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REPORT AND RECOMMENDATION OF THE PRESIDENT

TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE

ARAB REPUBLIC OF EGYPT

FOR THE

SECOND MATRUH RESOURCE MANAGEMENT PROJECT



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CURRENCY EQUIVALENTS

Currency Unit	=	Egyptian pound (EGP)
USD 1.00	=	EGP 4.63
EGP 1.00	=	USD 0.21

WEIGHTS AND MEASURES

1 kilogram (kg)	=	2.204 pounds (lb)
1 000 kg	=	1 metric tonne (t)
1 kilometre (km)	=	0.62 miles (mi)
1 metre (m)	=	1.09 yards (yd)
1 square metre (m ²)	=	10.76 square feet (ft ²)
1 acre (ac)	=	0.405 ha
1 hectare (ha)	=	2.47 acres
1 feddan (fd)	=	0.42 hectare (ha)
1 hectare	=	2.38 feddan

ABBREVIATIONS AND ACRONYMS

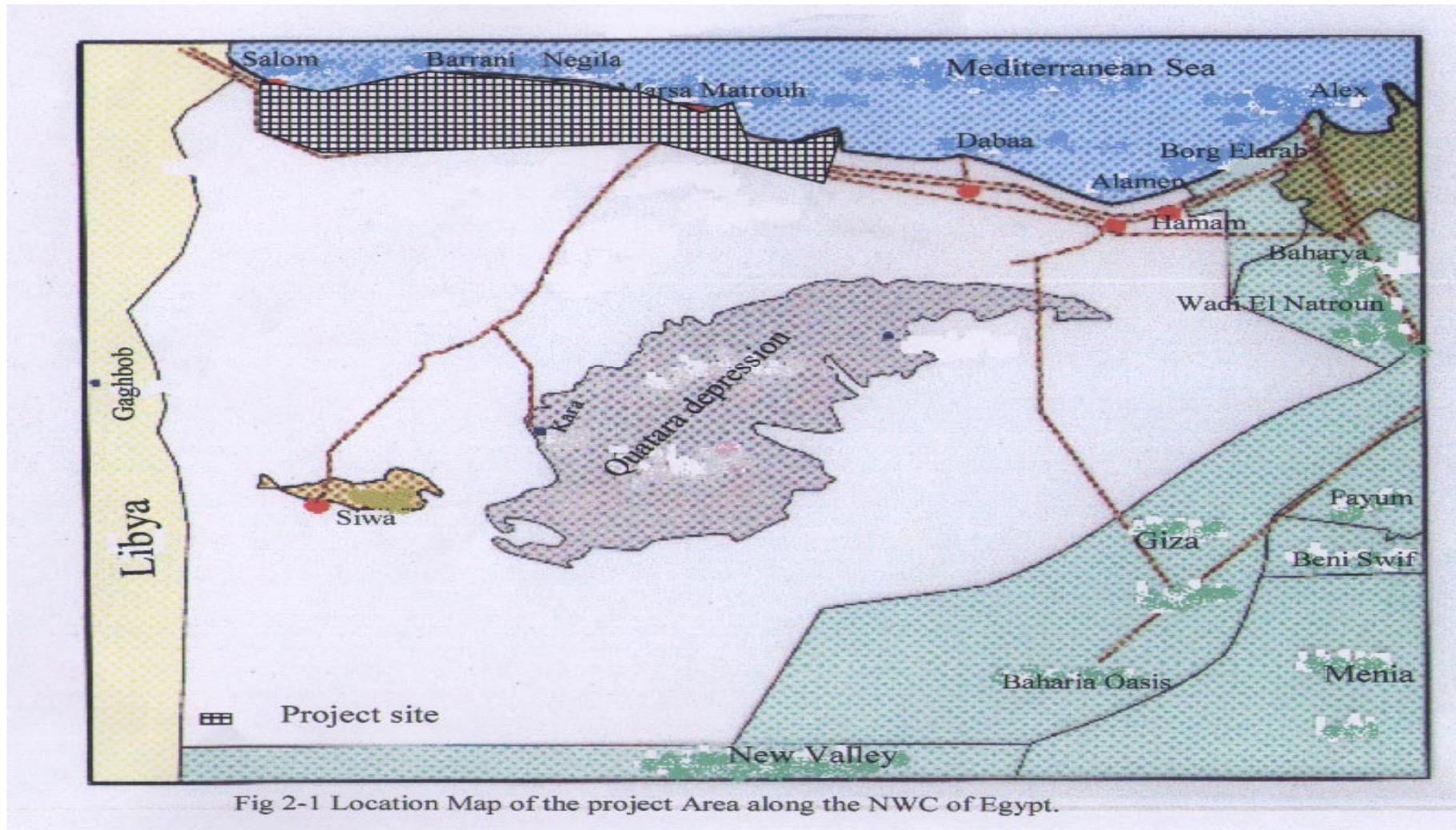
GEF	Global Environment Facility
M&E	Monitoring and Evaluation
MALR	Ministry of Agriculture and Land Reclamation
MRMP	Matruh Resource Management Project
NCC	National Coordination Committee
NWC	North-West Coast
PCU	Project-Coordination Unit
SRSC	Sub-Regional Support Center

GOVERNMENT OF THE ARAB REPUBLIC OF EGYPT

Fiscal Year

1 July - 30 June

MAP OF THE PROJECT AREA



Source: IFAD.

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.





ARAB REPUBLIC OF EGYPT
SECOND MATRUH RESOURCES MANAGEMENT PROJECT
LOAN SUMMARY

INITIATING INSTITUTION:	IFAD
BORROWER:	Arab Republic of Egypt
EXECUTING AGENCY:	Ministry of Agriculture and Land Reclamation (MALR)
TOTAL PROJECT COST:	USD 44.8 million
AMOUNT OF IFAD LOAN:	SDR 9.60 million (equivalent to approximately USD 12.7 million)
TERMS OF IFAD LOAN:	20 years, including a grace period of five years, with an interest rate of one half of the reference interest rate per annum as determined by the Fund annually
COFINANCIERS:	Global Environment Facility (GEF) World Bank
AMOUNT OF COFINANCING:	GEF: USD 5.2 million World Bank: USD 12.2 million
TERMS OF COFINANCING:	GEF: Grant World Bank: Ordinary World Bank terms
CONTRIBUTION OF BORROWER:	USD 10.4 million
CONTRIBUTION OF BENEFICIARIES:	USD 4.4 million
APPRAISING INSTITUTION:	World Bank
COOPERATING INSTITUTION:	World Bank



PROJECT BRIEF

Who are the beneficiaries? Approximately 13 000 households living below the poverty line are expected to benefit directly from investment activities under the project, which constitutes the second phase of the World Bank project of the same name. Some 22 000 households (including 9 000 that benefited under the World Bank project) will be eligible to benefit from extension services, improved technology and other community-oriented investments. While project activities will be targeted at both men and women, a number of components will focus exclusively on about 8 300 women.

Why are they poor? The project area is characterized by a very fragile resource base, with low and erratic rainfall and recurrent drought. The Bedouin population traditionally managed the area's natural resources without, however, depleting them thanks to the movement of livestock under a nomadic system. With the sedentarization of the Bedouins, what was once an ecologically-balanced pastoral system has been transformed into an unsustainable sedentary agricultural one. The resulting increased pressure from both human beings and livestock has unbalanced the ecosystem and created a cycle of resource degradation and rural poverty that threatens bio-diversity and increases environmental hazards, all the more so because of the absence of a sustainable approach to resource management. There has been a lack of adaptive research aimed at integrating such research with development and for devising schemes to adapt traditional, semi-nomadic production systems to the Bedouins' current sedentary lifestyle.

What will the project do for them? The World Bank project demonstrated that it is possible to increase agricultural opportunities by means of water harvesting and halting/reversing the accelerating resource degradation through participatory natural resource management initiatives using existing social organizational structures. As a result of these measures, considerable progress has been made in meeting water shortages and new agricultural technologies led to substantial increases in crop and animal production and more sustainable use of soil and water resources, resulting in increased incomes for participating communities and households. However, due to shortages of funds, it was only possible to reach about 50% of all households in the project area. Therefore, a second phase of the project is needed to build on earlier achievements and extend benefits to the, as yet, unserved section of the population.

How will beneficiaries participate in the project? The project will continue to emphasize the three participatory approaches – community action plans, the farming system approach to research and technology transfer, and the integrated watershed planning approach to resource management – developed and tested under the World Bank project. Building on the success so far achieved, the project's underlying strategy will be to take full advantage of existing social structures and encourage local people to take initiatives and mobilize themselves into groups in order to participate in the development process. The overall objective of the project is to reduce poverty through setting clear criteria for the selection of beneficiaries, with the involvement of the communities.

