultation mechanisms for the Local Communities themselves which enable them to exchange experience and learn from each other. In addition, the regional level committee has specific functions, as follows: (i) identify implementation problems and make proposals to solve them; (ii) prepare the Project Coordination Committee; (iii) organize feedback information to local communities. The additional functions of the Local Community Sub-regional Committee is to: (i) identify the sub-regional priorities to be discussed with local popular councils and sectoral services; (ii) identify activities that cut across or show effects across community boundaries; and (iii) prepare the Local Community Regional Committee. The Project will provide facilitation to ensure an effective role to the *mandoubeen*, especially at the PCC level.

14. The GEF contribution will enable the Project to build community awareness of environmental concerns, including practical initiatives to involve the communities in the monitoring and recording of their biodiversity resources, and reflecting resource conservation issues in their respective CAPs. The GEF contribution will also help the introduction of formal and informal environmental education in schools and at the 38 community centres.

15. In addition to the activities described below, a line item in the budget for this component will provide additional funds for: (i) well-performing activities in high demand by communities; and (ii) support local communities new initiatives which were not envisioned at the time of project preparation.

16. **Strengthening of Women's Development Capacity.** The project will promote a two-pronged approach towards strengthening women's involvement in the development process by:

- ensuring that women are integrated into the participatory planning and implementation process (albeit through separate meetings) and soliciting their views on such aspects as: (i) the criteria for defining the disadvantaged households; (ii) the selection of beneficiary households; and (iii) the allocation of resources for different activities, particularly communal facilities;
- separately addressing the special needs and interests of women and providing them with skills and means to help them improve their general living condition; and.
- Promoting the creation of women's organizations, giving greater recognition to the important role of women in the household and community, and gradually giving them greater control of their own affairs, thereby recognizing that men's full support for gender-related activities is essential (see Sub-component C.2).

17. Women will be provided with training in the new participatory planning processes and the role and responsibilities of *mandoubeen*, etc. to ensure that they have the same access to information as the men and to allow them to influence processes through their informal channels.



18. As a key contribution to building women's capacity, the Project will support literacy classes for women (a 3-year process) and education for girls, with a 5-year programme aimed at providing the next generation with greater opportunities for advancement. To this effect, the Project will support the construction of up to 23 basic two-room community social centres (15 were constructed during the first project), with community contribution and community involvement in management, in order to provide a venue for literacy classes, training programs, environmental awareness and other community activities. Ownership of these social centres will be transferred to the communities by the end of the Project. These centres could act as community information resource centres. Some may, on a pilot basis, be equipped with appropriate information communications equipment.

19. The Project will also support nutrition, hygiene and health awareness programs, including promotion of the construction of latrines, through enlisting the support of the Governorate's Health and Education Departments. The GEF contribution will support environmental awareness programs to assist women in sustainable utilization and management of their community's resource base. It will also support a survey on energy consumption and kitchen practices to determine if and what interventions are appropriate to improve the kitchen environment and ensure sustainability of energy supply. Based on the recommendations of the survey, the project will provide support and subsidies to substitute alternative energy technologies (e.g., gas/solar cookers) as a means of reducing pressure on wild plant species used for fuel wood, in addition to improving kitchen environment.

20. Finally, the Project will assist women to reduce the work load for domestic chores through access to labour saving assets such as hand pumps, ovens and carts for transport through credit, subsidies, and women's own contribution.

**B. Integrated Natural Resource Management (US\$ 21.1 million, GEF Contribution US\$ 4.0 million)**

21. **Land and Water Resource Management.** The project will support the implementation of proven successful water harvesting and storage techniques and infrastructure (underground cisterns/reservoirs and various types of dykes for water and soil retention in the wadis and watershed areas) integrated within an overall strategy of watershed management and using implementation procedures developed under the on-going project.

22. Watershed management may require the involvement of several communities having rights within the same watershed, in the design and implementation of sustainable watershed management plans taking into consideration the nature of the available shared resources, the different land use systems, the communities' diverse needs for water, and reducing, or resolving potential conflicts amongst users. Planning will involve the communities, prior to preparation of CAPs and will start with the identification, screening and prioritizing the potential water resources and boundaries of watersheds to determine optimum land use planning. The Land and Water Resource Management Unit will insure that the interventions are not in conflict with sustainable and efficient natural resources management.

23. The maintenance of all water harvesting structures will be the responsibility of the beneficiaries for investments on private land while the beneficiaries will be jointly responsible for the maintenance of the interventions in *wadi* and communal lands. The responsibility of the beneficiaries regarding maintenance will be discussed at length during CAP preparation. For *wadi* development planning and dyke maintenance, the project will assist in the formation of Watershed Management Associations (WMA) comprising all the households who are on a particular watershed. The beneficiaries will be trained to check their structures prior to rainy season and carry out any necessary maintenance according

to the Water Harvesting Operation and Maintenance Manual. The Project will prepare this manual, a user-friendly manual, written in Arabic and giving procedures and instructions on the maintenance of project interventions in soil and water management. In addition, the Project will establish a small O&M unit to provide technical assistance and basic equipment support to communities to deal with emergencies resulting from flooding events. Watershed Management Associations will be encouraged to set up a maintenance and emergency repair fund.

24. With GEF funding, protection of the upper catchment areas will continue to be promoted through micro-catchment water harvesting measures, and the seeding or plantation of vegetative cover against wind and water erosion, such as shelterbelts. These will also serve to increase the biomass content and contribute towards carbon sequestration in the area. GEF funding will also support adaptive research, assisted by international and local TA, to establish water run-off coefficients and to investigate water utilization techniques.

25. **Rangeland Management.** During the implementation of MRMP I, assistance to livestock producers seeking to reduce their heavy dependence on the use of concentrates and purchased feed for their flocks largely consisted in establishing World Food Program-designed and funded Selected Range Management Areas. While these provided some temporary relief to individual owners and family groups, they were costly and reached only a relatively small number of better-off producers in the better-endowed areas. However, the underlying causes of resource degradation remained untackled. Range degradation occurs because in the open range, animals remain permanently on top of the vegetation, preventing shrubs and grasses (especially the most palatable ones) to rest and grow. In the past, this was avoided by traditional grazing patterns when herds would move constantly over large stretches of land, providing plants enough time to recover. Such practices have now disappeared, due to the shrinkage of pastoral land and restrictions on the movements of herds, a result of various factors.

26. In response to this, MRMP II will develop a strategy for the sustained use of the communal resources, based on a community-managed approach to rangeland rehabilitation and utilization. Such an approach will entail the establishment of pilot grazing management units (PGMUs) managing the vegetation as well as the animals. The underlying principle of this grazing management approach is to simulate the large herd movements of the past by dividing the land under management into several plots which animals graze one after the other, allowing the plants enough time to recover. All features of such schemes (size, number of participants, grazing calendar, etc.) are left to the decision of the group, according to the state of degradation of their land, social constraints, and their experience and managerial ability.

27. With GEF funding, these interventions will be supported by adaptive research and extension on assessing/monitoring the rangeland resources, germ plasm resource enhancement; evaluation of rangeland restoration technologies and on advising producers on the best use of planted fodder shrubs. Research will help establish optimal length of time that major rangeland plants require for their regeneration under different climatic conditions. This data is essential for grazing management planning. Four Protected Plots will be established to provide in situ source of germ plasm from desirable perennial range plant species which have little opportunity to produce seed under present grazing conditions. This will be closely coordinated with the work on biodiversity conservation, so that combined benefits serving global objectives can be monitored and replicated.

28. Range Rehabilitation and Improvement Associations, regrouping representatives of the *ailaat* engaged in range rehabilitation, will be established at the SRSC level. Their role will be to monitor the range rehabilitation systems established and to promote and assist other communities to establish similar

procedures in order to have a wider impact on rehabilitation of the rangeland.

29. **Biodiversity Conservation and Environmental Management Plan Implementation.** This sub-component will be funded through GEF grant financing. It represents an enhanced focus on biodiversity conservation and environmental management under MRMP II. It will be implemented under an integrated approach:

- Integrating environmental education into community capacity building activities (Component A);
- Enhancing the local-level capacity to undertake cross-sectoral planning and management (sub-component B.3);
- Integrating biodiversity conservation and integrated ecosystem management concepts into range and water management activities with the communities (sub-component B.1 and B.2);

30. Two main sets of activities will specifically contribute towards biodiversity conservation in the area. First, the Project will work with the communities and other stakeholders to; (i) increase their knowledge and awareness of biodiversity conservation; (ii) assess energy use practices and support alternative sustainable energy sources for household purposes; (iii) integrate biodiversity concepts into range and water management activities (through community range management, and protection of watersheds against soil and water erosion); (iv) create community managed biodiversity hotspots, monitor and update the record on the status of biodiversity in the area; (v) develop strategies for enhancing eco-tourism based on community involvement and conservation concepts; (vi) and, build national capacity and a replication strategy for the implementation of integrated ecosystem management approaches. In addition, the local level capacity for environmental monitoring and planning will be strengthened through the funding of staff and equipment and the provision of training on environmental matters, including resource inventory and evaluation; environmental assessment, multi-disciplinary resource management, socio-economic surveying; species monitoring and evaluation; protected area management; and participatory training on specific environmental issues.

31. Second, the project will assist the GOE in the establishment and management of two Protected Areas (PAs): El Qasr and Saloum. Management of the Protected Areas will integrate local populations into Protected Area development plans and their implementation. These plans will include activities promoting biodiversity conservation, eco-tourism and rangeland management. In addition, provisions will be made for alternative income generating activities in case of any potential loss or restriction of access to resources following the establishment of the Protected Areas management plans. These can include additional off-farm income generating activities and payment for targeted community conservation mechanisms for potentially affected beneficiaries to be funded through the Local Community grants. Visitors centres will also be constructed for public education programmes and staff recruited to manage the Protected Areas.

32. Finally, the Sub-component will implement the Environmental Management Plan (see Annex 14). The EMP identifies the environmental mitigation measures, screening process, capacity-building and monitoring activities that will be undertaken during Project implementation to ensure that any potential adverse environmental impacts are either eliminated or minimized. The Sub-component will be under the technical authority of EEAA/NCS as the Government body responsible for and with strong community-based experience in biodiversity conservation and environmental protection in Egypt.

### **C. Productive Activities Development (US\$ 5.0 million, GEF Contribution US\$ 0.8 million)**

33. **Agricultural and Livestock Services.** Overall Strategy. The principal focus of this

sub-component, comprising adaptive research and extension-related activities, is the dissemination and active promotion of those technologies already developed under MRMP I and that have not, as yet, reached producers within the recommendation domain(s) for which they were developed. This will aim at closing the gap in productivity between the best producers and the average and poorer performing farmers. Such an approach offers the most cost-effective way in utilizing available technology to advance poverty alleviation, enhance income and assure resilience of family livelihoods. However, continued refinement in the definition and delineation of recommendation domains, in terms of their physical and socio-economic dimensions, and economic evaluation of improved practices and technologies developed by adaptive research programs (of MARC and others) will be needed to ensure that technically suitable and economically feasible technologies are available to producers and livestock owners in the more marginal areas. In addition to this increased emphasis on less endowed zones and households, the close collaboration between adaptive research and extension, the on-farm nature of research, and increasing importance of collaborative research programs that characterized technology generation and dissemination under MRMP I will continue.

34. Extension Strategy. Accordingly, during Phase II, there will be greater emphasis on extension, with more farmer involvement and a new community-based extension outreach effort through the training of Community Technical Contact Person (*wakil/wukala*) in each of the 38 Local Communities. These facilitators will be chosen by community members with guidance from the Project staff. They will serve as resource persons to handle the most common farming advisory and training demands likely to emerge from the farming systems in their particular locality. When they are unable to provide the solutions themselves, they will, in response to farmer demand, liaise with their Sub-Regional Support Centre and headquarters for technical support.

35. On-farm demonstrations will continue to play a key role, with their content determined by the concerns and interests of the producers. Innovators, as well as heads of households receiving free inputs for demonstrations, or benefiting from study tours will be requested to act as resource persons within their community. Grant assistance will be available to the poorest households for investments, such as, the planting of fodder shrubs in barley, or the provision of shrub and tree seedlings where such would be a feasible and a technically sound use of resources, e.g. as a measure to protect the soil against water or wind erosion, or to improve their feed resources.

36. Adaptive Research. Extension staff will be supported by, and work closely with, the researchers from the Matruh Adaptive Research Centre. Main topics to be emphasized in adaptive research programs will deal with:

- for field crops – improved, drought-tolerant and high-yielding, smut-resistant barley varieties, including work with naked barley varieties (to partly substitute for wheat flour in bread making), improved systems of cultivation (including water harvesting and minimum tillage); improving the grazing value of barley stubble (e.g., by inter-cropping of barley with native *Atriplex*, undersowing of barley with legumes), work on small-scale home gardens, and seed multiplication;
- for tree crops (figs and olives) and horticulture (including rehabilitating unproductive orchards, improved husbandry practices, disseminating and monitoring on-farm performance of new (drying fig) varieties, post-harvest handling and technologies (including on-farm, simple (“appropriate”) fig drying and packing technologies, improving oil content and olive oil quality), improved water melon cultivars and varieties. In collaboration with the Biodiversity and the Strengthening of Women Capacity sub-components, research will identify promising medicinal and aromatic native plants, and develop on-station multiplication and domestication methods that could subsequently be adopted by women on small in-situ plots under local conditions. The focus will be on those species for which a

market will have been identified.

- for livestock production. Assistance to farmers will focus on how to increase the productivity of their flocks, by increasing their nutrition, genetic characteristics and health. The emphasis will be on creating less dependence on concentrates by improving the quality and productivity of the rangelands, by making full use of crop by-products, herd management and breeding practices (e.g., synchronized breeding, weaning practices), lamb fattening schemes. Livestock productivity interventions will also include further extending the ram exchange and goat genetic improvement programs. Improvements in animal nutrition will be promoted through the demonstration of feed blocks, urea treated straw and mineral blocks. Work in collaboration with the Strengthening of Women Capacities Sub-component will focus on improved husbandry practices and production systems for poultry, turkeys and pigeons.

37. **Off-farm Income Generating Activities.** There is a strong national and even international demand for a series of products such as dry figs, pickled olives and shelled almonds (the bulk of Matruh horticultural crops) as well as for aromatic and medicinal plants. As to handicraft products (traditional Bedouin *kilims*), the lack of awareness of the cultural and economic value of these traditional skills and the social constraints that restrict women mobility prevented the marketing of these products. In addition, the demand exists but the quality and design of the products must be adapted to the market requirements. There are five potential market segments for Bedouin handicraft products: (a) local tourism in Marsah Matruh, including potential development of eco-tourism, (b) Cairo market, (c) international tourism in Egypt, (d) export market, (e) corporate initiatives (i.e. hotels, etc.).

38. The objective of this component is to increase and diversify rural household income through the development of: (a) household or cottage food-processing; and (b) traditional Bedouin handicrafts. The component will be market driven, building upon Bedouin resources, skills and organization, and taking into account women socio-economic environment and their life-style priorities. It will focus on:

- providing access to market information (quality, prices, market locations, transportation and conditions of market entry);
- improving the quality of products (agricultural or handicrafts), for which there is a market;
- facilitate provision of inputs for producers;
- ensure the regular sale of the end products; and
- promote community-based and economically viable organizations that will ensure the sustainable development of these off-farm income generating activities after Project completion.

39. The development of both handicraft and household/cottage agro-processing requires strong market linkages. Products should correspond to market requirements which implies a market driven quality control and an efficient marketing organization, ensuring that buyers regularly purchase products, with payment rewarding the quality and innovative skills of producers. However, such an organization must also respect and take into account Bedouin women traditions and socio-economic constraints. The implementation of this sub-component will therefore be sub-contracted to community marketing professionals. These professionals will have to:

- develop an economically sound and sustainable production and marketing operation that should reach a break-even point within three or four years,
- promote and train local community-based organizations that will be able to manage the operation when the break-even point will be reached. These community-based organizations will be gender specific (i.e. women organizations for specific women activities).

40. The community marketing professionals will be responsible for: (a) the provision of expertise, (b) the recruitment and training of local people who will participate in the operation, (c) the management of the operation until the break-even point is reached and the operation handed over to local community-based organization(s); and (d) technical assistance to these organization(s), declining in intensity over time, to help them run the operation.

41. These professionals will locally recruit and train three types of personnel:

- *a community contact person* at Local Community level (at least one per Local Community), who ensure: (a) quality control, (b) organization of the provision of inputs to producers when necessary, (c) provision of market information including quality and price, (d) simple accounting to register payments made to producers and orders received.
- *a coordinator* at district/SRSCs level to support the community contact persons. The coordinator will: (a) organize input supply to community producers, (b) facilitate the marketing, (c) communicate with Matruh unit to organize the technical support, (d) aggregate orders, etc.
- *a technical unit* at Matruh governorate level, to run the operation until the break even point is reached. This unit will include: a manager, a food technologist, a marketing specialist, a production officer and a purchase officer. When the break even point is reached and community-based organizations have been created, this unit could: (i) either be taken over and paid by the community-based organizations to continue its work or (ii) be responsible to transfer and train managers of the community-based organizations to continue the operation.

42. In addition to food processing and handicrafts, with GEF funding, the Project will investigate the scope for developing a medicinal plant activity in the Project area based on the domestication of indigenous plants, which are in high demand. The Project will support research into propagation techniques and market investigation and marketing tests once the domestication of these plants is guaranteed. The Project will call on the experience of another GEF “Medical Plants” project at St. Katherine’s Protectorate in Sinai.

#### **D. Rural Road (US\$ 4.0 million)**

43. The objective of the Rural Roads component is to connect the coastal zones and the inland areas with the existing network of roads to ensure ease of access and reduced transportation cost, improve the social and economic standard of living of the scattered Bedouin population. The project will surface 135 kms of unpaved feeder roads. Six of them (for a total of about 100 km) have already identified by the communities and the PCU, as part of an overall program of 300 km of feeder roads, 200 km of which have been implemented with the World Food Program. It will also give advice on the alignment of new roads and their protection against erosion (use of techniques to bind the soil and prevent drifting). As under the World Food Program, the communities will participate in road construction through the gathering and stockpiling of stones along the side of the road, for the contractor to use. The purpose is provide the communities with an additional source of income and build a sense of ownership for later maintenance. The local communities will be trained for basic and simple maintenance. The roads will be handed over to the Road Works Department after completion.

44. The roads that have been identified are the following:

- (i) El- Dawaya Link Road: This is in the Negila SRSC area, serving Communities number 4 and 6 with 76 *Ailaat*. The road is 9.8 km long with an average length of about 130 meters per family served;
- (ii) Abu-Harera Service Road: This is in the Barrani East SRSC area, serving community number 5 with 183 families. The road is 19.2 km long with an average length about 105 meters per family served;
- (iii) M. Abu-Zariba Service Road: In the Barrani West SRSC area, serving community number 13 with 392 families. The road is 17 km long with an average length of about 45 meters per family served;
- (iv) H. Um-el Jawabi Service Road: In the Barani West SRSC area, serving community number 9 with 300 families. The road is 24 km long with an average length of about 80 meters per family served;
- (v) Baqbaq Service Road: In the Barani West SRSC area, serving community number 12 with 191 families. The road is 21 km long with an average length of about 110 meters per family served; and
- (vi) El-Aziza Service Road: In the Barani West SRSC area, serving community number 10 with 150 families. The road is 9 km long with an average length of about 60 meters per family served.

45. The cost estimates for the roads were based on actual tender prices for recently constructed roads in the project area. The annual operation and maintenance cost for the roads during the project implementation period has furthermore been estimated at about the equivalent of 2% of the investment cost giving about US\$ 550 per km per year.

**E. Rural Micro-finance/Revolving Fund (US\$ 3.6 million)**

46. The objective of the sub-component will be to provide access to credit in kind for income-generating activities, specifically targeting women and poor/marginal people. A micro-finance scheme will be piloted to respond to the specificity of the Bedouin population regarding credit. In particular, credit should be delivered in kind, not in cash. It should reach home-bound Bedouin women and marginal/poor people at their door step. No interest or default penalties should be charged, for religious reasons; however, management fees can be charged, and, instead of default penalties, there can be incentives for repaying on time. Finally, because there is no formal land ownership, and little other physical collateral, other ways to guarantee repayment have to be identified.

47. Considering these constraints, and because there is no micro-finance institution in the Project area, a professional technical assistance company will be recruited during a pilot phase to develop a credit retailing system. The TA company will recruit credit retailing officers, train them and supervise them. Three Credit Officers will be posted in each SRSCs to work closely with project staff, benefiting from their knowledge of the area and of the people.

48. The proposed credit mechanism will entail the following actors:

- The project staff, to introduce the credit officer to local communities members, help identify credit-worthy beneficiaries, guarantee that the activity for which the money is borrowed is sound, and provide technical advice to the beneficiary if needed.
- Credit officers to establish mobile credit branches, working from the SRSCs.
- The local communities representatives to guarantee credit-worthy and eligible borrowers from their



community;

- Local traders (wholesalers) and/or market agents to deliver the equivalent of the approved loan to the borrowers **in kind**. These traders can also be used as guarantee since they have an excellent knowledge of their customers.
- The beneficiaries, who will receive the loan in kind from the local trader and repay the credit officers.
- A Manager in Marsah Matruh. S/He supervises the credit officers and manages the revolving fund on behalf of the Project according to a business plan approved by a Board of Trustees of the revolving fund.
- An Account, opened in a commercial bank for the revolving fund. The commercial bank keeps accounts and releases funds corresponding to the loans, to the local traders or market agents against a check signed by the Financial management unit of the PCU. Traders or local merchants receive their payment upon presentation of an invoice signed by the borrower and the credit officer certifying that the goods corresponding to the sub-loan have been received.
- The Board of Trustees of the revolving fund undertakes the overall planning and allocation of funds, evaluates implementation, approves necessary modifications to the system and ensures the overall follow up of the whole activity.
- A contingency fund kept under a separate account to help the beneficiaries repay the loan in the event of death or natural disasters.
- The PCU procurement staff for small goods is in charge of identifying and negotiating supplier contracts on a competitive basis with local traders or market agents using local shopping procedures.

49. Credit will thus be delivered in kind under a tripartite sub-loan agreement involving the borrower, the credit officer and the trader or retailer. The sub-loans will be small (up to approximately \$US 2000 per individual or group) and will have to enhance the productive activities of the borrower. Because of generally adverse physical and environmental conditions, any credit activity for agricultural production will be subject to rigorous scrutiny in order to protect the economically weak. Credit for animal feed, except for sheep-fattening micro-operations, will be excluded to deter any potential increase in livestock numbers. Agricultural activities will also be reviewed for potential adverse environmental effects.

50. The borrowers will repay the sub-loan to the credit officers who will in turn deposit the amount repaid into the revolving fund account, after deducting therefrom the management fees. The management fees will be deposited in a separate account to contribute to the establishment of a guarantee or insurance fund against repayment default. The management fees will be calculated to cover the estimated operating costs of the scheme at the break-even point, including a life insurance and provision for default guarantee, but excluding the cost of capital.

51. The objective will be to reach a break-even point within three to four years while the scheme is still under the management of the Technical Assistance Company. It is expected that during that time it will be possible for the credit officers to form an NGO or cooperative to set a micro-finance institution and continue the process, or attract a commercial bank to mainstream the scheme.

**F. Project Management (US\$ 2.9 million)**

52. The Project will fund the necessary contractual staff, premises, equipment, vehicles, staff development, technical assistance and monitoring and evaluation systems for efficient and effective management of the Project. A line item in the budget will be used to explore the scope and feasibility for extending participatory approaches introduced under MRMP to other areas in the Governorate (Siwa) or rainfed areas in Egypt or through commissioning special studies, for assessment visits to these areas by key Project staff for interaction with the local government, communities, etc. and if significant opportunities are found, financing pilot initiatives.

**G. Cross-cutting Activity: Information and Communication**

53. An Information and Communication Unit (ICU) will be established within the PCU. It will have the dual role of coordinating all information and communication support activities in project management and service delivery to the communities; as well as fostering community development directly by improving their access to high quality and needs-oriented information and communication services.

54. The ICU will be a self-standing unit, headed by a director reporting to the DG and DDG. It will consist of: (i) a central ICU with headquarters staff providing support to all other sector units and locations (SRSCs and MARC), and (ii) field information and communication officers at all five SRSCs and MARC to support access to information and knowledge by SRSC staff and community members. Local and HQ-ICU activities will further be supported by a communication advisor.

55. The ICU at the PCU will hold a central budget for equipment and services required for special applications (e.g. extension videos, report scanning), project-internal networking, information/database management, and external connectivity (Internet access) as well as for facilities to provide professional staff and community members with improved access to information (local ICUs and mobile units). Each unit will hold a budget for PCs, extension material /outreach activities, and telecommunication. Sector and local units will request for services provided by the ICU. The services will be charged to their budgets.

56. Activities supported by the ICU will comprise the following fields of intervention: (a) upgrade project-internal communication and information access, knowledge sharing, and coordination of outreach activities; (b) improve the communities' access to information and communication services through public information units in the Sub-Regional Support Centers and through mobile extension and outreach units; (c) improve broad dissemination of key extension messages and support awareness raising campaigns through an intensification of the existing partnership with the local radio station; (d) improve availability and quality of contents.

**By Component:**

**Project Component 1 - US\$ million**

**Annex 3: Estimated Project Costs**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

The total cost of the project over six years, estimated at 2001 prices, including contingencies, taxes and duties, but excluding the 1% front-end fees (US\$0.123), is estimated at LE 199 million (US\$44.8 million), of which US\$8.0 million or 17.9 percent of total project cost will be in foreign exchange. Physical contingencies have been applied at a rate of 10% on civil works, civil works maintenance and vehicle operation and maintenance; 5% on vehicles, equipment and materials; and 2% on building maintenance. On this basis, physical contingencies represent about 5.0% of total base costs. Price contingencies for local costs are based on the annual domestic inflation rate estimated at 4% for the implementation period, and for foreign costs on the projected average G-5 MUV Index of 2.2% per year. In addition, an annual nominal wage increase of 10% was used. The base exchange rate for this analysis has been set at LE 4.25 to US\$1.0. A constant purchasing power exchange rate mechanism was used to reflect the difference between local and foreign inflation, resulting in projected exchange rates of 4.3, 4.4, 4.4, 4.5, 4.6, 4.7 LE to US\$1.0 for the five project years. Estimates for taxes and foreign exchange contents have been calculated as weighted averages for each expenditure category based on estimates for constituent parts for groups of cost items. The estimated project cost are summarized in Table 3-1.

**Table 3-1: Summary of project cost by component**

	Local US\$ million	Foreign US\$ million	Total US\$ million	% of total base cost
<b>A. Community Development</b>				
1. Capacity Building of Communities	3.07	0.64	3.72	9
2. Strengthening of Women's Development Capacity	3.01	0.89	3.90	10
Subtotal Community Development	6.08	1.54	7.62	19
<b>B. Integrated Natural Resource Management</b>				
1. Land and Water Resource Management	11.96	1.48	13.44	33
2. Rangeland Management	1.02	0.66	1.68	4
3. Biodiversity Conservation	1.81	1.51	3.32	8
Subtotal Integrated Natural Resource Management	14.80	3.64	18.44	46
<b>C. Productive Activities Development</b>				
1. Agriculture and Livestock Services	2.64	0.62	3.26	8
2. Off-farm Income Activities	1.26	0.11	1.37	3
Subtotal Support for Income Generating Activities	3.90	0.73	4.63	11
<b>D. Rural Roads</b>	2.90	0.52	3.42	8
<b>E. Revolving Fund / Rural Micro-Finance</b>	3.48	0.12	3.60	9
<b>F. Project Management</b>	2.01	0.73	2.74	7
<b>Total BASELINE COSTS</b>	33.17	7.28	40.45	100
Physical Contingencies	1.72	0.32	2.04	5
Price Contingencies	1.93	0.41	2.35	6
<b>Total PROJECT COSTS</b>	36.82	8.01	44.84	111

Total project costs do not include the 1% front-end fees.

**Annex 4: Cost Benefit Analysis Summary**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**1. Introduction**

*Development objective.* The Second Matruh Resource Management Project (MRMP II) aims at reducing rural poverty in the North West Coastal Zone (NWCZ) of Egypt through improved natural resource management and sustainable community-driven development. It will build on technologies and approaches successfully developed and implemented in the preceding Matruh Resource Management Project (MRMP). MRMP II will continue community investment in integrated natural resource management, such as water harvesting, watershed management, rangeland management, and bio-diversity conservation. It will further continue to build the communities' development capacities with a particular focus on women; it will support income generating activities in livestock, crop production, off-farm activities, processing and marketing through direct advice, improved knowledge transfer mechanisms, and a small revolving fund; and it will improve rural access by financing a limited amount of rural roads. The project will be implemented over a period of six years with expected effectiveness in 2003.

*Targeting the poor.* Under the preceding MRMP, about 20,000 households have registered to be considered for project activities, out of which 58% have benefited from the ongoing project; and an additional 2,000 households are expected to register for phase II. Since the population of the rural NWC zone is one of the poorest and most deprived in Egypt, and due to the project's integrated approach based on watersheds and traditional social structures, MRMP II will potentially target all 22,000 households in the project area. However, based on criteria determined by the communities, the project will allocate its resources with priority to the poorer segments of the target population. Besides general poverty criteria, the lack and intended use of infrastructure, deprivation of services, and technical feasibility will guide resource allocation with strong community participation. For example, 46% of registered households still lack their own cisterns for domestic use. And with respect to access to educational and health services, women and girls are particularly deprived.

*Benefits.* The target population in the project area will benefit from increased income and income security, and improved living conditions through increased and more reliable water availability through water harvesting and storage and watershed management; better farm technology, practices and inputs, and mechanisms to disseminate them; increased diversity of production; better range management; greater empowerment and human capacity development of communities, and improved access to markets and social services. In addition, substantial positive environmental effects of significance at the local and global levels are expected to occur and to indirectly contribute to a better livelihood of these populations.

**Table 1: Farm models and extent of agricultural activities**

Type of farm	Activities	Unit	Quantity	Characteristics of "with project" alternative
1 Barley and Livestock <sup>1)</sup> - small	Sheep and goats	head	15	<ul style="list-style-type: none"> <li>• Intensification of barley/livestock systems using cultivars, tillage, fertilizers, fodder shrubs and supplemental irrigation for tree crops</li> </ul>
	Barley	feddan	10	
2 Barley and livestock <sup>1)</sup> - larger	Sheep and goats	head	50	<ul style="list-style-type: none"> <li>• No increase in area under crop</li> <li>• Better animal productivity with same animal number</li> <li>• Use of any additional water for livestock and agriculture (human need is already satisfied)</li> <li>• Fodder shrub plantation as inputs for livestock</li> </ul>
	Barley	feddan	20	
3 Tree, barley and livestock <sup>1)</sup> - small	Sheep and goats	head	15	<ul style="list-style-type: none"> <li>• Intensification of barley/livestock systems using cultivars, tillage, fertilizers, fodder shrubs and supplemental irrigation for tree crops</li> <li>• Improvements through pruning, use of manure, fertilizer, pesticide, irrigation</li> <li>• Construction of dykes to support the whole area under orchards</li> </ul>
	Barley	feddan	10	
	Figs	feddan	1.5	
	Olives	feddan	0.5	
4 Tree, barley and livestock <sup>1)</sup> - larger	Vegetables	feddan	0.4	<ul style="list-style-type: none"> <li>• No increase in area under crop</li> <li>• Better animal productivity with same animal number</li> <li>• Use of any additional water for livestock and agriculture (human need is already satisfied)</li> <li>• Fodder shrub plantation as inputs for livestock</li> </ul>
	Sheep and goats	head	50	
	Barley	feddan	20	
	Figs	feddan	3	
5 New plantation and livestock <sup>1)</sup> - small	Olives	feddan	1	<ul style="list-style-type: none"> <li>• Intensification of barley/livestock systems using cultivars, tillage, fertilizers, fodder shrubs and supplemental irrigation for tree crops</li> <li>• Planting of new trees in area supported by dykes; small increase in area under crop</li> <li>• Better animal productivity with same animal number</li> <li>• Use of any additional water for livestock and agriculture (human need is already satisfied)</li> <li>• Fodder shrub plantation as inputs for livestock</li> </ul>
	Vegetables	feddan	0.75	
	Sheep and goats	head	15	
	Barley	feddan	10	
6 New plantation and livestock <sup>1)</sup> - larger	Figs <sup>2)</sup>	feddan	1	
	Olives <sup>2)</sup>	feddan	1	
	Sheep and goats	head	50	
	Barley	feddan	20	
	Figs <sup>2)</sup>	feddan	2	
	Olives <sup>2)</sup>	feddan	2	

<sup>1)</sup> Flock composition: 70% sheep and 30% goats.

<sup>2)</sup> No trees in "without project" models of farm model #5 and #6.

*Economic analysis approach.* The economic analysis presents a calculation of incremental benefits and costs caused by the project ("with project") in comparison to a situation "without project" which takes into account the development that is expected to take place without project intervention. The project's main objective is to improve the livelihoods, and in particular the income, of rural households which derive about 75% of their income from agricultural activities including livestock production. The project allocates a large part of its resources to activities directly related to agriculture and to a number of activities with indirect benefits difficult to quantify (such as community capacity building and biodiversity conservation). The project's profitability is therefore calculated based on the inherent

agricultural production systems and farm-household models. Financial and economic analyses are conducted to evaluate the project's profitability from a farmer's point of view and to take into account the opportunity costs of resources for the entire country, respectively. Especially in the case of public goods, such as agricultural extension, the financial prices (i.e. what the farmers actually pay) differ from their cost to the society at large.

## **2. Farm models and budgets for agricultural activities**

*General model description and quantification of benefits.* The economic analysis of the project is based on six representative farm models that combine both crop budgets (barley, figs, olives, watermelon and fodder shrub plantation) and livestock activity models (sheep and goats weaning and fattening) and reflect two farm sizes: a small farm of 10 feddan and 15 heads of sheep and goats, and a larger farm of 20 feddan and 50 heads of sheep and goats (Table 1). As presented in Table 1, the "with project" alternative comprises the use of improved water harvesting techniques Dykes established under the project will improve water infiltration and storage capacity, hence reduce to zero the need for supplemental irrigation using truck-delivered water, thus reducing production cost. They will further increase crop and livestock productivity due to an increased water availability. Cisterns will satisfy human and animal consumption needs. through cisterns, stone and earth dikes; improved seed varieties and agricultural practices; better feed quality from leguminous and fodder shrub plantations and increased water availability; and reduced soil erosion While soil erosion is assumed to cause production to cease over a period of 20 years in existing orchards without dyke support, this yield decline will not occur in the "with project" alternative.). These project outputs will result in a higher crop and livestock productivity, quantified as the incremental net farm income.

*Yields and risk in rainfed crop production.* Rainfall probabilities, based on a 50-year time series, and yield response to rainfall variation are used to account for the risk associated with rainfed agriculture. Table 2 shows the different yield levels and yield increases of improved technology in response to different rainfall scenarios for barley, olives, and figs. This rainfall variability in association with a low general income level and hence a limited financing capacity is responsible for the significant risk aversion of small farmers and the resulting cautious adoption of agricultural technologies. To take this risk aversion into account and hence increase the possibilities for adoption by small farmers, the crop and livestock models of the "with project" alternative will require only very limited investment and additional operational cost in cash.

**Table 2: Yield-rainfall-technology relationship for barley, figs, and olives.**

Rainfall scenario <sup>1)</sup>	Probability of rainfall scenario	Yield response <sup>2)</sup>	Yield (kg/fd)	
			Present Technology	Improved Technology <sup>3)</sup>
<b>Barley</b>				
Poor	41.5%	108%	260	281
Medium	37.7%	125%	320	400
Good	20.8%	137%	380	521
Weighted average			308	376
<b>Olives</b>				
Poor	41.5%	127%	550	699
Medium	37.7%	150%	1600	2400
Good	20.8%	164%	2200	3608
Weighted average			1289	1944
<b>Figs</b>				
Poor	41.5%	143%	700	1001
Medium	37.7%	159%	2200	3498
Good	20.8%	174%	3400	5916
Weighted average			1826	2963

1) Rainfall classification: poor: 60 - 110 mm/a; average: 110-200 mm/a; good: 200 - 300 mm/a. Rainfall data from years 1975 - 2000.

2) Estimated by MARC research staff.

3) The improved technology includes agricultural improvements as well as the construction of water harvesting measures.

*Costs at farm level.* The costs included in the farm models comprise: operational costs of production for crop and livestock activities presented in the crop and livestock activity models; decreasing yields due to soil erosion in the "without project" situation; supplemental irrigation for orchards, accounted for in the "without project" situation at a rate of 30 m<sup>3</sup>/fd (these costs becomes zero in year 3 of the "with project" situation, following the construction of dykes); and on-farm investment costs for orchards plantation, water harvesting measures (cisterns and dykes), small contour walls for barley, fodder shrub plantations and animal sheds. On-farm investments are assumed to be carried out mainly with family labor (except for cisterns and dykes that requires skilled hired labor) during the first years of the project.

*Financial prices.* The farm level analysis uses financial prices. All financial prices are based upon 2000-2001 average estimates. Where necessary, market price estimates have been adjusted by transport and handling margins to arrive at farm-gate prices. For the purpose of the analysis, constant prices have been used, and it has been assumed that there will be no changes in relative prices over the life of the project. High and low quality prices, reflecting market conditions, have been introduced for olives and figs (low quality price equaling 70% of high quality price in both cases). In the case of the farmers contribution for water harvesting structures and fodder shrub plantation, labor has been valued at current wages to reflect the fact that producers generally have to hire skilled labor for the excavation and construction works.

*Cost-benefit analysis.* Adoption of the proposed resource management improvements, the farmers' participation in project activities, and their contribution in cash or kind depend on the financial attractiveness of these activities at the decision and implementation level, the farm-household. Table 3

shows the internal rates of return (IRR) of a cost / benefit analysis with financial prices at farm level under several rainfall scenarios. The rainfall scenarios "poor" and "high" apply the same rainfall category throughout the entire project life and can thus be interpreted as the respective minimum or maximum rate of return for the six farm models.

**Table 3: Profitability of proposed resource management improvement at farm level, financial prices**

Financial IRR (%) Type of Farm	Rainfall scenario (comp. Table 2)			
	Poor	Medium	High	Weighted Average
1 Barley and Livestock - small	28.3	38.9	48.2	36.9
2 Barley and livestock - larger	21.7	29.2	35.9	27.8
3 Tree, barley and livestock - small	46.9	73.6	90.6	70.1
4 Tree, barley and livestock - larger	43.6	68.9	85.2	65.5
5 New plantation and livestock - small	14.8	38.2	49.2	34.6
6 New plantation and livestock - larger	15.4	37.5	48.2	34.0

By year 20 after the start of project implementation, the farm income will have increased by 30%, 26%, 70%, 59%, 109% and 83% in the six farm models with weighted averages, respectively, compared to the income situation in the "without project" alternative.

In general, the proposed resource management improvements show good financial returns in all farm models. As expected, the farm model combining trees, annual crops and livestock shows the highest returns and the least vulnerability with regard to climatic conditions. Only under persistent drought conditions and only in the case of new orchards, farmers will get close to risking financial losses if they adopted the proposed innovations. But even if the long-term prospects are promising, farmers might reduce risk by minimizing capital expenses for on-farm investments after an increasingly frequent experience of droughts. In this respect, the cost of on-farm investment under the project might appear rather high. For example, under average rainfall conditions, the total cost of purchased inputs represents 53-57% of the gross production value in the first year, on farms with new plantations even 61-71%.

Even if this risk aversion can be overcome, the financial returns are as attractive as presented here only as long as general project services and in particular technical assistance and the dissemination of knowledge including training are provided to the farmers free of charge.

### 3. Regional aggregation

The success of the implementation of improved resource management technologies and approaches largely depends on a number of activities which were not accounted for in the farm models. Based on market failure and equity considerations, a case for public funding of these support services can be made if the society at large receives sufficient return on overall investment.

In order to assess the economic profitability of project activities at the entire project level, the farm models as used above were aggregated to a regional model, based on the average rainfall scenario. Table



4 shows the regional distribution of total and technology-adopting households in the various farming systems. Technical packages have been assumed to be adopted by farmers gradually over six years. However, since the allocation of project resources to community activities will be based on a participatory planning process, the types of investment assumed in this analysis can only be indicative. The final investment programs will be defined each year through the Annual Work Plan and Budget (AWPB), reflecting the communities' investment priorities as expressed in their medium-term Community Action Plans (CAPs).

**Table 4: Total and technology-adopting households in farming systems of the project area**

Type of Farm	Proportion of HH	Number of HH	Adoption rate (%)	Number of HH
1 Barley and Livestock - small	20 % of small	2,640	35	920
2 Barley and livestock - larger	20 % of larger	1,760	45	790
3 Tree, barley and livestock - small	70 % of small	9,240	35	3,230
4 Tree, barley and livestock - larger	60 % of larger	5,280	45	2,380
5 New plantation and livestock - small	10 % of small	1,320	35	460
6 New plantation and livestock - larger	20 % of larger	1,760	45	790
Total		22,000		8,570
thereof: small		13,200		
large		8,800		

Adoption rates based on study "Adoption and impact of MRMP interventions on project beneficiaries" (PCU, July 2001), and project staff estimates.

*Regional costs.* The regional costs are based on the farm budgets used in the farm level analysis (crop and livestock budgets, adding the cost for on-farm investment such as orchards plantation, water harvesting, small contour walls for barley, fodder shrub plantations and animal sheds, converted to economic prices), aggregated according to the expected frequency of each farm type and taking into account adoption rates as observed during the preceding MRMP I (Table 4). They further include the full economic cost of the project (without the cost of the revolving fund) reduced by the farmers' contribution to project activities (as these are already accounted for in the farm models), equivalent to the respective project base cost plus physical contingencies minus taxes and adjusted by a SCF of 0.9.

*Economic prices.* The regional model uses economic prices. The economic price for barley has been derived from World Bank Commodity Price projections, adjusted for freight, handling, taxes and duties to arrive at farm-gate border price equivalents. For all other agricultural outputs, financial prices were assumed to adequately reflect the economic prices. For livestock outputs, the economic price has been assumed to equal the financial price due to the fact that the livestock sector is not characterized by any economic distortion and that Egyptian livestock competes on the Arab Gulf market with products from Turkey. The economic cost of labor has been estimated at 50% of the current wage rate to reflect the excess supply of labor and the lack of alternative employment opportunities in the labor market during most of the year. The economic cost of water was calculated as the long-term marginal cost of a pipeline from Alexandria to Matruh plus transportation by truck from storage facilities in Matruh to rural areas. The financial prices of all other inputs have been converted to economic prices by applying a conversion factor of 0.9.

*Cost-benefit analysis.* The cost-benefit analysis at the regional level applying economic prices shows that

project interventions are profitable from the overall economy's viewpoint (economic IRR = 18.8%), even if only the direct benefits in the farm households are taken into account. The actual economic attractiveness, including non-quantified benefits from community-focused and environmental activities, such as the strengthening of community and women development capacity, the support to off-farm income activities and marketing, the construction of rural roads, and the biodiversity conservation, can be assumed to be higher.

*Sensitivity analysis.* However, the impact of changes to critical assumptions can be substantial. Table 5 shows the reaction of the economic IRR to changes of such parameters.

**Table 5: Reaction of economic IRR to parameter changes**

Economic IRR (%) Parameter	Parameter change	
	- 20%	+ 20%
Opportunity cost of labour	19.4	18.3
Economic cost of water	18.6	19.0
Total project costs	22.0	16.4
Adoption rates of proposed technologies	16.0	21.2
Price of barley	18.5	19.1
Price of olives	18.3	19.3
Price of figs	17.0	20.5
Prices of all crop and livestock outputs	13.9	22.9

The economic viability of the project is particularly sensitive to changes in the total cost and benefits, the adoption rates of innovations in agriculture and range and watershed management, and to a certain extent to changes with regard to the opportunity cost of labor, or to specific crop prices. These observations have the following implications for project management during implementation: changes of the economic environment, especially marketing opportunities and prices, need to be fully reflected in the development and dissemination of technical solutions; the project need to continue to concentrate on low-cost solutions for the farming communities; benefits from improved technologies and management practices, especially yield response to technical innovations, need to be re-assessed in the case of changing frame conditions, e.g. frequency of droughts; and efficient and service-oriented project management as well as strong community participation and client (farmer) responsiveness are crucial.

Adoption rates - a crucial parameter for project success - are influenced by risk mitigation measures available to farm households, alternatives to the use of family resources currently expected to be allocated to project activities, the quality of technology offered by the project, and the quality and efficiency of dissemination by the Project and other service providers. Applying a farming systems approach which views the farm-household as a decision-making unit that allocates family resources to a number of competing but often inter-related farm and off-farm activities becomes crucial for adoption and long-term sustainability.

#### **4. Financial analysis and fiscal impact**

The beneficiaries will contribute US\$4.4 million or 9.8 percent of total project cost in the form of voluntary labor contributions and local materials for the construction and maintenance of water harvesting structures, social centers and roads, equity contributions to credit-financed income-generating activities and financial support to community resource persons. In order not to prejudice the involvement of poor households, the communities will define mechanisms for differential contributions with greater assistance for the poor and less for the people who can afford to contribute. Their largest contribution is expected for land and water resource management activities (72% of total beneficiary contribution and 20% of total component cost) and civil works maintenance (63% of expenditures). Some activities, such as gas stove purchase and other women activities, have even been implemented at full-cost recovery under the preceding MRMP I, through a revolving fund managed by the project. However, the beneficiaries are not expected to contribute to activities of public interest such as biodiversity conservation.

The contribution of the Government of Egypt (GOE) will be US\$10.4 million (23.1 percent of total project cost) of which US\$2.1 million will be taxes and duties. GOE will finance 87% of salaries and allowances and 72% of total recurrent cost, broadly in line with the present financing arrangements under MRMP I. This will include full coverage of the maintenance responsibilities for the roads paved under the Project. Governmental funds will be provided through the budget of MALR and will be transferred to a separate Project account managed by the PCU. MALR will be responsible for including the Project in its budget submissions to GOE Department of Finance. Co-financing arrangements with IFAD and GEF will provide for about 45 percent concessionality and thus meet GOE's requirements of a minimum of 40 percent grant element. This assumes that IFAD and IBRD funds will be provided at 3% and 6.5% per annum, respectively.

The cost recovery arrangements will contribute to building ownership of the supported investments and activities in the communities and help institutionalize a participatory planning process. Separate envelopes of funding for demand-driven and government-initiated activities will provide for an allocation of project funds to an appropriate mix of investments of local (e.g. water harvesting) and of regional or global interest (e.g. biodiversity). The communities will assume full responsibility for management and maintenance of community infrastructure constructed under the Project, with the exception of rural roads where this responsibility will remain with the Government. Since investment into community infrastructure and services will be based on CAPs, strong community commitment and increasing capacity to maintain these structures can be expected.

#### **Summary of Benefits and Costs:**

(see above)

#### **Main Assumptions:**

(see above)

#### **Sensitivity analysis / Switching values of critical items:**

(see above)

**Annex 5: Financial Summary**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**Table 5-1: Financial summary: total project cost and financing (US\$ million) by implementation year**

	2004	2005	2006	2007	2008	2009	Total
<i><b>Financing required</b></i>							
Total Investment Costs	4.95	7.58	7.47	6.20	5.42	3.83	35.45
Total Recurrent Costs	1.33	1.44	1.55	1.63	1.71	1.73	9.38
<b>Total project cost</b>	6.28	9.02	9.02	7.82	7.13	5.56	44.84
<i><b>Financing available</b></i>							
IBRD	1.99	2.73	2.42	2.10	1.52	1.45	12.22
IFAD	1.26	2.54	2.55	2.41	2.41	1.53	12.70
GEF	1.10	1.18	1.26	0.71	0.59	0.33	5.17
Government	1.54	1.73	1.91	1.76	1.74	1.68	10.36
Beneficiaries	0.38	0.84	0.88	0.85	0.86	0.58	4.39
<b>Total financing available</b>	6.28	9.02	9.02	7.82	7.13	5.56	44.84

Note: Total Project costs do not include the IBRD financial charge of 1% front end-fee.

**Table 5-2: Financial summary: component costs (US\$ 1000) by financier**

	IBRD	IFAD	GEF	Government	Beneficiaries	Total
<b>A. Community Development</b>						
1. Capacity Building of Communities	1,690	-	118	1,997	36	3,840
2. Strengthening of Women's Development Capacity	1,909	-	276	1,367	819	4,371
Subtotal Community Development	3,599	-	394	3,363	855	8,212
<b>B. Integrated Natural Resource Management</b>	-	-	-	-	-	-
1. Land and Water Resource Management	337	10,286	270	1,625	3,151	15,670
2. Rangeland Management	729	161	554	348	-	1,791
3. Biodiversity Conservation	-	-	3,195	394	-	3,589
Subtotal Integrated Natural Resource Management	1,066	10,446	4,019	2,368	3,151	21,050
<b>C. Productive Activities Development</b>	-	-	-	-	-	-
1. Agriculture and Livestock Services	1,572	-	197	1,696	40	3,505
2. Off-farm Income Activities	570	280	560	38	-	1,448
Subtotal Support for Income Generating Activities	2,142	280	757	1,734	40	4,953
<b>D. Rural Roads</b>	3,000	-	-	706	339	4,044
<b>E. Revolving Fund / Rural Micro-Finance</b>	1,651	1,975	-	8	-	3,634
<b>F. Project Management</b>	760	-	-	2,183	-	2,943
<b>Total PROJECT COSTS</b>	12,217	12,702	5,170	10,362	4,385	44,836

Note: Total Project costs do not include the IBRD financial charge of 1% front end-fee.

**Table 5-3: Financial summary: disbursement account (US\$ 1000) by financier**

	IBRD	IFAD	GEF	Government	Beneficiaries	Total
<b>Local Community Grants</b>	6,703	10,264	657	2,885	4,385	24,894
<i>Pre-defined Investments/Support to Project staff/Project management-</i>						
Civil Works	-	-	428	66	-	494
Vehicles	448	-	226	133	-	808
Equipment and materials	720	-	445	581	-	1,747
Micro-finance	1,500	1,500	-	-	-	3,000
Research Sub-Projects	529	-	113	-	-	641
Training	563	182	142	73	-	961
Technical Assistance	1,103	755	2,640	412	-	4,911
Salaries	-	-	515	4,358	-	4,874
Road maintenance	-	-	-	272	-	272
Operating Costs and administrative expenses	652	-	3	1,580	-	2,235
<b>Sub-total: Pre-defined Investments/Support to Project Staff/Project Management</b>	5,514	2,438	4,512	7,477	-	19,942
<b>Total PROJECT COSTS</b>	12,217	12,702	5,170	10,362	4,385	44,836

Note: Total Project costs do not include the IBRD financial charge of 1% front end-fee.

**Annex 6(A): Procurement Arrangements**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**Procurement**

Procurement for the proposed project, whether under IBRD, GEF or IFAD funding, will be carried out in accordance with: (i) the World Bank "Guidelines: Procurement under IBRD Loans and IDA Credits" published in January 1995 (revised in January/August 1996, September 1997, and January 1999, and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers", published in January 1997 and revised in September 1997, January 1999, and May 2002; and, (ii) the provisions stipulated in the Loan Agreement.

**NCB Provisions and conditionalities**

- (i) Any prospective bidder from a country eligible under the Guidelines who proposes to provide goods produced in, or services supplied from, any such country shall be eligible to bid for such contracts;
- (ii) Tenders shall be advertised with no less than thirty (30) days for bid preparation;
- (iii) Government-owned enterprises shall be eligible provided they are legally and financially autonomous, operate under commercial law, and are not selected or hired by the supervising or reporting authority, and shall be subject to the same bid and performance security requirements as other bidders;
- (iv) Bidders shall be allowed to deliver their bid by hand or by mail.
- (v) Bids shall be opened in public; that is, bidders or their representatives shall be allowed to be present at the place where bids are to be opened. The time for the bid opening shall be the same as for the deadline for receipt of bids or promptly thereafter; and shall be announced, together with the place for bid opening, in the invitation to bid;
- (vi) Bids shall be evaluated based on price and on other criteria disclosed in the bid documents and quantified in monetary terms, and no provision for preferential treatment for national companies shall be applied, and
- (vii) The contract shall be awarded to the bidder having submitted the lowest evaluated responsive bid, and no negotiation shall take place.
- (viii) Arabic translation of the Bank's standard bidding documents may be used.

**Project Management**

Project management arrangements will largely follow the structure established under MRMP. The existing PCU under the on-going MRMP will continue to be responsible for procurement under the proposed MRMP II. The PCU is headed by a Director General with delegation of authority from the MALR regarding the disbursement of project funds. At the regional level, a Project Coordination Committee (PCC), which has been established under the MRMP, will continue to function. Under the follow-on project, local community representatives will be included in the PCC. Procurement under the IFAD loan and the GEF grant will also be in accordance with the Bank Guidelines.

## **Procurement Risk Assessment**

An assessment of PCU's procurement capacity was carried out during appraisal, and is filed in the project documents. Such procurement assessment was not carried out for the first Project preparation since it was not mandatory at the time. Although the project team developed some experience in dealing with procurement under Bank-financed projects, the Procurement Unit (PRU) should be strengthened, particularly in the selection and employment of consultants, which they did not have to do under the first Project, and procurement planning. A centralized filing system, with individual files for each procurement action from tendering to contract award and administration should be set up. An intensive training is recommended, as soon as possible. The World Bank Office in Cairo should provide on the job-training as the need arises, and follow-up. The Appraisal mission recommended that one of the PCU trained staff, who attended the training in procurement of goods and consulting services at ILO, Turin, and the Bank workshop in Sharm El Sheikh, Egypt, be assigned to the PRU, as well as one additional staff. The head of the procurement unit will be nominated according to terms of reference and qualifications agreed upon with the World Bank (effectiveness condition). The results of the procurement assessment is that overall, there will be a substantial procurement risk until intensive training has been completed. If necessary, the PCU will hire a short-term consultant, on a retainer, to assist the PRU until the Unit has acquired sufficient capacity. The total value of contracts subject to prior review represents 30 percent of the total Loan amount. For the rest of the procurement, the Borrower shall furnish all information and documents that Bank may reasonably request, as part of the post review.

### **Goods (Equipment, Materials, and Vehicles)**

The project will finance vehicles, equipment and materials. The total value of goods, IBRD-financed, is estimated at US\$2.64 million equivalent. ICB procedures will be used for procurement of packages with a value of above US\$250,000. To the extent possible and practical, goods to be purchased under the project will be grouped into packages costing between US\$250,000 and US\$1,000,000. Goods with estimated contract values below US\$250,000, will be procured using NCB procedures, up to an aggregate amount of US\$0.52 million. Where compatibility of spare parts, or items of proprietary nature, or compatibility with existing equipment, or items are available only from sole source of supply, direct contracting with the manufacturer or the authorized agent will be used, up to an aggregate amount of US\$250,000. Goods estimated to cost less than US\$100,000 equivalent and up to an aggregate amount not exceeding US\$1.6 million will be procured using National/International Shopping (NS/IS) procedures, with at least three quotations from three eligible sources.

**Domestic Preference:** Under ICB procedures for the procurement of goods only, a margin of preference will be granted to goods manufactured in Egypt, when compared to such goods manufactured elsewhere. Appendix 2 of the guidelines will apply to domestic preference.

## **Civil Works**

**Civil works for the Watershed Management/Water Harvesting.** These include a combination of civil works and agricultural measures. These will be small and scattered works with a total value of about US\$0.4 million, IBRD financed. These civil works will be procured using NCB procedures up to an aggregate amount of US\$0.4 million, and where appropriate, through direct contracting with local communities. The detailed procedures for direct contracting with local communities will be described in the Operational Manual. The works procured through direct contracting with the local communities will be in small parcels not exceeding US\$100,000 each with an aggregate amount not exceeding US\$0.4 million. No ICB procedures will be used due to the small scale contract sizes making it unattractive for foreign contractors (as was evident from the current MRMP project) but they will nevertheless be eligible for bidding under NCB procedures if they so wish. Contracts of small works below US\$50,000 will be procured using National/International Shopping.

**Rural Roads:** The Rural Roads component involves the paving of about 135 kms of dirt tracks (estimated cost about US\$3.0 million, IBRD financed) will be bid under NCB procedures. The estimated value of these rural roads contracts will be about US\$1 million per contract. They will generate employment of the local population from the communities in gathering and stockpiling of stones by the road side for the base and sub-base layers. This is considered a contribution to the welfare of the local communities and an assistance to employment in the area. Provisions for using labor-intensive construction methods will be described in the Operational Manual.

**Buildings:** These works involve small and geographically scattered works estimated to cost about US\$ 0.6 million in total (IBRD financed) and involve small buildings (2 to 3 rooms each) and associated civil works. Bidding will follow NCB procedures and will involve about six separate contracts, with values about US\$100,000.

**Community participation.** Works required under Components A 1 and 2, B1, B2, C1 and D can be undertaken by community members. In that case, provisions 3.15 of the Guidelines apply.

## **Services**

**Technical Assistance and Training :** These will involve individual consultants, mostly hired to support the PCU and its specialized units in designs, specialized studies, surveys and training. TA and training would be implemented in small packages generally costing between US\$20,000 to US\$150,000 with an aggregate amount not exceeding US\$0.97 million for training and US\$1.18 million for technical assistance (IBRD financed). The selection of consultants financed through the World Bank loan, IFAD loans and the GEF grant will be according to World Bank Guidelines. For such contracts, the Bank's Standard Request for Proposals will be used, and the selection of consultants will be addressed through competition among qualified short-listed firms in which the selection will be based on Quality and Cost Based Selection (QCBS). Consultant services provided by firms with an estimated contract amount exceeding US\$100,000 and by individuals with an estimated contract amount exceeding US\$50,000, will be advertised in the United Nations Development Business and in at least one national paper, seeking expressions of interest. In the case of assignments to cost less than US\$100,000 equivalent, the short-list of consultants may comprise entirely national consultants if a sufficient number of qualified firms are available at competitive costs. The selection of firms for contracts below US\$100,000 will follow the Consultants Qualifications (CQ) selection method. The selection of individual consultants for contracts below US\$50,000 will follow the Individual Consultants (IC) selection method. Single-Source Selection (SSS) will be permitted only in cases that can be justified according to paragraphs 3.8-3.11 and 5.1-5.4 of the Guidelines.



## **Prior Review Thresholds**

- (a) **Works:** All contracts valued US\$250,000 or more, and the first five contracts irrespective of the contracts amounts, for both NCB and NS/Small works procurement methods. All contracts under direct contracting.
- (b) **Goods:** All contracts valued US\$250,000 or more, as well as the first five contracts under both NCB and NS, irrespective of the contracts amounts. All contracts under direct contracting.
- (c) **Services:** (i) All contracts valued US\$100,000 or more for firms; (ii) TORs, short lists and the five first contracts below US\$100,000 for firms; (iii) Reports on the comparison of the qualifications and experience of the candidates, the qualifications, experience, TORs, and terms of employment for contracts for individuals valued US\$50,000 or more, (iv) TORs, short lists, and the five first contracts for individuals valued less than US\$50,000. All contracts under Single Source Selection.

## **GEF-financed categories**

The following will be the aggregate amounts to be financed out of the GEF grant proceeds (US\$5,170,000)

- (a) **Works:** The total amount of works to be financed under GEF grant is US\$700,000. Works under NCB is estimated to cost about US\$300,000. Works under other methods (as described in footnote of Table A) is US\$400,000.
- (b) **Goods:** The total amount of goods to be financed under the GEF grant is US\$950,000. Goods under NCB are estimated to cost about US\$180,000. Goods procured under other methods are estimated to cost about US\$570,000.
- (c) **Services:** The total amount of consultants services and training to be financed under GEF-grant is estimated at about US\$2,900,000.
- (d) **Miscellaneous:** The total amount to be procured under "miscellaneous" and "recurrent costs" is estimated to be about US\$110,000 and US\$510,000 respectively.

The Prior Review Thresholds are the same as for IBRD financed activities.

## **Operation Manual**

A procurement manual as been prepared as part of the Project Operation Manual. It includes in addition to the procurement procedures, the NCB Bidding Documents, Request for Proposals, Standard Bid Evaluation Report format, to be used for each procurement method. A procurement plan for the first year of the implementation of the project was elaborated and is included in the Operation Manual.

Procurement methods (Table A)

**Table A: Project Costs by Procurement Arrangements 1/  
(US\$ million equivalent)**

	<b>ICB (IBRD)/(GEF)</b>	<b>NCB (IBRD)/(GEF)</b>	<b>Other 2/ (IBRD)/(GEF)</b>	<b>NFB (IBRD)/(GEF)</b>	<b>Total Cost (IBRD)/(GEF)</b>
<b>1. Works</b>	0.00 (0.00)	7.53 (1.58)(0.30)	11.64 (1.58)(0.4)	0.00 (0.00)	19.17 (3.88)(0.7)
<b>2. Goods</b>	1.01 (0.55)(0.20)	0.96 (0.52)(0.18)	3.00 (1.57)(0.57)	00.00 (0.00)(0.00)	4.97 (2.64)(0.95)
<b>3. Services</b>	0.00 (0.00)	0.00 (0.00)	5.85 (2.15)(2.9)	0.00 (0.00)	5.85 (2.15)(2.9)
<b>4. Miscellaneous 3/</b>	0.00 (0.00)	0.00 (0.00)	5.62 (2.97)(0.11)	0.00 (0.00)	5.62 (2.97)(0.11)
<b>5. Front-end fee</b>	0.00 (0.00)	0.00 (0.00)	0.12 (0.12)	0.00 (0.00)	0.12 (0.12)
<b>6. Recurrent costs 4/</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.59) (0.51)	9.24 (0.00)	9.24 (0.59) (0.51)
<b>Total</b>	1.01 (0.55) (0.20)	8.49 (2.10)(0.48)	26.23 (9.70) (4.49)	9.24 (0.00)	44.97 (12.35) (5.17)

<sup>1/</sup> Figures in parenthesis are the amounts to be financed by the Bank Loan and the GEF grant. All costs include contingencies.

<sup>2/</sup> Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the PCU, training, technical assistance services, and incremental operating costs related to managing the project.

<sup>3/</sup> The amount of US\$2.97 million to be financed by the Bank Loan, under Miscellaneous (other) corresponds to the costs of the Micro Finance Credit, Local Community Development initiatives, and Research sub-projects.

<sup>4/</sup> Recurrent costs of US\$0.59 cover the cost of salaries of contracted additional staff, incremental operating costs incurred by the PCU on account of office furniture and supplies and local transportation.

Prior review thresholds (Table B)

**Table B: Thresholds for Procurement Methods and Prior Review<sup>1</sup>**

<b>Expenditure Category</b>	<b>Contract Value Threshold (US\$ thousands)</b>	<b>Procurement Method</b>	<b>Contracts Subject to Prior Review (US\$ millions)</b>
<b>1. Works</b>	>=50,000<1,000,000	NCB	All contracts >250,000 and the first five contracts
	<50,000	NS/Small works	First five contracts
	<100,000	Direct contracting	All contracts irrespective of contract amount
<b>2. Goods</b>	>=250,000	ICB	All contracts
	>=30,000<250,000	NCB	The first five contracts
	<100,000	NS/IS	The first five contracts
	<100,000	Direct contracting	All contracts irrespective of contract amount
<b>3. Services</b> (a) Firms  (b) Individuals	>=100,000	QCBS	All TORS, Short lists, and first five contracts
	<100,000	CQ	
	>=50,000	Section V of Guidelines	Reports on the comparison of the qualifications & experience, TORs, Terms of employment
<50,000	Section V of Guidelines	TORS, Short lists and the first five contracts	
		Single Source Selection	All contracts irrespective of contract amount
<b>4. Miscellaneous</b>			
<b>5. Miscellaneous</b>			
<b>6. Miscellaneous</b>			

**Total value of contracts subject to prior review:** US\$3.7 million (30%)

Overall Procurement Risk Assessment :  
Substantial Risk until capacity building has been completed

**Overall Procurement Risk Assessment:**

**Frequency of procurement supervision missions proposed:** One every 4 months  
(includes special procurement supervision for post-review/audits)

One mission every 4 months for the first year. May be reduced to 6 months in subsequent years.

<sup>1</sup> Thresholds generally differ by country and project. Consult "Assessment of Agency's Capacity to Implement Procurement" and contact the Regional Procurement Adviser for guidance.

**Annex 6(B) Financial Management and Disbursement Arrangements  
ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**Financial Management**

**1. Summary of the Financial Management Assessment**

An assessment of the financial management (FM) arrangements for the Project was undertaken on March 2002 and the assessment was updated during appraisal in June 2002. It concluded that the FM arrangements for the Project which prevailed under the first Project, are no longer acceptable to the Bank. Accordingly a FM action plan was agreed with the borrower and its successful implementation is a condition of effectiveness. A summary of the FM assessment, risks and conclusions are as follows:

<b>ITEM</b>	<b>RISK</b>	<b>RATING</b>	<b>COMMENTS</b>
Implementing Entity	Moderate	Satisfactory	Same PCU was involved in Matruh I. The project achieved its developmental objectives. Management is proactive.
Funds flow	Moderate	Satisfactory	Under the first project, counterpart funds, unlike other bank funded projects in Egypt, were available on time.
Staffing	High	Unsatisfactory	All accountants (same staff from Matruh I) need strengthening in International Accounting Standards, Bank policies, English, and computer skills.
Accounting Policies & Procedures	High	Unsatisfactory	Informal and not documented. However, MOF regulations are strictly utilized.
Internal Audit	N/A	N/A	No Internal Audit. MOF representative conducts a 100% ex ante audit over all expenditures.
External Audit	High	Unsatisfactory	Performed by CAO under the first project. The reports were basic in nature and received after due dates. CAO did not issue management letters.
Reporting and Monitoring	High	Unsatisfactory	Financial and procurement reports are manual, ad-hoc, and time consuming.
Information systems	High	Unsatisfactory	Manual system. Computers available were used for word-processing.
<b>OVERALL</b>	<b>High</b>	<b>Unsatisfactory</b>	<b>The financial management arrangements do not meet the Bank minimum requirements.</b>

**1.1 Financial Management Risks**

Country Financial Management Risks: ROSC draft report (2002) , Mini-CFAA (1997), preliminary CFAA process (2002), and CPPR report (2002) identified major weaknesses in the Egyptian financial accountability, in both the public and the private sector. The CAS (2001) underlies the inherent risk related to country economic development and public sector administration capacity. Another issue that affects inherent risk is the level of corruption within Egypt. In Transparency International's Corruption Perceived Index (CPI) for 2001, Egypt scored 3.6 out of 10.

Project Financial Management Risk: An assessment of the PCU financial management system

(responsible for implementing Matruh I) identified the following weaknesses in the project's FM system: (i) manual accounting and budgeting system, (ii) informal accounting policies and procedures, (iii) staff need capacity building in the areas of finance, accounting, computer, and English, and (iv) annual audits for Matruh I were conducted by CAO and according to local regulations. The Project will require good coordination between the PCU and EEAA and various funding sources (IBRD, IFAD, GEF, and local contribution). An analysis of **control risk** is presented *above* while a summary of **inherent risk** follows:

<b>ITEM</b>	<b>RISK</b>	<b>COMMENTS</b>
Country financial Management Risk	High	Based on the findings of: Mini-CFAA (1997), preliminary CFAA (2002), draft ROSC (2002), and CAS (2001) serious weaknesses were identified in the accounting and auditing professions in Egypt.
Project Financial Management Issues	High	This is a relatively complex project with three donors in addition to the GOE, four special accounts and local communities direct involvement.
Counter Part Funds	Moderate	Based on experience with Matruh I.
<b>Overall Inherent Risk</b>	<b>High</b>	

## 1.2 Strengths and Weaknesses

The following strengths were identified during appraisal and we intend to rely on them during project implementation:

Strengths	Comments
1- Serious commitment and desire of senior management to improve the PCU's financial management system	The process of selecting the FM consultant was very positive.
2- MOF representative appreciates Bank procurement and disbursement guidelines.	This will help in the implementation of the new FM system.
3- Counter part funds for Matruh I were available on time and with no delays.	Unlike other Bank funded projects in Egypt, local funding is not an issue.

Also, the following weaknesses were noted:

Weakness	Resolution
1- Weak financial management system.(reporting, recording, policies and procedures, and budgeting).	Hiring a financial management consultant to develop a sound FM system.
2- Accounting, Human Resources, and Procurement are all in one large unit under one director. This has a negative impact on segregation of duties.	In the new design, three separate units were created.
3- Audit reports for Matruh I were basic, received after due dates and did not include management letters.	Private and independent auditor will conduct annual audits in accordance to International Standards on Auditing.
4- Procurement staff are not familiar with Bank procurement guidelines.	Refer to procurement section.