Size of the project and cofinancing. The total project cost is estimated, at October 2002 prices, at USD 44.8 million over a six-year development period. IFAD financing will amount to USD 12.7 million, or 28.3% of total project costs. World Bank will provide USD 12.2 million (27.2%), the Global Environment Facility USD 5.2 million (11.5%), the Government of Egypt USD 10.3 million (23.1%) and the beneficiaries USD 4.4 million (9.8%).



**REPORT AND RECOMMENDATION OF THE PRESIDENT OF IFAD
TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE
ARAB REPUBLIC OF EGYPT
FOR THE
SECOND MATRUH RESOURCE MANAGEMENT PROJECT**

I submit the following Report and Recommendation on a proposed loan to the Arab Republic of Egypt for SDR 9.60 million (equivalent to approximately USD 12.7 million) on intermediate terms to help finance the Second Matruh Resource Management Project. The loan will have a term of 20 years, including a grace period of five years, with an interest rate of one half of the reference interest rate per annum as determined by the Fund annually. It will be administered by the World Bank as IFAD's cooperating institution.

PART I – ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY¹

A. The Economy and the Agricultural Sector

1. Egypt has the largest population and the second largest economy in the Middle East. The 2000 census estimated the population at 65 million. Ninety-five per cent of the population lives on only 4% of the land. The annual population growth rate has been declining steadily in recent years and is now under 2%.
2. The Government of Egypt launched a series of reforms in the mid-1980s, with policies to move the quasi-centrally planned economy towards a market-oriented, open economy. The effect of the gradual application of an appropriate blend of fiscal and monetary policies began to be felt within many government operations. In 1999, the budget deficit stood at 4% of gross domestic product (GDP) as a result of falling oil prices and a slump in tourism receipts. While the Government has revised the estimated real GDP growth rate for 1996-2000 to about 5%, this still represents a considerable increase from the level of 2% in 1994. Projections for 2001-05 put the GDP growth rate at about 6%. Per capita GDP increased from USD 1 050 in 1994/95 to about USD 1 500 in 2000.
3. The inflation rate dropped from 16% in 1995 to 3% in 2000. Export earnings for 1999/2000 were estimated at USD 6.4 billion and imports at USD 17.9 billion, while the overall current account deficit was estimated at USD 1.2 billion. Egypt has adequate foreign exchange reserves, estimated at over USD 14 billion, and a total external debt of about USD 32 billion (1999 data). The total workforce is nearly 18 million, with about 8% unemployed.
4. The agricultural sector is of major importance to the Egyptian economy, employing about 30% of the country's labour force and accounting for nearly 20% of its trade exports. Egyptian agriculture is confined to the valley and delta of the Nile and to some recently reclaimed adjacent desert lands (newlands). Farming is characterized by the small size of holdings, with nearly 50% of the farms covering less than 1 feddan (fd) and 84% of all small farmers holding only 50% of the total farm area. Land is occupied through ownership, tenancy or share-cropping. Fragmentation is common, although leasing plays a role in consolidating fragmented holdings. Soils in the Nile valley are fertile and the availability of irrigation water favours year-round growth. Almost all land is double-cropped, giving a cropping intensity of close to 200%. Although yields in the 'oldlands' are among the highest in the world for several cereal and horticultural crops, Egypt remains a food-deficit country that imports

¹ See Appendix I for additional information.



almost 40% of its food needs. However, it has a comparative advantage in a number of export crops and an increasing proportion of acreage is being devoted to export crops (cotton, rice, fruit, vegetables and flowers).

5. The greatest constraint on agricultural growth in the country is the availability of irrigated land despite there being hardly any rainfall. The population is confined to 4% of the total land area and the amount of cropped land per capita has fallen from 0.51 fd to 0.13 fd over the last 100 years, which explains why Egypt has always been preoccupied with land reclamation. Modern land reclamation dates back some 200 years and the irrigated area expanded from 2 million fd in the 1700s to about 5 million fd in 1900. The initial focus was on the alluvial soils of the valley and delta of the Nile. The Government launched a new programme of expansion in the 1950s with increasing emphasis on desert reclamation. Its target is to reclaim some 4.3 million fd by 2017, of which some 2.5 million fd will be suitable for agriculture.

6. Since the mid-1970s, the agricultural sector has grown by some 2% per annum, although its contribution to GDP has fallen from 29% to about 17%. However, in view of the sector's potential, in 1987, the Ministry of Agriculture and Land Reclamation (MALR) initiated a broad reform programme that included the removal of crop area assignments and delivery quotas, abolition of feed and fertilizer subsidies, promotion of the private sector, increased land rents, privatization of public agricultural production companies and liberalization of agricultural produce prices. There have been increases in the production of many crops as farmers have proved very responsive to new technology and price incentives. As a result, agriculture is now one of the most liberal and progressive sectors of the Egyptian economy.

7. Egypt's agricultural strategy responds to the country's increasing integration into the world economy. This has been made possible by focusing on higher agricultural growth through the 'horizontal expansion' of cropped areas, and 'vertical expansion' thanks to improved farming techniques that enhance yields and adjust crop mixes towards higher-value horticulture crops and livestock. This is expected to lead to higher total factor productivity, and perhaps in more jobs, a higher volume of exports, significantly increased rural incomes and reduced poverty levels as large numbers of low-income farmers become part of the growth process. Egypt's objective of achieving an agricultural growth rate at the upper end of the fast-growth, middle-income countries (4-6%) will be achieved by: (i) exploiting the country's significant potential to reclaim new lands; (ii) increasing yields of traditional crops; (iii) encouraging the production of high-value horticultural crops; and (iv) increasing livestock production, using the area's comparative advantage for producing berseem and summer green fodder crops fed to livestock on small farms.

8. Egypt has taken action to ensure proper conservation of its natural resources by passing two laws governing the conservation of biodiversity — Law 102/83 for the Natural Protectorates and Law 4/1994 for the Environment — by completing the National Study on Biological Diversity in 1996, and releasing the National Biodiversity Strategy and Action Plan in 1998. The Government's main strategic goal is to ensure the proper management and protection of natural resources, and biodiversity. Measures such as institutional strengthening, capacity-building, awareness-raising, and campaigns fostering the private sector, non-governmental organizations and research institutes are being used to support the implementation of the strategy and action plan.



B. Lessons Learned from Previous IFAD Experience²

9. The key lessons emerging from IFAD operations in Egypt over the past two decades can be summarized as follows:

- (a) **Complexity of design.** The constraints imposed by bureaucratic systems and difficulties in interministerial and inter-agency coordination suggest that projects need to be simple in design and have clear objectives, good targeting arrangements, a precise geographic focus and well-defined implementation procedures and responsibilities.
- (b) **Participatory irrigation management.** Farmers know that reliable and consistent water supply is the major determinant of successful farming. As such, they increasingly recognize that water users' associations (WUAs) are essential and that they can be effective in representing the rights of farmers and in managing farm irrigation. Projects need to capitalize on WUAs and similar participatory groups as agents of empowerment and implementation.
- (c) **Credit.** Projects can be catalysts and innovators in the provision of credit. The terms of the participation of financial institutions and financing intermediaries need to be such that the wholehearted and long-term commitment of these establishments is secured. Contracts must be firm, and there must be sufficient financial reward in future initiatives for credit delivery institutions.
- (d) **Gender and development.** The cultural sensitivities of newland communities are such that there must be flexibility in the provision of extension, training and other services so that women are effectively reached and become engaged in project activities, whether in mixed or separate groups, as determined by local conditions and beliefs.
- (e) **Diversified approach.** Farming alone is unlikely to assure household income sufficiency and stimulate wider economic development in the settled areas. Attention must be given to the encouragement of off-farm, non-farm and service enterprises that can help optimize employment prospects, earnings and business creation, and contribute to alleviating problems in marketing.