### **1.3 Risk Mitigating Measures**

To compensate for the above mentioned issues, a combination of “ring-fencing” the project, hiring a financial management consultant to develop a sound financial management system, recruiting qualified and competent accounting and procurement staff (if advised by the FM consultant), quarterly SOE reviews and annual audits conducted by private auditors, release of FMRs on quarterly basis by the project, and close supervision by the Bank will all help reduce the level of risk to an acceptable level.

1- A qualified financial management consultant is hired for 12-15 weeks to establish a sound financial management and reporting systems within the PCU (condition of effectiveness).

2- Annual audit for the project will be handled by a private, qualified, and independent auditor. TOR for the assignment will clearly reflect the project exact needs and nature. Also, quarterly SOE reviews will be conducted by another external auditor to ensure that expenditures are accurate and in accordance to the loan agreement.

3- Close supervision by the Bank through the resident mission office in Egypt. This will entail quarterly missions (at least in the first year of the project) to review work done by the financial management consultant and to ensure that the developed system is maintained in a consistent manner. Also, identified financial management risks will be continually evaluated and appropriate remedial measures taken during the Bank's supervision missions.

### **1.4 Project Management and Coordination**

Implementation of the Project will be undertaken by Project Coordination Unit (PCU), which has experience with a prior IDA-financed project (Matruh I). The PCU will be responsible for the management of all project activities and implementation of a transparent financial management system. The PCU will also be responsible for overall project financial management and accounting. It will maintain books of accounts for the project, prepare and disseminate financial statements and financial monitoring reports, and ensure timely submission of the audit report.

## **1.5 Flow of funds**

The allocation of funds will include funds from the Borrower, IBRD, IFAD, and GEF. To ensure that funds are readily available for the project implementation and not commingle funds from various sources, the project will open two Special Accounts. The first will be for the overall project while the second will be specifically for the micro-finance component. In addition, a third Special Account will be opened for GEF funds and a fourth one for IFAD funds. The PCU will have access to, and manage, the Special Accounts SA(s) and will disburse directly from them. For the GEF Special Account, two signatures are necessary, from the Head of the Biodiversity Conservation Unit and from the Head of the PCU Financial Management Unit. As in Matruh-I and to facilitate the process, for activities where IBRD (or GEF) and GOE finance together (based on stipulated percentages), the PCU is going to utilize GOE counterpart funds to pay for the whole (IBRD and GOE shares) activity amount. Later and on a monthly basis the PCU will make a transfer of funds from IBRD SAs or GEF SA to reimburse the GOE bank account.

## **1.6 Staffing**

The accounting and reporting functions are handled by 13 accountants, accounting manager, and a finance director. Most of the staff (except for the finance manager) are not familiar with Bank guidelines (financial management, procurement, or disbursement). This may be due to the level of English language and computer skills the staff possess. It was noted during appraisal that no job descriptions or an organization structure exist for the department. The financial management consultant hired, will work with the project in developing the capacity of the staff and in recommending areas where additional staff with different skill mix are needed. He will elaborate job descriptions and propose a working organization for the unit.

## **1.7 Budgeting process**

The budget process for the project can be summarized in nine stages as described below :

- (i) For the first year, the *Ailaat* of each local community identify their needs and priorities. For the ensuing years, the needs and priorities of the *Ailaat* will be adjusted in the light of the results of the *Ailaat* ongoing evaluation and diagnosis process.
- (ii) Planning process which is assumed jointly by the local community representatives (LCR), project staff and the Community Development Unit (CDU). The result of this process is:
  - the six-year Community Action Plan (CAP) where priorities, in terms of infrastructure investments and concerns related to agriculture and other activities, are indicated (for the first year) or updated (for the ensuing years); and
  - the Annual Work Program and Budget (AWPB) where all the activities to be implemented by the project in the local community for the year are indicated and budgeted.
- (iii) Presentation and discussion of the results of the planning process in meetings organized in each *aila* of the local community to validate and adopt the CAP (new for the first year, updated for the ensuing years) and the AWPB. The latter, after being approved by the *ailaat*, becomes a binding document and cannot be changed.
- (iv) Preparation of the project action plan and budget by the CDU based on the aggregation of the local communities AWPB and the operating budget of the project staff..

- (v) Presentation, at the Project Management Committee (internal clearance) and the Project Coordination Committee (external clearance), of the Project Work Program and Budget for validation
- (vi) Implementation process will be the responsibility of the PCU. Nevertheless, the objective of the project is to strengthen LCs capacity in order to transfer progressively implementation to them.
- (vii) Monitoring and evaluation process will be performed by the PCU through the Monitoring and Evaluation Unit and the Financial Management Unit. At the sub-regional level, the five SRSCs will also be involved in monitoring and evaluation..
- (viii) Reviewing of the execution of the budget by an independent, qualified, and private auditor on annual basis.

## **1.8 Accounting System**

PCU has experience with a prior project financed by IDA (Matruh I) and has established internal control mechanisms in accordance with MOF regulations on the application and use of funds. However, the project does not have a financial management manual.

It is agreed that for Matruh II the Project accounting (cash basis) will cover all sources of project funds and all utilization of said funds according to International Accounting Standards. All project-related transactions will be recorded in the books of accounts and supported documents will be kept at the PCU level (audit trail). Direct disbursements made by the Bank and from the SA will be included in the project accounting system. Funds received from different sources (World Bank, IFAD, GEF, and GOE budget) will be identified separately and reflected in the project accounts and FS.

The Project will have an accounting procedures manual which will outline (i) accounting job responsibilities within the PCU, (ii) monthly, quarterly, and annually closing and reconciliation procedures including SA, loan account, and SOEs, (iii) accounting policies including those related to the conversion from foreign currency to the local currency and authorization and payments system, (iv) banking and cash procedures, (v) means of monitoring and reviewing financial transactions on the SRSCs level, and (vi) internal control guidelines that will cover financial management, disbursement, and procurement.

## **1.9 Reporting**

The PCU will be responsible for issuing quarterly Financial Monitoring Reports (FMR) and annual Project Financial Statements (PFS):

- (i) Quarterly un-audited FMR. The format and content of the FMR, which will be produced 45 days from each quarter closing date, were determined as part of the project appraisal, agreed at negotiations, and will be included in the financial management manual. FMR include financial, procurement, and physical progress information. There should also be an introductory narrative discussions of project developments and progress during the quarter, to provide context to the information reported in the FMR.
- (ii) Annually audited PFS. audit report, submitted to the Bank within 6 months after the closing date of the fiscal year, will have to include: (i) a statement of sources and uses of funds indicating funds received from various sources, project expenditures, assets and liabilities; (ii) schedules classifying project expenditures by components, category, and sectors; (iii) a SA reconciliation statement; and (iv) a statement of withdrawals made on the basis of SOEs.



### 1.10 Audit

No significant issues arose in the audits of Matruh I which was Bank-financed and implemented by the same PCU. The audits were conducted by CAO.

### 1.11 Action Plan

The weaknesses identified during appraisal will be addressed before project effectiveness, through the following actions which have been agreed with the project management and are conditions for effectiveness:

Action	Responsible Person	Completion Date
1- FM consultant completes the work stipulated in the TOR.	Deputy project director.	February 28, 2003
3- Hire additional FM staff, if needed (based on FM consultant recommendations).	Project Director General and his Deputy.	Before Effectiveness
4- Review of the newly developed system by a Bank representative.	World Bank	Before Effectiveness.

### 1.12 Supervision Plan

Before effectiveness, the development of the financial management system for Matruh II will be monitored in detail until loan effectiveness by the Bank's FMS.

After effectiveness. As required, a Bank-accredited FMS will assist in the supervision process. The FMRs for the Project will be reviewed on a regular basis by the Project FMS and the results or issues will be followed up during the supervision missions. Financial audit reports will be reviewed and issues identified will be followed up by the FMS. Also, during the Bank's supervision missions the Project's financial management and disbursement arrangements (including a review of a sample of SOEs and movements on the Special Account) will be reviewed to ensure compliance with the Bank's minimum requirements and to develop the financial management rating recently introduced to the Project Status Report (PSR). The FM ratings are due twice a year: by the end of June and by the end of December.

## 2. Audit Arrangements

Annual audits for Matruh II will be conducted by independent private auditors acceptable to the Bank and procured by the PCU through the *Least-Cost Selection* process before loan effectiveness. The cost of the audit will be financed from the proceeds of the loan. The audit will be performed for the project as a whole (i.e., PCU, NGO, SRSCs, and other implementing agencies), encompass all project activities under loan agreement (including implementing agencies such as: Service Provider for the off-farm income-generating activities and the Technical Assistance Company handling the micro-finance credit scheme) and cover all special accounts. The audit report, accompanied by a management letter, will cover the project's financial statements, reconciliation and use of the special accounts, use of direct payments, and withdrawal based on SOEs. The report should be submitted by the PCU to the Bank no later than six months following the closing of the fiscal year subject of the audit. The audit should be in accordance with the Bank auditing requirements and conducted according to International Standards on Auditing.

On the other hand, contracts to be signed by the PCU and Service Provider and/or Technical Assistance Company should include an audit clause clearly indicating that:

- in the case of the Service Provider and the Technical Assistance Company, the Project has the right to receive their annual audit report three months after fiscal year-end and to have the Project's auditor conduct audit of their accounts on annual basis;
- concerning the latter, the Project's external auditor may conduct an audit of the Project's specific funds, if necessary.

### **3. Disbursement Arrangements**

1. Allocation of loan proceeds. The World Bank loan of US\$12.35 million and the GEF grant of US\$5.17 million will be disbursed during Project implementation according to Tables C and D below. There are three main kinds of activities and two types of disbursement, according to who decides:

- (a) Local Communities make decisions regarding the activities that will be part of their Annual Work Program and Budget. Funding for these come under "Local Community Grants". Under Local Community Grants, there are local community activities that are IBRD-funded (Table C) , others that are GEF-funded (Table D). The IBRD and GEF-funded activities are described under Component description summary in Section C.1 and Annex 2;
- (b) The PCU makes decisions regarding: (i) Activities that do not depend upon Local Community decisions; and (ii) funding that goes to the PCU for implementing the project. Disbursement will be made under categories: civil works, equipment and material, training and consultant services and incremental operating costs.

#### 2. Disbursement details

The loan and the grant are expected to be disbursed over a period of six years. The estimated loan and grant disbursements are presented up front of this document. All project activities are expected to be completed by June 30, 2009, and the loan and grant will close on December 31, 2009. All expenditures are net of taxes and duties. Preparation and submission of disbursement applications will be the responsibility of the PCU. Disbursements will be made against standard Bank documentation.

3. Use of Statements of Expenditures (SOE). Withdrawals from the IBRD loan and GEF grant accounts may be made on the basis of SOEs. All supporting documentation for SOEs, including copies of invoices and bank statements, must be maintained by the PCU for at least one year of completion of the project. As part of the annual audit, all records and documents must be made available for the review of the external auditor and visiting supervision missions from the World Bank.

4. Special Accounts (SAs). To facilitate project implementation and make timely payments of the Bank's share of eligible expenditures to contractors, suppliers, consultants, and others, the Borrower will open and maintain two special accounts for the IBRD loan, denominated in US dollars, in a commercial bank in Egypt, on terms and conditions acceptable to the Bank. The first Special Account will be for the overall Project, the second will be specifically for the micro-finance component. In addition, a third Special Account will be opened for GEF funds. A comfort letter will be provided by the commercial bank where the accounts will be held.

Deposits into, and payments from the SA(s) will be made in accordance with provisions in the Loan Agreement for the IBRD funds, and in accordance with the Grant Agreement for the GEF funds. Withdrawal applications and replenishments of the SA(s) will be prepared and sent by the PCU carrying the authorized signatures. Each withdrawal application will be signed by two authorized representatives. Authorized signatories names and corresponding specimens of their signatures will be submitted to IBRD. For the GEF special account, one of the signatory will be the head of the Biodiversity Conservation Unit.

Initially, for the IBRD main special account, an advance of up to US\$400,000 will be transferred upon request from the GOE, after effectiveness of the loan and receipt by IBRD of an acceptable withdrawal application. Once the disbursements reach US\$2 millions, the IBRD Special Account will be established at its full level, that is US\$800,000, equal to 4 months of estimated expenditures. For the micro-finance component, an advance of up to US\$200,000 will be transferred, under the same prerequisites plus the recruitment of the Technical Assistance Company. For the GEF Special Account, the initial advance will be of up to US\$250,000. Once disbursements reach US\$1 million, the GEF Special Account will be established at its full level, that is US\$500,000, also equal to 4 months of estimated expenditures.

Requests for replenishment of the special accounts will be submitted on a monthly basis. A bank statement of the special accounts and a reconciliation of the special accounts against the bank records will support the replenishment applications. The minimum amount for applications for direct payment and for special commitment will be 20 percent of the authorized allocation to the special accounts. Replenishment of the special accounts will follow Bank procedures. There is no minimum amount applicable to replenishment requests (Withdrawal Applications). Disbursements from the Bank loan or GEF Grant will follow the traditional system: reimbursements with full documentation, against Statements of Expenditure or direct payments.

#### **Allocation of loan proceeds (Table C)**

**Table C: Allocation of Loan Proceeds (US \$) IBRD-financed**

	Total indicative cost	Financing percentage
<b>Local Community Grants</b>	6,294,100	85%
<b>Pre-defined Investments/Support to Project staff/Project management</b>		
Equipment and materials	1,112,600	See footnote below
Micro-finance	1,500,000	50%
Research Sub-Projects	503,400	100%
Training and consultant services	1,662,900	85%
Incremental operating costs	625,000	50%
<b>Sub-total: Pre-defined Investments/Support to Project Staff/Project Management</b>	5,403,900	
Front-end fee	123,500	1%
Unallocated	528,500	
<b>Total PROJECT COSTS</b>	12,350,000	

**Table D: Allocation of Grant Proceeds (US \$) GEF-financed**

	Total indicative cost	Financing percentage
<b>Local Community Grants</b>	620,000	85%
<b>Pre-defined Investments/Support to Project staff/Project management</b>		
Civil works	389,200	90%
Equipment and materials	639,700	See footnote below
Research Sub-Projects	107,400	100%
Training and consultant services	2,775,300	85%
Salaries, operation and administration	518,100	95%
<b>Sub-total: Pre-defined Investments/Support to Project Staff/Project Costs</b>	4,429,700	
Unallocated	120,300	
<b>Total PROJECT COSTS</b>	5,170,000	

**Notes**

For equipment and materials, the percentage of expenditures to be financed from the IBRD loan or GEF Grant is as follows: 100% of foreign expenditures or local ex-factory expenditures; 85% of other items procured locally.

For consultants services, the IBRD loan finances 85% of the contracts, all tax-included. Taxes, estimated at an average of 15%, are financed by the GOE.

The category "incremental costs" refers to expenditures incurred by the PCU on account of office furniture and supplies, local transportation and PCU staff costs, excluding salaries of officials of the Borrower's civil service.

The category "Local Community grants" finances the implementation of the CAPs and their Annual Program of Work and Budget.

The category "Micro-finance Sub-loans" is financed together with IFAD. Hence the disbursement percentage: 50% Salaries, operation and administration are financed at 95%, due to the fact that the activities are entirely new. However, the amount in that category under GEF funding reflects financing of the salaries on a decreasing scale.

**Annex 7: Project Processing Schedule**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

<b>Project Schedule</b>	<b>Planned</b>	<b>Actual</b>
<b>Time taken to prepare the project (months)</b>		11
<b>First Bank mission (identification)</b>		09/01/2001
<b>Appraisal mission departure</b>		06/15/2002
<b>Negotiations</b>		12/16/2002
<b>Planned Date of Effectiveness</b>		01/01/2004

**Prepared by:**

Marie-Helene Collion, Task Team Leader

**Preparation assistance:**

**Bank staff who worked on the project included:**

<b>Name</b>	<b>Speciality</b>
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Arbi Ben-Achour	Sociologist
Matthias Grueninger	Economist
Hisham Waly	Financial Management Specialist
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Dirk van der Sluijs (Consultant)	Agriculturist
John Hall (Consultant)	Range Management Specialist
Conchita Castillo	Program Assistant
Maya El-Azzazi	Team Assistant

**Annex 8: Documents in the Project File\***  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**A. Project Implementation Plan**

- Project Implementation Plan once finalized will be put in the Project File.

**B. Bank Staff Assessments**

- Pre-identification Mission: BTO and Aide-Memoire dated July 2001
- PCD November 2001
- Pre-Appraisal Mission: BTO and Aide-Memoire dated March 2002
- Appraisal Mission: BTO and Aide-Memoire dated July 2002

**C. Other**

1. Volume I of Formulation Report
2. Volume II of Formulation Report
3. Annex 1: Socio-Economic Profile of Target Group
4. Annex 2: Gender Issues and Development
5. Annex 3: Participatory Planning and Community Capacity Building
6. Annex 4: Land and Water Resource Conservation and Development
7. Annex 5: Crop and Horticulture Production
8. Annex 6: Range Management and Livestock Production
9. Annex 7: Off-farm Income Generating Activities
10. Annex 8: Marketing and Agro-Processing
11. Annex 9: Bio-Diversity Conservation and Environmental Protection
12. [Annex 10: Rural Roads](#)
13. Annex 11: Rural Finance
14. Annex 12: Project Organization and Management
15. Annex 13: Project Costs
16. Annex 14: Financial and Economic Analysis
17. Assessment Potentials for Off-farm Activities Development (Preparation MRMP-II), Ministry of Agriculture and Land Reclamation, May 2002.
18. Procurement Risk Assessment

\*Including electronic files

**Annex 9: Statement of Loans and Credits**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**  
02-Jan-2003

Project ID	FY	Purpose	Original Amount in US\$ Millions		Cancel.	Undisb.	Difference between expected and actual disbursements <sup>a</sup>	
			IBRD	IDA			Orig	Frm Rev'd
P056236	2002	HIGHER EDUCATION ENHANCEMENT PROGRAM	50.00	0.00	0.00	49.50	5.30	0.00
P045499	2000	EG-NATIONAL DRAINAGE II	50.00	0.00	0.00	41.41	0.91	0.00
P052705	1999	SOCIAL FUND III	0.00	50.00	0.00	46.79	47.31	0.04
P053832	1999	PRVT SECT.& AG. DEV.	225.00	75.00	0.00	169.26	143.49	20.79
P066336	1999	SOC PROT INIT PROJ	0.00	5.00	0.00	4.49	1.90	1.03
P040858	1999	SOHAG RURAL DEV.	0.00	25.00	0.00	20.84	9.13	-1.10
P041410	1999	P. S. REHAB. III	120.00	0.00	0.00	98.64	75.14	0.00
P050484	1999	Secondary Education Enhancement Project	0.00	50.00	0.00	38.00	5.93	0.00
P054958	1998	POLLUTION ABATEMENT	20.00	15.00	0.00	16.56	14.69	4.39
P045175	1998	EG-HEALTH SECTOR	0.00	90.00	0.00	83.06	68.23	0.00
P049166	1998	EG-EAST DELTA AG.SERV.	0.00	15.00	0.00	12.77	12.00	0.38
P005169	1997	EG-ED.ENHANCEMENT PROG.	0.00	75.00	0.00	32.96	37.28	3.48
P005163	1996	POPULATION	0.00	17.20	0.00	10.10	11.59	11.10
P005173	1995	EGYPT IRRIGATION IMP	26.70	53.30	0.00	29.37	35.72	-7.00
P005161	1993	BASIC EDUCATION IMPROVEMENT PROJECT	0.00	55.50	0.00	6.75	9.85	5.37
<b>Total:</b>			491.70	526.00	0.00	660.51	478.48	38.47

ARAB REPUBLIC OF EGYPT  
STATEMENT OF IFC's  
Held and Disbursed Portfolio  
Jun 30 - 2002  
In Millions US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1983/91/92/94/96/98	ANSDK	0.00	11.15	0.00	0.00	0.00	11.15	0.00	0.00
1994/96/99	Abu Soma Develop	0.00	0.07	0.00	0.00	0.00	0.07	0.00	0.00
2001	Amreya	5.31	0.00	0.00	0.00	5.31	0.00	0.00	0.00
1999	CIL	0.00	1.65	0.00	0.00	0.00	1.65	0.00	0.00
1992/97/98	Carbon Black-EGT	7.50	0.00	0.00	0.00	7.50	0.00	0.00	0.00
2002	Ceramica Al-Amir	6.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00
1994	Club Ras Soma	2.45	2.37	0.00	0.00	2.45	2.37	0.00	0.00
1993	Cmrcl Intl Bank	0.00	15.59	0.00	0.00	0.00	15.59	0.00	0.00
2001	EFG Hermes	10.86	0.00	0.00	0.00	10.86	0.00	0.00	0.00
1999	HC Investment	0.00	1.41	0.00	0.00	0.00	1.41	0.00	0.00
2001	IT Worx	0.00	2.50	0.00	0.00	0.00	2.50	0.00	0.00
1997	MGDK	0.00	1.47	0.00	0.00	0.00	1.47	0.00	0.00
1986/88/92	Meleiha Oil	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00
1992	Misr Compressor	9.70	0.00	0.00	0.00	9.70	0.00	0.00	0.00
2002	OCIC	25.00	0.00	0.00	30.50	25.00	0.00	0.00	30.50
1997/99	Orascom	0.00	0.85	0.00	0.00	0.00	0.85	0.00	0.00
1996/01	Orix Leasing EGT	6.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
2001	Port Said	45.00	0.00	0.00	152.50	21.65	0.00	0.00	73.35
2001	SUEZ GULF	45.00	0.00	0.00	152.50	30.76	0.00	0.00	104.24
1997/01	UNI	3.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00
	Total Portfolio:	165.82	50.06	0.00	335.50	120.23	37.06	0.00	208.09

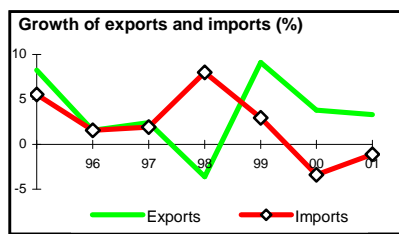
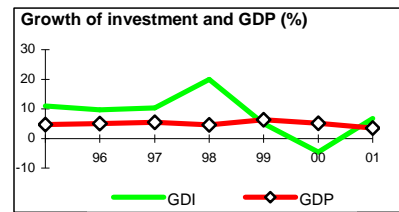
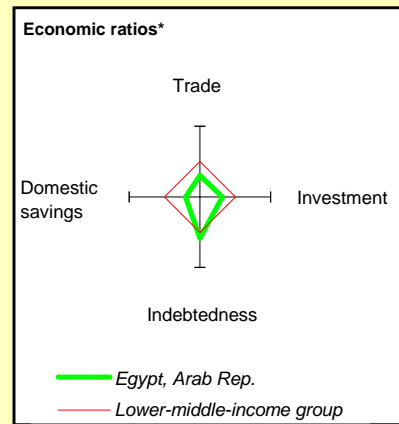
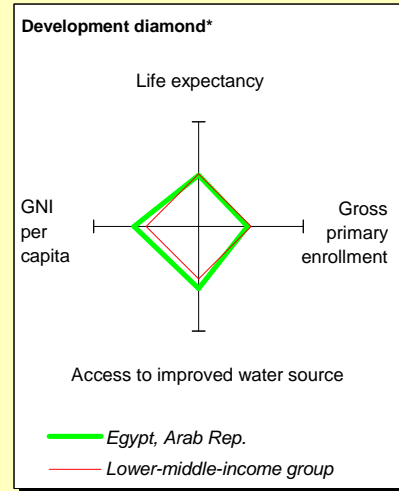
FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic
2002	Metro	15.00	0.00	0.00	0.00
1999	Sidi Krir	70.00	0.00	0.00	122.00
2000	ACB Expansn III	9.00	0.00	0.00	0.00
2001	Suez Gulf	3.00	0.00	0.00	0.00
2001	Port Said	3.00	0.00	0.00	0.00
2002	SEKEM	4.00	0.00	1.00	0.00
	Total Pending Commitment:	104.00	0.00	1.00	122.00



## Annex 10: Country at a Glance

### ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project

POVERTY and SOCIAL	Egypt	M. East & North Africa	Lower-middle-income	
<b>2001</b>				
Population, mid-year (millions)	65.2	301	2,164	
GNI per capita (Atlas method, US\$)	1,530	2,000	1,240	
GNI (Atlas method, US\$ billions)	99.9	601	2,677	
<b>Average annual growth, 1995-01</b>				
Population (%)	1.9	2.0	1.0	
Labor force (%)	2.9	2.9	1.2	
<b>Most recent estimate (latest year available, 1995-01)</b>				
Poverty (% of population below national poverty line)	23	..	..	
Urban population (% of total population)	43	58	46	
Life expectancy at birth (years)	67	68	69	
Infant mortality (per 1,000 live births)	42	43	33	
Child malnutrition (% of children under 5)	4	15	11	
Access to an improved water source (% of population)	95	89	80	
Illiteracy (% of population age 15+)	44	34	15	
Gross primary enrollment (% of school-age population)	100	97	107	
Male	104	103	107	
Female	96	90	107	
<b>KEY ECONOMIC RATIOS and LONG-TERM TRENDS</b>				
	<b>1981</b>	<b>1991</b>	<b>2000</b>	<b>2001</b>
GDP (US\$ billions)	23.4	37.0	99.3	98.5
Gross domestic investment/GDP	29.5	21.2	18.3	16.9
Exports of goods and services/GDP	33.4	27.8	16.3	17.4
Gross domestic savings/GDP	14.1	13.2	11.7	12.2
Gross national savings/GDP	..	32.3	17.4	17.1
Current account balance/GDP	-9.1	10.3	-1.2	0.0
Interest payments/GDP	2.5	2.5	0.7	0.7
Total debt/GDP	94.3	67.3	29.2	28.6
Total debt service/exports	17.0	48.3	8.3	8.4
Present value of debt/GDP	..	..	23.1	..
Present value of debt/exports	..	..	106.5	..
	<b>1981-91</b>	<b>1991-01</b>	<b>2000</b>	<b>2001</b>
<i>(average annual growth)</i>				
GDP	5.0	4.7	5.1	3.5
GDP per capita	2.4	2.7	3.1	1.6
Exports of goods and services	6.3	3.1	3.8	3.3
<b>STRUCTURE of the ECONOMY</b>				
	<b>1981</b>	<b>1991</b>	<b>2000</b>	<b>2001</b>
<i>(% of GDP)</i>				
Agriculture	20.1	17.6	16.7	16.9
Industry	37.7	33.2	33.1	33.2
Manufacturing	13.0	16.6	19.3	19.3
Services	42.2	49.2	50.2	50.0
Private consumption	66.9	75.6	78.6	77.7
General government consumption	19.0	11.2	9.7	10.1
Imports of goods and services	48.8	35.8	22.9	22.1
	<b>1981-91</b>	<b>1991-01</b>	<b>2000</b>	<b>2001</b>
<i>(average annual growth)</i>				
Agriculture	2.7	3.2	3.4	3.3
Industry	3.9	4.4	12.1	3.6
Manufacturing	..	6.8	7.9	4.5
Services	6.6	5.1	1.6	3.1
Private consumption	3.9	3.8	5.8	1.1
General government consumption	1.6	2.6	0.4	5.7
Gross domestic investment	-2.3	7.4	-4.6	6.8
Imports of goods and services	-1.9	2.8	-3.4	-1.1

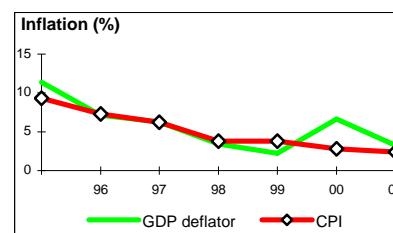


Note: 2001 data are preliminary estimates.

\* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

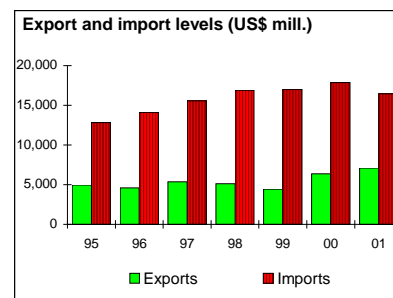
## PRICES and GOVERNMENT FINANCE

	1981	1991	2000	2001
<b>Domestic prices</b>				
<i>(% change)</i>				
Consumer prices	..	14.7	2.8	2.4
Implicit GDP deflator	1.2	14.5	6.6	3.2
<b>Government finance</b>				
<i>(% of GDP, includes current grants)</i>				
Current revenue	..	23.0	21.7	20.3
Current budget balance	..	-3.7	1.1	-2.1
Overall surplus/deficit	..	-15.2	-3.9	-5.5



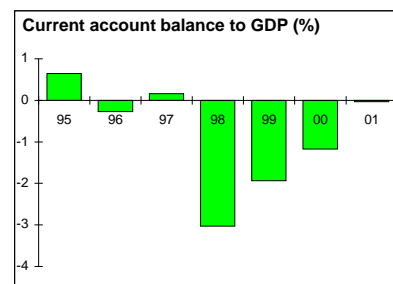
## TRADE

	1981	1991	2000	2001
<i>(US\$ millions)</i>				
Total exports (fob)	..	4,250	6,388	7,078
Cotton	..	2,334	2,273	2,650
Other agriculture	..	83	167	145
Manufactures	..	1,163	2,844	3,108
Total imports (cif)	..	11,425	17,860	16,432
Food	..	1,802	1,395	1,473
Fuel and energy	..	1,062	2,451	3,233
Capital goods	..	3,340	5,639	3,696
Export price index (1995=100)	..	105	101	104
Import price index (1995=100)	..	91	87	79
Terms of trade (1995=100)	..	115	116	132



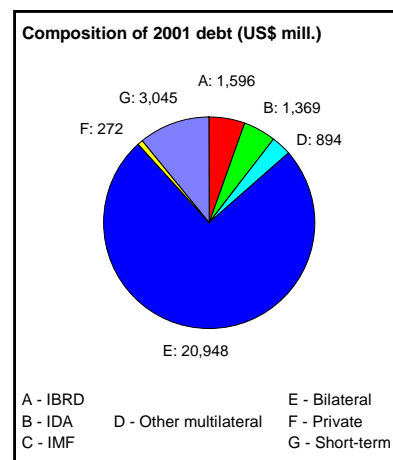
## BALANCE of PAYMENTS

	1981	1991	2000	2001
<i>(US\$ millions)</i>				
Exports of goods and services	6,536	10,236	15,981	16,925
Imports of goods and services	10,405	13,472	22,755	21,772
Resource balance	-3,869	-3,236	-6,774	-4,847
Net income	-497	-363	932	1,072
Net current transfers	2,230	7,419	4,679	3,742
Current account balance	-2,136	3,820	-1,163	-33
Financing items (net)	2,606	23	-1,862	-832
Changes in net reserves	-470	-3,843	3,025	865
<b>Memo:</b>				
Reserves including gold (US\$ millions)	..	4,763	15,795	14,927
Conversion rate (DEC, local/US\$)	0.7	3.0	3.4	3.7



## EXTERNAL DEBT and RESOURCE FLOWS

	1981	1991	2000	2001
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	22,078	24,869	28,988	28,124
IBRD	540	1,887	1,686	1,596
IDA	393	902	1,334	1,369
Total debt service	1,551	6,748	1,793	1,827
IBRD	48	339	189	201
IDA	3	15	29	35
Composition of net resource flows				
Official grants	201	0	0	..
Official creditors	1,518	135	-587	-774
Private creditors	617	-202	-201	-90
Foreign direct investment	753	0	0	..
Portfolio equity	0	0	0	..
World Bank program				
Commitments	235	31	0	0
Disbursements	217	105	107	264
Principal repayments	12	203	153	138
Net flows	205	-98	-46	125
Interest payments	39	151	65	98
Net transfers	166	-249	-111	27



## **Additional Annex 11: Incremental Cost Analysis**

### **ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

#### **A. Introduction**

An incremental cost analysis of the activities for which incremental funding is requested from GEF was carried out. The baseline is described in section B. Section C illustrates the alternative course of action for which funding from GEF and other donors is requested. In section D, the comparison of baseline and alternative activities is carried out broken down according to the MRMP II sub-components. An incremental costs matrix is presented in Section E.

#### **B. Baseline scenario**

The legislative framework for environmental protection includes Law 102/83 for the Natural Protectorates, Law 4/1994 for the Environment and the adoption of the Biodiversity Convention (CBD). The regulatory framework includes the establishment of natural protectorates over 9% of the total area of Egypt, the adoption of EIAs in all new development projects as well as regulated hunting of protected species and the “National Study on Biological Diversity”, completed in 1996, followed by releasing the “National Biodiversity Strategy and Action Plan” in 1998. Institutional capacity in the project area is limited. The Environmental Management Unit (EMU) of the Matruh Governorate has a legal mandate for ensuring environmental protection including water and air pollution, solid waste management, and environmental monitoring but lacks both financial and human resources to carry out its mandate. Within the proposed project area, there are two initiatives worth mentioning in terms of contribution to the baseline namely, the establishment of a protected area network by EEAA and the MRMP II.

##### *Egyptian Environmental Affairs Agency (EEAA)*

EEAA has identified four sites within the project area with unique biodiversity and ecological characteristics to be declared in the future as Protected Areas as part of its framework to create a Protected Areas network consisting of 28 additional protected areas in the country. It is anticipated that under the current plan of the Agency, the declaration of these PA will be undertaken over the coming five to ten years depending on priorities and availability of funding at both central and local level. Limited capacity exists at the national level to address needed institutional strengthening, capacity building, improving awareness and fostering private sector, NGO's and research institutes to support the implementation of the strategy and action plan. In addition, funding for recurrent costs of present and future PA can not be fully met under the present budget constraint. This situation is thus likely to increase the risk that the “National Biodiversity Strategy and Action Plan” generates a protected area network through decrees with very limited actual biodiversity conservation actions taking place. For these reasons, no funding to the baseline scenario has been considered from the EEAA in this analysis.

##### *Matruh Resource Management Project (MRMP II)*

MRMP II will devote substantial efforts in the conservation, rehabilitation and sustainable utilization of the natural resources through (a) the development of water harvesting and watershed management practices; (b) the livestock and range activities specifically designed to arrest the present rate of degradation and to start to return the natural resource base to something nearer to its former status; (c) the promotion of sustained natural resources use at

community level; and (d) increased agricultural production from cereals, livestock and agro-forestry; safer and environmental friendly agricultural production environment; enhanced environmental attention on agricultural products; improved integrated pasture-crops practices bringing about more environmentally stable production systems.