C. IFAD's Strategy for Collaboration with Egypt

10. **Egypt's policy for poverty eradication.** Through the use of a reference poverty line of 260 and 203 Egyptian pounds (EGP) per household per month for urban and rural areas, respectively, it was estimated in 1998 that 27% of the population, or nearly 16 million people, were living in poverty. Approximately two thirds of the poor live in rural areas. The *Human Development Report: Egypt* estimated the incidence of poverty in 1995/96 at 34% in urban governorates, while in rural governorates it ranged from 48% in Lower Egypt to 60% in Upper Egypt. The recent *Egyptian Participatory Poverty Assessment*, undertaken jointly by the Egyptian Social Fund for Development and the Department for International Development (United Kingdom), revealed that the poor themselves view poverty as extending well beyond mere financial deprivation. Poverty also involves social status, control of assets such as land, access to housing, health and education, and the ability to gain a secure livelihood. There is a strong sense among the poor in Egypt that poverty is self-perpetuating.

11. According to the latest Consultative Group meeting for Egypt (4-6 February 2002), the country's prospects for achieving the international development goals for 2015 are good. However, two areas that call for special attention are (i) a 50% reduction in the number of malnourished

² See Appendix II for additional information.



children; and (ii) gender equality and the empowerment of women. The Government's over-arching objective, as expressed in its 20-year plan covering the period 1997-2017, is to achieve a private-sector-led growth rate of 7.0-7.5% that will create sustainable employment opportunities and reduce the incidence of poverty.

12. **Poverty-eradication activities of other major donors.** A number of donor-assisted projects targeting Egypt's rainfed areas have been launched over the past decade. World Food Programme (WFP) has been active in the rainfed areas since 1977, with the specific objective of facilitating the sedentarization of the Bedouin population through food-for-work projects for cisterns, dykes, fruit orchards, low-cost housing, animal sheds and feeder roads. For the last six years, WFP assistance has been implemented in coordination with the World Bank's Matruh Resource Management Project (MRMP-I). The German Agency for International Cooperation has been supporting a pilot project, initiated in 1988, for developing new approaches to rural income-generation with particular focus on women's development activities. In the early 1990s, a project funded by the Food and Agriculture Organization of the United Nations aimed at increasing agricultural productivity through introduction of irrigation and modern agricultural practices following trials on soil and water conservation work in *wadis* (valley, ravine or channel that is dry except in the rainy season) and rangeland. An International Labour Organization/Danish International Development Assistance project is currently supporting cooperatives and training for women trainers and has established a training centre in the project area.

13. **Project linkages to IFAD's strategy in Egypt.** The Country Strategic Opportunities Paper for Egypt of November 2000 set out the Fund's new strategy, i.e. to establish synergy between IFAD specificity in terms of assisting the poor to help themselves and the Government's national planning and implementation framework for rural poverty reduction and social advancement through a participatory process. Accordingly, the core concern of the project is to achieve sustainability through: fostering self-reliance and promoting community ownership of the development process. This will be achieved through strengthening the capacity of communities to plan, manage, implement and monitor their own development activities; ensuring that all members of the community are involved in decision-making; and building up community institutions capable of sustaining the project's development initiatives and maintaining the development momentum through their own initiatives beyond the life of the project. The nascent community institutions developed under MRMP-I will become legally registered community-based organizations. The new project (MRMP-II) will focus on developing collaborative partnerships where farmer/community obligations go hand-in-hand with access to project resources. To ensure targeting of the poor, communities will be responsible for establishing the criteria for identifying disadvantaged households within their respective communities and for selecting beneficiaries. Greater stress will be placed on the development of women by ensuring that they take part in all decision-making processes within the community. With funding from the Global Environment Facility (GEF), greater emphasis will be placed on environmental issues. This will be ensured through protecting areas of high biodiversity by establishing protected areas and taking account of environmental concerns in all project activities in order to develop synergies between protection and development.

PART II – THE PROJECT

A. Project Area and Target Group

14. The project area is located in Matruh Governorate, which is part of the North-West Coast (NWC) region of Egypt. The NWC region extends 500 km from Alexandria westwards to the border with the Lybian Arab Jamahiriya, and is bounded by the Mediterranean Sea to the north and the Great Sahara Desert to the south. The project will continue to focus on the area covered by MRMP-I, which extends 320 km along the coast from Ras-El-Hekma in the east to Salloum in the west on the Lybian border, and some 60-70 km inland. More than 80% of Matruh Governorate is uninhabitable. Agriculture is based on rainfed farming. Annual rainfall varies from 50 mm to 150 mm.



15. Approximately 9 000 households benefited under MRMP-I. The primary target group of the new project will comprise 13 000 households that received no assistance under MRMP-I. However, all households registered under both MRMP-I and MRMP-II (a total of 22 000 households) will be eligible to benefit from extension advice and improved technology, while all community members will benefit from community-level investments in feeder roads, community range management units, social centres, literacy programmes, health and environmental-awareness programmes, etc. The primary target group will be targeted for household-level investments such as cisterns and dykes, fodder shrub plantations, etc. To reach the poorest households, the project will need to devote more attention to the hinterland, where these households are mostly to be found. Households living above the poverty line will not be eligible for private, household-level investments. While project activities will be targeted at both men and women a number of specific activities — including literacy programmes, carpet-making, home gardening, oil-making, and various other income-generating activities — will focus exclusively on women. More than 8 300 women will benefit from the project.

B. Objectives and Scope³

16. MRMP-I demonstrated that it is possible to increase agricultural opportunities by means of water harvesting and halting/reversing the accelerating resource degradation through participatory natural resource management (NRM) initiatives using existing social organizational structures. It also established the foundations for a sound framework for managing the natural resources of the NWC zone. However, many of its innovative initiatives are still in their infancy; more time is needed to consolidate and further develop the experiences and transform participation into self-reliance both to ensure sustainability and develop community institutions capable of managing their own resources. Considerable progress has been made in pioneering the participatory approach in the challenging environment of a traditional, tribal social system and in gaining the trust and confidence of the Bedouin people. However, ways of anchoring the participatory process firmly into the community structure are still to be determined. Continuation of MRMP-I through the new project will ensure that its full impact will be achieved and that the benefits of earlier activities will be extended to the, as yet, unserved strata of the population.

17. MRMP-I was conceived primarily as an NRM project, whereas the overarching goal of MRMP-II will be to improve the welfare of the more disadvantaged rural people and contribute to poverty alleviation through the conservation, rehabilitation and sustainable use of available natural resources. To this end, the project will: (i) assist communities, including women and the poor, to organize themselves to participate in community-based planning and implementation of development activities; (ii) help communities to conserve, rehabilitate and sustainably use and manage the natural resource base through development of suitable community-based institutional mechanisms; (iii) improve smallholders' agricultural and livestock production on a sustainable basis, promote demand-driven non-farm income-generating activities, mainly targeting women, and provide improved access to technical, financial and commercial services and market linkages; and (iv) improve access to markets and key social services.

C. Components

18. The project will be structured around six main components: community development; integrated NRM; support for income-generating activities; rural roads; rural microfinance/revolving fund; and project management.

³ See Appendix III for additional information.



Community Development

19. **Community capacity-building.** Support will be provided to help communities prioritize their development needs, both as individual households and as communities, by further developing the participatory planning approaches initiated under MRMP-I; and for strengthening the capacity of communities to manage their own development. To this end, the project will provide training both to community representatives (*mandoubs*) and individual community members to enable them to learn from experience with establishing community-based organizations in the region. The project will also provide staff (community development specialists, community facilitators) to facilitate initial dialogue within the communities until such time as the *mandoubs* and communities have gained sufficient skills and experience. With GEF support, the project will aim to improve community awareness and interest in global environmental issues by funding an environmental education programme, complemented by community involvement in the conservation of species.

20. **Strengthening of women's development capacity.** Activities under this sub-component will aim at ensuring that women are integrated into community participatory planning processes and addressing their special needs and interests. This will include a literacy programme, basic education for girls, and health and environmental-awareness campaigns. Implementation of the women's development programme will be based on contractual agreements among women and men in the community (since support for men is a prerequisite) and the project. Staff of the Gender Unit will draw up a list of conditions and criteria for each activity envisaged under the women's programme; criteria to be used for the selection of beneficiaries (individuals or groups) for each activity; general agreements with communities; and proforma of agreements specific to each activity. At the planning stage, emphasis will be placed on integrating the planning of household/community activities with those specifically directed towards women. As such the participatory diagnosis will include a review of women's and girls' concerns in order to increase awareness of gender issues among men in the communities. Men and women will be informed of the new roles and responsibilities of the *mandoubs* under the project. This will ensure that there is a better understanding and perspective of women's needs by community groups in the allocation of resources and allow women to express their views in relation to priorities for household and community-level investments and the selection of *mandoubs*. Separate information/sensitization sessions will be held with men and women in the communities. While the project will target at both men and women, some activities will be focused exclusively on women (approximately 8 300).