From an environmental point of view, MRMP II will have linkages with projects in other regions of Egypt (thus not accounted for in the baseline) such as (a) the GEF/UNDP *Conservation of Wetlands and Coastal Ecosystems in the Mediterranean Region* (MedWet) biodiversity conservation project currently in about its second year of operation; (b) the GEF/UNDP *Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-Arid Areas of Egypt* biodiversity conservation project; (c) the Italian Cooperation *Sustainable Development of the Siwa Region* project located in the Sahara Desert to the south of the MRMP II project area, and (d) the multi-donor *Mediterranean Basin Regional Drylands Management Project*.

The proposed MRMP II thus lends itself to the adoption of a comprehensive approach to ecosystem management, as it combines integrated management of biological diversity, land, water and energy resources in agricultural production systems and pastures through the shift to multiple cropping featuring legumes, agro-forestry development, pasture regeneration, non-timber products development, fuelwood production and soil and water conservation. In addition, the overarching participatory approach will provide a forum for engaging the inhabitants to conserve, rehabilitate and sustainably use and manage the natural resource base. These combined actions will have a positive impact on the local ecosystems by ensuring that the available natural resources (water, pasture, agricultural land, wild resources) are utilized in an equitable and sustainable manner. In addition, these activities will produce limited global environmental benefits in the form of endemic species protection in pastures. However, implementing the baseline scenario will result in limited protection of biodiversity, and will not address the lack of capacity in environmental planning, management and monitoring needed to control urban encroachment, tourism development and other human activities that pose serious threats to the ecosystems. Furthermore, the traditional approach of addressing the resource challenges in a sector-by-sector manner will inevitably result in fragmentation of the policies and interventions.

### **C. Alternative scenario**

With the introduction of the GEF alternative, a set of complementary as well as substitutional activities would be implemented to ensure that global environmental benefits are attained. The GEF alternative will build on the baseline scenario to (i) achieve biodiversity conservation and improved integrated natural resource management of further areas of the NWCZ through the establishment of protected areas, community-based species conservation initiatives and various type of soil and water management practices in both the agriculture and livestock sectors; (ii) establish local and national capacity to ensure adequate management of the resources in a sustainable manner; and (iii) increased attention to natural resource use at community level through environmental awareness and enhanced capacity of resource planning and management. The support of GEF will also ensure that lessons learned in this project can be replicated in other areas with similar characteristics within Egypt and in the region. This potential replicability is one of the major strengths of the project.

Replicability will occur on a number of levels. At the local level, the beneficiaries will undergo formal and informal training in environmental matters, including environmental friendly

farming practices, the protection of flora and fauna and the sustainable use of natural resources. All this should lead to project initiatives being extended in the project area. Farmers from outside the area will be brought to the project and shown various demonstrations. Training will also be given to them. Thus, elements of the project will be applied in other parts of the country and beyond. Indeed it is noticeable how the planting of olives etc has spread far beyond the project area. Because protected areas will be established in the project area, training will be given to EEAA staff on their establishment and management. People from other countries will be offered training and project staff will also be sent to 'National Parks' in other countries, so there will be a two-way learning process. Governorate environmental staff will be trained by the project and it is anticipated that they will apply their training to the rest of the Governorate and beyond.

At the national and regional level training will be offered and the initiatives of the project will be expounded through videos, articles, newsletters, by the GEF and the World Bank and other communication channels. Thus it is anticipated that the project will have a large replicability potential.

#### **D. Incremental costs**

The baseline and GEF alternative are synthetically described below according to the six MRMP II sub-components in order to estimate the incremental costs for which funding from GEF and other donors will be requested. For a more detailed description of these activities, see section IV of the PIP.

##### *I. Community Development*

*Capacity Building of Communities (Baseline cost US\$3.7 million, cost of alternative US\$3.8 million).* The main objectives of this sub-component of the baseline scenario is to strengthen the communities capacities to plan and manage natural resources to achieve improved and sustained local development. These community development activities will mainly contribute to achieve sustainability under the form of increased attention to natural resources use at community level and enhanced resources planning and management capacity. Some limited species protection and biodiversity conservation will take place in the baseline.

The GEF alternative will build on these activities to improve community awareness and interest on global environmental issues by funding an environmental education programme. The incremental cost for GEF financing is US\$0.1 million. The main global environmental benefits include increased community awareness and education on the global environment, improved capacities of managing biodiversity at community level and better conservation of endemic species.

*Strengthening of Women's Development Capacity (Baseline cost US\$4.1 million; cost of alternative US\$4.4 million).* As part of baseline activities, the Project will contribute to building women's capacity through (a) the support of literacy classes for women (for 3 years) and basic education for girls, (b) nutrition, hygiene and health sensitisation programmes, including promotion of the construction of latrines, and (c) environmental awareness programmes to assist women to participate in sustainable utilization and management of the resource base. These activities will provide domestic environmental benefits such as improved use of energy, decreased pressure on pastures and sustainable use of wood resources.

The GEF alternative will build upon the baseline activities and will support an environmental awareness programs to assist women in sustainable utilization and management of their community's resource base. It will also support appropriate interventions to improve the kitchen environment and ensure sustainability of household energy supply. Particular emphasis will be put on support towards the substitution to alternative energy technologies for women (e.g. gas/solar cookers ) as a means of reducing pressure on wild plant species used for fuel wood. The GEF funded incremental cost associated with these activities is US\$0.3 million. The sustainable utilization and management of the community's resource base which will take place as a result of the awareness program will generate global benefits such as an improved conservation of endemic range species through reduced gathering of threatened plants as well as improved energy efficiency and conservation of biomass resources in general.

## *II. Integrated Natural Resource Management*

*Land and water resource management (Baseline cost US\$13.0 million, cost of alternative US\$15.7 million including incremental co-financing of US\$1.3 million).* The activities identified in this component of the baseline include (a) the construction of water harvesting and watershed management measures (cisterns, reservoirs, dykes, terraces, reseeding of range areas and shelterbelts against erosion), (b) training of project staff on land and water management; and (c) training of beneficiaries on maintenance of the water management structures. These baseline activities will produce substantial domestic benefits such as better managed resource base in water scarce ecosystems, increased water infiltration, reduced soil erosion, increased land productivity, more secure household water supply and increased fuelwood production

In the GEF alternative, some watershed measures such as tree belt plantations, reseeding and land leveling are estimated to contribute to global environmental benefits including biodiversity conservation through better soil and water management, limited species protection, and decreased land degradation. The GEF funded cost of these watershed measures is estimated at US\$0.3 million. In addition, enhanced endemic species development will derive from water harvesting and watershed management measures. The estimated incremental co-financing by IFAD, beneficiaries and GOE associated with these measures is estimated at of US\$1.3 million..

*Range management (Baseline cost US\$1.0 million; cost of alternative US\$1.8 million including incremental co-financing of US\$0.4 million).* The baseline scenario will include the establishment of (a) Pilot Grazing Management Units (PGMU) where appropriate use of land, water and vegetation is expected, (b) plantation of fodder shrub to reduce the pressure on pastures and (c) Rangeland Protection Areas (RPAs) to provide an in situ source of germplasm. These interventions will be supported by adaptive research as well as technical assistance and extension on assessing the rangeland resources conditions. These activities will generate domestic benefits such as restoration and sustained productivity from pastures, higher income from open range activities, and reduced expenditure on animal feed for farmers.

In the GEF alternative, global environmental benefits such as enhanced germplasm resources, protection of endangered species, collection and dissemination of local seeds and aggressive reseeded activities with endemic species will be generated. The part of the cost of the rangeland management activities to be supported by GEF includes range management extension activities (outreach sessions), technical assistance, training and the establishment of Rangeland Protection Areas and amounts to US\$0.5 million. In addition the establishment of PGMU and fodder plantations as well as training in range extension have been considered to directly contribute to global environmental goals such as biodiversity conservation and protection of endangered species. Fifty percent of the cost of these activities (US\$ 0.36 million) has been considered as incremental co-financing by The World Bank and IFAD.

*Bio-Diversity Conservation. (No baseline cost; cost of alternative US\$3.6 million including PDF-B US\$0.3 million and incremental co-financing of US\$0.4 million).* Three main activities will be implemented under the biodiversity conservation sub-component. These activities will consist in establishing: (i) community biodiversity conservation mechanisms; (ii) protected areas at El Qasr and Salloum; and (iii) capacity building in environmental management. Domestic benefits such as employment opportunities from the establishment of two Protected Area both in conservation activities and in ecotourism, enhanced livelihood of communities, enhanced institutional capacity for environmental management and protection on resource utilization but also urban, water and air pollution will be generated by the GEF alternative. The main global environmental benefits will include (a) unique habitat and endangered flora and fauna conserved; (b) a variety of indigenous species identified, conserved and managed by the communities and in Protected Areas; (c) community conservation to halt erosion of globally significant germplasm; and (d) enhanced skills in EIA and M&E for environmental protection of the global environment.

*Community biodiversity conservation mechanisms (GEF contribution US\$0.8 million).* This activity aims at assisting communities to conserve, rehabilitate and manage in a sustainable manner the natural resource base through developing appropriate community-based institutional processes and mechanisms. The GEF grant will support (a) biological surveys; (b) the establishment of biodiversity hotspots and other community conservation areas which will be used to demonstrate community conservation activities; (c) awareness building; (d) open classrooms for environmental education and sustainable income generation alternatives; (e) demonstration of alternative energy technology trials; and (f) small scale eco-tourism operations.

*Establishment of Protected Areas (GEF contribution US\$1.2 m and GOE incremental co-financing US\$0.4 million).* It is proposed that the designated areas at Saloum and El Qasr be chosen as Protectorate areas. The GEF grant will support the establishment and management of

these two protected areas for five years. The envisaged support includes stakeholder agreement on boundaries, protected area declaration, boundary demarcation, management plan compilation with full involvement of local communities, establishment of management structure, stakeholder involvement in protection and commercial management, and protected area management and operations. The government incremental co-financing covering the recurrent costs of the biodiversity management unit is estimated at US\$0.4 million. It is envisaged that EEAA finances a progressively increasing percentage of the salaries of rangers and guards as well as vehicles, motorcycles and office operation and maintenance costs so as to reach 100% funding of these items by the year 5. Recurrent costs funding will represent a yearly expenditure of 87,000 US\$ after project completion.

*Capacity building in environmental management (GEF contribution US\$0.9 million).* The GEF grant will finance the appointment of four staff from the Nature Conservation Sector of the Egyptian Environmental Affairs Agency (NCS/EEAA) who will constitute the project Biodiversity conservation unit. In addition, the GEF contribution will provide the Governorate's office with two part-time 'environmental' experts over the five years of the project. These experts will provide environmental training in environmental assessment, integrated environmental and resource management planning and environmental monitoring. They will train trainers and help with course compilation of training material for the project.

*PDF-B (GEF contribution US\$0.3 million)*

### *III. Support for Income Generating Activities*

*Agricultural and livestock production (Baseline cost US\$3.0 million; cost of alternative US\$3.5 million).* The baseline activities will provide increased agricultural production from cereals, livestock and agro-forestry, safer and environmental friendly agricultural production environment, enhanced environmental attention on agricultural products, and improved integrated pasture-crops practices bringing about more environmentally stable production systems.

In the GEF alternative, global environment conservation benefits such as agro-biodiversity conserved and used in ways that can be shared with other countries; use of indigenous species in various formations in arable agriculture, orchards, along roads and around compounds are anticipated. GEF funding of US\$0.2 million for rangeland research sub-projects and related equipment will be provided.

*Off-farm income generating activities (Baseline cost US\$0.9 million, cost of alternative US\$1.5 million).* In the baseline, promotion of off-farm income generating activities will mainly assist women to increase family income through engaging in income generating activities such as poultry production, handicrafts, and small-scale agro-processing e.g. jam making, through access to small loans, skill and management training and marketing advice. GEF funding of US\$0.6 million is provided for technical assistance aiming at promoting environmentally sound production and marketing conditions. The global environmental benefit is the potential for production and marketing of domesticated medicinal and herbal plant species that would result in the alleviating of pressure off the wild and threatened varieties. In addition, the promotion of environmentally sound marketing (eco-labelling) for all products can be seen as a global benefit.



*IV. Rural Roads (Baseline cost US\$4.0 million)*

In response to the demands of communities, the Project will construct around 136 km of asphalt feeder roads. In view of the expected high demand for road construction, stringent selection criteria will be established to take into account access to markets, social needs, population served and cost effectiveness. No contribution to the alternative course of action is envisaged from this component.

*V. Revolving Fund / Rural Micro-Finance (baseline cost US\$3.6 million)*

The Development Initiatives Fund (DIF) will be used primarily to explore the scope and feasibility of extending technologies and approaches introduced under MRMP to other rainfed areas in Egypt, principally North Sinai and parts of the Red Sea coast. No contribution to the alternative course of action is envisaged from this component.

*VI. Project Management (Baseline cost US\$2.9 million)*

As part of the baseline, the Project will fund the necessary staff, premises, equipment, vehicles, staff development, technical assistance and monitoring and evaluation systems for efficient and effective management of the Project. No contribution to the alternative course of action is envisaged from this component. There is the possibility that the improved environmental management capacity of development institutions related to the project could generate global environmental benefits.

## E. Incremental cost matrix

As explained above, the incremental costs of the alternative scenario were derived according to each MRMP-II sub-component. These costs and the domestic and global environmental benefits are displayed in the following matrix.

Components of MRMP-II	Baseline	Alternative	Increments GEF Others
<b>A. Community development</b>			
<b>Capacity building components</b>			
Global Environmental Benefits	Limited species protection and biodiversity conservation.	Increased community awareness and education on the global environment; improved capacities of managing biodiversity at community level; better conservation of endemic species.	
Domestic Benefits	Enhanced education leading to better use of local natural resources; enhanced skills in natural resources planning and use for communities and MRMP staff;	Increased priority being put on biodiversity conservation through community participatory approach; Improved capabilities of communities individually and communally to manage resource conservation; better use of water and fuelwood.	
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>3.722</b>	<b>3.840</b>	<b>118</b>
<b>Strengthening of Women's Development Capacity</b>			
Global Environmental Benefits	Environmental awareness enhanced through workshops; Positive long term impact of environmental education on the global environment;	Enhanced endemic range species conservation deriving from reduced pressure for energy wood; substitution effect decreases pressure on collection of threatened plants.	
Domestic Benefits	Improved community hygienic conditions; improved education increasing chances of employment for women in rural areas	Improved use of water and energy and decreased pressure as well as sustainable use of wood resources	
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>4.095</b>	<b>4.371</b>	<b>276</b>
<b>B. Integrated Natural Resources Management</b>			
<b>Land and Water Resource Management</b>			
Global Environmental Benefits	Limited benefits in terms of reduced land degradation	Biodiversity conservation through better soil and water management; and limited species protection	
Domestic Benefits	Better managed resource base in water scarce ecosystems; increased water infiltration; reduced soil erosion; increased land productivity, more secure household water supply; increased fuelwood production	Increased efforts to mitigate soil erosion and protect soil	
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>14.408</b>	<b>15.670</b>	<b>2701.262</b>

<b>Rangeland Management</b>			
Global Environmental Benefits	Limited conservation of biodiversity in rangeland	Biodiversity conservation through improved range management and germplasm resource enhancement; protection of endangered species; collection and dissemination of local seeds; aggressive reseeding activities with endemic species	
Domestic Benefits	Rangeland productivity increased; reduced pressure on rangeland ecosystem; establishment of community based range management systems	Restoration and sustained productivity from pastures; higher income from open range activities; and reduced expenditure on animal feed for farmers.	
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>879</b>	<b>1.791</b>	<b>554358</b>
<b>Biodiversity conservation</b>			
Global Environmental Benefits	Unique habitat and endangered flora and fauna under threat; limited retention of C in soil and vegetation; biodiversity reduced; negative environmental impact of land use changes	Unique habitat and endangered flora and fauna conserved; variety of indigenous species identified, conserved and managed by the communities and in Protected Areas; Community conservation to halt erosion of globally significant germplasm; Enhanced skills in EIA and M&E for environmental protection of the global environment	
Domestic Benefits		Employment opportunities from the establishment of two Protected Area both in conservation activities and in ecotourism; enhanced livelihood of communities; enhanced institutional capacity for environmental management and protection on resource utilization but also urban, water and air pollution.	
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>0</b>	<b>3.589</b>	<b>3.195394</b>
<b>C. Support for income generating activities</b>			
<b>Agriculture and livestock production</b>			
Global Environmental Benefits	Increased use of indigenous species in agriculture and livestock production processes;	Agro-biodiversity conserved and used in ways that can be shared with other countries; use of indigenous species in various formations in arable agriculture, orchards, along roads and around compounds	
Domestic Benefits	Increased agricultural production from cereals, livestock and agro-forestry; safer and environmental friendly agricultural production environment; enhanced environmental attention on agricultural products; improved integrated pasture-crops practices bringing about more environmentally stable production systems.	Germplasm system operating to receive dryland plant material and multiply both in situ and ex situ	
<b>Total costs ('000 US\$)</b>	<b>3.308</b>	<b>3.505</b>	<b>197</b>

<b>including physical and price contingencies</b>			
<b>Off-farm income activities</b>			
Global Environmental Benefits		Limited positive impact on rangeland endemic species	
Domestic Benefits	Reduced pressure on the range and reduced fuelwood gathering due to improved cooking conditions		
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>888</b>	<b>1.448</b>	<b>5600</b>
<b>D. Rural roads</b>			
Global Environmental Benefits	Use of indigenous species in road protection		
Domestic Benefits	Limited contribution to ecotourism		
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>4.044</b>	<b>4.044</b>	<b>00</b>
<b>E. Revolving Fund/Rural Micro-Finance</b>			
Global Environmental Benefits			
Domestic Benefits	Possibility of extending environmental friendly technologies to other parts of the country		
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>3.634</b>	<b>3.634</b>	<b>00</b>
<b>F. Project management</b>			
Global Environmental Benefits	Improved management capacity of environmental protection through a participatory approach		
Domestic Benefits	Better trained personnel in environmental affairs		
<b>Total costs ('000 US\$) including physical and price contingencies</b>	<b>2.943</b>	<b>2.943</b>	<b>00</b>
<b>BASELINE, ALTERNATIVE AND INCREMENTS: Total costs ('000 US\$) including physical and price contingencies</b>	<b>37.922</b>	<b>44.836</b>	<b>5.1702.014</b>
<b>PERCENT</b>			<b>72%28%</b>

Note: these costs include the voluntary contribution of the communities and their obligation in recognition of inputs received

**Additional Annex 12: STAP REVIEW**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

STAP Reviewer: Dr. J. Michael Halderman,  
Date: March 02, 2002

**Key Issues**

**1) Scientific and technical soundness of the project**

The second Matruh Resource Management Project (MRMP II) has been carefully and thoroughly designed following sound technical and scientific principles. This conclusion is based on a careful review of the February and March versions of the Project Appraisal Document, including relevant annexes. The project's main objective is to improve the welfare of stakeholders, especially the more disadvantaged in rural areas, and contribute to poverty alleviation. The approach will be based on community-driven development (CDD) that aims at strengthening communities' capacities to organize themselves and participate effectively in community-based planning, implementation and monitoring of activities aimed at development and the conservation, rehabilitation and sustainable management of the natural resources. The MRMP II intends to achieve these goals through (relevant to GEF funding) three components: (1) community development, (2) integrated natural resource management, and (3) income generating activities mainly targeting women. The indicative financing plan totals nearly US\$56 million over the five year project implementation period (2003-2007).

Scientific and technical aspects relating to environmental protection, biodiversity conservation, carbon sequestration etc in the arid area of the northwest coastal zone of Egypt in which the project is located are sound. The approach to community-driven development is appropriate, and the project's heavy emphasis on CDD reflects the emerging (but long overdue) recognition that decentralized, participatory approaches to rural development and natural resource management (NRM) are much more effective and sustainable than other approaches. The project's CDD approach and technical aspects, in particular those for which GEF funding of US\$ 5 million are requested, are fully consistent with the GEF's Operational Program # 12, Integrated Ecosystem Management.

**2) Identification of the global environmental benefits and/or drawbacks of the project**

By supporting activities aimed at achieving global environmental benefits, the GEF funding sought is intended to complement the activities of the "baseline project" funded by The World Bank, IFAD, stakeholders and the Government of Egypt. The project is designed to achieve several local, national and global environmental benefits, all consistent with Operational Program # 12: (a) conservation and sustainable use of biological diversity, as well as equitable sharing of benefits arising from the use of biodiversity; (b) reduction of net emissions and increased storage of greenhouse gases in terrestrial ecosystems, (c) conservation and sustainable use of water bodies, including watersheds and coastal zones. The March revision of the Incremental Cost Analysis (Annex 4) describes and explains in considerable detail the specific national and global environmental benefits the project intends to achieve from the different project components. The Project Appraisal Document and Annex 4 helpfully distinguish between the baseline project and the GEF alternative, and they clearly explain for each component the complex funding situation.

### **3) Project fit within the context of GEF goals, operational strategies, programme priorities and relevant conventions**

The MRMP II project in general, and the GEF-funded components in particular, fit well with the above criteria. The project and GEF-funded components incorporate the principles, and are clearly directed toward achieving the potential benefits, of Integrated Ecosystem Management (IEM) presented in Operational Program # 12. Economic and social factors are integrated into ecosystem management, and the IEM activities at various levels are intended to be flexible and to incorporate lessons learned into project efforts. It is significant in regard to flexibility and incorporating lessons learned that: (a) the proposed MRMP II is based heavily on lessons learned in the course of implementing the first Matruh Resource Management Project, (b) the design of MRMP II is also based on the conclusions and recommendations of a recent World Bank financed study of eight projects with a CDD approach in the Bank's Middle East and North Africa region.

Participatory approaches are central to the MRMP II strategy of ecosystem management and sustainable development. The project addresses the GEF focal areas of biological diversity, climate change and international waters, as well as land degradation. The project aims to strengthen relevant institutions and make investments based on the principles of integrated ecosystem management. The MRMP II project accords with the Convention on Biological Diversity, the UN Framework Convention on Climate Change, and the UN Convention to Combat Desertification.

### **4) Regional context**

The MRMP II project is located in the western part of the Northwest Coastal Zone (NWCZ) of Egypt that extends from El-Saloum, on the border with Libya, about 320 km to the east towards Alexandria, and inland from the coast for about 44 km. To the north of the project area is the Mediterranean Sea, to the south is the Sahara Desert. The natural habitat is dry rangeland, with annual rainfall ranging from about 150 mm in the NE to about 20mm in the SE. The area is inhabited by Bedouin, and the current population is estimated at about 230,000 (30,000 households). This area is different from most other parts of Egypt in that rainfed agriculture is practiced and the traditional tribal structure remains largely intact. The Bedouin have been settling in recent decades, and there has been a shift from the semi-nomadic, ecologically balanced pastoral system to potentially unsustainable systems of natural resource use that include significant sedentary agriculture. Some Bedouin move between Egypt and Libya, while others have migrated to Cairo and other urban areas. The location of the project area on the Mediterranean Sea has led to some coastal areas being developed as tourist centers. Enforcement of existing environmental regulations is very weak.

### **5) Replicability of the project**

If the project is successful in its efforts there will be considerable scope to replicate the approach in similar areas of Egypt, the Middle East and North Africa. The MRMP II is reportedly the first project of its kind in Egypt to attempt to develop a participatory, cross-sectoral planning and implementation mechanism that emphasizes both economic development and environmental sustainability. The project intends to develop a replication strategy that will include documentation and wide dissemination of information to, inter-alia, government planners and decision makers, as well as other development projects. The MRMP II will exchange experience and lessons learned with the GEF/UNDP MedWet coastal project and the results will be disseminated throughout the region. For the first time in Egypt, an effort will be made under this project to provide credit to marginalized communities, primarily to women, with the participation of the commercial sector. The (a) integrated resource management techniques, and (b) M&E methods to assess the anticipated increase in the store of carbon in plants and soil as a result of

project activities, are expected to serve as models useful in similar areas of the country and region.

**6) (Anticipated Effectiveness and) Sustainability of the project.**

The designers of MRMP II correctly recognize and emphasize that a community-driven development approach is necessary for the project to achieve its intertwined developmental and environmental goals on a sustainable basis. The biggest challenge facing the project will be to implement a successful CDD system in the project area. Thus, when examining sustainability it is first necessary to assess the likelihood of the project itself performing as planned.

The first MRMP project was designed to follow an innovative, participatory development approach focused on the identification and implementation of Community Action Plans (CAPs) by the local community groups. It was further expected that by the end of the project period the Project Coordination Unit (PCU) will no longer be needed. For a number of reasons, however, the activities of the first phase were essentially designed and implemented by the PCU using a top-down approach with only limited participation from local communities, especially when formulating CAPs. The PCU has operated in an enclave manner, independent of the parent ministry from which its staff were seconded. There has been very little contact with other government agencies and ministries. The PCU has had full administrative and financial autonomy, including the disbursement of project funds. Over the years, the PCU has acquired considerable experience with the implementation of an IDA-funded project and is considered well suited to continue managing the second phase of the project.

Those charged with designing the second phase of the MRMP are clearly aware of the difficulties and challenges involved in successfully promoting an effective CDD approach that primarily targets the poor. Criteria and procedures will be established to assist communities to target the poor and women for project resource allocation, with control systems put in place. Very considerable resources will be devoted to capacity building at various levels (see number 11 below). The CDD approach will need to be tailored to fit the traditional, male dominated Bedouin society and other existing socioeconomic conditions. The objective is that the project assist the communities so that they can take responsibility for the planning, implementation, monitoring and evaluation of development and environmental activities. It is intended that in MRMP II the PCU will be initially responsible for activity implementation. As the capacity of local communities is strengthened, responsibility will be gradually but progressively transferred to communities. Some of the proposals presented in Annex Three of the MRMP Formulation Report, however, for what is expected to be accomplished in regard to CDD under the project seem too optimistic. The same might also be said of the project goal to so broadly implement a CDD approach within the five year implementation period of MRMP II.

In regard to community-driven development, three key points should be kept in mind: (a) highly skilled, well trained individuals are needed at the interface with local communities, (b) efforts should be taken to identify early on communities with real (if latent) potential to successfully carry out community-based activities, (c) elite capture at all levels is a real possibility. The designers of MRMP II seem aware of these points and have taken steps to address them.

The MRMP II project is to take a number of steps appropriately aimed at promoting sustainability of services and activities. Efforts will be made to mainstream access (especially for women and girls) to education and health services currently provided by the project. Efforts will also be made to provide residents of the project area with access to micro-finance on a sustainable basis, and to find an institutional home for the Matruh Adaptive Research Center (MARC). The GEF will fund environmental staff in an effort to strengthen environmental work in the Governorate office during the project period, and the Governorate will take responsibility for the work at the end of the project. The Egyptian

Environmental Affairs Agency (EEAA) is to take responsibility for the two protectorates (nature conservation areas) that will be established under the project.

To achieve sustainability it is very important that before the end of the project period: (a) effective actions be taken to fully integrate the work of the PCU into the Governorate and other concerned organizations, (b) an effective coordination mechanism between key actors (local government, Tourism Development Authority, Ministry of Planning, Northwest Coast development Agency, the Army) be established.

### **Secondary Issues**

#### **7) Linkages to other focal areas**

The MRMP II project is multi-focal covering biodiversity conservation, climate change, international waters and land degradation.

#### **8) Linkages to other programmes and action plans**

The second Matruh Resource Management Project will have linkages with the GEF/UNDP *Conservation of Wetlands and Coastal Ecosystems in the Mediterranean Region (MedWet)* biodiversity conservation project currently in about its second year of operation. MRMP II is also anticipated to have linkages with: (a) the GEF/UNDP *Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-Arid Areas of Egypt* biodiversity conservation project, (b) the Italian Cooperation *Sustainable Development of the Siwa Region* project located on the edge of the Sahara Desert to the south of the MRMP II project area, (d) the multi-donor *Mediterranean Basin Regional Drylands Management Project*, (e) The GEF-UNDP *Small Grants Medicinal Plants Project* that has been approved and aims to conserve medicinal plants in the NWCZ, (f) a Swiss Fund project intended to conserve biodiversity in the NWCZ. There are also several Bank financed projects in Egypt dealing with agriculture, irrigation and drainage. MRMP II intends to collaborate with these projects to enhance the sharing of information regarding M&E systems.

#### **9) Other beneficial or damaging environmental effects**

The rationale for GEF financial support to the MRMP II is that it will significantly promote local, national, regional and global environmental benefits. Various environmental benefits are clearly presented in the project documents. No damaging environmental effects have been identified.

#### **10) Stakeholder involvement**

The MRMP II will affect and/or be influenced by a large number of stakeholders. The first MRMP is already known in the project area, the Governorate and Egypt. The stakeholders of the second MRMP will include the Project Coordination Unit (PCU), the Ministry of Agriculture and Land Reclamation, the Egyptian Environmental Affairs Agency (EEAA), the Governorate, the National Coordination Committee (NCC) and its members, and the Project Coordination Committee (PCC) at the Governorate level and its members. (The Army is a key actor affecting the environment in the project area and is therefore an important potential stakeholder.) It is intended that the NCC take a more active role in project affairs in phase two. The MRMP II plans to update the mandate and membership of the PCC to ensure full representation of various actors in the region: governmental, non-governmental, donors, research institutions. It is envisaged that local community representatives be included on the PCC. As



noted above, to date the project has had very little contact with other government bodies.

GEF funding will partially finance the secondment of three staff from the Nature Conservation Sector of the EEAA to support the Project Coordination Unit (PCU) and make up the project management unit for biodiversity activities. This unit will be responsible for the implementation of activities concerning protected areas management, species conservation and training in protected area management, flora and fauna conservation, and community participation in conservation. The GEF contribution will also finance two part-time experts in the Governorate EMU.

The changed focus of the second phase of MRMP will lead to organizational changes within MRMP II. The main project objective will become the further improvement of the welfare of the stakeholders, especially the more disadvantaged rural residents, and contribute to poverty alleviation. Project documents often use the term “stakeholders” as if the term were synonymous with residents of the project area, yet to date this category of stakeholders has had very little organizational or institutional clout in regard to project management and affairs. The inclusion of community representatives on the PCC, noted above as a possibility, would be an important step to increase such community involvement. Because of the significantly increased emphasis on community participation and capacity building in MRMP II, a Community Planning Facilitation Unit (CPFU) will be set up. In the first year of the second phase of MRMP, there are plans to carry out a participatory evaluation of the implementation of the existing CAPs. On the basis of this evaluation, it is anticipated that an initial participatory planning exercise will establish the development framework for each community and a CAP for the first year. In addition: (a) the broader focus on NRM and conservation will result in a Natural Resource Management Department, and (b) a separate Gender Unit will be established with its own budget and greater operational autonomy. These organizational changes are necessary efforts to promote the interests of the specific categories of stakeholders involved.

## **11) Capacity building**

The project proposal correctly emphasizes the need for capacity building at various levels to sustainably achieve MRMP II’s objectives. Under component A (Community Development) there will be extensive capacity building of communities. This will include training for local community representatives and other community members on a wide range of appropriate subjects, including basic training in environmental protection and environmental assessment. The objective is to strengthen the local communities’ capacities to enable them to plan, implement and monitor their own development. Women will be provided with training to ensure that they have the same access to information as men. The project will also support literacy classes for women and education for girls.

There will be increased emphasis on extension, with more farmer involvement and a new community based extension outreach effort through the training of Community Facilitators. Promotion of off-farm income generating activities will mainly target women through the provision of training, access to credit and market linkages. In regard to marketing and agro-processing, emphasis will be placed on improving marketing awareness and the business skills of both the beneficiaries and project staff.

GEF funding will support a wide range of capacity building. The goal will be to develop community, project and Governorate capacity to manage environmental resources in a sustainable manner. The funds will promote formal and informal environmental education in schools and in each of the 38 community centers. Environmental curricula will be developed for both children and adults. Local knowledge and oral history will be recorded. There will be a project sub-component to strengthen women’s development capacity that will include socioeconomic surveys and specialized training. Under component B (Integrated Natural Resources Management) GEF funding would strengthen the field level environmental

capacity of the project, Governorate and Nature Conservation Sector of the EEAA (including the secondment of three staff referred to above). National and international experts will also be contracted to provide training in a number of fields.

## **12) Innovativeness of the project**

The Second Matruh Resource Management Project is an innovative effort to fully blend GEF financing into a project also financially supported by IFAD, the World Bank, local stakeholders and the Government of Egypt. Significant efforts will be made under the project to promote community-based development in an attempt to achieve genuine, sustainable poverty reduction and environmental objectives. This comprehensive and multi-sectoral project well reflects the spirit and intent of the GEF's Operational Program # 12.

### **Response to STAP Review:**

It is encouraging to note that the STAP review is, in general, very positive. The project team is in agreement with the guidance provided by the STAP reviewer regarding participation and sustainability aspects. The team is fully aware of the difficulties of implementing a full-fledge Community-Driven Development (CDD) approach, and is indeed proposing to limit the Project ambition to furthering the participatory approach, transferring more responsibilities to the communities in the decision making and resource allocation process and emphasizing capacity-building, so that, by the end of the project, the communities will be capable to negotiate with other government and non government agencies for the delivery of services and investments. To this end, community development professionals will be recruited to strengthen project staff, and an NGO (from outside the region, if it exists) or international consultants, specialized in community development will provide training to project staff and support to local communities for Community Action Plans development. In addition, local communities will be represented at regional levels and project headquarter level (in the Project Coordination Committee). Finally the project will support local communities to register under the Association Law, so that they be recognized as legal entities by other government and non-government agencies.

Elite capture is indeed a concern for the World Bank team. As a safeguard against this, the planning process will be lowered to the *aila* (clan) level, instead of the higher level (sub-tribe) which was considered under the first project. In addition the result of the planning process will be presented and discussed with all the heads of households so as to optimize the spread of information. Ensuring a widespread information process is indeed one of the best tool to prevent elite capture.

To achieve sustainability, the Project intends to collaborate not only with EEAA, but also with the education and health services of the Governorate, either involving them in project activities or implementing these activities through them. The Project Coordination Committee will include these different stakeholders' representatives to ensure that access to services on the long run is established and maintained for the local communities.

## **Additional Annex 13: Expected Biodiversity Conservation Benefits from the GEF Funded Activities**

### **ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

The fully integrated implementation of Project interventions will ensure that a coherent approach is established. Benefits resulting from range rehabilitation will serve also the objectives of biodiversity conservation as well as carbon sequestration. Improvements in soil integrity and water management and the adoption of an integrated ecosystem planning approach will serve to ensure the sustainability of achieved global environmental benefits. Important lessons can be learned from the monitoring of multiple benefits and documentation of successful participatory management methods.

*Floral and Faunal Diversity:* In terms of species diversity, the North West Coast (NWC) zone of the Mediterranean is one of Egypt's five primary "biodiversity hotspots" containing some of the most important areas for the diversity of wild terrestrial fauna and flora in the country. 47% of the total floral species of Egypt is present in the project area. Of these, 16 species and sub-species are endemic to Egypt and the region, including the *ebenus armitagei* (near endemic to Egypt and Lybia), *zilla baiparmata* (near endemic to Egypt, Lybia and Tunisia), *allium mareoticum* (endemic to NWC zone) and *echinops taeckholmianus* (endemic to the NWC zone). Recent surveys on plots where access to communities have been prohibited (e.g. by army camps) prove the occurrence of some rare or extremely rare plant species in these 'protected' spots, indicating that the regenerative capacity of the region is still high, provided proper conservation and management is applied.

The western Mediterranean coast region has one of Egypt's richest herpetofaunas, holding some 36 species. The prominent components of the herpetofauna include: Loggerhead Turtle (*Carreta carreta*), the geckos (*Stenodactylus mauritanicus*, *Tarentola mauritanica*), the lizards (*Acanthodactylus scutellatus*, *A. boskianus*, *A. pardalis*), the agamid (*Trapelus mutabilis*), Desert Monitor (*Varanus griseus*), Common Chamaeleon (*Chamaeleo chamaeleon*), the snakes (*Spalerosophis diadema*, *Macroprotodon cucullatus*, *Malpolon monspessulana*) and Green Toad (*Bufo viridis*). The Egyptian Tortoise (*Testudo kleinmanni*) has virtually vanished from the greater part of its former range in the western Mediterranean coast. Very small, highly fragmented and isolated populations (or even individual animals) *might* still exist in marginal habitats in the transitional zone between the more mesic coastal habitat and the xeric interior.

A total of 169 bird species have been recorded or are thought to occur in the Saloum region. Of these some 35 species breed locally, the rest are passage migrants or winter visitors. Breeding species include Cream-coloured Courser (*Cursorius cursor*), Desert Wheatear (*Oenanthe deserti*) and Crested Lark (*Galerida cristata*). Thekla Lark (*Galerida theklae*) and Raven (*Corvus ruficollis*) are two species restricted in Egypt to the Saloum ridges and cliffs. Shag (*Phalacrocorax aristotelis*) probably also breeds on the sea cliffs of Saloum, the only locality in Egypt. The region supports several avian species restricted to the Mediterranean Biome, some of which have very restricted distribution in the country: Thick-billed Lark (*Ramphocoris clotbey*), Dupont's Lark (*Chersophilus duponti*), Temmink's Horned Lark (*Eremophila bilopha*) and Red-rumped Wheatear (*Oenanthe moesta*). The last species has undergone a severe decline in the past decades and has almost disappeared from its Egyptian range due to habitat degradation. The region was also an important breeding habitat for the threatened Saharan Houbara Bustard (*Chlamydotis undulata undulata*), but Gulf Arab hunters have decimated the local population. The species still occurs but breeding is localized and rare.

At least 33 species of mammals are (or were) known from the western Mediterranean coast of Egypt, roughly representing a quarter of Egypt's terrestrial mammalian fauna. The region holds by far the richest

rodent community in the whole of Egypt composed of 19 species, including two globally threatened species, the Four-toed Jerboa (*Allactaga tetradactyla*) and the Greater Jerboa (*Jaculus orientalis*). These species suffer largely from habitat destruction, but are also subjected to intensive collection pressure by wild animal traders. Dorcas Gazelle (*Gazella dorcas*) is a threatened species that used to be very common in this region only three decades ago, but has since declined sharply, and probably largely disappeared, as a result of excessive hunting, disturbance and habitat destruction.

The proposed Protected Area of *El Saloum* has been identified as one of Egypt's highest biodiversity conservation priority areas. It contains unique habitats of many floral and faunal elements only known in Egypt from this small region. The Crested porcupine (*Hystrix cristata*) and Thekla lark (*Galerida theklae*) are examples of species only known in the country on the Saloum cliffs. The region contains the largest remaining tract of relatively intact and undisturbed coastal habitats in the whole of the Egyptian Mediterranean coast, and is one of the least populated. The proposed Protected Area of *El Qasr* represents a fairly undisturbed example of a unique and restricted habitat in Egypt – the Mediterranean coastal steppe – a habitat that is being lost and degraded very rapidly in Egypt. The area extends from south of the coastal plain to some 50 km inland, and encompasses all the transitional zones from the Mediterranean vegetation belt in the north to near pure desert in the south. The area has a high conservation and scientific value. It includes a variety of landscape features and a diversity of habitat types and biological components that are marginally represented within Egypt's current network of protected areas. As the area falls on the boundary between the Mediterranean and Saharo-Sindian Biomes, it supports assemblages of fauna and flora, characteristic of both biomes. The maintenance of representative examples of these characteristic assemblages is of prime importance, equal to that of conserving threatened taxa.

**Additional Annex 14:Environmental Management Plan**  
**ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**I. OBJECTIVE**

The objective of this Environmental Management Plan (EMP) is to identify the environmental mitigation measures, screening process, capacity-building and monitoring activities that will be undertaken, as well as the institutional arrangements that will be set up, during implementation of the MRMP II to ensure that any potential adverse environmental impacts are either eliminated or minimized. The EMP also proposes an implementation schedule for undertaking these activities and indicates their costs included in the project budget.

**II. MAIN ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

The overall environmental impacts of the MRMP II are expected to be positive, including increased environmental awareness (particularly among women), improved range and watershed management, sustainable agricultural practices, enhanced biodiversity conservation, and expanded protected area management. The project will not negatively alter the ecosystem nor cause significant environmental harm during the undertaking of water harvesting and road construction works. The inclusion of the Global Environment Facility (GEF) component will ensure that environmental considerations are mainstreamed in the MRMP II by seconding Egyptian Environmental Affairs Agency (EEAA) staff to the MRMP II Project Coordination Unit (PCU) and strengthening the capacity of environmental staff in the Matruh Governorate's Environmental Management Unit (EMU). Furthermore, the GEF component will finance, among other activities, the establishment and management of two protected areas at Saloum and El Qasr within the project area.

**A. ANTICIPATED ENVIRONMENTAL IMPACTS AND RECOMMENDED MITIGATION MEASURES**

Overall, activities financed under the MRMP II will have positive environmental impacts. The environmental benefits from project activities in MRMP I are noticeable and will continue to be so in MRMP II – indeed the very fabric of the project is to improve the natural resource base in order to alleviate poverty. The Environmental Assessment (EA) process identified the following issues, addressed below, for which potential impacts and mitigation measures are detailed:

**1. Drinking Water Quality:** In discussions with PCU technical staff the EA identified drinking water quality as the primary potential issue related to the water harvesting activities of the MRMP II. A 1994 GTZ water analysis of selected cisterns in the North West Coastal Zone concluded that concentrations of *E. coli* (indicator enterobacterium for bacteriological contamination) in water collected from cisterns were 1,000-10,000 times WHO guidelines. (*E. Coli* are a particular type of coliform bacteria whose presence in drinking water is more serious than other coliform bacteria because they are disease-causing. They indicate that water has been contaminated by sewage or animal wastes that contain other disease-causing micro-organisms which can cause severe diarrhoea, cramps, and nausea.) Unfortunately, no more recent water quality data are available. While discussions with the local population on the most prevalent diseases indicated that the above water-related diseases were not perceived as the highest importance (diseases related to malnutrition and eye infections were the most frequently quoted), it is recommended as a matter of prudence to implement proper mitigation measures to minimize any potential risks.

*Source Mitigation Measures.* Mitigation measures at the source include improved water management practices and water quality monitoring:

- Cisterns will be dredged approximately every three years to restore the dead storage capacity taken up by sedimentation. (Silt loads captured thanks to silt traps, while minimal in quantity, may be re-utilized as organic fertilizer in agricultural areas, as they may contain a certain level of nutrient washed away from topsoil by wind and water erosion.)
- Ideally, animals would be kept away from the cisterns used for drinking water, or at least away from the part that serves as the catchment area. In addition, wherever possible, separate cisterns should be built for human and animal purposes, instead of cisterns that provide for both uses contemporaneously. However, since most of the smaller families with limited income levels would have difficulties in drawing such a distinction (since they will only have one cistern for use by the family, for supplementary irrigation and for stock watering), water management practices that could be adopted by lower-income families will require that animal drinking troughs be kept away from human-purpose cisterns, and use project-supplied hand pumps and hose to convey water to the animals at a distance of about 30 meters away.
- Cisterns specifically used as potable water sources for humans should be closed during the first rainfall and re-opened at the second. It is also recommended that cisterns be closed during the first 10-15 minutes of every rainfall. Although these recommendations may be difficult to implement given the extreme shortage of water in the region, project beneficiaries should regardless be advised of this option.
- A new drinking water quality analysis will be undertaken by the MRMP II in collaboration with the Ministry of Health, and periodic water quality monitoring will be incorporated into the project monitoring program.

*Water Treatment Mitigation Measures.* Treatment mitigation measures involve the sterilization of water. This will require further work in the context of MRMP II, in addressing the various alternatives to water sterilization. Some options to obtaining sterilized drinking water are suggested in Annex 1.

- The MRMP II will undertake awareness-raising with respect to improving drinking water quality (promoting filtering, Solar Water Disinfection (SODIS), chlorination, or boiling water, as appropriate) in the local communities, primarily among women.
- The MRMP II will study appropriate alternative renewable energy sources for power generation for water treatment. Alternative energy sources will also be sought to power micro-enterprises in the remote rural communities of the project area, and consider the provision of various types of stoves (using renewable energy) for cooking and boiling water. Solar and wind energy options will be explored and demonstration units established at each community, with cost-benefit analyses conducted.

**2. Planning and Implementation of Range Rehabilitation Units:** The EA also identified potential environmental impacts related to the range rehabilitation activities of the MRMP II. The location/spacing of “biodiversity islands” (range protected areas) should be planned, and a map of proposed areas developed, to incorporate possible corridors (e.g. for wildlife), but also to maintain a connectivity between the areas for habitat (such as habitat for pollinators). Minimum tillage should be practiced, as excessive tillage promotes wind and water erosion. Nutrient management also needs to be optimized. Silt captured from silt traps, animal waste, and human excrement collected from latrines are rich in nutrients and could be used as organic fertilizer. A more detailed description of the proposed mitigation measures is given in the Environmental Guidelines Manual.

**3. Construction of Small LC activities (community centres, latrines and cisterns):** Finally, the EA identified potential environmental impacts from the small-scale LC infrastructure activities and rural

roads financed by the MRMP II. Planning the location of these sub-projects should be done through a participatory approach and addressed in the Community Action Plans. Construction and operation of the structures should follow the good practices/mitigation measures outlined in the Environmental Guidelines Manual. The construction of cisterns must: (i) incorporate a silt trap, sediment basin and sieve on the inlet side of the cistern to reduce the sediment load; (ii) separate cisterns for drinking water from those for animal and irrigation purposes; and (iii) avoid collecting water from the first rainfall as this carries the highest level of pathogenic micro-organisms. Contamination by animal waste should be avoided, and training should be provided on the long-term maintenance of these structures.

**4. Rural Roads:** Roads should be selected through a participatory approach and designed to interrupt cross-drainage as little as possible. Where the road interrupts natural drainage, culverts and siphons will be installed. Road design should ensure that roads will not significantly impede the passage of wildlife. Road construction will ensure, to the degree possible, non-susceptibility to erosion from floods by planting trees along the road to act as wind breaks and soil fixators. Construction and maintenance should follow the guidance provided in the Environmental Guidelines Manual.

## **B. ENVIRONMENTAL SCREENING OF ACTIVITIES**

To ensure that activities financed under the MRMP II are in compliance with Egyptian environmental requirements (and consistent with World Bank safeguard policies), the Biodiversity Unit will screen each Local Community Annual Work Program and Budget for activities for potential adverse environmental impacts, following the procedures presented in the Environmental Guidelines Manual. The WB team will give a "no objection" to the Local Community Annual Work Program and Budget, and will review a sample of activities during supervision missions to ensure that proper environmental review and mitigation have been implemented. In summary, the review process will involve the use of environmental screening checklists (prepared with and reviewed by staff from the Biodiversity Unit) to ensure environmental safeguard compliance and to determine whether sub-projects require formal review in accordance with procedures established by the EEAA in its Guidelines for Environmental Impact Assessment (EIA Guidelines). The EIA Guidelines implement the EIA requirements of Environmental Law No. 4/1994 and its Executive Regulations and establish the procedures for environmental screening and approval of projects with potential environmental impacts by EEAA. The MRMP II will utilize the checklist screening process and EEAA EIA Guidelines to meet the environmental assessment safeguard requirements of World Bank OP 4.01.2

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Other safeguards that have been addressed by the EA are:

**OP 4.20 (Indigenous Peoples).** The objective at the center of OD 4.20 is to ensure that indigenous peoples do not suffer adverse effects during the development process. In the case of MRMP II, the Bedouin people comprise the entire population living in the target area, and therefore OP 4.20 is triggered. However, since: (i) the Bedouins are the sole project beneficiaries; (ii) MRMP II was prepared using a participatory approach; and, (iii) all project interventions have been designed to improve the status of the Bedouins (poverty alleviation, access to water, access to health and education, improved rangeland management, etc.) while taking into account and building upon their cultural specificities, there is no need for the preparation of an Indigenous Peoples Development Plan.

**OP 4.12 (Involuntary Resettlement).** The Project will undertake the identification and declaration of two protected areas (PAs) in the project zone. These will be defined, based on their biodiversity significance, status of degradation and potentials for conservation and alternative economic activities that can be built on the new conservation status. The process will be undertaken with the full participation of the local communities in the identification of the PAs and the design and implementation of the PA management plans, as is the case in other similar established PAs in Egypt. The issue of possible loss of income or means of livelihoods resulting from the loss of access to resources triggers OP 4.12 (para 36 on access to natural resources). These losses will be assessed when the boundaries of the PAs will have been established. If it is established that the PAs will result in loss of income or means of livelihood, the Project will provide compensation through supporting alternative economic activities. The preparatory and consultation work with the stakeholders and local communities to determine the boundaries is expected to take two years. The GOE prepared a Process Framework outlining the steps and participatory process to: (i) determine the boundaries

of the PA; (ii) design the Protected Area Management Plan; (iii) define the criteria of eligibility for vulnerable and affected persons and the means to assist the affected persons, if any, in their efforts to improve their livelihoods or at least restore them; (iv) identify the potential conflict resolution mechanisms and the monitoring and follow-up arrangements (see Annex 15). No other activities financed under the Project trigger OP 4.12. In particular, works financed under the Project do not entail any involuntary resettlement or involuntary land acquisition issues.



Under the EIA Guidelines, projects with potential negative environmental impacts are classified into three categories (similar to WB coding, but in opposite sequence) according to the severity of environmental impacts:

- **A list** projects for those with minor environmental impacts
- **B list** projects for those that may result in substantial environmental impacts
- **C list** projects for those that may require complete EIA due to potential severity of impacts

The EA determined that the vast majority of MRMP II sub-projects with potential adverse environmental impacts are small in scale with minimal impact and thus are not expected to require formal EEAA review. A few sub-projects, e.g., rural roads, may be **A list** projects and thus require EEAA or Matruh EMU review. No MRMP II sub-projects are expected to be **B list** or **C list** projects. The EIA Guidelines set out the procedures for complying with the EIA requirements. The level of environmental screening and procedures for review and approval by EEAA vary by category and are detailed in the Environmental Guidelines Manual. The BDCU/ PCU will ensure that MRMP II sub-projects comply with these screening procedures.

### **III. ENVIRONMENTAL TRAINING AND CAPACITY PROGRAM**

In order to ensure proper implementation of environmental screening and mitigation measures, as well as effective watershed and range management, biodiversity conservation, and protected area preparation and management, the MRMP II will undertake an intensive program of environmental training and institutional capacity building.

#### **A. ENVIRONMENTAL TRAINING FOR PCU/EEAA/EMU STAFF AND LOCAL COMMUNITIES**

The MRMP II will provide national and international experts to deliver training to PCU management and staff, EEAA field staff, and Matruh EMU personnel designed to build capacity for effective environmental management under the project, including environmental review, assessment, and mitigation of all significant project-financed activities and implementation of the integrated ecosystem management approaches supported by the project. Such training will cover environmental policy and regulations, range resource inventory and evaluation, carbon sequestration and biomass inventory, socio-economic surveying, species monitoring and evaluation, protected area management, land use zoning and participatory training on the specific environmental issues and mitigation measures identified by the EA. It will also include training trainers and providing refresher courses in all of the topics identified.

As part of the Community Development component, the MRMP II will provide basic training to local community representatives and members of the wider community in integrated environmental management/protection and environmental screening/impact assessment, and biodiversity/range management practices. Also, to strengthen development capacity among women in the communities, the MRMP II will promote environmental awareness programs to assist women in effective management of potable water resources and in sustainable utilization and management of the natural resource base. The GEF activities will promote formal and informal environmental education, including the design of curricula and preparation of educational materials, in the schools and at the community centres in the project area.

## **B. CAPACITY BUILDING FOR THE PCU, EEAA, AND MATRUH GOVERNORATE EMU**

The MRMP II will build environmental management capacity within the PCU by establishing a new Natural Resource Management Department comprising units for Land and Watershed Management, Range Management, and Biodiversity Conservation. The latter unit will require additional PCU environmental management staff and will include three staff and a manager appointed from the Nature Conservation Sector (NCS) of EEAA (financed by the project) to work with the PCU for the life of the project. These EEAA/NCS field staff will be responsible for implementing the activities related to Protected Areas designation and management, including species conservation, community participation in biodiversity conservation, and training in Protected Areas management. Vehicles and equipment also will be provided in order to support the implementation of the new activities related to biodiversity conservation under the project.

In addition, the MRMP II will provide the Matruh Governorate's EMU with two part-time environmental experts, i.e., an environmental screening/impact assessment expert and an environmental monitoring expert, for the five-year life of the project. These experts will work closely with EMU environmental staff, Matruh Governorate officials (particularly in land-use planning and coastal development) and project staff to provide training in environmental screening and impact assessment, integrated environmental and resource management planning, and environmental monitoring and evaluation. They will train trainers and assist with course compilation of training material for the project. As needed by the Matruh Governorate, these experts will also perform duties outside the project to ensure the implementation of an integrated ecosystem approach to the region, regarding development and compliance with environmental laws in urban areas and in coastal tourism centres.

## **IV. ENVIRONMENTAL MONITORING PROGRAM**

Although the MRMP I established a Monitoring and Evaluation Unit (M&E Unit) to perform regular monitoring and evaluation of project activities, the M&E Unit did only limited environmental monitoring. Thus the MRMP II will have to build capacity within the M&E Unit, as well as in the new Natural Resource Management Department, to perform specific environmental monitoring and evaluation functions for the project.

### **A. MONITORING ENVIRONMENTAL SCREENING AND IMPLEMENTATION OF MITIGATION MEASURES**

The Biodiversity Conservation Unit, in coordination with the M&E Unit, will assume responsibility for monitoring compliance with environmental screening requirements and implementation of any mitigation measures for activities required, either by EEAA or the Matruh EMU, as a result of environmental screening. Furthermore, the M&E Unit will periodically monitor specified indicators of environmental impacts of the MRMP II (e.g., drinking water quality, incidence of water-borne diseases, terrestrial biodiversity, rangeland regenerative capacity). This environmental monitoring will be incorporated into the overall MRMP II monitoring plan required as part of project performance by the World Bank. The results of such monitoring will be recorded and reported in the PCU's bi-annual progress reports to the Bank and will be reviewed by Bank supervision missions. In the context of the GEF program, the Biodiversity Conservation Unit will develop a specific monitoring program, with verifiable indicators (e.g., changes from baseline conditions in diversity of flora and fauna, area devoted to community conservation efforts, area devoted to cultivation of medicinal herbs), to monitor and evaluate progress in achieving and sustaining expected global environmental benefits. A set of performance indicators for the implementation of the EMP has been included in the Environmental Guidelines Manual.

## **B. MONITORING ENVIRONMENTAL DATA**

Where the Natural Resource Management Department, through its technical units, undertakes specialized studies, surveys or research efforts, it will assume responsibility for monitoring the results and evaluating the impacts. For example, under the GEF component, the Biodiversity Conservation Unit (BCU) will test the regenerative capacity of rangeland plants under various management regimes in order to assist in estimating the carrying capacity of the rangelands. Environmental monitoring of this sort will be used to evaluate and support the biodiversity conservation and integrated ecosystem management approaches promoted by the project. A set of monitoring indicators for the biodiversity and ecosystem has been included in the Environmental Guidelines Manual (Table 4).

## **V. IMPLEMENTATION PLAN**

### **A. INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION**

Implementation of the EMP will be shared among the PCU, EEAA, and the Matruh EMU. The PCU has overall responsibility for implementation of the MRMP II and will ensure that the EMP is fully integrated into implementation of the project. The BCU will ensure that sub-projects with potential adverse environmental impacts undergo environmental screening and monitor their implementation of required mitigation measures. The PCU will also work closely with the EEAA/NCS staff seconded to the PCU in carrying out their training programs and other activities related to biodiversity conservation and protected area management.

The EEAA/NCS staff appointed to the PCU will be responsible for implementation of the activities related to Protected Areas management and biodiversity conservation and will work from within the PCU in carrying out these activities. The EEAA/NCS will also manage the national and international consultants contracted to provide training to the PCU, EEAA/NCS field staff, and EMU staff on integrated ecosystem management issues.

The Matruh EMU will ensure that MRMP II sub-projects directed to it for review are screened and approved in a timely manner under the EEAA EIA Guidelines. The EMU will also manage the environmental experts contracted to support it in its environmental responsibilities and ensure that they coordinate closely with the PCU and the EEAA/NCS field staff.

### **B. PROPOSED IMPLEMENTATION SCHEDULE**

Implementation of this EMP will begin with review and refinement of the Environmental Guidelines Manual in the first quarter after project effectiveness. The PCU then will undertake implementation of the main mitigation measures recommended and begin the screening process for sub-projects, continuing these activities throughout the life of the project.

Training programs will take place throughout the life of the project, on the basis of identified needs, with scheduled training for PCU and EMU staff occurring early in project implementation, followed by training programs in the local communities. Such training would be revisited, updated, and delivered on an annual basis, as needed. EEAA/NCS staff will be seconded full-time to the PCU for the life of the project, while the environmental experts financed for the EMU will be part-time for the life of the project.

The monitoring program for environmental screening will run continuously for the life of the project, while periodic monitoring will be used to evaluate the impacts of mitigation measures and track baseline environmental conditions in the project area.

The proposed schedule for implementing the various components of the EMP is shown in Table 1.

**Table 1: EMP Implementation Schedule**

Major EMP Activities	1stQ '03	2nQ '03	3rQ '03	4tQ '03	1stQ '04	2nQ '04	3rQ '04	4tQ '04	1stQ '05	2n Q '05	3rQ '05	4tQ '05
<b>Environmental Mitigation Measures</b>												
-- Env. Guidelines Manual												
-- Main Mitigation Measures												
-- Environmental Screening												
<b>Training and Capacity Program</b>												
-- Environmental Training												
-- PCU management/staff												
-- Matruh EMU												
-- Communities												
-- EEAA/NCS seconded staff												
-- EMU environment experts												
<b>Environmental Monitoring Program</b>												
-- Environmental Screening												
-- Mitigation Measure Impacts												
-- Baseline Changes												

### C. ESTIMATED IMPLEMENTATION COSTS

The estimated costs of implementing the various components of this EMP are displayed in Table 2. These costs are included in the total costs of the MRMP II and are financed with funds from the World Bank/IFAD loan or from the GEF grant. No additional costs are envisaged as a result of the EMP.

**Table 2: Estimated Costs per EMP Component**

EMP Activity (MRMP II Component)	Quantity	Costs		US\$	Source
		Local	Foreign	Total	
<b>Training &amp; Capacity Building</b>					
- community capacity building	Lump sum	50,000	15,000	65,000	WB/IFAD
- watershed/rangeland management	Lump sum	120,000	50,000	170,000	WB/IFAD
- biodiversity conservation & environmental management (loc/ int'l)	23 s/m	11,500	0	11,500	GEF
	11 s/m	0	11,000	11,000	GEF
<b>Environmental Monitoring Program</b>					
Biodiversity Monitoring (loc)	144 s/m	42,000	0	42,000	GEF
<b>Biodiversity and EMP Implementation</b>					
EEAA/NCS staff (4 national) seconded to PCU for 6 years	288 s/m	345,600	0	345,600	GEF/ GOE
Environmental experts (2 national/ 1 int'l) for Matruh EMU for 5 years (part-time)	72 s/m 3 s/m	108,000 0	10,500	118,500	GEF
Vehicles (BDU/ EMU)	3	0	60,000	60,000	GEF/ GOE
<b>Support for all activities</b>					
Office equipment (computers, printers, etc.) (BDU/EMU)	Lump sum	25,000	15,000	40,000	GEF
<b>TOTAL</b>		702,100	161,500	863,600	

**Additional Annex 15: Process Framework for Protected Areas  
ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

**I. Introduction**

**1. Project Development Objective**

The overarching objective of this Matruh Resource Management Project II (MRMP II) is to contribute to the improved welfare of the stakeholders, especially the more disadvantaged rural people and thus contribute to poverty alleviation. This will be done through developing community capacity to access services to improve their livelihoods and increase their income while at the same time strengthening their capacity to conserve, rehabilitate and use their natural resources in a sustainable manner.

The objective will be achieved by:

- (a) assisting communities, including women and the poor, to organize themselves and participate in community-based planning and implementation of development activities;
- (b) assisting communities to conserve, rehabilitate and sustainably manage the natural resource base through appropriate community-based institutional processes and mechanisms;
- (c) improving smallholder sustainable agriculture, horticulture and livestock production;
- (d) promoting market-linked off-farm income generating activities, mainly targeting women; and
- (e) providing improved access to technical, financial and commercial services.

Within this framework of integrated resource management, GEF support is sought to address global environmental concerns in the day-to-day management of resources, as well as to mainstream environmental dimensions into the overall planning and implementation of development activities in the area. Hence, a Biodiversity component is proposed that will support the establishment of two Protected Areas in the project area. This support will include the preparation of consultative/participatory surveys prior to clear designation of the boundaries and the establishment of the participatory management plan. The present Process Framework will ensure compliance with World Bank Policy OP 4.12.

The establishment of protected areas may incur restriction of access to resources by the local population and therefore the Safeguard Policy OP 4.12 applies. The present Process Framework will ensure the project's compliance with this policy.

**2. Approach**

The project will adopt a community-driven development (CDD) approach, tailored to the socio-economic conditions of the communities. The CDD approach will of necessity be incremental and phased. Gradually, it will require the involvement by local communities in decisions regarding resource allocation, as well as their involvement in implementing, monitoring and evaluating all project activities. One of the participatory tools used by the communities is the Community Action Plan (CAP). When elaborating their CAPs, communities will choose from a menu of activities they have helped to identify during project preparation and that are financed under the project.

The GEF initiative will be fully integrated within the MRMP II project and will use its rationale and participatory methodology and tools. The (CAPs) will remain the privileged tool at the disposal of the community to express and record their concerns, priorities and demands and to establish a participatory partnership and dialogue with the other concerned parties, and in particular with the Nature Conservation

Sector of the Egyptian Environmental Affairs Agency and the Matrouh Governorate. Hence, the CAPs are an important inclusive and sustainable tool to help the communities participate in the design and implementation of the conservation plans.

### **3. Institutional Framework**

**Execution Bodies.** Building on MRMP I, the project's participatory approach to biodiversity conservation and natural resource management in the protected areas will be carried out in close coordination and collaboration with national, governorate, and local level institutions. Execution responsibility to implement the biodiversity conservation activities with autonomous funding will be assigned to the Biodiversity Conservation unit of the PCU, technically affiliated to the Egyptian Environmental Affairs Agency (EEAA). Coordination will be enhanced with the Governorate and relevant ministries to ensure the sustainability of services beyond the project life.

**Governing bodies.** The National Coordination Committee under the chairmanship of the National Coordinator appointed by MALR will remain in place, but its membership will be revised and under MRMP II, it should take a more active role in the affairs of the project. The NCC includes representatives of the Ministry of Planning and International Cooperation, the EEAA at central level, the Secretary General of Matrouh Governorate, the Project's Director General and Deputy Director General and where appropriate, representatives of bi/multi-lateral projects being executed in the project area.

At Governorate level, the mandate and membership of the Project Coordination Committee (PCC) will be updated to include representation of various actors in the region (Governmental, Non-governmental, relevant projects) especially the health and education services. Now that the project will support the Governorate Environmental Management Unit (EMU) and that the Nature Conservation Sector of the Egyptian Environmental Affairs Agency (NCS/EEAA) will be directly responsible for the set-up and management of the proposed two Protected Areas, these entities will become full partners in project implementation and full members of the PCC at the Governorate level. It is also envisaged that under MRMP II, local community representatives will be included in the PCC.

The PCC would coordinate project implementation among the participating executing agencies, review and approve annual work programs with budgetary allocations based upon the CAPs. It would facilitate cooperation between the project and other projects and government agencies in the project area, in particular regarding environmental sensitisation, health and female literacy programs.

**Project implementation arrangements.** The Project Coordination Unit (PCU) would coordinate the implementation of the project activities through its five Sub-Regional Support Centers (SRSCs), supported by research carried out under the Matrouh Applied Research Center (MARC) The PCU has full administrative and financial autonomy, including the disbursement of project funds.

To reflect project objectives and emphases, the PCU would be adjusted to comprise three management units :

- Community Development – with a Community Development Unit and Gender Sub-unit;
- Integrated Natural Resource Management – comprising the Land and Water Management Unit (including Roads); Range Management Unit; and Biodiversity Conservation Unit (NCS/EEAA appointed staff); and
- Income-Generating Activities – comprising Agricultural and Livestock Services Unit and an Off-farm Activities and Micro-finance coordinator.

The Biodiversity Conservation Unit will be headed by a EEAA appointed manager. The GEF contribution will finance the appointment of three staff from the NCS/EEAA and will partially finance the staff for the two PA's. They will be responsible for implementing the activities related to the species conservation and training in protected area management, flora and fauna conservation, and community participation in conservation. This unit will manage its own budget but will be located in the PCU to facilitate coordination, a multi-disciplinary approach, monitoring and community participation.

**Change in Management Culture.** The core concern of MRMP II is achieving sustainability through fostering self-reliance and promoting community ownership of the development process. The focus on building the capacity of the communities will require some changes in the management and technician culture in order to create the space for the communities to develop their own managerial capabilities. It will require Project management and technical staff to adopt a listening supportive and facilitating role rather than an implementing role, and to identify fully with the participatory method of the project. This culture and attitude change will contribute to increase the active role of the communities in designing and managing the two protected areas' management plans their representatives and their CAPs.

## **II. General Principles of the Process Framework**

### **A. The Context: conservation and restriction of access to resources in the Protected Areas**

The Biodiversity component triggers the Bank's Operational Policy on Involuntary Resettlement specifically with regard to the loss of access to natural resources in protected areas. The biodiversity component will finance all necessary studies, including the preparation studies, consultations and surveys prior to clear designation of the boundaries and set-up of the participatory management plans. It is essential that, for institutional sustainability and community support, these studies be conducted in a participatory and consultative manner and that they include a full inventory of past and present human uses and activities, both regular and irregular or occasional and emergency. Therefore the preparation phase leading up to official declaration of the Protected Areas is expected to last for one to two years. Following the preparatory phase, the official designation of the PAs may entail restricted access to natural resources, mainly with regards to grazing and fuel wood cutting. It is envisaged that the participatory management plans will include regulation for the use of natural resources within the PA's as well as the provision of pertaining mitigation measures and alternative solutions based on community involvement, and with the ultimate goal of ensuring the sustainable livelihoods of the communities with biodiversity conservation.

All of the 23 established Protected Areas in Egypt were delineated under Law 83/1982 by a Prime Ministerial Decree issued upon the proposal of the EEAA of the Cabinet of Ministers. The national legislation defines the NCS/EEAA as the body mandated to manage and implement the provisions of the relevant laws and decrees, with the object of conserving and protecting PAs. The law specifies activities that are prohibited in Protected Areas, including hunting, damaging of plants and living organisms, introduction of foreign species, pollution of water, air and soil and erection of buildings and structures without permission. In the case of the PAs under MRMP II, it is expected that these limitations of access will be small in scale, given the limited current level of human activities in the envisaged sites.

The process framework under this project describes measures to be taken that will ensure, in conformity with Bank policy, that any material or economic losses to livelihoods or standards of living that result from such restriction of access, and particularly those affecting the poorest and most vulnerable, will be fully offset by corollary activities that will enhance incomes and improve their quality of life, and that



such measures will be consultative, monitored and evaluated.

## **B. Process Framework for Community Consultation and Participation**

**Steps for the formulation of a participatory strategy.** The participatory strategy will consist of: (i) identification and carrying out a census of the people potentially affected by the project; (b) definition of the eligibility criteria for the project-affected population; (c) formulation of the criteria for the identification of vulnerable groups; (d) elaboration of the process for consultation and dialogue; (e) propositions for the inclusion of the population in the implementation of the PA management plans.

### **1. Community awareness and mobilization**

After the official declaration of the protected areas by Prime Ministerial Decree, a Protected Area Management (PAM) office will be formed for each of the two PAs. Prior to the official declaration, and through the support of the MRMP II project, the following preparatory steps will be undertaken:

- Support for environmental awareness and education through formal and informal education channels;
- Inclusion of environmental dimension in the elaboration of the CAPs and training of community representatives (*mandubeen*) to enhance their knowledge of environmental and conservation concerns;
- Information gathering and analysis concerning the specific use of resources and their socio-economic impacts and systematization of community knowledge on threatened and endangered species;
- Formulation of site-specific draft management plans; and
- Adoption of measures aimed towards the protection of biodiversity in specific zones (hotspots) in cooperation with the Biodiversity Management Unit within the PCU.

### **2. Participatory process**

The project is moving towards implementing a full CDD approach, which entails the involvement by local communities in decision making regarding resource allocation, as well as their involvement in implementing and monitoring all project activities. This will also be applied to the implementation of biodiversity conservation and the establishment of the Protected Areas. Hence, the population will be involved, to the extent possible, in the identification of the threatened or vulnerable resources as well as the methods, locations and conditions under which stakeholders and affected populations utilize specific resources and the actions that will result in their most effective conservation. This community knowledge, which requires a change in technician behavior towards a more listening and consultative stance, will be an input to the planning for resource use and for the definition and formulation of the mitigation of negative impacts and alternative livelihoods options for the populations.