Integrated Natural Resource Management

21. **Land and water resource management.** The key problem of water shortages will be addressed through a major water harvesting, storage and watershed management programme. Implementation of the component will be based on successful water-harvesting and storage techniques and infrastructure, within an overall strategy for watershed management. With GEF funding, protection of the upper catchment areas will be ensured through microcatchment water harvesting measures, shelterbelts against wind erosion and reseeded of range areas. Support will be provided for adaptive research to establish water run-off coefficients and investigate water-use techniques.

22. **Rangeland management.** The objective of this sub-component is to develop a strategy for the sustainable use of communal resources through a community-managed approach to rangeland use and rehabilitation. Based on the establishment of pilot grazing management units, activities will aim at managing both rangeland vegetation and the animals put out to graze on it. The underlying principle is to simulate the large herd movements of the past by dividing the land under management into several plots on which the animals are put out to graze on a rotational basis, thus giving the vegetation sufficient time to recover. Decisions regarding such schemes (size, number of participants, grazing calendar, etc.) will be left to the herders' groups, depending upon the extent of land degradation,



social constraints, and their experience and managerial ability. With GEF support, 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 on the best use of planted fodder shrubs.

23. **Biodiversity conservation.** Under this sub-component, which will be funded by GEF grant financing, greater focus will be placed on biodiversity conservation and integrated environmental management.

Support for Income-Generating Activities

24. **Agricultural and livestock services.** The principal objective of the sub-component is to disseminate technologies developed under MRMP-I offering the best promise for improving existing farming systems at minimal cost and risk. Greater farmer involvement will be encouraged accompanied by a new community-based extension outreach effort through the training of community facilitators (*wakil/wukala*), one per local community. These facilitators will be selected by community members to provide farming advice and liaise with sub-regional support centres (SRSCs) with regard to technical support.

25. **Off-farm productive activities.** The objective here is to increase and diversify rural household incomes through the development of household or cottage agro-processing activities (production of shelled almonds, dried figs and pickled olives) and traditional Bedouin handicrafts. The project will support improvements in agricultural and livestock production through participatory extension, technology transfer and farmer-driven adaptive research, and promote off-farm income-generating activities (mainly to assist women to increase their family incomes).

Rural Roads

26. Based on community demand, the project will build approximately 100 km of asphalted feeder roads. In view of the expected high demand for road construction, stringent selection criteria will be established to take account of access to markets, social needs, population served, cost-effectiveness, etc. Communities will be expected to contribute to the cost of these works through the provision of voluntary labour corresponding to at least 10% of the total costs involved, and by providing additional unskilled labour paid by the project.

Rural Microfinance/Revolving Fund

27. MRMP-I has been managing a small revolving fund. In the interest of sustainability, MALR has agreed that an independent pilot microfinance scheme should be tested. Mobile credit retailers will be based initially in the SRSCs and local traders will deliver credit-in-kind. The project will provide a revolving fund to initiate the lending process and funding to support the training and establishment of professional credit retailers in the project area.

Project Management

28. The project will fund the staff, premises, equipment, vehicles, staff development, technical assistance and monitoring and evaluation (M&E) systems necessary for efficient and effective project management. Technical assistance will be directed at increasing the capability of M&E staff.

D. Costs and Financing⁴

29. The total cost of the project over six years, estimated at October 2002 prices and inclusive of physical and price contingencies, taxes and duties, is estimated at USD 44.8 million. Project costs by component are summarized in Table 1. Community development activities account for 19% of project base costs; integrated NRM for 46%; support for income-generating activities (agriculture, livestock and off-farm activities) for 11%; rural roads for 8%; rural microfinance revolving fund for 9%; project management for 7%; physical and price contingencies for 11%; investment costs for 79.1%; and recurrent costs for 20.9%.

30. The project will be jointly funded by IFAD, World Bank, GEF and the Government of Egypt and by contributions from the beneficiaries. The IFAD loan of USD 12.7 million will finance about 28.3% of total project costs, mainly for activities relating to land and water resource management, rangeland management, off-farm income activities and rural microfinance/revolving fund. World Bank will provide an amount of USD 12.2 million, mainly to support civil works, training and technical assistance, vehicle and equipment needs, and the rural microfinance/revolving fund component. GEF will contribute USD 5.2 million and the Government USD 10.4 million. The latter contribution will finance 87.3% of salaries and allowances, which is broadly in line with financing arrangements under MRMP-I. Together with the beneficiaries' contribution, this will include full coverage for the maintenance of roads built under the project. The beneficiaries will contribute USD 4.4 million (9.8%) in the form of voluntary labour and local materials for the construction and maintenance of water harvesting structures, social centres and roads, equity contributions to credit-financed income-generating activities and financial support to community resource persons. The financing plan is shown in Table 2.

TABLE 1: SUMMARY OF PROJECT COSTS^a
(USD)

	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
A. Community Development					
1. Community capacity-building	3 073 246	644 034	3 717 280	17	9
2. Strengthening of women's development capacity	3 011 079	891 825	3 902 904	23	10
Subtotal	6 084 325	1 535 859	7 620 184	20	19
B. Integrated Natural Resource Management					
1. Land and water resource management	11 963 726	1 480 257	13 443 983	11	33
2. Rangeland management	1 022 817	655 394	1 678 211	39	4
3. Biodiversity conservation	1 809 039	1 507 625	3 316 664	45	8
Subtotal	14 795 582	3 643 276	18 438 858	20	46
C. Support for Income-Generating Activities					
1. Agriculture and livestock services	2 639 489	617 864	3 257 353	19	8
2. Off-farm productive activities	1 258 848	108 922	1 367 770	8	3
Subtotal	3 898 337	726 786	4 625 123	16	11
D. Rural Roads	2 899 472	524 873	3 424 345	15	8
E. Rural Microfinance/Revolving Fund	3 479 646	118 584	3 598 230	3	9
F. Project Management	2 007 938	732 199	2 740 137	27	7
Total BASELINE COSTS	33 165 300	7 281 577	40 446 878	18	100
Physical Contingencies	1 721 573	318 941	2 040 514	16	5
Price Contingencies	1 934 095	414 431	2 348 527	18	6
Total PROJECT COSTS	36 820 968	8 014 950	44 835 918	18	111

^a Discrepancies in totals are due to rounding up.

⁴ See Appendix V for additional information.

TABLE 2: FINANCING PLAN^a
(USD)

	Government		GEF		Beneficiaries		World Bank		IFAD		Total		Foreign Exchange	Local (Excl. Taxes)	Duties and Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
A. Community Development															
1. Community capacity-building	1 996 657	52.0	117 806	3.1	36 047	0.9	1 689 602	44.0	-	-	3 840 112	8.6	689 606	3 113 169	37 337
2. Strengthening of women's development capacity	1 366 700	31.3	276 350	6.3	819 035	18.7	1 909 340	43.7	-	-	4 371 425	9.7	993 988	2 948 166	429 271
Subtotal	3 363 357	41.0	394 156	4.8	855 082	10.4	3 598 942	43.8	-	-	8 211 537	18.3	1 683 594	6 061 335	466 608
B. Integrated Natural Resource Management															
1. Land and water resource management	1 625 438	10.4	269 945	1.7	3 151 278	20.1	337 458	2.2	10 285 703	65.6	15 669 822	34.9	1 713 669	13 320 895	635 257
2. Rangeland management	347 801	19.4	554 266	30.9	-	-	728 660	40.7	160 652	9.0	1 791 379	4.0	693 138	1 006 018	92 223
3. Biodiversity conservation	394 381	11.0	3 194 564	89.0	-	-	-	-	-	-	3 588 945	8.0	1 609 853	1 822 704	156 389
Subtotal	2 367 620	11.2	4 018 775	19.1	3 151 278	15.0	1 066 118	5.1	10 446 355	49.6	21 050 147	46.9	4 016 661	16 149 617	883 869
C. Support for Income-Generating Activities															
1. Agriculture and livestock services	1 695 787	48.4	196 983	5.6	39 809	1.1	1 572 359	44.9	-	-	3 504 938	7.8	669 321	2 701 668	133 950
2. Off-farm productive activities	38 448	2.7	559 978	38.7	-	-	569 569	39.3	279 989	19.3	1 447 984	3.2	119 122	1 290 414	38 448
Subtotal	1 734 234	35.0	756 961	15.3	39 809	0.8	2 141 928	43.2	279 989	5.7	4 952 922	11.0	788 443	3 992 082	172 397
D. Rural Roads	705 884	17.5	-	-	338 945	8.4	2 999 662	74.2	-	-	4 044 492	9.0	620 276	2 959 099	465 117
E. Rural Microfinance/Revolving Fund	7 925	0.2	-	-	-	-	1 650 582	45.4	1 975 490	54.4	3 633 997	8.1	126 806	3 499 266	7 925
F. Project Management	2 182 885	74.2	-	-	-	-	759 938	25.8	-	-	2 942 824	6.6	779 170	2 051 298	112 356
Total disbursement	10 361 907	23.1	5 169 893	11.5	4 385 114	9.8	12 217 171	27.2	12 701 834	28.3	44 835 918	100.0	8 014 950	34 712 696	2 108 272

^a Discrepancies in totals are due to rounding up.





E. Procurement, Disbursement, Accounts and Audit

31. **Procurement** will be in accordance with World Bank guidelines and, in the case of equipment and materials, will be bulked to the extent possible to take advantage of price premiums.

32. Civil works will be a major item of project expenditure. Some USD 13.47 million is to be allocated to water management structures, of which USD 10.10 million will be financed by the IFAD loan. These investments are essentially labour-intensive and works will be dispersed. Responsibility for cistern and dyke construction on 'private' land will be delegated to the beneficiaries, who will be responsible for engaging skilled labour and hiring machinery, as required, in accordance with the project coordinating unit (PCU)'s and with its approval. Contractors will be engaged by the PCU or communities for the construction of watershed management structures on communal land. Works will be small and scattered. Contracts for these works costing USD 50 000 or less will be carried out by local shopping procedures with quotations from at least three sources. Sufficient sources of supply exist within the project area to allow for local shopping. Direct purchase procedures will be followed for the procurement of goods and materials costing less than USD 10 000. This will apply to the materials required for range management, which largely involve the purchase of seedlings from local nurseries within the project area. Procurement of goods financed through the credit programmes will be undertaken through local shopping procedures where credit is supplied in kind. Inputs financed through cash credit will be procured from local dealers.

33. **Disbursement.** The IFAD and World Bank loans of USD 12.7 million and USD 12.2 million, respectively, will be disbursed over a six-year period. Disbursements by IFAD will be made against certified statements of expenditure (SOEs) except in the case of contracts involving more than USD 50 000, for which applications will need to be fully documented. SOEs will be kept at the PCU and made available for audits and for review by supervision missions by the cooperating institution (World Bank).

34. **Accounts.** The PCU will maintain separate, double-entry accounts and financial statements for each source of project funding. Financial records of expenditures routed through the PCU will be maintained in accordance with Government practices acceptable to IFAD/World Bank. These records, however, must be maintained in such a manner as to facilitate the production of financial statements in the format required by IFAD, World Bank and GEF and in accordance with Government requirements. Quarterly consolidated statements of project accounts will be prepared by the financial controller and forwarded to IFAD and World Bank.

35. **Audit.** Project accounts will be audited annually by an audit firm acceptable to IFAD/World Bank. The auditors will provide a separate opinion on each account with respect to the funding mechanism, use of project resources and adherence to procurement rules. The PCU will submit the annual financial statements for auditing within two months of the end of each financial year. Certified copies of the audited financial statements will be provided to World Bank and IFAD not later than six months after the end of the fiscal year to which they relate.

F. Organization and Management⁵

36. Project management arrangements will largely follow the structure established under MRMP-I, while taking account of sustainability issues and the need to ensure adequate future support to maintain and further advance development within the project area. MALR will have overall national responsibility for the project, which will continue to be implemented under the guidance of a national coordination committee (NCC) under the chairmanship of the national coordinator appointed by MALR. The composition of NCC will be such as to ensure top-level support from the relevant line agencies of government.

⁵ See Appendix VI for additional information.



37. The membership of the NCC will comprise the Head of the International Financing Sector of the Ministry of Planning and International Cooperation, a legal counsellor designated by the State Legal Council of Egypt, the Secretary-General of Matruh Governorate, and representatives of the Environmental Affairs Agency and the National Agricultural Research Council. The role of the NCC will be to provide guidance on issues of policy and strategy consistent with national programming concerns and to facilitate and support the work of the project management team, and monitor project performance. It will also formally approve (and subsequently receive reports upon) the annual workplans and budgets (AWP/Bs) of the project. The NCC will meet twice-yearly, preferably following the receipt of supervision mission reports so that current findings may be discussed and any issues resolved. The PCU will coordinate the implementation of project activities.

38. The M&E Unit will be responsible for monitoring the physical and financial progress of the project and for providing in-depth analysis and interpretation related to implementation and project performance. Overall project monitoring will be based on the logical framework (Appendix III) and the AWP/Bs. The basic measurement period will be six-months, and monitoring will be action-oriented to facilitate decision-making. Therefore, data to be monitored should be sensitive to change over relatively short periods so that the effects of changes can be measured and follow-up/corrective action taken as necessary by project management.

39. Project impact management will take several forms and use a number of evaluation instruments, including project progress reports; beneficiaries' assessment of investment performance and effectiveness in tackling issues of concern; outcomes of annual review workshops; reports of beneficiary impact assessments; and reports of any specially commissioned studies (such as constant contact point surveys and case studies).

G. Economic Justification⁶

40. The quantified benefits include incremental net farm income from agriculture and livestock, decreased cost of water supplies to rural areas, increased soil fertility due to reduction of soil erosion and increased water infiltration. The non-quantified benefits include those associated with the strengthening of communities and women's development capacity, support to off-farm income-generating activities and marketing, construction of roads, biodiversity conservation, species protection and carbon sequestration activities. The full costs of project support activities have been added to farm model costs for the purpose of economic analysis. On this basis, the expected internal rate of return (EIRR) is 12%. Economic viability is ensured mainly by improved water harvesting capacity that will allow for an increase in the area planted to orchards and better productivity of both crops and livestock. When costs that do not directly contribute to quantified benefits, such as project management, the development initiatives fund and biodiversity conservation are omitted, the EIRR increases to 14%. Sensitivity analysis indicates that up-take ratios can significantly affect economic returns. In a demand-driven project, this is a clear indication that substantial effort should be made to foster community participation. Farmers net income's will increase by a minimum of 29% under the barley-and-livestock-based farm models and to a maximum of 89% under the new-plantation-and-livestock-based models (Appendix VII). As a result of soil and water conservation, particularly in areas where water infiltration is highest, yields of new plantations will also increase.

⁶ See Appendices IV and VII for further information.

H. Risks

41. The Government's longstanding welfare attitudes may spill over to project management and thus undermine any attempts to build genuine community self-reliance. Project design will mitigate this risk through staff and farmer training, including overseas study tours, to provide exposure to best practices regarding community self-reliance and initiative.
42. The success of the new community-based range management approach will very much depend on the ability of communities to impose social controls and maintain discipline. This is currently unproven. The project will provide support to communities through awareness-raising and training in conflict resolution and project staff will be available to assist in mediation.
43. In a society where livestock is a source of status and prestige, there is always the risk that interventions to boost feed resources might be undermined by farmers increasing livestock numbers. The project will seek to mitigate this risk through training on environmental risks and compensatory interventions to increase livestock productivity through better nutrition, health care and genetic improvement in order to convince farmers of the desirability of maintaining fewer, but more productive, livestock.
44. The provision of credit facilities in drought-prone environments carries inherent risks for farmers with few reserves. The project will seek to mitigate these risks by targeting credit only to farmers who can support risk while protecting the economically weak through the provision of grant assistance to enable them to adopt improved technologies.
45. The project will aim to give women a greater voice in their own affairs by involving them in the planning and decision-making processes through sensitizing communities. However, cultural traditions may prove too entrenched for this to happen.

I. Environmental Impact

46. The project is expected to have positive environmental impacts and benefits. The water harvesting and watershed management practices will not only reduce the erosive effects of run-off but will also help to build up more stable and productive soils in the areas mostly used for orchard crops. These tree crops will add to the total sum of natural transpiration and carbon sequestration, which are vital aspects of climatic stability and long-term ecological good. Water harvesting and water and soil conservation techniques (e.g. cisterns, shelterbelts, dykes, etc.) have been used under MRMP-I and no unmitigable impacts have been associated with such activities. Guidelines for the construction of water harvesting works have been developed and conflict management is addressed in project design through a highly participatory approach to all activities.
47. The livestock and rangeland activities, in particular, are specifically designed not only to arrest the present rate of degradation but also to start to return the natural resource base to something nearer to its former status, thereby contributing to reduced soil erosion, increased carbon sequestration, greater plant genetic diversity, species diversity and improved and increased supplies of feed for livestock. The provision of gas stoves to women will reduce rangeland degradation caused by the present practice of uprooting shrubs. The overarching participatory approach will provide a forum for increasing understanding and awareness of environmental issues.
48. The construction of asphalt roads will bring positive environmental benefits in that it will be possible to avoid destroying vegetation and leaving the ground surface more vulnerable to wind erosion. On the other hand, the construction of roads may interrupt the drainage flow of sheet run-off, reducing the availability of water downstream to irrigate fig and olive groves, while contributing to greater soil erosion through the increased velocity of the run-off water when the trapped water eventually finds an outlet. These risks will, however, be mitigated by making ample provision for crossroad drainage structures through culverts, etc.