Precedents from management plans that are being currently implemented indicate that NCS/EEAA adopt a fully participative approach in involving the beneficiary communities. For example, in the case of the St. Katherine Protectorate, guards from within the communities are being used, and the Protectorate management unit is involved in alternative income generating activities, including traditional handicrafts and eco-tourism activities for the sustained benefit of the population. This model will be replicated under MRMP II, making use of the lessons learned, given the similarity in socio-economic and cultural

settings of the population.

Community representation will also be ensured for the PCC at the local level. Modalities will be defined to ensure that the interests of women are also represented.

### **3. Key Steps for a Strategy**

- *Identification of affected people:* once the two PA's are officially declared, a definition of people directly affected by restriction of access will be made
- *Eligibility criteria of project affected people:* criteria of eligibility for project benefits will be defined including physical presence in the PA for a certain number of years, dependency on the resources and benefits and claims of use of the resources
- *Criteria for the identification of vulnerable groups:* Given the focus of the project on poorer strata of the population, it will be important to identify from the onset of PA establishment those groups will be most vulnerable to restriction of access. Criteria for the identification of these groups could include: inability to fulfill their dietary needs, lack of other means for livestock feeding, use of small plots for subsistence or having tenancy status, lack of access to basic infrastructure.
- *Measures to assist affected persons in their efforts to improve their livelihood:* The participatory process of formulating Community Action Plans, documented in the PAD, provides the methods and procedures by which communities will identify and choose potential mitigating or compensating measures to be provided to those adversely affected, and procedures by which adversely affected community members will decide among the options available to them. Identified vulnerable and affected groups will have priority in provision of alternative livelihood and income generating activities, as well as water harvesting infrastructure if needed. The results of this will be included in the CAP and funded incrementally by GEF as appropriate.

### **C. Budget for the Execution of the Process Framework Provisions**

The budget for the execution of the process framework is included in the overall project budget (community capacity building, training, education, technical assistance and off-farm income generating activities) in addition to an unallocated sum of \$ 300,000 as Land Compensation Fund. The guidelines for utilizing this fund will be detailed in the Operations Manual based on the eligibility criteria identified at the onset of the project and will be used for provision of alternative livelihood sources of affected population in case of lack thereof through other components of the project.

### **D. Process of Consultation for Conflict Resolution and Modalities for the Settlement of Claims**

In case of conflicting views and opinions concerning the utilization of resources, the mitigation measures and alternative solutions, the PAM and PCC will be the forum for dispute resolution. If no acceptable solution is reached, their claim should be presented to the NCC that will strive to reach appropriate solution.

### **E. Monitoring and Evaluation of the Process Framework**

The measures taken to execute this process framework will be the responsibility of the Biodiversity and PAM units, and will be monitored by the PCU management. While preparatory work under the process

framework will start at project launch, the reporting on the implementation of the process framework will only occur once the PAs are officially established. The monitoring reports will be submitted to the project management and the PCC by the head of the Biodiversity Unit in coordination with the PA managers and will be followed closely by the Bank during project supervision. The performance indicators to ensure that the measures included in this process framework are taken into account are included in the project log-frame:

- proportion of appropriate management plans for the area implemented with community and stakeholder involvement;
- number of local communities actively involved in the management of hotspots and community conservation areas and undertaking flora and fauna surveys;
- rules and procedures to allocate resources among community members that are: (i) written in a local community document (ii) known by community members; and (iii) implemented.

Evaluation of this process framework will be done annually during project implementation.

**Additional Annex 16: Socio-Economic Profile of Communities  
ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

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## **I. Profile of Bedouin Community**

### **A. Demographic features**

#### **Geographic distribution of population**

1. MRMP management has administratively divided the project area into five sub-regions, establishing five Sub-Regional Support Centres (SRSC) in order to bring services closer to the beneficiaries. The total Bedouin population has also been sub-grouped into 38 Local Communities (LC) or social units, each consisting of a few hundred households. These administrative arrangements have been taken to facilitate effective bottom-up planning, community participation, and decentralized management and decision-making. Geographical, hydrological, and tribal considerations have governed these arrangements. The SRSCs are, from East to West, Hekma, Matrouh, Negila, Barrani East, and Barrani West.

#### **Family Structure and employment**

2. **Family structure.** The concept of 'family' is a bit confusing for the Bedouins, unless clearly defined by the investigator. Some would report data on the nuclear family, others on the extended family since members of the latter are residing together. Many references (cited by Naggar et al, 1988) reported an average size of the nuclear family of 6 members. This number was 7 in food cards registration of WFP, and also as shown by the beneficiary database of MRMP.

3. According to the adoption and impact farm survey conducted by MRMP on 2000-01, the average family size of the sample was around 10 members, but the variability was very high (CV 70%, min and max are 3 and 48 members, respectively). This high average of family size reflects the confusion above mentioned; while some respondents used the nuclear family definition, others used the extended family. The average family has 2 members "less than 5 year old", and 4 of each of the other age categories "5 – 18 years" and "over 18 years" (all age categories were equally comprised by males and females).

4. **Employment.** The average number of the family members of working age, according to the farm survey above, was 3 persons, with 2 members working on-farm, and the third working off-farm. The variability was, however, very high (CV over 100% for the three variables; min and max were 0 and over 30 persons, respectively). Agricultural off-farm employment is available, and practiced by many poor HHs, but except for livestock herding, it is casual and seasonal. Off-farm long-term employment was reported (1997 credit and marketing survey) by only 17% of HHs. About 89% of the households involved in off-farm employment have only adult male members doing such work, 10% have women involved, and only 1% has child involvement in off-farm employment. About 53% of those involved in off-farm work were working in trade, 41% have government occupations, and 6% were involved in both businesses.

#### **Education**

5. The illiteracy rate is high, estimated at 70% for men between 6 and 30 years of age (Naggar et al, 1998). However, it seems that effective literacy education has taken place during the last decade. Data provided by Matrouh governorate on the overall population of the Project Area showed an illiteracy rate of only 31% for the year 2000; the rate was 40% for females, and 23% for males. Illiteracy rate was lowest for Matrouh district (23%), and highest for Barrani area (55%), and it was 41% for Negila, and 37% for Salloum. Nevertheless, it should be noted that these data represent both urban and rural

population, and it is most likely they are higher for the rural. In this respect, it is worth mentioning that the WID programme of MRMP has during the last few years educated over 4,800 illiterate Bedouin girls.

### **Settlement pattern**

6. At the top of the settlement hierarchy is the city; a population centre of over 10 000, which contains the directorates of various ministries; Agriculture, Housing and Construction, Social Welfare, and Local Administration. It also contains public hospitals, secondary schools, the City Council, veterinary directorate, and the like. In the Project Area, it is only the city of Marsa Matrouh that complies completely with this definition. There are three other cities in project area namely Sidi Barrani, El-Salloum, and El-Negila.

7. The village is the second level of settlements; a population centre of over 5 000, and less than 10 000, and provides most of the services provided by the city but at a lower level and smaller scale.

8. The third level is the *najd* or *ezbah*, which consists of several *bayts* the inhabitants of which constitutes one kinship group. The members of each *bayt* (3-5 extended HHs) live closer to one another than to the members of other *bayts*. The dwellings of the extended families are called *hawshes*. A *hawsh* is typically a one-story building with 2-10 rooms, depending on who lives in it (Zoghby, et al, 1992).

9. Most of the Bedouin population, or the rural HHs targeted by the proposed Project live in relatively widely dispersed *najd* settlements, though some are living in the towns and the city of Marsa Matrouh. There are different typical rural settlements, reflecting the dynamic relationship between man and his environment, so evident in the Bedouin life. The first type has taken place in the coastal strip up to 10 or 15 km inland, where most of the population lives. It consists of a number of shops and a mosque facing a railway station or bus stop along the highway running from Alexandria to El-Salloum, and linked ecologically to nearby settlements or hamlets. This type of settlement is particularly prevalent where friable soils are available. The second type of settlement has taken place around wells and cisterns far away from the main settlements. They are scattered deep in the desert not less than 10 km south of the railroad. These settlements are much smaller in size than the first type. The third type of settlement occurs along canyons and washes, which run in a south-north direction. Orchards and/or field crops are established in the wadis. A few tents are usually found along with fixed structures in these settlements, and the inhabitants roam the vicinity in search of pastures.

10. Individual dwellings within a settlement usually stand alone, separated from other dwellings by some 50-100 m. The fixed structures are built of limestone blocks quarried in the area. They are roofed either by timber covered with wooden sheets and mortar, or by concrete slabs, prevalent in recently built homes closer to the coast. Dwellings are usually L-shaped with the outer sides facing north and west—the direction of the devastating winter storms. The outside walls contain windows that are small and high enough to not allow trespassing. The inside walls contain doors (one for each room) and windows. The number of rooms depends on family numbers, and socio-economic status. Usually, a 3-generation extended family resides together in a dwelling.

### **Agriculture and Farming Systems**

11. **Land use** is determined by rainfall, geo-hydrological characteristics, soil depth and structure, and availability of water harvesting systems. Good and relatively deep soils in the wadis are exclusively allocated to horticulture, land depressions for barley, and soils of inferior quality are left for pastures. According to MRMP databases, arable land is about 16% of the total project area, approximately 4.11%

(112 732 feddans) planted with orchards and from 4.68% (128 424 feddans) to 10.58% (290 370 feddans) cultivated with barley depending on the amount of rainfall. Fallow varies from 1.31% (35 964 feddans) to 7.21% (197 941 feddans). About 42.95% of total area is rangeland (mainly dense and medium), and 37.69% is very sparse rangelands, barren rocky areas and salt marshes which facilitate water catchment and generates run-offs. Currently, orchards cover about 112 732 feddans (mostly figs and olives), and crops (mainly barley) are grown on over 290 000 fed in wet years, but reduces to 128 424 feddans in low rainfall years. There are 627,000 small ruminants (mainly sheep, and goats), and 19,525 camels. Poultry are mostly kept for household needs, with a few commercial plants. Yields are generally low and variable, averaged at 250-300 kg/fed for barley grain and 300-360 kg/fed for straw, figs at 1,850 kg/fed, and olives at 1 280 kg/fed. However, a good potential for area increase and yield improvement has been assessed.

12. **Crop production.** Barley is the major crop grown in the project area. It is mainly grown to feed livestock on grain, straw, and stubble. According to the credit and marketing farm survey, about 89% of HHs grew barley. It is cultivated to a relatively greater extent in Barrani East and Negila, compared to other SRSCs. The average barley area grown was about 14 fed, but the variability was very high (CV, 108%, min and max area was 0 and 180 fed). Differences between SRSCs were non-significant. Ploughing is almost entirely done by tractors, as less than 1% used animals. The extreme majority (91%) of farmers does not possess tractors. Most of the 9% tractor owners rent them to others for barley cultivation or other uses. Only a few farmers hire tractors from the cooperative. Most farmers grow barley on land depressions, receiving some run-off water from the vicinity. Only 6% of HHs established dykes on barley plots for yield stability and improvement. More than 95% of barley growers use barley to feed their animals, less than 2% to sell the product, and 3% for both purposes. Barley is normally harvested late April through May. It is harvested by hand, plucking the whole plant, including considerable parts of the roots. Roughly 93% use family labour for harvesting barley, 6% use hired labour, and 1% family and hired labour. All farmers reported that in dry years no grain harvest could be possible, and the crop would be grazed green, mostly by the farmers' livestock.

13. A good proportion (70%) of farmers used to grow wheat a few years ago, as seeds were mostly provided free of charge. Thereafter and due to the removal of the subsidy, the proportion of wheat growers has drastically declined. A very small proportion of farmers grow small area of faba bean and lentil.

14. **Fruit Production.** The majority of the HHs are practicing fruit production, 80% are involved in fig production, 52% have olive orchards, but only 10% have almonds and 8% have grapes. The average number of fig trees was 180 tree/HH, but it was 380 tree/HH in Hekma, 200 in Barrani West, and about 110 tree/HH for the other SRSCs. The average number of olive trees was 50 tree/HH, but it was 70 tree/HH in Hekma and Matrouh and Negila, and about 26 tree/HH in Barrani area. Almond was not planted in Barrani East, and a few trees (6 per HH) were planted in other SRSCs. Grape is mainly produced in Barrani West (the average was 35 tree/HH). It was not grown at all in Hekma, and a few farmers grew it in other SRSCs.

15. **Vegetables.** With exception of watermelon, which grown rainfed, vegetable production is not common due to water scarcity. **Melon** was grown by 34% of the sample farmers. Average melon area was 2.3 fed but the variability was extremely high (range 0-100 fed, CV 300%). Most of the melon is produced in Barrani east and west where average melon area is more than 5.0 fed, compared to 0.8 fed in Matrouh, 0.4 fed in Hekma, and less than 0.1 fed in Negila. **Onion** was grown by about 4%. The average area for the sample was 0.1 fed. **Tomato** and **mint**, each was grown by only 2% of the HHs.

16. **Irrigation source.** The extreme majority (72%) of farmers who irrigate orchards use run-off water stored in cisterns, 22% buy water, 1% irrigate from Saniah; and artesian ground water well, and 5% use more than one of these sources. The highest proportion of water purchased was reported in Hekma (37%), followed by Matrouh (31%), Barrani W (9%), then Negila (7%), and no one in Barrani E bought water for irrigation.

17. **Range.** Annual range species are preferred by 89% of livestock herders, shrubs (mainly Acacia, then Atriplex) by 5%, and both by 6%. Shrubs are relatively more preferred in Matrouh compared to other SRSCs. Most farmers (87%) believe that the rangeland has been degraded. However about 50% of Barrani East sample have such a belief, compared to 100% in Hekma and Negila, 95% in Barrani West and 91% in Matrouh. The extreme majority (88%) of the sample believes that low rainfall and successive droughts are the reasons for rangeland degradation. Some 7% admitted over-grazing, and less than 1% considered land cultivation, as the main reason for degradation.

18. **Livestock production.** The majority (over 70%) of HHs have livestock. The average number of sheep is 39 sheep (ranging from 0 to 600, CV 144%). The average number of goats is 11 (ranging from 0 to 120, CV 127%). The average number of camels is 1 (ranging from 0 to 77, CV 500%). Flocks are generally larger in the west (Barrani East and West and Negila) than in the east (Hekma and Matrouh). Shepherding is mainly the job of children (52% of the sample), about 28% shepherd their flocks by themselves, 6% by relatives, and 14% by hired labour. Some 2% reported women’s participation, with the children and/or adults, in shepherding. All farmers and herders increasingly use concentrates. Small numbers of poultry are kept by the HHs. The average number per HH was 25 chicken, 30 pigeon, 13 rabbit, and 5 ducks and geese. All farmers and shepherds reported increasing their use of feed concentrates.

19. **Farming systems.** Agricultural development undertaken in the last few decades has converted the traditional pastoral system into sedentary agriculture, and a variety of farming systems has evolved. Farming systems (FS), for the purpose of identifying farm types, are defined by the combination of the main agricultural activities practiced in the farm; field crops, fruit tree, and livestock. Geo-hydrology, availability of water harvesting structures, soil type, and economic conditions of the HH governed the evolutionary process of FS. The pastoral system has first evolved to semi-settled “Livestock/ Crop” FS by growing barley in land depressions receiving natural run-offs from the vicinity. Water harvesting allows fruit trees plantations, further transforming the FS to the “Livestock/Crop/Horticulture” FS.

20. The FS analysis, using the beneficiary database, conducted by MRMP in 1997 and updated in 2001 indicated that, “horticulture/crop/livestock” FS is predominant, practiced by 48% of total households. Some households have different combination of two activities, and a small proportion of the households practiced only one agricultural activity, either crop, horticulture, or livestock production, as shown below:

“Tree/Crop/Livestock” FS	48% of total households
“Tree/Crop” FS	14% of total households
“Livestock/Crop” FS	13% of total households
“Livestock/Tree” FS	9% of total households
“Crop only” FS	8% of total households
“ Tree only” FS	4% of total households
“Livestock only” FS	4% of total households
<b>Total</b>	<b>100% of total households</b>



21. The figures above dispel the common notion that the NWC region, especially its western part, is a Barley/livestock area. Fruit tree production is now equally, if not more important than barley and livestock. It could be concluded, from the figures above, that 75% of total HHs are involved in fruit production, 74% in livestock, and 83% in barley production. Barley, however, is not a cash crop, but is mainly produced to feed livestock. Although income from fruits, on average, may exceed the income from livestock, but the latter is more than a cash provider. It is an economic buffer against drought and a social prestige as well.

22. It should be emphasized in this juncture, that any FS situation is static only at a point of time. It is a dynamic process that transforms a simple, less productive, FS into a more complex and productive one, with changes in farm resources occurring over the time. Constructing water-harvesting structures, for example, facilitates evolving the extensive production FS (of crop/livestock) into the more intensive “horticulture/crop/livestock”, provided that other resources allow for such evolution. Development policies should carefully recognize the FS dynamics, so that measures taken would not disturb the ecosystem balance. Conversely, recurrent droughts can lead to distress sales of livestock transforming a livestock based FS to a single crop or horticulture system.

23. Although not a cash crop, barley has established an important role in the FS of the Project Area. Its area has been steadily increasing, most of the time at the expense of good ranges. This simple fact should be considered in any resource management policy, especially as related to range improvement. Any attempt to improve the range at the expense of barley area would fail, most likely.

24. The distribution of households, or farms, by FS by SRSC is given in Table 2, which shows that the “Tree/Crop/Livestock” is predominant in all SRSCs. It also shows that the fruit-based FS have been relatively more developed in the eastern part of project area than in the west. Fruit trees are planted on 80% of total farms in Hekma and Matrouh SRSCs, compared to Negila (68%), Barrani East (74%), and Barrani West (67% of the total farms). Livestock-based Fs are, on the other side, more evident in the west than in the east. Over 80% of farmers in Negila and Barrani East are livestock breeders, compared to 65% in Hekma and 71% in Matrouh.

**Table 1: Distribution of Farming Systems by SRSC in Project Area**

FS	Hekma	Matrouh	Negila	Barrani E	Barrani W	Total
T/C/L (HH) (%)	1632 <b>49</b>	2599 <b>52</b>	1300 <b>43</b>	1805 <b>54</b>	1169 <b>41</b>	8505 <b>48</b>
T/C (HH) (%)	743 <b>22</b>	824 <b>16</b>	176 <b>6</b>	351 <b>10</b>	448 <b>16</b>	2542 <b>14</b>
L/C (HH) (%)	244 <b>7</b>	503 <b>10</b>	513 <b>17</b>	525 <b>16</b>	396 <b>14</b>	2181 <b>12</b>
L/T (HH) (%)	273 <b>8</b>	364 <b>7</b>	461 <b>15</b>	277 <b>8</b>	191 <b>7</b>	1566 <b>9</b>
C (HH) (%)	123 <b>4</b>	382 <b>8</b>	186 <b>6</b>	232 <b>7</b>	420 <b>15</b>	1343 <b>8</b>
T (HH) (%)	298 <b>9</b>	223 <b>5</b>	109 <b>4</b>	64 <b>2</b>	96 <b>3</b>	790 <b>4</b>
L (HH) (%)	35 <b>1</b>	120 <b>2</b>	310 <b>10</b>	107 <b>3</b>	163 <b>6</b>	735 <b>4</b>
Total (HH) (%)	3348 <b>100</b>	5015 <b>100</b>	3055 <b>100</b>	3361 <b>100</b>	2883 <b>100</b>	17662* <b>100</b>

(\*) Does not add to the total HHs of 18714 because some beneficiaries do not have farm resources upon which FS were defined.

Key: T/C/L trees/crops/livestock  
T/C trees/crops  
L/C livestock/crops  
L/T livestock/trees  
C crops only  
T trees only  
L livestock only

25. **Agricultural production improvement.** MRMP has implemented effective adaptive research and technology transfer programmes, with effective participation of local communities. Simple improved technologies were tested, adapted to local conditions, and disseminated to farmers and shepherds. Technologies for improving agricultural production focused on genetic improvement, cultural, crop management, and cropping patterns, and livestock improvement technologies on improved feeding regimes and animal health. A considerable area of degraded rangelands was rehabilitated by planting several millions of fodder shrubs, and reseeding many thousands feddans. Adoption and impact studies carried out have revealed satisfactory adoption rates for most of the technologies promoted, and a good physical and economic impact as well.

### C. Social Organization

#### Tribal structure

26. The Bedouin population is composed of the main tribes of Awlad Ali, and their followers El-Murabtein or farmer client tribes. Of the 20 Awlad Ali tribes of the NWC, only 5 are found in the Project Area. These are Ali El-Ahmer, Ali El-Abied (or Awlad Kharoof), El-Senena, El-Gomeiat, and El-Qataan, who account for 68% of the population. These tribes are more cohesive and dominant, holding the best of land and water resources, and constitute, in a sense, an ‘old aristocracy’. They have ‘*El-Nezala* rights’—the authority to protect other tribes, or individual tribesmen if feuds occurred.

27. The sixth major tribe in the Project Area is the El-Murabtein who entered the region in the 17th

century and who presently account for 32% of the population. The sub-tribes collectively known as El-Murabtein do not belong to the dominant tribes and have the least power and prestige. They have a genetic connection with the *Saadis*, but without a common ancestor. They were fragmented and weak as a group, and had access to pasture, land, and water resources under *Saadi* protectors, and/ or beyond the territory occupied by the dominant *Saadis*.

28. Intermarriage within and among these tribes maintains the prestige structure, and suitable mates are occasionally sought not only from within other tribes in the area, but at times from far away geographical areas.

29. Tribes are divided into sub-tribes, of which there are about 40 in the project area. The sub-tribe ‘*qabila*’ is the functional tribe of most importance in dealing with the government. It is a blood-related group, and the reference most commonly used by individuals for defining their tribal identity. Each sub-tribe is further divided into clans (*aila*, singular) of 5-7 generations depth, and further into extended households (*bayt*, singular) of 3-4 generations depth.

30. The largest single tribe is Ali El-Ahmer, and the smallest is El-Gomeiat.

Ali El-Ahmer	21% of the total population;
Ali El-Abeid	13% of the total population;
El-Senena	13% of the total population;
El-Gomeiat	8% of the total population;
El-Qataan	14% of the total population;
El-Murabtein (Sonkor)	31% of the total population
<b>Total</b>	<b>100% of the total population</b>

31. The tribal distribution by SRSC is presented in Table 3. The Table shows that the proportion of El-Murabtein to total SRSC population is highest at Hekma, Matrouh, and Barrani East (around 40%), and lowest at Negila (9%) and Barrani West (15%). The tribal distribution on the basis of the number of HH is not presented, because there is no significant difference in the household/ or family size between SRSCs (all averaged at 7 persons/HH). Therefore, the tribal distribution of HH has the same percent structure as the total population.

**Table 2: Tribal Distribution of Population by SRSC**

**a) Population (persons)**

SRSC	Ali Ahmer	Ali Abeid	Senena	Gomeiat	Qataan	Sonkor	Total
Hekma	3878	2594	4486	4029	605	10573	26165
Matrouh	13992	5919	1765	2034	0	16399	40109
Negila	3633	7513	3957	4301	690	1994	22088
Barrani East	1175	508	5261	0	6873	10072	23889
Barrani West	5335	132	1146	0	10419	3043	20075
<b>Total Population</b>	<b>28013</b>	<b>16666</b>	<b>16615</b>	<b>10364</b>	<b>18587</b>	<b>42081</b>	<b>132326</b>

**b)% Distribution**

<b>SRSC</b>	<b>Ali Ahmer</b>	<b>Ali Abeid</b>	<b>Senena</b>	<b>Gomeiat</b>	<b>Qataan</b>	<b>Sonkor</b>	<b>Total</b>
Hekma	15	10	17	15	3	40	100
Matrouh	35	15	5	4	0	41	100
Negila	16	34	18	20	3	9	100
Barrani East	5	2	22	0	29	42	100
Barrani West	27	--	6	0	52	15	100
<b>Total Population</b>	<b>21</b>	<b>12.5</b>	<b>12.5</b>	<b>8</b>	<b>14</b>	<b>32</b>	<b>100</b>

**Tribal Leadership**

32. The tribal leadership is hierarchical, yet simple. Leaders are designated at each tribal level, and there is a customary law council `Majlis Orfi` at each level of the clan. There is still pronounced group solidarity with recognized communal responsibilities at each level.

33. The tribe's *Sheikh* at the top is the head of the tribe council and is the final authority on legal, social, and other matters. The *Sheikh*, who is usually the oldest son or descendent of a deceased *Sheikh*, is responsible for the stability, tranquillity, and prosperity of his tribe. He is also responsible for making judicial decisions, and adjudicates disputes that may arise between feuding sub-tribes. The *Sheikh* is held in the highest esteem and accorded to the highest privileges.

34. Below the Tribal *Sheikh*, there are a number of Sub-Tribe *Sheikhs*, whose authority is predicated on the support of the Tribal *Sheikh*, and the consent and support of their constituency. In addition to their judicial role, the sub-tribe *Sheikhs* compete among themselves to guard the prestige of the sub-tribe, and enhance the standing of their constituency - a matter requires effective communication with governmental and civil organizations, and key local and national leaders.

35. The '*Omda*' is the figure of administrative authority at the sub-tribe level and thus have a different role from that of the Sub-Tribe *Sheikh*. The authority of the *Omda* is sanctioned by the Tribal *Sheikh*, but the *Omda* has to pragmatically command the respect and receive the support of the members of his sub-tribe as an adept problem solver and instrumental leader. His positions are more administrative than political, and he is the link between constituency, governmental, and civil authorities. Each *bayt* is headed by an *Aaqila* or Elder. The *Aaqila* is the wise and respected in the *bayt* and his advice and help are sought in social and moral matters as well as in matters affecting the overall management of the affairs of the *bayt*.

## D. Socio-economic Features

### Social status, and control

36. Bedouin society is patriarchal, patrilineal and patrilocal. The tribal social status system (Zoghby, et al, 1992) is based on socially inherited privileges, and consists of a virtually unchangeable order of ranks. Although an emerging pattern based on newly acquired wealth is making some headway, class position is still dependent on the tribe an individual belongs to, and how closely blood-related one is to the head of the tribe. Within this framework, the social status and the division of labour are prescribed and, in the final analysis, almost entirely predicated on kinship, gender, and age. Males have ascendance on females, and the old dominates the young. Status which a Bedouin might have outside the tribal system, such as being a professional or a governmental official, does not have much influence within the social status system, and it only enhances one's prestige within the tribe.

37. The *bayt*, in essence, is the economic condominium whose members work together cooperatively for the common good. The *bayt* usually includes 3-5 household, each of which could be a nuclear or an extended family. The social standing of the *bayt* depends on the number of married brothers and kin who pool their resources together and form a viable socio-economic unit.

38. Social control is almost entirely informal, and is maintained by elaborate sets of reciprocal obligations and effective sanctions that have maintained the well-established traditional way of life. An indication of the effectiveness and strength of traditional sanctions is that the poor never steal, even when they are in bad need for food.

### Traditions and socio-economic changes

39. Although traditional, the Bedouin society does not lack socio-economic changes. The Bedouins have rapidly adopted new technologies, once proved to increase their income. They have adjusted to modernized life requirements as long as their pride, privacy, and decency are not threatened. Field observations (Zoghby, 1992) have shown that Bedouins have ethical attitudes that abhor laziness and place great value on hard work and acquisition of wealth. These attitudes serve at times as the driving force behind emigration of the youth to more economically promising areas.

40. A sense of restlessness was also observed among the young striving for independence and modernization. However, young Bedouins have no objection to helping and cooperating with members of their tribes, and a great sense of mutual obligations and common understanding is still being observed. Although group solidarity seems strong, some of the young feel that, in these days, affiliation to the tribe has rather a more symbolic than substantive meaning. The poor face a desperate situation resulting from lack of capital and know how, and many young rural poor expressed a will to look for a job in another sector of the economy rather than agriculture. If not found in the area, they have but to emigrate.

### Customary Law

41. The customary law of the local tribal population evolved in a context of nomadic and semi-nomadic Bedouins, who combined livestock grazing with dryland barley farming. This law is called **Derbat Awlad Ali** and was codified in the 17th century (as the tribes entered from Libya). The law includes a legal code for moral and civil offences, role of order for the tribal judicial process, and a system of legal specialists. Several tribal groups are recognized locally as having the expertise of judicial matters. For an example, Al-zirai` of Al-Arwa tribe deals with agricultural matters. Al-Zafarat of

Al-Ushaybat tribe deals with those of herding whilst the Badi Al-Sharasat deal with issues related to camels herding. The legal principles are both written and verbal. There are a number of principles and mutually accepted rules for use of land, vegetation, and animals. It is important to note that as nomads the Bedouin did not have free and unrestricted access to pasture. Rather there were rules to ensure distribution of access rights and conservation of water and pasture.

### **Land tenure**

42. Tribes of Awlad Ali and El-Murabtein, or farmer client tribes entered the region in the 17th century, coming from Libya. Until a few decades ago, Awlad Ali tribes held the land and water resources. They protected the less powerful and less prestigious El-Murabtein, and permitted them access to pasture, land and wells within their tribal areas and between and beyond their own territories. Conflicts arose, and an arbitration committee called Majles Orfi was formed to prepare an agreement to distribute land between the different tribes. El-Murabtein tribes were given full claims to land and water in areas that were not already cultivated and claimed by Awlad Ali. As most of good lands were already taken, El-Murabtein tribes have settled on the poorer and more marginal lands.

43. According to the arbitration, every tribe and sub-tribe (*qabila*) was designated a territory “watan” that may extend to many square kilometres. The tribal territories were demarked and documented by the arbitration committee, and thereby descendants could inherit them without inciting conflicts. In Bedouin traditions, land and water resources have been communally utilized. However, except for the southernmost parts of communal rangelands, the tribal territories have been allocated to individual tribesmen in such a way that every landholder knows quite well the boundaries of his share in the tribal area. With continued use, the land becomes virtually owned in the sense that the claimant has exclusive rights to use it.

44. Officially, steppe and deserts are state lands and government is authorised to lease or sell state land for purposes of the nation’s interest. But, although the Bedouins’ possession of land is not based on statutory law, they are nevertheless in actual physical occupancy of land that belongs to the state. No outsider can purchase, and utilize, the land from the state without consent of the Bedouin occupiers and payment of a handsome compensation to them (Zoghby et al. 1992). The government has recognized the de facto usufruct rights of established tribal territories, and the usufruct system of land tenure has sustained.

45. As land use becomes more commercialized, and individuals have embarked on making long-term investments (water harvesting structures and orchards establishment) on land they hold, many issues/ disputes have arisen. Such issues were the use of land as collateral, the claims of individuals over the use and disposal of improved land, and competing claims among brothers, kinfolks, and neighbours.

46. The Desert Law 124 of 1958 and the Law 100 of 1969 allowed individual tribesmen to gain title over land they cultivated according to some criteria. The programme to assign land titles to the Bedouins has however proceeded very slowly. It is estimated that over 80% of landholdings in the Project Area still under traditional tenure, without legal title. Recently however, the official process of gaining legal title over landholdings has been speeded up due to enhanced awareness of the increased economic value of land, and upon institutional support from the Ministry of Agriculture and Land Reform (MALR) through MRMP.

### **Communal water and grazing rights**

47. Each tribe has its own range and water sources, and territorial boundaries of tribes are respected.

Water run-offs, generated up in the plateau by catchment areas and trapped by small dykes, can be used for localized agricultural production, but run-offs should not be blocked from running to other downstream localities. Water rights and disputes are subject to the tribal customary laws.

48. Water for domestic and livestock use is harvested and stored in excavated cisterns, or concrete reservoirs. In addition to old Roman cisterns, many new cisterns, especially deep inland, were originally established for communal use. In case of cisterns established within private landholding for domestic use, a neighbouring water-deficient household can use the nearest stored water regardless of property rights.

49. According to Bedouin customs and traditions, members of a tribe/sub-tribe have exclusive rights to graze their flocks on the area allocated to their tribe/sub-tribe. Members of other tribes are forbidden from grazing their animals on other tribes' territories, unless prior permission was given. Rangelands in the settled-population areas have increasingly been allocated to individual families. Roaming herds can use such ranges, charged or free of charge, but only after permission was granted.

### **Women in Bedouin Society**

50. Division of labour: In the traditional pastoral society, both men and women participated in livestock management. Bedouin women in the past were far less restricted in their economic and public role than at present. While sedentarization has restricted women's mobility, intensification of agricultural activities, tree plantation, and the provision of water and firewood all brought new responsibilities to women, especially the poor. Nevertheless, gender segregation has increased with the urbanization and development of tourism and with greater exposures to religious centres (WB, 1993).

51. **Income-generating activities.** Traditionally, Bedouin women have always contributed substantially to the maintenance and production of flocks. Today, they are involved in a number of activities, including harvesting and processing. Among traditional activities, which now have a potential market in the cities, are rug and blanket weaving. Bedouin weaving has a good demand nowadays, especially as a tourist item, while in the past it was only for local consumption. MRMP, through the WID programme, has enhanced women's involvement in resource management and productive activities. WID has implemented extensive programmes for literacy education of Bedouin girls, training for skill building for weaving and food processing, and awareness workshops for improved health and nutritional practices. It also has facilitated, through technical and financial support, establishing small-income generating projects to enhance the economic independence of women, and has provided facilities to alleviate work burden, such as water pumps, gas ovens, and donkey-carts.

### **Income Source, and savings**

52. Agricultural production is the main source of income contributing around 75% of family income, followed by income from trading (16%), then off-farm employment (8%), whilst 1% of family income comes from handicraft. The variability within the sample is however very high, CV is 80% for the farm sources, and over 100% for all other sources.

53. Differences between SRSCs were significant, with the highest and lowest proportion of income from fruit production reported for Hekma and Negila (65% and 27% of total income, respectively). The highest contribution of livestock production to income was for Barrani East (45%) and the lowest for Hekma (23%). Income from trade and from off-farm employment assumed more relative importance in Negila. Differences between FSs were also significant as shown in Table 4.