J. Innovative Features

49. The project has many innovative features that fit well with the corporate strategies of IFAD and the World Bank. It is proposed to devolve greater responsibility to communities and to strengthen the role of community institutions in planning and managing development initiatives, which will not only make project planning and execution participatory but also promote self-reliance. The project has adopted a highly process-oriented and flexible, demand-driven approach to planning and execution in order to ensure the relevancy of its activities to the needs and aspirations of its intended clients.

PART III – LEGAL INSTRUMENTS AND AUTHORITY

50. A loan agreement between the Arab Republic of Egypt and IFAD constitutes the legal instrument for extending the proposed loan to the borrower. A summary of the important supplementary assurances included in the negotiated loan agreement is attached as an annex.

51. The Arab Republic of Egypt is empowered under its laws to borrow from IFAD.

52. I am satisfied that the proposed loan will comply with the Agreement Establishing IFAD.

PART IV – RECOMMENDATION

53. I recommend that the Executive Board approve the proposed loan in terms of the following resolution:

RESOLVED: that IFAD shall make a loan to the Arab Republic of Egypt in an amount equivalent to nine million six hundred thousand Special Drawing Rights (SDR 9 600 000) to mature on and prior to 1 March 2023 and to bear an interest rate of one half of the reference interest rate per annum as determined by the Fund annually and to be upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board in this Report and Recommendation of the President.

Lennart Båge
President

SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE NEGOTIATED LOAN AGREEMENT

(Negotiations concluded in Cairo on 5 December 2002)

1. The Government of the Arab Republic of Egypt (“the Government”) intends to obtain from the International Bank for Reconstruction and Development (the “Bank”) a loan (the “Bank loan”) approximately in the principal amount of twelve million three hundred and fifty thousand United States dollars (USD 12 350 000) to assist in cofinancing the project on terms and conditions to be set forth in an agreement (the “Bank loan agreement”) between the Government and the Bank.
2. The Government intends to obtain from the resources of the Global Environment Facility Trust Fund a grant (the “GEF Trust Fund grant”) approximately in the principal amount of five million one hundred and seventy thousand United State dollars (USD 5 170 000) to assist in cofinancing the project on terms and conditions to be set forth in an agreement (the “GEF grant agreement”) between the Government and the Bank.
3. The Government will make the proceeds of the loan available to MALR and each other project party in accordance with the annual workplans and budgets to carry out the project.
4. The Government will submit to IFAD a copy of the project implementation plan prepared in accordance with the Bank loan agreement. The project implementation plan will (a) define the respective roles and responsibilities of the agencies involved in the implementation of the project; (b) set forth the timetable of actions required to be carried out under the project; (c) identify the procedures to be used for monitoring and evaluating progress towards the achievement of project objectives; (d) set out the details of the environment management plan; (e) set out the details of the environmental guidelines manual; (f) set forth the principles governing the participation of the local communities in biodiversity conservation and resource management in the project area.
5. MALR will open and maintain a revolving fund account in a commercial bank where all repayments received on microfinance sub-loans financed by the loan will be deposited. MALR will establish the board of trustees of the revolving fund, satisfactory to IFAD.
6. Credit will be delivered in kind through a microfinance sub-loan agreement between the Government, the project coordination unit/technical services provider and the trader or retailer.
7. IFAD may suspend, in whole or in part, the right of the Government to request withdrawals from the loan account if the right of the Government to withdraw the proceeds of the Bank loan or the GEF Trust Fund grant has been suspended, cancelled or terminated, in whole or in part.
8. The Government will take actions to ensure that women are integrated into the participatory planning and implementation process.
9. No disbursements will be made from the loan for the microfinance sub-loans until the technical service provider is recruited.
10. The following are the additional conditions precedent to the effectiveness of the project loan agreement:
 - (a) the Government will have duly opened the project account and the special account;
 - (b) all conditions precedent to effectiveness of the Bank loan agreement and GEF grant agreement have been fulfilled;
 - (c) a favourable legal opinion, issued by the Minister for Justice will have been delivered by the Government to IFAD.

COUNTRY DATA

EGYPT

Land area (km² thousand), 2000 1/	995	GNI per capita (USD), 2000 1/	1 490
Total population (million), 2000 1/	63.8	GNP per capita growth (annual %), 2000 1/	4.4
Population density (people per km²), 2000 1/	64	Inflation, consumer prices (annual %), 2000 1/	2.7
Local currency	Egyptian Pound (EGP)	Exchange rate: USD 1 =	EGP 4.25
Social Indicators		Economic Indicators	
Population (average annual population growth rate), 1980-99 2/	2.2	GDP (USD million), 2000 1/	98 333
Crude birth rate (per thousand people), 2000 1/	26 a/	Average annual rate of growth of GDP 2/	
Crude death rate (per thousand people), 2000 1/	7 a/	1980-90	5.4
Infant mortality rate (per thousand live births), 2000 1/	47 a/	1990-99	4.4
Life expectancy at birth (years), 2000 1/	67 a/	Sectoral distribution of GDP, 2000 1/	
Number of rural poor (million) (approximate) 1/	8.1	% agriculture	17
Poor as % of total rural population 2/	23	% industry	33
Total labour force (million), 2000 1/	24.3	% manufacturing	20
Female labour force as % of total, 2000 1/	30	% services	50
Education		Consumption, 2000 1/	
School enrolment, primary (% gross), 2000 1/	101 a/	General government final consumption expenditure (as % of GDP)	10
Adult illiteracy rate (% age 15 and above), 2000 1/	45	Household final consumption expenditure, etc. (as % of GDP)	72
Nutrition		Gross domestic savings (as % of GDP)	18
Daily calorie supply per capita, 1997 3/	3 287	Balance of Payments (USD million)	
Malnutrition prevalence, height for age (% of children Under 5), 2000 1/	21 a/	Merchandise exports, 2000 1/	4 700
Malnutrition prevalence, weight for age (% of children Under 5), 2000 1/	11 a/	Merchandise imports, 2000 1/	13 600
Health		Balance of merchandise trade	-8 900
Health expenditure, total (as % of GDP), 2000 1/	3.8 a/	Current account balances (USD million)	
Physicians (per thousand people), 1999 1/	0.64	before official transfers, 1999 1/	-6 578
Population without access to safe water (%), 1990-98 3/	13	after official transfers, 1999 1/	-1 709
Population without access to health services (%), 1981-93 3/	1	Foreign direct investment, net, 1999 1/	655
Population without access to sanitation (%), 1990-98 3/	12	Government Finance	
Agriculture and Food		Overall budget deficit (including grants) (as % of GDP), 1999 1/	-2.0 a/
Food imports (% of merchandise imports), 1999 1/	23	Total expenditure (% of GDP), 1999 1/	30.6 a/
Fertilizer consumption (hundreds of grams per ha of Arable land), 1998 1/	3 926	Total external debt (USD million), 1999 1/	30 404
Food production index (1989-91=100), 2000 1/	153.7	Present value of debt (as % of GNI), 1999 1/	27
Cereal yield (kg per ha), 2000 1/	7 081	Total debt service (% of exports of goods and services), 1999 1/	9.0
Land Use		Lending interest rate (%), 2000 1/	13.2
Arable land as % of land area, 1998 1/	2.9	Deposit interest rate (%), 2000 1/	9.5
Forest area (km ² thousand), 2000 2/	1		
Forest area as % of total land area, 2000 2/	0.1		
Irrigated land as % of cropland, 1998 1/	100.0		

a/ Data are for years or periods other than those specified.

1/ World Bank, *World Development Indicators* database.

2/ World Bank, *World Development Indicators*, 2001.

3/ United Nations Development Programme, *Human Development Report*, 2000.