**Table 3: Source of family income and its variability - (% of income)**

SRSC	Fruit	Livestock	Trade	Off-farm	Handicraft	Total
Hekma	65	23	3	6	3	100
Matrouh	33	35	21	10	1	100
Negila	27	27	32	13	1	100
Barrani East	40	45	11	4	--	100
Barrani West	37	41	17	4	1	100
<b>Total sample</b>	<b>40</b>	<b>35</b>	<b>16</b>	<b>8</b>	<b>1</b>	<b>100</b>

**Family savings**

54. The great majority (95%) of HHs has no income surplus to save over expenditures. Differences between SRSCs were significant, with a relatively higher proportion of farmers who have income surplus reported in Barrani East and Hekma (8% of HHs), Matrouh (6%), Barrani West (3%), and none in Negila has any savings. Savings, reported by 5% of total HHs, were mainly used for improving the farm (47% of the reports), improving housing conditions (34%), increasing livestock flocks (21%), and for social obligations (11%).

**Other socio-economic aspects**

55. MRMP conducted, in 1997, a farm survey on a 750-HHs sample, representing agro-climatic and socio-economic variability of the project area. The main objective was to assess the credit and marketing situation, and major influencing socio-economic factors. Some indicators, which highlight the socio-economic conditions of the project beneficiaries that were assessed by the survey, are presented below. Generally there were significant differences between SRSCs in their socio-economic conditions. But, the differences were not systematic, and an SRSC that had a relatively distinguished position for one indicator, might not have it for other indicators. However, farmers operating within the "horticulture/crop/livestock" FS generally have a better position compared to other systems, for all indicators.

56. **Living standard.** About 14% of the sample surveyed considered their living standard as good, 56% as normal, and 30% as very poor. An excellent or luxurious standard was observed for only 2 farmers, in Matrouh SRSC. However, it should be indicated that the normal living conditions in the area might be considered poor compared to other regions or to universally accepted standards. Also, pride prevents Bedouins from announcing poverty and basic unmet needs. Good living conditions were reported more in Hekma (23% of HHs) and Negila (18%), and least reported in Barrani East and West (9%), and Matrouh (11%).

57. **Housing conditions.** According to observations and assessment of interviewers of the farm survey, housing conditions were considered as normal for the great majority (82%) of the HHs, 17% as good, and only 1% considered as excellent. Relatively better housing conditions were most observed in Negila (32% of HHs), and least in Barrani East (9%).

58. **Electricity.** The great majority (88%) of HHs does not have electricity sources. Electricity was however more available in Matrouh (19% of HHs) than Hekma (15%) and Barrani West (10%), and it was least available in Barrani East (7%) and Negila (6%).

59. **Transportation facility.** Animal-drawn carts are used by 71% of the HHs, pick-ups by 24%, and



small cars by 4%. Only 1% of HHs own cars. Pick-ups are more used in Matrouh (40% of uses) and by 31% in Hekma, and least in Barrani West (10%) and Negila (12%) and Barrani East (16%).

60. **Refrigerator.** Only 5% of HHs have refrigerators, which are more prevalent in Matrouh and Barrani West (9% of HHs) than other SRSCs (1-2%).

61. **Radio.** About 50% of HHs have radios, which are found more in Hekma (78%), Negila (67%), Matrouh (50%), Barrani West (44%), and Barrani East (26%).

62. **TV.** only 9% of HHs have TVs. The figure for Hekma was 14%, Matrouh 12%, Barrani West 7%, Barrani East 5%, and for Negila, 3%).

63. **Sewing machine.** 17% of HHs have sewing machines, but the figure was 36% for Hekma, Matrouh and Barrani West (16%, each), Negila (9%), and Barrani East (5%).

64. **Energy sources.** About (79%) of HHs use **firewood** for energy in addition to other sources. Firewood is used more in Barrani East (91%), Hekma and Barrani West (80%, each), Negila (77%), and Matrouh (64%). **Kerosene** is used by 43% of HHs, with higher usage at Hekma and Barrani East (63%, each) compared to other SRSCs (about 38%). **Gas** is used by 29% of HHs, with higher usage in Matrouh (45%) compared to Negila and Barrani West (29%), Hekma (24%), and Barrani East (15%).

## II. Poverty Analysis

65. The NWC region has maintained a well-known civilization during all historical times. The ancient Egyptians, the Greeks, and the Romans left proofs of prosperous settled agriculture. In the past, the region produced enough grain, fruit, sheep, and goats for export to adjacent countries (Naggar, et al, 1988). However, nomadic pastoral tribes have occupied the regions for many centuries, accompanying the Islamic occupation of North Africa. Except for deep inland oasis and scattered spots at the coast, sedentary agriculture disappeared from most of the region.

66. Government's awareness of the socio-economic and political importance of the border regions has effectively been increased. Starting from the 1960s, many rural development projects have been implemented aimed at natural resource development for enhancing agricultural production, and consequently the settlement of the Bedouins. At present, the livelihood of over 70% of the population in the NWC depends on agriculture (crop and livestock production). The population of the region is still, however, among the poorest and most deprived in Egypt.

67. Zoghby, et al, 1992, have assessed the incidence of poverty in the project by comparing per capita on-farm income with the national GNP per capita. They reported that in a relatively good year, the per capita farm income of the 50% HHs on small farms is likely to be between one-quarter and one-third of the Egyptian GNP per capita in 1989. The 40% of farms of medium size may have a per capita farm income equal to or 1.5 times the national per capita GNP. The 10% of farms, which are large, probably have a per capita farm income 3.5 to 5 times the national per capita GNP. It should however be indicated that half of the farms in the middle group will have income below the group average, and in poor dry years, the relative incomes of the groups will be significantly worse.

68. The concept of poverty line, with its lower and upper limits, was adopted to assess the incidence of poverty in the project area. The lower limit is defined as the minimum income level with which a household can barely survive at the most rudimentary level. The upper level is defined as the income

level that is necessary to attract and keep smallholders in the area (Zoghby, et al, 1992). The total population was analysed by income, according to the level and productivity of farm resources which the households (HHs) have, then compared with the poverty limits to assess the proportion of population who are ultra poor (the small farmers), poor (medium farmers), and non-poor (large farmers).

### Establishment of Poverty Line

69. **A lower limit of poverty line**, of LE 7,890, was estimated for an average household of 7 members. This limit represents the income level needed by the average HH to ensure the minimum diet and essential non-food items. The annual cost of minimum per capita diet was estimated at LE 655, using the minimum requirement of food item-groups needed for subsistence energy as recommended by FAO, and the market prices at the city of Marsa Matrouh (Table 5). Adding the cost of non-food items of LE 472 (42% of total food and non-food cost) makes a minimum per capita total cost of LE 1,172. It should be noted, the consumer prices elsewhere in the project area are higher than those of Marsa Matrouh.

**Table 4: Annual Cost Per Capita of Minimum Food Requirements at Marsa Matrouh, 2001**

Food Item	Requirements (kg/yr.)	Price (LE/kg)	Annual Cost (LE)
Cereals	205.2	1.20	246.25
Meat	4.8	20.00	96.00
Lentils	13.8	2.75	37.95
Beans	15.6	2.75	42.90
Vegetables	14.9	1.25	18.65
Onions	15.5	0.80	12.40
Milk and Cheese	18.1	5.75*	104.10
Molasses	3.2	2.50	8.00
Sugar	8.3	1.40	11.60
Oils	4.4	4.00	17.60
Fruits	29.7	2.00	59.40
Total annual cost per capita for food items	655.00**		

(\*) Weighed average, assuming the consumption ratio of milk to cheese would be at 1:2

(\*\*) Rounded to the nearest integer

70. **An upper limit of the poverty line**, of LE 11 830, was then estimated at 1.5 times the lower limit (Table 6). This figure represents the income level that attracts smallholders not to migrate outside the Project Area.

**Table 5: Limits of Poverty Line at Matrouh Governorate, 2001-2002 - (7-Member Family)**

Description	(LE)
Sub-total annual cost of minimum food requirements per capita	655
Sub-total annual cost of non-food requirements per capita	472
<b>Total minimum annual cost per capita</b>	<b>1127</b>
Lower limit of poverty line for a 7-person family	7,890
Upper limit of poverty line for a 7-person family	11,830

## Income Levels, and Distribution

71. The M&E unit of MRMP has estimated the income of HHs, using farm resources data (barley area, fruit trees, and livestock) available in the beneficiary database for each HH and assuming a weighed 10-year average of resource productivity. Total HHs are then classified by three income levels:

1) Ultra poor, representing small farmers	< LE 10,000 gross income
2) Poor, representing medium farmers	LE 10,000 – 20,000 gross income
3) Non-poor, representing large farmers	> LE 20,000 gross income

72. For comparison with the poverty line, gross income needs to be adjusted to net farm income and an allowance made for off-farm income. The crop budgets indicate that net farm income represents around 45-50% of gross farm income on average whilst Table 4 indicates that farm income represents around 75% of the total household income. With these adjustments, the above income thresholds translate into < LE 6 000; LE 6 000 to 12 000 and above LE 12 000. This indicates that households in the first category are below the lower poverty line whilst households in the second category are below the upper poverty line.

73. Analysis of the population by income groups revealed that 56% of the HHs is under the lower limit of the poverty line, 24% are within the upper limit of poverty line, and only 20% can be considered non-poor, as shown below.

Income Group	HHs	% of total
Ultra poor	10410	56
Poor	4523	24
Non-poor	3881	20
<b>Total</b>	<b>18714</b>	<b>100</b>

74. The majority of the HHs in project area is poorly resourced. The average farm resources per HH, in 2001, are about 125 fruit trees, 12 fed of barley, and 33 small ruminants. Differences between economic groups are very significant (Table 7).

**Table 6: Average\* Farm Resources By Economic Groups**

Economic group	Tree (no.)	Barley (fed)	Livestock (no.)
<=10000	60	5	10
>10000<=20000	150	11	35
>20000	290	32	100
Overall HHs	125	12	33

\* Averages are calculated on the total HHs, not real possessors

75. The figures on farm resources should however be viewed from productivity perspectives. Productivity per fed of barley, or per fruit tree of the irrigated agriculture in the Nile Valley and Delta is 10 times the productivity in the Project Area. It also should be indicated that not all HHs have all resources:

- (a) Fruit trees are grown by 62% of small farmers, 83% each of medium and large farmers;
- (b) Barley is grown by 71% of small farmers, 86% and 88% of medium and large farmers, respectively; and
- (c) Small ruminants are possessed by 51% of small farmers, 89% and 94% of medium and large farmers, respectively.

76. The distribution analysis of HHs by income categories and by SRSCs (Table 8) shows no significant difference in poverty incidence between the SRSCs, though the proportion of the ultra poor category is a little smaller in Barrani East and Hekma.

**Table 7: Distribution of Population by Income Group (LE) by SRSC**

SRSC	Ultra Poor < 10,000	Poor 10,000–20,000	Non-poor > 20,000	Total
	HHs	%	HHs	%HHs%HHs%
Hekma	1767	51	925	27738223430100
Matrouh	3206	59	1202	22992195400100
Negila	1921	59	761	23603183285100
Barrani East	1705	49	941	27846243492100
Barrani West	1811	58	694	22602203107100
Total population	10410	56	4523	2438812018714100

### III. Vulnerability Issues

77. The biophysical and socio-economic environments of the project area are subject to a variety of risks of different origins. The pressure of humans and livestock on the poor natural resource base has disturbed the balance of originally fragile ecosystems; and, the development indiscriminately undertaken in the last few decades has substantially aggravated the deterioration of the ecological balance. The area has institutionally been long neglected; lacking, in particular, strategies for sustainable resource management, and institutions for education, research, and human resource development.

#### A. Sources of vulnerability

78. There is a multitude of risk factors that threaten resource sustainability, making outputs and outcomes of rural development in project area highly vulnerable. These are:

- (a) Biophysical risks;
- (b) Socio-economic and financial risks; and
- (c) Institutional risks

### **Biophysical vulnerability**

79. The arid climate with its low and highly fluctuated rainfall is a primary source of risk and vulnerability. Analysis of long-run rainfall data showed that out of 10 years, 4 were normal or around the average, 2 were wet, and 4 were dry or below the average. Crop yields are dramatically affected by rainfall variability. In a good-rainfall year, barley yield may exceed 700 kg/fed, whereas the crop may not reach maturity in a dry year, and it is grazed green by livestock. Orchard productivity also fluctuates by rainfall rate at a range of 40-50%. On the other side, strong torrents engendered by heavy rains causes serious damages, destroying dykes, and washing away good soils and small tree plantations. Windstorms are also a serious factor of physical risk on many locations, especially in Barrani area, eroding the originally poor soils and causing crop damage.

80. Farming involves risks and uncertainty, even in years of relatively high rainfalls the annual rains were not appropriately distributed. In years of good early rains, farmers sow barley on every piece of the cropland, saving the best and most productive parts for watermelon—a highly profitable summer cash crop. In some years, however, most of annual rate came early in the growing season, then the rainfall ceased. No mid- or late-season rains in the spring means multiple losses for farmers; poor barley produce, which may not recover its cost, no seed for the next year requiring it to be bought at additional cost, and no cultivation of watermelon.

81. Local species and varieties of crops and local breeds of livestock, though well adapted to the environment, have low genetic potential for productivity improvement. Crop diversity is constrained by physical and economic constraints, and barley mono cropping is quite common. Agricultural pests are another major source of biophysical vulnerability that has recently drastically increased, in some locations, with increased development and agricultural intensity. Rodents may cause serious damages to earthen dykes and crops. Insects and diseases combined with improper management practices have turned hundreds of orchards unproductive, and substantial measures are required for rejuvenation.

### **Socio-economic vulnerability**

82. Fragility and low productivity potential characterize the natural resource base of the project area. Therefore, the majority of HHs is poor; Over 56% of HHs is below the lower limit of poverty, and 24% within the upper limit of poverty. Farm income for the majority ultra poor is not sufficient to survive, and they have to seek off-farm employment. It is estimated (Zoghby, et al, 1992) that the ultra poor, for their survival have to derive one-fifth of their income, on average, from off-farm sources, most likely working for richer HHs. It is not only that farm income is commonly low, but it also fluctuates greatly. It is estimated that farm income might be reduced by one-third in 2 years out of 5, and it could be negligible in 1 out of 5 years.

83. Illiteracy rate is high, and professional skills are lacking. Economic opportunities and employment in other sectors of the local economy other than agriculture are very limited. In successive years of drought, which are not very common, a good proportion of the population suffers dramatic hardships and is barely able to survive. The situation has become worse after the elimination of state subsidies on food items and farming inputs, and the recent sudden cancellation of the World Food Programme in the Project Area.

84. Bedouin traditions and tribal solidarity have always been a strong factor for socio-economic sustainability and community survival. Over the times, tribal traditions and solidarity has strongly stood against all kinds of threats and hardships. Although they in a sense still do, but with the thrust towards modernization and individualism recently have taken place, they are beginning to loosen. The concept and practice of the tribe/ or sub-tribe as a 'consolidated socio-economic unit' that governed the Bedouin pastoral ecosystem for ages, has become susceptible to drastic effects imposed by development, and the more the development advances the more vulnerable the system becomes.

85. A few decades ago, resource development has been initiated with a **relatively** plenty of water run-off and **relatively** few tribal members interested in development and sedentary farming. A lot of water run-offs used to be lost to the sea. Water harvesting structures constructed to make use of part of the run-off has created no problem, with no social disputes over water rights. This situation still prevails in many watersheds but, in many others, the newly established structures upstream have drastically adversely affected old orchards downstream, inciting serious reasons for social dispute.

86. So far and in the short-run, such social problems related to tribal solidarity might not be significantly serious. But in the long run, with the advancement of development and ever increasing demand on water and other resources, it might be. Unless socio-economic research and actions are incorporated with the biophysical ones, social conflict might be serious, not only between different tribes sharing the same resources, but even within the same tribe, and probably between individuals of the same extended family "*bayt*".

### **Institutional vulnerability**

87. Public institutions and civil administration entities that provide different types of services (education, health, credit, agricultural and social services) for the local population have limited presence in the Project Area. They are mostly concentrated in urban centres, and are difficult to access by the majority of the rural poor, due to remoteness, inefficient and costly transportation, and in many cases the lack of awareness of the beneficiaries.

88. Prior to the establishment of MARC and TCRA by MRMP, research, and training institutions for rainfed resource management and agriculture were absent in the NWC. Except those provided by MRMP, agricultural extension services were very modest. Although 95% of rural HHs are members in cooperatives, barely half of them have benefited from a few cooperative services. Credit from banks, although available procedures are complicated and the majority of HHs has refrained from using it, though it is badly needed. The poor face a desperate situation of lack of capital, know how, and training. Without the infusion of capital for rural development, emigration to urban areas such as the city of Marsa Matrouh is likely to escalate.

## **B. Farmers' coping strategies**

### **Cropping strategies**

89. The farming systems, which have developed, based on a combination of horticulture, field crops, and livestock are the most impressive strategy to cope with the biophysical and economic risks and uncertainties, which are common in the area. Barley is mainly grown to feed animals, utilising grain, straw, and stubbles. In very dry years when there will be no grain produced, the barley is green grazed by livestock. Horticulture is a good cash enterprise, and also contributes to feeding livestock on by-products and residuals. Livestock is not only a cash source for the family, but also a saving asset used at times of hardships. This multi-enterprise FS provides a good economic buffer for the HHs. If one enterprise fails in a year, other enterprises are there to maintain survival.

90. To cope with rainfall uncertainty, most farmers do not sow barley until after the first rains. When early rains are delayed or precipitation is low, the crop area may be reduced by 40-50% of the area sown in wet years, and lower seed rates are used to minimise the cost. In years of timely and plentiful early rains, farmers sow every piece of land, extending in some cases and some years even to marginal lands.

91. Horticulture is a highly remunerative, cash farming enterprise. A few decades ago, a very small proportion of farmers was involved in fruit and vegetable production. However presently, over 75% of HHs are producing fruits, and over 35% produce watermelon, which is the principal vegetable crop in the area. Farmers do whatever they can to make good use of the scarce resources (water, and good soils) they have, for good horticulture production. They have selected the most drought-adapted species to grow, fig and olive. In Barrani area where conditions permit, a good proportion of farmers grows grape. They also allocate best soils, cultivate the land after every effective rainstorm to avoid subsequent water losses by capillarity, use minimum inputs not only because of poverty, but also to cope with uncertainty and risks. The best barley soil saved for watermelon will not be cultivated, if late/or spring rains are lacking. It would be fallowed to provide a good pasture.

### **Economic coping strategies**

92. In addition to the cropping strategies above, which all have economic implications, farmers manage their livestock as a coping strategy against economic risks. In addition to being a cash income source, farmers manipulate livestock herds as an economic buffer against drought and other hardships. Farmers increase their stocks to the maximum afforded following wet years with good barley production and pastures, building up good savings in the form of asset that could be used anytime the need for cash arises. But in drought years, livestock numbers are reduced to the minimum that can be managed under hardship conditions.

93. The tribal communities have modest capacities for savings and indigenous systems of pooling resources. This capacity is not organized and the potential is not fully utilized. Bedouin HHs, even the poor try to keep some savings to face income shortages in low rainfall years. They do not normally keep their savings in banks. Some reserves are in kind, such as jewellery, carpets, rugs, and possibly other handicrafts. There are no village level institutions that encourage savings. Basically confined to their limited resources, the rural HHs have tended to keep a near-stationary economy going and to contribute more to its stabilization than to rapid development. A potential exists for formal credit institutions to mobilize savings.

94. Rural women have effectively contributed to the economic coping strategies of the Bedouin

community. Women are engaged in small-scale economic activities, such as mint production and other home gardening, raising small livestock (chicken, rabbits, and pigeons), weaving, and handicraft making. Women for household use, savings, and their own special needs usually keep the income generated by these activities. MRMP through its WID programme has enhanced women's contribution to the economic security of the HH. The project has supported the establishment of over 610 small income-generating projects, 1 480 small home-gardening enterprise, and conducted training sessions on food processing and preserves, sewing and carpet weaving attended by 3 080 rural women.

### **C. Institutional Coping Strategy**

95. The increasing number, capacity, and service coverage of many institutions and civil administration entities reflects the recently enhanced awareness and interest of governments in the NWC region. This improvement covered areas of education, vocational training, health, construction and housing, agriculture, veterinary services, tourism, mining, and other items of a long list of development services.

96. Vulnerability considerations have been recognized in the design of MRMP; and the project could be considered the very first start of a long-term endeavour that targeted the sustainability of natural and human resources management in the NWC. The crucial importance of research and human resource development to cope with vulnerability and ensure development sustainability was well considered, establishing research and training institutions. More important could be the unique experience and expertise built up by the project in various aspects of research and technology transfer for improving rainfed resource management and agricultural production. This expertise is a national asset that should be maintained, upgraded, and institutionalized.

97. It is believed that the innovative operational model implemented could be the main reason for the evident progress achieved by MRMP in targeting its objectives. The model integrated research, extension, and resource management under one umbrella, with effective community participation. The proposed Phase-II Project should consider augmentation and institutionalization of the model to ensure sustainability of the development outcomes.

### **D. Food Security**

98. Bedouin communities have long survived in the desert environment of scanty resources and risk and uncertainty multitudes. They have developed over time and space a way of living that copes well with their environment. This way of living has been based on biophysical and economic practices, and a well-established system of traditions, customs, and social structure. It is built on the Bedouin's attitude of being satisfied with the least of every thing; food, clothing, housing, and entertainment. Many believe this psychological attitude, essentially acquired through the centuries-old processes of mutual man-environment interactions has been developed into a genetic-need characteristic. The nutritional needs (quantity and quality of food and water) upon which a Bedouin can survive are incredible. Even under prosperous conditions, the Bedouin intake is not excessive. In the Project Area, except for town dwellers, one can rarely observe overweight Bedouins.



## **Food Security situation**

99. Despite the above facts, the majority of HHs in project area, especially the ultra poor do not always live within a food secure environment. Only part of the food requirements can be provided from the farm, and a substantial part must be bought from market. Prices are ever escalating due to inflation. Prices at local markets in Matrouh are even higher than in Cairo and Alexandria, due to remoteness and more marketing middlemen. On-farm income is low and highly susceptible to climatic vagaries. Off-farm income is seasonal, and the demand is not always sufficient to meet the huge need of the poor.

100. Bedouin HHs do their best to have some savings, but their capabilities are extremely limited. Almost all strategies listed above, practised by the HH to cope with risk and uncertainty, aim at increasing and stabilizing farm income, most of which is used for food with modest savings, if ever attained, handled skilfully for food security purposes. However, about 95% of the sample interviewed in the 1997 Credit and Marketing Survey reported no income surplus over expenditures to save. In years of exceptional harvest, some savings can be made. However, most of the savings (47% of HHs) are used for improving the farm, and 21% for enlarging the flocks, which contribute to food security, either through direct consumption or sales to provide cash for food and non-food requirements.

101. Off-farm employment is a source of income that could significantly contribute to the food security of the rural poor. However, the demand for agricultural labour is seasonal and much lower than the huge supply of the needy. Employment opportunities in other economic sectors are scarce. During the past decade the booming demand for casual labour, especially for the construction of tourist villages, has contributed to food security. This particular demand has now greatly reduced. Yet, casual labour in the area still has seasonal employment opportunities in the tourist industry, providing different types of services to summer tourists. According to the 1997 credit and marketing farm survey, roughly 17% of HHs had members working off-farm, partial or full time. Family members working off-farm contribute about LE 220 monthly to the family, on average, most of which is spent on food and non-food requirements of the HH.

102. Handcrafts making is a modest source of cash income that contributes to food security for about 21% of the sample, according to the Credit and Marketing Farm Survey. Substantially more involvement of handicrafts making was reported by Hekma (51% of total farmers) compared to 18% in Matrouh and Barrani West, 14% in Negila, and only 3% in Barrani East. The needy HHs mostly practise this modest industry, with most of the income spent on food items. However, this business has encountered some marketing problems, affecting badly the HH income of the poor. Handcrafts making can be significantly be enhanced since it is a low-input occupation. Cash needed for inputs provision of handicrafts is averaged at LE 450, but the variability within HHs was very high.

## **Ways of meeting food needs**

103. Part of food needs of the HH is provided from the farm, especially meat and egg, fruits and some vegetables produced in the farm. In addition to the family flock of sheep and goats, Bedouin women keep small numbers of poultry for domestic use. According to the beneficiary database of MRMP, the average number of sheep and goats for the ultra poor group, the most unsecured nutritionally, was about 10 animals per HH. However, roughly 49% of this group did not report ownership of small ruminants. The average number of poultry for all HHs, according to farm survey data was about 25 for chicken, 30 pigeons, 13 rabbits, and 5 of ducks and geese. In addition to culled sheep and goats, most of poultry production is used for food, and partly for selling to provide non-food items.

104. Part of farm products would be processed and conserved for later consumption; traditionally

milk-skimmed gee, and recently olive oil and pickle, and fig jam. Traditionally, Bedouin women were not experienced in olive pickling and fig-jam making. WID programme of MRMP has provided extensive training of relevance.

105. Traditionally bread was made of barley. Following settlement, modernization, and the significant governmental subsidy of food items, it became a wheat-made bread. Till a few years ago, whilst wheat was subsidised, over 70% of HHs used to grow the crop, contributing effectively to food security. But after the elimination of the subsidy, only a small proportion of HHs may grow wheat for home consumption. Most of family needs are provided from market-bought wheat, at what is considered an exorbitant price. The poor have thus lost an important source of food security. However, during hardship times, farm-produced barley could be substituted for wheat, partially or totally.

106. The food rations provided over a long period by WFP were also contributing significantly to the food security of the HH. However, this project was recently closed, worsening the food security situation.

107. Part of the food requirements of the Bedouin poor is provided through tribal solidarity. The leadership at different levels of the tribal hierarchy has traditionally shouldered the responsibilities towards the poor tribe members. Food is provided whenever needed for tribe survival, and occasionally provided through social event obligations. In such social occasions as wedding, childbirth, pilgrimage, and the like, which are very frequent in Bedouin life, all kin including the poor are invited and food is served generously. Extra food remaining after the celebration would also be distributed to the poor kin.

#### **IV. Targeting**

##### **E. Targeted Population**

108. According to MRMP records and the adoption and impact farm surveys, over 58% of the total households have benefited from the project. Yet, there is still a long waiting list of requests for assistance. Roughly 48% of total HHs do not have cisterns, even for domestic use, and a good proportion of HHs need financial support to enlarge their water harvesting and storage capacity to improve horticulture production, increase income, and reduce risks. The proposed project would certainly not be able to cover all the present, and emerging, needs of the population. Hence, it is socio-economically of utmost importance to target project benefits to the poorest and most needy households. Priority considerations presented in this section provide useful guidelines, but other considerations that might be dictated by implementation realities should not be overlooked.

##### **Baseline Data on the beneficiary pool, or total HHs**

109. The beneficiary pool/or the total HHs to be considered for Phase II is expected to be about 21 980 HHs (rounded to 22 000), estimated as:

HHs already registered and included in database	18 714
HHs already registered, but not included in database	1 263
Sub-total, registered	19 977
New HHs expected to join (10% of registered)	2 000
<b>Total HHs expected in phase II</b>	<b>21 977 (22 000)</b>

## **Targeting Background and Rationale**

110. A distinction should be considered between two major types of targeting the beneficiary HHs for Phase-II:

- (a) The HHs targeted for major physical benefits such as the water harvesting constructions. This category is already planned to be at about 8000 HHs; and
- (b) The HHs generally targeted for improved production. This category would include the beneficiary pool of 22 000 HHs total (including the newcomers who are expected to join in addition to those already registered). Uptake figures in terms of HHs numbers predicted for Phase-II would be based on this figure.

111. The whole beneficiary pool (the 22,000 HHs) should be considered as potentially targeted by phase II for improving their living conditions, regardless of who benefited or not benefited, or who adopted or not adopted, in phase I. This is because there is always an improvement potential, even for those who have adopted some of the technologies promoted in phase I. The proportion of who benefited and/ or who adopted in phase I could only be used as guidelines for determining to whom the major benefits should go in Phase II, and to also predict the most likely 'actual' adoption rates for phase II.

112. However, within this framework, certain cardinal principles would be adhered to in the selection of beneficiaries;

- (a) Priority would be given for all investments/activities to the poor and disadvantaged households who are the resource poor households in the community;
- (b) The communities would be responsible for determining the criteria for defining poverty within their own environment and for undertaking wealth ranking of the immediate community in order to identify the eligible households; and
- (c) Priority for cisterns would be given to those households who do not presently own a cistern for their domestic water requirements

## **F. Targeting Water Harvesting Activities**

### **Targeting cistern constructions**

113. Based on past experience, cisterns will be accorded high priority by communities within the participatory planning process and in the Community Action Plans drawn up by the communities. The planning process requires guidelines to be provided to the communities for the selection of beneficiaries for the different activities. For cisterns, the two main guiding principles would be poverty status of the households and the main use of the new cisterns by the HH. Therefore, first priority should be given to cover human needs, then animal, and last for farming needs. This is found to largely overlap with the poverty criterion as shown in the data below which would be used by the Project management in the overall allocation of resources to Local Communities.

114. According to the beneficiary database (see Table 10), there are 8,671 HHs, comprising 46% of total HHs, who till now do not have cisterns even for domestic use. Matrouh, the largest of SRSCs, accounts for 29% of total HHs who do not have cisterns. Other SRSCs have almost equally contributed to the total (about 16-19%). However the proportion of HHs who does not have cisterns to the total HHs of the SRSC is highest at Negila (50%), compared to other SRSCs ranging from 43% to 47%.

115. Almost 60% of the ultra poor (small-farmer group) do not have cisterns, numbering 5 933 households and these would be the priority households followed by the 30% of the poor households (medium farmer group) without cisterns numbering a further 1 616 households. The M&E database would be able to provide data on the distribution of these households by SRSC and by LC to guide financial resource allocation.

**Table 8: Distribution of Households Without Cisterns by SRSC, and by Economic Group**

**a) Distribution by SRSC**

SRSC	HHs without cisterns	Total HHs	% Without cisterns of total HHs
	HHs	%	
Hekma	1488	17	343043
Matrouh	2555	29	540047
Negila	1648	19	328550
Barrani East	1609	19	349246
Barrani West	1371	16	310744
Total project area	8671	100	1871446

**b) Distribution by economic groups**

Small farmers	5933	68	10410	57
Medium farmers	1616	19	5423	30
Large farmers	1122	13	3781	30
Total project area	8671	100	18714	46

**Targeting dyke constructions**

116. Dykes are exclusively constructed for farming purposes, mainly for horticulture and partly for barley and other crops. Therefore, dyke use is not a governing criterion for its allocation and eligibility. The first general priority criterion for dyke allocation eligibility, as for other project activities, should be poverty level of the HH and absence of dykes on the farm. Within this general criterion, considerations should be given for how bad is the need for the structure, and suitability of the landholdings for dyke construction. Also within these considerations, priority of dykes might be given first for horticulture production, then for crop, and last for pastures. The number and siting of dykes, however, has to be determined by reference to the water availability in the wadi and the amount which can be trapped without causing adverse impacts on existing downstream users. This information would be provided to the communities by the project technical staff and then the communities can make their selection of beneficiaries in accordance with the above guidelines within this framework.

117. Data from the beneficiary database provides an indication of the overall-planning framework and clearly indicates the scope for targeting the poor households. According to the beneficiary database (see Table 11), there are 11,472 HHs (61% of total HHs) who till now do not have dykes and 62% of these households (7,131 HHs) are ultra poor (small farmer-group) and 21% are poor (medium-farmer group) - 2,399 HHs. In terms of geographic distribution the highest proportion of HHs without dykes are found in Negila (70%) and Barrani West (68%).

**Table 9: Distribution of Households without Dykes by SRSC and by Economic Group**

**a) Distribution by SRSC**

SRSC	HHs without dykes	Total HHs of SRSC	% without dykes of total SSRSC
	HHs	%	
Hekma	1770	15	343052
Matrouh	3226	28	540060
Negila	2308	20	328570
Barrani East	2054	18	349259
Barrani West	2114	19	310768
Total project area	11472	100	1871461

**b) Distribution by economic groups**

Small farmers	7131	62	10410	69
Medium farmers	2399	21	5423	44
Large farmers	1942	17	3781	51
Total project area	11472	100	18714	61

118. However, a good proportion of the dykes would be constructed on communal watershed land in the upper catchment area for communal benefits and technical considerations of resource conservation and use, cost, and the number of benefited landholdings would determine the priority criteria for such structures.

**Additional Annex 17: Gender Issues and Development  
ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

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## **I. GENDER ISSUES**

### **A. Gender Divisions of Roles and Responsibilities**

1. Gender roles and relationships are analyzed in the context of three key areas: production (professional); reproduction (domestic) and community (socio-cultural).

#### **Productive roles**

2. Women play an important role in agricultural production. They are mainly responsible for harvesting several farm products (olives, figs, melon, grapes, pulses, cereals, etc) and for the storage of products used for home consumption. Threshing is usually done by machine.

3. The care of livestock inside the house is women's responsibility. They ensure maintenance, nutrition, watering, cleaning of the pens, animal care, etc. Women are generally helped by their children to accomplish these tasks. Livestock intensification would, therefore, automatically increase the labour and the work time of women and children, particularly of girls. Men generally have the responsibility to tend the flocks in the pastures and when practicing transhumance. Rich families hire shepherds. The rearing of chickens, turkeys, pigeons, etc. is also undertaken by women.

4. The productive activities differ according to seasons, geographical location and the family's economic activities (cereal-growing, figs and transhumance). In all the Project area, the population distinguish two seasons: summer and winter. People located in the coastal region move towards the central or southern regions during rainy years to use grazing pastures and for cereal-growing. Those living in the southern regions move towards the coastal areas to work in the fig orchards or with other farmers for which they generally receive one-fourth of the total production.

5. The transhumance areas can be very far from the villages. Men move to these areas and stay there for long periods of time (5 to 6 months). Women join them for two or three months during the cereal harvest. The distance separating the transhumance regions from cereal-growing land varies generally between 5 km at Jaaouine and 80 km at Zallat.

6. In the coastal regions and during rainy years, besides domestic activities, the women, migrant or not, work in harvesting cereals, figs and olives. For the rich families located mainly in the coastal regions, the number of livestock being fattened is high which increases the work time for women. Except for trading activities related to livestock and other products, men's tasks are largely sporadic. They keep themselves busy in farming activities and livestock transhumance. During drought years, men seek wage labour outside their own communities in house construction, farming at Siwa or in other regions. The possibilities of getting a job locally are limited to the fig season and cereals harvesting during rainy years. Rich men can hire manpower which can be paid with money or by offering a certain amount of the harvested product. Therefore, in the coastal regions, the origin of most casual labour is either local or from the southern area. Casual labour is employed mainly in harvesting of figs, olives and melons or as a shepherd during rainy years.