PREVIOUS IFAD FINANCING

Project Name	Initiating Institution	Cooperating Institution	Lending Terms	Board Approval	Loan Effectiveness	Current Closing Date	Loan/Grant Acronym	Denominated Currency	Approved Loan/Grant Amount
West Beheira Settlement Project	IFAD	UNOPS	HC	04 Dec 80	05 Aug 81	30 Jun 00	L - I - 54 - EG	SDR	21800000
Minya Agricultural Development Project	IFAD	UNOPS	HC	09 Dec 82	28 Jul 83	30 Jun 99	L - I - 114 - EG	SDR	23550000
Fayoum Agricultural Development Project	IFAD	World Bank: IBRD	I	14 Sep 84	06 Dec 85	31 Dec 93	L - I - 157 - EG	SDR	10100000
Newlands Agricultural Services Project	IFAD	UNOPS	I	15 Apr 92	30 Dec 93	31 Dec 01	L - I - 306 - EG	SDR	18300000
Agricultural Production Intensification Project	IFAD	UNOPS	HC	20 Apr 94	25 Jan 95	31 Dec 02	L - I - 355 - EG	SDR	14450000
East Delta Newlands Agricultural Services Project	IFAD	World Bank: IDA	HC	05 Dec 96	25 Jan 99	31 Dec 06	L - I - 440 - EG	SDR	17300000
Sohag Rural Development Project	World Bank: IDA	World Bank: IDA	HC	10 Sep 98	18 Jun 01	30 Jun 07	L - I - 484 - EG	SDR	18850000
West Noubaria Rural Development Project	IFAD	UNOPS	I	23-Apr-02			L - I - 582 - EG	SDR	14600000

Note: HC = highly concessional
I = intermediate

LOGICAL FRAMEWORK

Narrative Summary	Key Performance Indicators	Means of Verification	Critical Assumptions
<p>Project goals: To improve the livelihoods of local people and contribute to poverty alleviation through the conservation, rehabilitation and sustainable use of natural resources</p>	<ul style="list-style-type: none"> • Increase in household productivity and income • Reduction in environmental degradation 	<ul style="list-style-type: none"> • Periodic impact assessments • Range land and biodiversity monitoring 	<ul style="list-style-type: none"> • Social and economic environment remains conducive to development and investments • Communities are convinced of the need to protect the environment
<p>Project objectives</p> <ul style="list-style-type: none"> • To assist communities, including women and the poor, to organize themselves to participate in, and gain benefit from, community-based planning and implementation of development activities, and to manage the natural resource base in a sustainable manner 	<ul style="list-style-type: none"> • No. of community action plans (CAPs) prepared and implemented with effective participation of community members • No. of women's groups formed • No. of community resource management groups formed and community conservation areas established 	<ul style="list-style-type: none"> • PCU/management information system (MIS) • Annual ongoing beneficiary contact evaluations 	<ul style="list-style-type: none"> • Communities acknowledge the objectives of the project and take ownership of them • Members of the community are willing and able to take advantage of opportunities offered under the project
<ul style="list-style-type: none"> • To assist communities to conserve, rehabilitate and sustainably use and manage the natural resource base through developing appropriate community-based institutional mechanisms 	<ul style="list-style-type: none"> • No. of community-managed grazing schemes established • Area of range under effective improved management arrangements • No. and effectiveness of watershed management schemes implemented 	<ul style="list-style-type: none"> • PCU/MIS • Annual ongoing beneficiary contact evaluations • Periodic impact assessments 	<ul style="list-style-type: none"> • Communities recognize need to reduce grazing pressure on rangeland and are able to control access to it • Communities acknowledge the strategy for watershed development and biodiversity conservation and take ownership of it
<ul style="list-style-type: none"> • To improve smallholder agricultural and livestock production in a sustainable manner; promote demand-driven non-farm income activities, mainly targeting women; and provide improved access to technical, financial and commercial services and market links 	<ul style="list-style-type: none"> • Changes in cropping patterns, intensity and yields • Volume and value of farm production and produce sales • Diversification of household income 	<ul style="list-style-type: none"> • PCU/MIS • Annual ongoing beneficiary contact evaluations • Periodic impact assessments 	<ul style="list-style-type: none"> • No serious adverse weather conditions • No serious adverse trends in natural environment and market conditions • Appropriate extension messages developed and disseminated
<ul style="list-style-type: none"> • To improve access to markets and key social services 	<ul style="list-style-type: none"> • No. of km of feeder roads built • Increase in availability of transport services and reduction in costs 	<ul style="list-style-type: none"> • PCU MIS • Periodic impact assessments 	<ul style="list-style-type: none"> • Communities are able and willing to participate in construction works
<ul style="list-style-type: none"> • To provide institutional capacity to respond to the needs of communities while ensuring transparency, accountability and cost effectiveness 	<ul style="list-style-type: none"> • Project staffing, operations, plans, budgets and funds flow assured 	<ul style="list-style-type: none"> • PCU financial and management reports • Supervision reports and audit reports 	



<p>Outputs: Community Capacity-Building</p> <ul style="list-style-type: none"> • Rural communities with the capacity to plan, implement and manage their own development activities and to sustain development through knowledge of resources outside the project • Women's capacity, awareness and welfare increased and education of girls enhanced 	<ul style="list-style-type: none"> • Level of participation of community members in participatory planning process and quality of CAPs • No. of community-based organizations registered as legal entities • No. of communities undertaking development activities without project assistance • No. of women and girls participating in education programme • No. of women participating in health campaigns and improvements in women's and children's health • No. of women adopting more energy-efficient cooking methods to reduce fuelwood consumption 	<ul style="list-style-type: none"> • PCU/MIS • Baseline and impact assessment • Annual ongoing beneficiary contact evaluations 	<ul style="list-style-type: none"> • Community leaders and elites do not dominate community participation processes • Communities are able to exercise independent action and initiative and develop new structures to render participatory planning meaningful • Women are able to participate in social and development activities and adequate women teachers can be found for education programme
<p>Integrated Natural Resource Management</p> <ul style="list-style-type: none"> • Water harvesting and storage infrastructure enhanced and participatory and sustainable watershed management interventions established within an overall strategy of watershed management • Participatory, community-based approaches to rehabilitate and protect the rangeland established and regeneration of range areas set in train 	<ul style="list-style-type: none"> • No. and size of cisterns/reservoirs • No. of protected <i>wadis</i> and dykes • No. and type of soil and water conservation measures implemented • No. of community groups engaged in community range rehabilitation and effectiveness of control mechanisms • Investments to rehabilitate and improve management of rangelands and restore indigenous vegetation • Area of degraded range rehabilitated 	<ul style="list-style-type: none"> • PCU/MIS • PCU/MIS • Annual ongoing beneficiary contact evaluations • Periodic impact assessment • Site/field inspections 	<ul style="list-style-type: none"> • Communities are willing and able to contribute to operation and maintenance • Suitable, transparent and enforceable control mechanisms and benefit-sharing arrangements for range regeneration are worked out and respected by communities

Narrative Summary	Key Performance Indicators	Means of Verification	Critical Assumptions
<ul style="list-style-type: none"> Community awareness of importance of environmental conservation enhanced and areas of biodiversity protected and regenerated 	<ul style="list-style-type: none"> Targeted awareness and outreach programmes for local communities launched Communities are active in management of conservation areas, seed collection, etc., and visitors' centres in protected areas are well used Appropriate technologies for livestock and crop production in various ecosystems are available for dissemination and adopted Increases in carbon sequestration from crops, orchards and rangelands No. of professionals trained in ecosystem management No. of alternative sources of fuel introduced 	<ul style="list-style-type: none"> PCU/MIS Annual ongoing beneficiary contact evaluations Baseline and periodic impact assessments Site/field inspections Carbon sequestration surveys and modelling 	
<p>Support for Income-Generating Activities</p> <ul style="list-style-type: none"> Productivity and profitability of livestock, arable crop and horticulture production is enhanced Non-farm income-generating activities established, providing income to women and enhancing their status through increased contributions to family income Marketing understanding and capability expanded and new markets identified for farm and non-farm products 	<ul style="list-style-type: none"> Improvements in animal performance Crop area under optimum cultural practices, yields and sales Orchard area under improved cultural practices and yield increases No. of trials and demonstration plots No. of farmers participating as extension contact farmers and no. of farmers reached No. of farmers adopting improved technology Extent, profitability and sustainability of non-farm enterprises No. of women/men taking up credit to establish income-generating activities 	<ul style="list-style-type: none"> PCU/MIS Annual ongoing beneficiary contact evaluations Baseline and periodic assessment 	<ul style="list-style-type: none"> Appropriate extension messages developed and disseminated Technical support with adequate technical capacity and orientation to market economy will be available to assist farmers to improve their income-earning opportunities Sufficient level of rural entrepreneurial activity and potential
<p>Rural Roads</p> <ul style="list-style-type: none"> Network of feeder roads expanded with community participation, providing improved access for communities to markets and to essential social services 	<ul style="list-style-type: none"> No. of km of feeder roads constructed Improved services and reduced transport service costs Increased access to urgent health care, etc., and consequent benefits 	<ul style="list-style-type: none"> PCU/MIS Baseline survey and periodic impact assessment 	
<p>Project Management</p> <ul style="list-style-type: none"> Effective management of implementation of project interventions 	<ul style="list-style-type: none"> PCU fully staffed Planning and budgeting systems operate effectively 	<ul style="list-style-type: none"> PCU/MIS Supervision reports Quarterly financial statements Annual external audits 	<ul style="list-style-type: none"> No delay in funding Suitable candidates recruited Probity and transparency of operations