7. In some communities, women seek opportunities to earn additional income by making some craft products or clothes. These products are generally used by the household. In the coastal regions, women sell a part of their production either in their community or in the local markets. The oldest women are generally those who sell the products. The money earned is spent by the women to meet their needs or

those of their children. When the family has financial difficulties, the money is used to acquire the basic food requirements for all the household.

### **Domestic roles**

8. All the household activities are carried out by women. Besides the classical domestic activities and the care of children and elderly people, women are also responsible for ensuring water supply for human use and watering, and for seeking firewood (mainly shrubs) for cooking. Shrub gathering is done by men when the task will exceed one day, which is the case at Haroune for instance. Men have the responsibility for domestic activities during the transhumance period when they are moving over long distances between the community and the pastures. This is the case for example for communities such as Zaiha, Sallam and Hsouha from the Chaouair tribe. Men carry out all activities during a period of 4 months until they are joined by the women during the harvesting period.

9. Among the different domestic activities, those which consume a great amount of time are water collection, fuelwood collection and bread preparation. Whatever the socio-economic status of people, baking of bread is done using firewood because of the taste. The traditional oven is designed for cooking only one to two pieces of bread at the same time. Furthermore, cooking is completed in open ovens. These two parameters increase fuelwood consumption (with 1 kg of fuelwood required for only one to two pieces of bread depending on the size of the oven).

10. Domestic activities generate several health problems for women such as headaches as a result of water and wood transportation, backache caused by harvesting different farm products, and respiratory and visual problems because of women's exposure to smoke during several hours each day. The percentage of people using bottled gas for cooking varies between regions. It decreases from the coastal regions to the inland areas. The use rate is around 70% to 100% for people living within 10 kms from the coast, 40 to 70% for those located between 10 to 25 kms from the coast and very low or non-existent for those beyond this area. Possible changes could occur if men and women are sensitized about the ties between excess use of fuelwood and the damage to the grazing areas.

11. Water supply for household use is taken from the nearest underground tank (cistern). When water in these tanks is exhausted, women have to seek water in other tanks located far from their community. Except for poor families who do not have adjacent tanks, all households have both distant and nearby tanks. The time required for water collection varies between 2 hours (in wintertime) and 6 hours (summer time).

12. Despite the efforts of various projects in supporting the provision of drinking water, water supply for human and animal use is still a serious problem. Hence, populations located in the southern and central parts of the Project area continue to buy water during 3 to 6 months in drought years. This water is supplied by tankers with a capacity of 6 to 8 tonnes. The price varies depending on the location of the population and the quality of the roads. It varies from LE 50/6 tonnes at N'Gila Aâilat Habous to LE 15/8 tonnes at Berrani West Aïlat Safafi. The acquired water is used by several families and stored in the underground tanks. These quantities of water will last for 2 to 3 weeks.

13. The consumption of water is very low because of the supply difficulties. Water consumption does not exceed 10 ltrs/person/day in the coastal region and could be as little as 6 ltrs/person/day in the southern part of the Project area.

14. Given the low level of domestic equipment and the variety of activities to be completed, women's work schedule is very busy. Women work between 12 to 14 hours a day. However, as several



women live in each household, they make arrangements to allocate the different tasks. Women generally classify tasks not only by the time taken to complete them but also by the laboriousness and the difficulties involved in carrying them out.

### **Community roles**

15. The involvement of women at the community level is nil. All the decisions are made by men. Only men are selected as the representative in the community, (*mandoub*). However, women are involved in implementing activities in the community. For example, women of the Mhabiss family participated in building a girls' classroom by gathering stones. Others contribute in building mosques.

### **Socio-cultural dimension of women**

16. This analysis examines women's role in making decisions within the farming system and identifies their socio-cultural ability to improve their situation. This also requires understanding women's capabilities of getting involved in income generating activities and in developing their own initiatives to improve them.

17. Knowing who makes decisions and in which areas will be helpful in targeting people and accelerating change. For example, at the Haroune community, women use contraceptive means for birth control but they do not decide about their use. Men are generally the actors who impose limits to women's decisions. Generally, women's involvement within families increases with age. The decisions made by the old women (grandmothers) concerning the families' business affairs are rarely discussed. Younger women are not involved in these types of decisions. Even women heads of households (divorced, widowed or having a handicapped husband), which represent around 5 to 15% of women, are not permitted access to weekly markets until they exceed a certain age (50 years old or more). Before this age, women's business affairs are managed by the male relatives who protect her. However, beyond the age of 40 years, and when her children get married, women are systematically consulted before decisions are made. The decision-making process within families and in the community needs to be studied in more detail in order to be able to distinguish between the different levels and nature of participation. This requires an in-depth study to understand men's and women's attitudes and behaviour towards different events. The study should also focus on women's self image, their socio-economic status and their organizational capabilities. Such a study should be undertaken as part of the diagnostic exercise to identify ways to accelerate change and to strengthen women's position. At this stage, it would appear that one of the best ways to improve women's position in the family and the community is to increase their education level by fighting illiteracy.

### **Access and control of resources and the gender issue**

18. The lack of data regarding this aspect makes it hard to appreciate women's participation in different activities and the benefits they draw from them. In the Project area, the resources could be physical or skills. Do women have access and/or control of these resources? How much knowledge and data are available regarding this system in MRMP-I? In the following, some findings (using interviews) regarding control over resources will be presented

19. **Means of production** Access to land, the main production factor in the region, is achieved through inheritance and this discriminates against women because of the existing common law (Uûrf) prevailing in the tribes. Some changes are occurring among certain families where men offer money to female relatives in lieu of the inherited land. This is done to prevent land from falling into the hands of outsiders from the tribe. In the Project area, women do not benefit from the Islamic law. More

information needs to be collected as part of the participatory diagnosis.

20. **Control of income** Even though women make a significant contribution to the implementation of different activities, they do not have any control over resources and draw only indirect benefits (for the family). Control over income is exercised by men. The decisions related to increasing or limiting the number of livestock are made by men except in the case of women headed households. The choice of crops is also made by men, who also control all activities related to marketing. However, in hard times, the incomes made by women as a result of carrying out handicraft activities or breeding small livestock, are used to provide necessary commodities to ensure the nutrition of the family. Conscious of these problems, women are confident that the best way to strengthen their position is to improve their educational level by fighting their illiteracy.

21. **Social and technical services.** After implementing the different activities during MRMP-I, some changes have occurred in women's attitudes and behaviour towards some traditions. There is some evidence of a transition period. However, the observed changes among the population differ between the regions of the Project located in the south and those located in the north. In the majority of the sites visited, women complain about the lack of social services (health and education). To face these problems, women have developed traditional methods to treat illness and improve their educational level by correspondence.

22. **Information.** The deficiencies in women's access to services and the side effects of illiteracy limit their access to information. Information technologies such as TV and radio are seldom used by women because of the lack of electricity and financial means. In the southern part of the Project area, particularly in poor families, radio listening is reserved for men. Under the Project, broadcasts related to information about the Project should be targeted to men and women to increase the listening. Periodic evaluations must be implemented to assess the impact of the broadcasts. Women have a desire to learn and their ability to do so has been amply demonstrated under MRMP-I through which women have developed veterinary skills and learnt how to treat animals' diseases. Women's main priority is to fight illiteracy. This desire to improve their educational standard indicates a willingness to take charge of themselves and their development.

### **Management system of natural resources**

23. Women, like men, have a close relationship with the environment and are aware of the factors which damage the environment. Women play an important role in educating children on aspects related to the environment. Women also disseminate local knowledge to other members of the extended family regarding the possible uses of different plants (medicinal, fodder crops etc.). Women's involvement with natural resources (water, grazing pasture and vegetation) include:

- (a) Use of medicinal plants to treat their diseases and those of their families;
- (b) Management and use of natural or cultivated space surrounding their houses (men are generally absent);
- (c) Gathering fuelwood to prepare meals;
- (d) Cleaning the inlets to collect rain water into tanks; and
- (e) Water supply for human and animal use.

24. Given their high level of involvement, women should participate in all the activities related to the environment. Changes in farming systems have a serious impact on women and the environment. In Aâilate Haroune the time spent in fuelwood collection has increased from a few hours to two days over a

period of 20 years. Furthermore, the changes regarding the livestock system generate more work for women in addition to their negative impact on the biodiversity. These changes occurred as a result of deficiencies in natural resource management indicating the importance of sensitizing both men and women about environmental problems.

25. Thus, the management of natural resources requires the design and implementation of a women's sensitisation programme. However, since women's involvement at the family and community levels is low, sensitisation of men is also necessary. This particularly applies to management of the grazing areas which is the one area where women do not intervene (except the women-headed households) and which is totally under the charge of men. The centres to be established by the Project could be used for organizing sensitization sessions for men, women and children. The Koutabs in the mosques could be associated with this effort to teach men and children. Some posters showing extreme situations (positive and negative) could be put up in all the public areas.

**Social relationship system.** Men's attitudes directly influence women's position in society, and hence it is essential that men are convinced about women strengthening their position in order to ensure the sustainability of change. This concept is very important in the Matrouh region. Improving women's position and strengthening their involvement does not only mean implementing activities in favour of women. Depending on the findings of the participatory diagnosis of each situation, actions should be addressed to men as well as to women. An analysis focusing only on women will not be able to explain women's situation because several of their concerns are managed by men, including some key decisions such as contraceptive use.

## **B. Gender Specific Barriers to Development Support**

### **Barriers related to human resource development**

26. **Deficiency in girls' education.** The deficiency or lack of girls' education will produce more illiterate people. Parents are giving more importance to boys' education than to girls. Furthermore, depending on communities, an outside teacher cannot teach girls with an age greater than 10 to 12 years. Girls of 10 to 12 years of age can go to schools located up to 5 km from their homes, but this distance is limited to 3 km for those more than 12 years old. The lack of birth certificates, caused by the marriages organized by the common law (Uûrf), prevents girls and boys from enrolling in school. In some regions, more than 60% of children do not have a birth certificate. Besides this, other factors such as poverty and tradition limit girls' enrolment.

27. The lack of infrastructure has a greater impact on girls. Whereas the community is willing to organize and pay for education for boys, it does not extend the same facilities to girls. At Azarariaa located in the Aaraoua tribe, the community has for the last 10 years hired an engineer to teach boys by paying to him LE 5 monthly for each boy. In the Omar's family, the teacher is paid LE 10/boy/month. This difference in the amount paid could be explained by the number of enrolled boys. The first one is teaching 50 boys where the second is teaching only 20. Recently, the girls have also been enrolled because the Project is paying the school fees. A big difference exists between the southern and northern regions regarding children's education. In the coastal region, basic girls' education is almost at the same level as for boys. A difference is noticed at secondary school level for many reasons: long distance, reduced movements for girls, tradition, etc. Generally, people living in the coastal region are relatively more emancipated (compared to those living in the southern region), have less social pressure, have more schools and a better socio-economic status.

28. **Illiteracy.** The illiteracy rate is virtually 100% for women above 16 years. This rate is 95% for men living in the southern region and 30% for those living in the coastal region. The difference between men and women could be explained by the fact that in the past, only boys were allowed to go to koranic schools. Moreover, these schools have deteriorated and declined in number because of people's poverty which does not allow them to maintain them in a good condition. In the communities visited, men are in favour of girls' education but less in favour of women's education. However, the means are limited and teaching women requires a teacher from the same family. At Zallat for instance, a woman from the community has been trained to take charge of women's education.

### **Barriers related to health and nutritional aspects**

29. **Health and reproduction.** Women located in the southern communities continue to give birth at home, which is harmful for them and for their babies. Family planning is an idea generally accepted by men and women but it is not applied by all women because of poverty and non-appropriate contraceptive means offered by the Ministry of Health. In the southern regions, family planning continues to be considered as a crime. A sensitisation programme of men and women therefore needs to be implemented.

30. **Children's health and nutrition.** The inadequate monitoring of children's health, lack of hygiene and the use of non-treated water are the main cause of diseases among children. Poverty accelerated by drought during the last years increased malnutrition, mainly among people living in the southern region.

31. **Hygiene.** The problems of hygiene are enormous. They are mainly related to insufficient supplies of water, ignorance of hygienic practices, poverty, etc.

### **Barriers related to socio-economic and cultural conditions**

32. **Poverty.** The poverty rate increases from the coastal area to the interior within the Project area. This poverty has a severe impact on women and children. The high concentration of poor people requires designing different strategies when implementing each activity.

33. **Reduced mobility.** Women's mobility is limited to the vicinity of the house and the surrounding cultivated areas. They generally move around accompanied by a man from the family. The trips to weekly markets and the access to market places are reserved for old and widowed women. A woman can travel 5 km from her community to look for fuelwood but is not allowed to do the same to go to school.

34. **Customs and traditions.** Customs and traditions are an important barrier for women's development. Women are rarely involved in decisions and their mobility is very limited. They are not allowed to travel alone. Whilst their contribution to productive activities is welcomed, their access to schools and hospitals is socially refused.

35. **Women's representation.** Women live in an environment characterized by unfavourable conditions (lack of social infrastructure, poverty, etc). Their low status within their families and their communities can be explained partly by their attitudes towards themselves. Women's self-image is lower than men's. When men give responsibilities to women, the latter cannot assume them because of their low self-esteem.

36. **Lack of organizations.** Formal organizations are lacking for both men and women. The community's affairs are managed by a Ouûmda (at the downstream level) and an Aâkel at a higher level.

The Project encouraged the appointment of *mandoubs* (representatives of communities). Men usually take charge of the management of the community's activities and women are not involved, either directly or indirectly. Therefore, they are not informed about events and the news of their community.

### **Barriers related to the lack of basic infrastructure and equipment**

37. **Lack of roads.** Communities are scattered which hinders their development. This situation limits the population's access to social services, to marketing networks, input supply services, etc.

38. **Failing or deficient social services.** Regarding health services, the hospitals are lacking means and some of them are only partially functional. Consulting is generally limited to obtaining a prescription. Poverty handicaps people obtaining necessary medicines. For example, according to some interviewed women, husbands have difficulties in regularly buying contraceptives and « the cost of conceiving a child is less than providing contraception » as mentioned by a woman from Aâilat Haroun. The majority of functional schools are located along the main road. This situation does not allow people living far from this infrastructure to have education, particularly for girls.

39. **Settlement structure.** The population was originally nomadic and adopted a sedentary life only during the last 30 to 40 years. In the settlement process, people tried to occupy the maximum space to meet their needs. At that time, people were not concerned about a common use of the community's infrastructure. Furthermore, each big family (Aâila) had a large territory exceeding several square kms. Now, the scattered housing hinders the implementation of activities particularly with women (meetings, organization etc).

40. **Lack of equipment and domestic technologies.** Poverty together with the customs of the nomadic style of life did not encourage the population to invest in housing and household goods. Hence the present life-style is not conducive to optimizing the value of women's time and efforts. For example, meals are prepared using traditional kitchen utensils. This situation generates (i) lengthy time; (ii) high-energy consumption; (iii) women's exposure to smoke during several hours each day. These constraints should be added to those related to collecting water and wood, and care of livestock which all contribute to a very busy schedule for women.

### **Barriers related to ignorance of natural resource conservation**

41. Besides the climatic effects, the high human pressure on the environment is very important. This pressure is caused by livestock and uprooted fuelwood.

## **II. ACHIEVEMENT AND LESSONS LEARNT UNDER MRMP I**

### **A. Approach**

42. The women's component was integrated into the Project in 1996. From that time, the implementation of activities used an approach which sought to involve women in the development process. The strategy used was to address women's problems through men or a *mandoub*. This method has some advantages because it focuses on specific women's concerns, but it also has side effects because it excludes women from other Project activities. This is a serious problem for the minority of women-headed households. However, the Project addressed some of these problems during the latter stages of implementation.

43. The training sessions and the technical monitoring of the implementing staff were deficient in

some aspects. The Community Action Plans were established by sole consultation of the *mandoubs*. The participatory approach has been used but the social and cultural conditions have limited its use. Apart from some credit operations, the programmes for women was established by the *mandoubs*. The implementing team monitored some of the activities by implementing sensitization sessions for men and women at the community level. Furthermore, the instructors drew lessons from these experiences which could be used in Phase II of the Project.

44. The lack of conditions and clear criteria for choosing beneficiaries encouraged individual demands. The Project used a supply and demand approach. This method has several limits because of the large number of activities to be implemented. The demands were not categorized according to the socio-economic status of the households. Furthermore, the implementing team was not free in selecting the beneficiaries. The choice was generally modified by other actors without giving any justification. The changes made in the beneficiaries decreased the staff's credibility and created confusions regarding their actual role.

## **B. Achievements**

45. Several achievements were accomplished - these are indicated in the Table 1 below. A significant effort was made by the women's component in education. 5,600 girls were enrolled into schools. The duration of the education provided increased and has presently reached 3 years. Some attempts to improve women's skills were also made (training in handicrafts), but confronted several problems and their expectations were not met. According to the women's needs, some equipment was acquired through the WFP programme or by rural credit.

## **Impact of the Project**

46. The first phase of the Project has been helpful to understand how the society is functioning and how it is organized. In spite of the deficiency regarding the selection of beneficiaries and the limitations of the approach used, some positive impacts, mainly qualitative, have been achieved, namely:

- (a) Changes in men's attitudes and behaviour towards women's involvement in the development;
- (b) Awareness of women's situation and their willingness to improve it;
- (c) Women's ability to approach topics considered as taboo such as family planning, gender relations, decision making;
- (d) Acquired skills in different domains despite the existing deficiencies in poultry farming, agricultural products preservation and health and hygiene;
- (e) The quantitative results are significant (Table 1) in spite of the problems related to deficiencies in focusing on poor women; and
- (f) Women's awareness in several communities and their willingness to innovate and change their situation has been enhanced.

## **C. Lessons learned under MRMP I**

47. The main lessons to retain from the first Phase of the Project are as follows:

### **(a) Approach**

- (a) Insufficient knowledge regarding the socio-economic aspects of the communities;
- (b) Lack of an in-depth diagnosis to establish a classification of priorities to be used in

planning of women's activities;

- (c) Insufficient women's involvement in selecting activities;
- (d) Lack of criteria in selecting beneficiaries;
- (e) Ignorance of minorities mainly women-headed households to allow them to benefit from some of the Project's core activities (tanks, management of grazing pastures, breakwater);
- (f) Deficiencies in sensitization and extension sessions in some areas (poultry, environment, hygiene);
- (g) Deficiencies in targeting activities according to women's needs; and
- (h) Lack of a regular reporting system on the impact and social evolution of the communities.

## **1. Institutional capacity of the Women in Development Cell (WID)**

48. In the first Phase of the Project, the Women's Cell was tied to the Extension Department. This situation may provide advantages in facilitating coordination, but it does not allow the WID team to work freely. Moreover, the WID team should coordinate its activities with all other Project components.

49. The WID team comprises a multi-disciplinary group in which each member has a different experience. Two people are attached to each SRSC with one of them taking the lead. The high level of turnover of the WID team members has hindered continuity in Project activities. 50% of the staff has been working for the Project for less than 3 years. In some areas (e.g. Abou Safafi), the activities were never implemented due to changes in the staff and lack of institutional memory, in spite of the community having been consulted. The main constraints related to the Project's institutional structure for implementing women's activities are:

- (a) The dependency of the Women's Cell on the Extension Department decreases its effectiveness;
- (b) Limited experience of some staff does not allow the WID team to work effectively in a complex social environment;
- (c) Limited responsibility in selecting the beneficiaries and the negative interference of the *mandoubs*;
- (d) Lack of guidelines on eligibility criteria and conditions to access Project activities;
- (e) A high turnover in the WID team, which hinders continuity of action (more than one third of the staff has less than three years experience of working in the Project. Only two women have worked since 1996 and one post is still vacant). In some regions (at Abou Safafi for example), the programmes were never implemented;
- (f) Lack of equipment such as transportation and computers;
- (g) Insufficient staff compared to the size of the Project area, the total number of localities, and the diversity of activities to be carried out.
- (h) Difficulties in bringing women together because of the local customs and traditions, lack of meeting rooms, conflicts between families and sometimes the fear of husbands; and
- (i) Deficiencies in monitoring and evaluation. This situation allowed the *mandoubs* to get very involved in selecting the beneficiaries without any participation of the population.

## **2. Lessons to be learned from each one of the activities**

### **Education infrastructure: Social centres**

- (a) Lack of criteria and conditions for establishing a centre;
- (b) Problems in involving the community;

- (c) Centres are effectively controlled by the *mandoub* in the majority of the cases (facilities, offering land, monitoring);
- (d) Problems related to the location of the centres;
- (e) Inappropriate scale of the centres which generally exceed the population's needs;
- (f) Centres' functionality is limited to education;
- (g) Lack of ownership of the centres by the people; and
- (h) Lack of a committee or an association for management. As a result the *mandoubs* make all the decisions concerning the centres.

### **Education of girls**

- (a) Scattered housing;
- (b) Customs and traditions;
- (c) Difficulties in finding a man or a woman from the same family as a teacher;
- (d) Difficulties in finding a teaching room;
- (e) Poverty which limits parents from providing supplies;
- (f) Reluctance of communities to enrol girls when school facilities are lacking for boys;
- (g) Social problems between families limits the enrolment of children when the school is located in the house of one family in the community; and
- (h) Mobility is very limited: less than 5 kms for girls aged 10 to 12 years and less than 3 kms for those aged over 12 years.

### **Education of women**

- (b) Scattered housing;
- (c) Customs and traditions;
- (d) Difficulties in finding a man or a woman from the same family as teacher;
- (e) Difficulties in finding a teaching room;
- (f) Problems related to women's busy schedule; and
- (g) Women's limited mobility (less than 3 kms).

### **Health**

- (a) Lack of basic materials for use in consultations;
- (b) Dispersed housing does not help in gathering women for sensitisation and demonstration sessions; and
- (c) Social conflicts cause problems in finding space for meetings;

### **Home gardens**

- (a) Difficulties in acquiring seedlings because of the Project's rules;
- (b) Insufficient rich soil and water particularly among poor people;
- (c) Lack of monitoring by extension workers regarding the production used for nutritional balance; and
- (d) Lack of extension activities related to cropping techniques.

### **Latrines**

- (a) The technical aspects of construction of latrines and cesspits should be monitored with the participants and people should be issued with guidelines to follow.



**Manual pumps**

(a) Quality problems with the pumps breaking down shortly after their receipt. This situation could be prejudicial for credit recovery.

**Additional Annex 18: Participatory Development and Community Capacity Building  
ARAB REPUBLIC OF EGYPT: Second Matruh Resource Management Project**

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## I. BACKGROUND

1. The Project Area comprises a semi-desert environment inhabited by the Bedouin tribes (or *Qabila*) of nomadic origin who underwent a process of sedentarisation one to two generations ago particularly along the coastal area (15 to 20 km). The history of population movement and tribal relationships shows that tribal territories are not found in consolidated blocks of land: the 5 dominant tribes descending from the tribal confederation of Awled Ali (Ali-El Abiadh, Ali El Ahmar, Senana, Gomerate and Quotaan) represent more than 60% of the population. They are scattered all along the Project area in the form of sub-tribes. It is the same for the murabtin who are constituted of sub-tribes of diverse origins settled a long time ago in Awled Ali territories. However, they are still of a lower social rank.

2. Social structures are characterized by patriarchal and patrilineal organization. They can be summarized as follows:

- (a) a sub-tribe is the most common reference group. It is a closely limited blood- related group;
- (b) each sub-tribe is composed of a number of “*Aila*” (or clan) which is a more closely blood related group. It consists of a number of families, usually from the same ancestors, stretching over 3-5 generations at least; and
- (c) at the basic level, the “*Bayt*” , is a large family group made up of 3 to 6 households (or *usra*) which inhabit the same *hawsh* ,and constitute both a residential and a socio-economic unit. It is rarely only one nuclear family.

3. The transition to sedentary agriculture was largely politically inspired. The settlement patterns are determined by the natural resources. Consequently, the population is highly dispersed, according to available water resources (*wadis* or small rivers) and arable lands. Except for the communal southern rangelands, the tribal territory has, over the last fifty years, been ‘allocated’ to individual tribesmen (per *bayt*). The land legally belongs to the State, but *de facto* usufruct is well recognised by the governmental authorities. In the communal southern rangelands, some sub-tribes’ members continue to have exclusive rights to use the rangelands and communal water (Roman cisterns), but others need a prior permission.

4. Concerning the traditional leadership hierarchy, each tribe and sub-tribe is headed by its own *sheikh*, who is usually the eldest son or descendant of the deceased *sheikh*. He is responsible for the security and stability of his sub-tribe and for making juridical decisions. He is held in the highest esteem and accorded the highest privileges. The tribe and sub- tribe *sheikh* is supported by a committee concerned with legal and social aspects. At the lower level (*aila* or *clan*), the equivalent of the sub tribe *sheikh* is the “*Aaquel*” (or Elder) who is accorded the highest prestige and influence.

5. This traditional organisation plays a primordial role in the communal life of these different groups, but the relationships between the people and the governmental authorities are managed by 3 “modern” institutions: the *Omda*, the local council and the cooperative. The *Omda* represents the administrative authority at the level of one or several sub-tribes. Theoretically, the *Omda*’s authority is validated by the sheikh. The *Omda* is selected and appointed by the local government and he is headed by the administrative hierarchy (village’s president and the governor of Governorate. His authority is more administrative than political, and he is the link between his constituency and the governmental as well as the civil authorities.

6. The popular local council constitutes the basic elected institution, which has essentially a

consultative role. There are three categories of popular local councils: village popular local councils, municipality popular local council (for towns), and District popular local councils. They are consulted essentially in matters concerning social infrastructures financed by the government or any other Projects (e.g. Shourouk Fund), but the governmental officials (village president, city president and governors) are the real decision-makers and managers of the budget. It is worth noting that the division of the territory into villages is not always in accordance with the tribal division. A village generally comprises one agglomeration with habitations scattered in a ray of 5 to 10 km (5 000-10 000 inhabitants); it generally contains the main basic public infrastructures (primary school, health centre, rural social unit, veterinary centre, water conveyance or public cistern), and an agriculture cooperative society. The influence of the village only extends to the population concentrations close to the road and most of the dispersed tribal settlements are not effectively integrated into the functioning of the village.

7. The cooperative organisation was first established in the 1960s. In the Project Area, there are about 50 basic cooperatives (agriculture and livestock) headed by a central cooperative covering all the Governorate territory. Basic cooperative societies, managed by elected administrative committees, are theoretically autonomous, but practically, they remain highly dependent on the central cooperative in their commercial activities and financial aspects. Their main activity is the sale of animal feed and the marketing of local products especially wool and olives. Most of these cooperatives are indebted to the government (as banks rarely provide them with funds). Their activities diminish yearly, and many of them have a reputation amongst the local population for bad management.

8. In this social and institutional context, MRMP considered that its main objective (natural resource management) required promoting a new specific concept of organisation of the population, based on tribal, social and geographic criteria that do not necessarily correspond to the administrative and/or cooperative criteria. Based on socio-economic studies carried out during the Project preparation phase, 38 Local Communities, “socially and geographically homogenous”, were identified to constitute the new social unit of planning and development. They would be assigned the role of partners in planning and implementing the development activities supported by the Project. This new organisation was considered more suitable for the participatory approach needed for Project implementation.

## **II. ACHIEVEMENTS AND LESSONS LEARNT UNDER MRMP-I**

### **A. Approach to Participatory Development**

9. MRMP adopted an innovative approach to identify priorities, and for planning and monitoring activities. The focus of the proposed mechanism was the Community Action Plan (CAP) prepared and implemented by the local Community Group (CG), which constitutes a committee composed by 7 representatives (*mandoubeen*) elected by their relevant *ailaat*, and technically supported by Project staff. This three-year plan would be reviewed annually with the community, and appropriate adjustments would be made through annual programmes. Plans and programmes would be submitted to the Project Coordination Unit (PCU) for review and approval.

10. The Project document proposed a progressive process: two communities would be selected in a pilot phase to initiate CAPs and permit Project management and staff to adopt a gradual stepwise development strategy which would allow staff to be trained and lessons to be learnt. In parallel, the Project management would mobilise international technical assistance (4 person-months was proposed) to support and train staff. This staff was essentially formed by agricultural engineers from the Governorate Department of Agriculture, who were not familiar with the new participatory methodology.

11. However, concerning basic community organisations and their representatives (CG), the Project document seems to have been particularly ambitious and too optimistic. It notably expected that:

- (a) local communities would function as a formal user group not only toward the Project staff but also toward other government agencies; and
- (b) the role of the Project Coordination Unit (PCU) would be temporary, and by the end of the implementation period, the interface between the local community (through their CG) and the implementing agencies would be strong enough to eliminate PCU.

## **B. Achievements**

12. Probably under the pressure of the local authorities and the population, and in response to the delay in the PCU establishment, staff mobilisation, purchase of vehicles, etc. the Project management skipped the proposed pilot phase and, in parallel, started implementation of the Project activities, especially the main priorities of the population, namely cisterns, and soil and water conservation structures, in the 38 local communities without preliminary participatory planning. The data collected in 1995 (covering about 13 000 households) was used to estimate the households' needs on the basis of average water consumption hypotheses with regard to human, animals and plants listed.

13. The annual programme based on this methodology and established at the central level (particularly by the Soil and Water Unit) was distributed to the Local Communities, and the CG members' role was limited to:

- (a) sharing the quota allocated to their Local Community in proportion to the *bayt* and household population per *aila*; and
- (b) selection, by the *mandoubeen*, of individual beneficiaries in each *aila* without intervention of other CG members or other Project representatives.

14. For other activities, (range management and shrub plantation, agriculture extension, women's activities, etc.), programming was done at the central level, and contacts between technicians and farmers were generally made at the individual level, sometimes with the participation of the CG representatives concerned, but rarely through the CG.

15. The preparation of the Community Action Plans (CAPs) only started in 1996, shortly after the first training and technical support mission (July 1996). The first CAP (for Local Community number 10 in Marsa Matrouh SRSC) was finalized only in 1997, together with four other CAPs (one for each SRSC). Finally, 38 CAPs were elaborated during the 1996-2000 period, generally with the participation of CG members, but rarely through a participatory diagnosis conducted at the basic level.

16. There were many reasons for the lengthy preparation process for the CAPs:

- (a) the functions of planning, formulation of the CAPs and support to local communities was not assigned to specific staff, neither at the SRSC level, nor at the PCU level. At the latter level, a Local Community Coordination Unit (LCCU) has been created, but only in 1998 - a part-time engineer has been assigned to it, but without a clear job description and clear tasks.
- (b) insufficient on-the-job staff training (only two weeks per year between 1996 and 2000);
- (c) the absence of adequate monitoring by the Project management which gives priority to achieving the physical activities of the Project and continued programming these based on the communities' needs estimated through the data base collected in 1995, without reference to the CAPs;

(d) the SRSC Directors and staff, unmotivated by this attitude and very busy with day- to-day technical activities, have allocated little time to elaborating the CAPs and to the other preliminary activities, such as field visits and meetings with the population, discussions, and negotiations with CG members.

17. Consequently, the preparation of the CAPs has essentially been a “ learning exercise”, and the decision making process is seldom referred to. The monitoring and evaluation system also refers to central planning, and, despite many recommendations of technical assistance and World Bank supervision missions, the SRSC Directors seldom organise participatory assessment of programmes with the CG members and the population. On the other hand, the Project document did not propose specific activities for strengthening the communities’ capacity in this area (training and other support forms). Since 1998, some farmers and CG members have benefited from local and overseas training sessions and field visits managed by the International Centre for Agricultural Research in the Dry Areas (ICARDA), but, despite the recommendations of participatory development missions, all the activities have only focused on technical matters.

18. This situation had resulted in 6 major negative impacts:

(a) A “top down” programming system which did not permit Project staff to implement a true planning process at the base level,

(b) The population at the local level has very seldom been associated in the identification of needs and classification of the priority activities, and the CAPs have been essentially prepared with the participation of the *mandoubeen* only. The great dispersion of the population (about 300 *ailaat* or clans) constitutes a true fact, but not the determinant.

(c) Women have not been associated with the planning process, and the female Project workers contacted them door-to-door because of the social and cultural difficulties in organising large meetings.

(d) The CGs elected at the beginning of Project implementation have seldom functioned as collective management organs for planning and monitoring, and the SRSC staff itself has preferred individual contact with the representatives;

(e) Many influential persons directly requested the Project management to obtain subsidies, particularly for cisterns and reservoirs, beyond the quota accorded to the communities (about 5% to 20% of the investments, according to the communities, were financed through this “ parallel channel”),

(f) The CGs members were given the discretion of selection of the beneficiaries without any interference from the Project staff, but, despite recommendations to give priority to the most deprived people, the selection of the beneficiaries in many cases did not conform to the above recommendations.

### **C. Implications on Phase II Project Design**

19. In terms of community development, planning and strengthening the capacities of local communities, the Phase I Project has probably been too ambitious in designing its objectives, without a clear strategy and the necessary means to attain them (appropriate organisation, human resources, training, etc.) Despite this, the concepts of community development, participatory planning, representation of the local population, etc. have become more familiar in the Project Area. Even if attainments were modest, and despite weaknesses, the Project has contributed in creating an institutional mechanism of dialogue and consultation with the local population, and in laying the foundations for the new Phase focusing on real participatory development and community capacity building.

20. This implies that for Phase-II many important adjustments would be introduced first in the Project concept, and then in its implementation. The main adjustments are as follows:

- (a) the participatory approach should be adopted from the commencement of implementation in all activities supported by the Project and through involving the population directly;
- (b) CAPs and the annual work programmes of the communities should be prepared with the full participation of all the members of the local communities, especially poor and women.
- (c) CAPs and annual work programmes should be used as the main tool in the planning of activities and preparation of the budget at the level of the PCU,
- (d) Transparency and the use of appropriate criteria should be addressed in the selection of the beneficiaries (giving priority to poor people), and their contributions to the investment cost should be clarified and modulated,
- (e) Specific activities should be designed to strengthen the capacity of the local communities, and to enhance the capabilities of their representatives in order to contribute to building community self-reliance.

21. To achieve these orientations in the implementation process, it will be necessary to:

- (a) enhance decentralization and strengthen the SRSC Directors and staff,
- (b) put in place full-time teams to be responsible for participatory planning and community capacity building both at the level of PCU and SRSC,
- (c) design an intensive training and technical support for these teams and for the communities' representatives.
- (d) clarify the assignments and the role of these representatives and put in place a strategy and appropriate conditions which permit the informal CG to move progressively to a legal community based organisation (CBO) able to access other public and private services to ensure continuation of their development beyond the Project implementation period.