QUANTITATIVE INPUTS, TARGETS AND KEY PROJECT FACTORS

Objectives			Instruments			Incremental Benefits					
<p>1. The goal is to improve the welfare of the more disadvantaged rural people in the project area and contribute to poverty alleviation through the conservation, rehabilitation and sustainable use of available natural resources.</p> <p>2. Subsidiary objectives are to:</p> <p style="margin-left: 40px;">(a) assist communities, including women and the poor, to organize themselves to participate in community-based planning and implementation of development activities;</p> <p style="margin-left: 40px;">(b) assist communities to conserve, rehabilitate and sustainably use and manage the natural resource base through developing appropriate community-based institutional mechanisms;</p> <p style="margin-left: 40px;">(c) improve smallholder agricultural and livestock production in a sustainable manner, promote demand-driven non-farm income-generating activities, mainly targeting women, and provide improved access to technical, financial and commercial services and market linkages; and</p> <p style="margin-left: 40px;">(d) improve access to markets and key social services.</p>			<p>The main instruments to be used in implementing the listed components are as follows:</p> <ul style="list-style-type: none"> • provision of training to community representatives (<i>mandoub</i>s) and the wider community; • improvement of community awareness and interest in global environmental issues, and capacity-building for environmental management; • provision of training on land and water resource management and formation of watershed management associations; • establishment of Protected Range Areas (PRAs) and Range Rehabilitation and Improvement Associations; • construction of some 100 km of asphalted feeder roads; • setting up a revolving fund for rural microfinance; and • diversification of economic activities by promoting non-farming income-generating activities, especially for women, to increase family income. 			<p>Incremental benefits at full development:</p> <ul style="list-style-type: none"> • Incremental net farm income from agriculture and livestock • Decreased cost of water supply to rural areas. • Increased fertility due to reduction of Soil erosion and increased water infiltration. <p>Project beneficiaries (households)</p> <ul style="list-style-type: none"> • Direct 13 000 <ul style="list-style-type: none"> • Community capacity-building 22 000 • Rural microfinance/revolving fund 6 800 • Rangeland management 3 800 • Biodiversity conservation 22 000 • Agriculture and livestock prod. 8 800 • Off-farm income-generating activities 6 800 • Rural roads 2 000 • Indirect 9 000 					
PROJECT COSTS			FINANCING			BENEFICIARIES			ECONOMIC/FINANCIAL ANALYSIS		
COMPONENTS	USD million	% Base Costs		USD million	%	<p>Project activities will be targeted at 22 000 households. The project will address the special needs and interests of women.</p>			<p>Economic IRR (%)</p> <ul style="list-style-type: none"> • Project as a whole 20 <p>Project cost per household (USD/household)</p> <ul style="list-style-type: none"> • Project as a whole 2 038 • Community capacity-building 174 • Rural microfinance/revolving fund 534 • Rangeland management 471 • Biodiversity conservation 163 • Agriculture and livestock production 398 • Off-farm income-generating activities 213 • Rural roads 2022 		
A. Community capacity-building	7.62	19	IFAD	12.70	28.3						
B. Integrated NRM	18.44	46	GEF	5.17	11.5						
C. Support for income-generating activities	4.62	11	Government	10.36	23.1						
D. Rural roads	3.42	8	Beneficiaries	4.38	9.8						
E. Rural microfinance/revolving fund	3.60	9	World Bank	12.22	27.2						
F. Project management	2.74	7	Total	44.83	100						
G. Contingencies	4.39	11									
Total including contingencies	44.83	111									



SUMMARY COST AND FINANCING TABLE

Table 1: Expenditure Accounts by Financiers

Matruh Resource Management
Expenditure Accounts by
Financiers (USD)

	Gov. of Egypt		GEF		Beneficiaries		WB		IFAD		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
I. Investment Costs															
A. Land compensation fund	-	-	382 099	100.0	-	-	-	-	-	-	382 099	0.9	382 099	-	-
B. PDF-B	-	-	300 000	100.0	-	-	-	-	-	-	300 000	0.7	300 000	-	-
C. Civil Works															
1. Water management	504 970	3.7	269 945	2.0	2 593 316	19.3	-	-	10 103 319	75.0	13 471 551	30.0	1 180 989	11 794 857	495 705
2. Roads and buildings	647 900	11.5	428 138	7.6	858 083	15.2	3 699 793	65.7	-	-	5 633 915	12.6	845 087	4 140 928	647 900
Subtotal Civil Works	1 152 871	6.0	698 083	3.7	3 451 399	18.1	3 699 793	19.4	10 103 319	52.9	19 105 466	42.6	2 026 076	15 935 785	1 143 605
D. Vehicles	220 278	23.3	127 616	13.5	-	-	599 126	63.3	-	-	947 020	2.1	757 616	142 053	47 351
E. Equipment and Materials (including Goods)	829 965	21.2	666 167	17.0	324 395	8.3	2 087 415	53.4	-	-	3 907 942	8.7	1 094 224	2 305 686	508 032
F. Training															
1. Beneficiary training	0	-	115 154	12.4	-	-	655 477	70.4	160 652	17.3	931 284	2.1	372 513	558 770	-
2. Staff training	73 491	10.3	142 084	19.9	-	-	315 071	44.2	182 384	25.6	713 030	1.6	295 801	417 229	-
Subtotal Training	73 491	4.5	257 238	15.6	-	-	970 548	59.0	343 036	20.9	1 644 313	3.7	668 314	975 999	-
G. Technical Assistance															
1. International-TA	232 774	14.5	772 960	48.2	-	-	598 388	37.3	-	-	1 604 122	3.6	1 572 877	25 604	5 642
2. Local-TA	179 499	6.8	1 215 827	46.0	-	-	489 861	18.6	755 479	28.6	2 640 665	5.9	47 998	2 570 382	22 285
Subtotal Technical Assistance	412 273	9.7	1 988 786	46.9	-	-	1 088 249	25.6	755 479	17.8	4 244 787	9.5	1 620 875	2 595 986	27 926
I. Development Initiatives Fund	950 000	50.0	-	-	-	-	950 000	50.0	-	-	1 900 000	4.2	-	1 900 000	-
J. Micro-finance	-	-	-	-	-	-	1 500 000	50.0	1 500 000	50.0	3 000 000	6.7	-	3 000 000	-
K. Labour	-	-	13 187	61.5	-	-	8 256	38.5	-	-	21 443	-	-	21 443	-
Total Investment Costs	3 638 878	10.3	4 433 176	12.5	3 775 794	10.7	10 903 388	30.8	12 701 834	35.8	35 453 069	79.1	6 849 204	26 876 951	1 726 915
II. Recurrent Costs															
A. Salaries and allowances															
1. Staff	4 333 090	89.1	515 180	10.6	-	-	15 082	0.3	-	-	4 863 352	10.8	-	4 863 352	-
2. Honoraria	403 311	71.8	-	-	39 809	7.1	118 885	21.2	-	-	562 005	1.3	-	562 005	-
Subtotal Salaries and allowances	4 736 401	87.3	515 180	9.5	39 809	0.7	133 967	2.5	-	-	5 425 357	12.1	-	5 425 357	-
B. Vehicle Operation and Maintenance	1 148 774	68.6	98 804	5.9	-	-	427 476	25.5	-	-	1 675 054	3.7	837 527	644 896	192 631
C. Office Running Costs	503 442	36.5	122 733	8.9	-	-	752 341	54.6	-	-	1 378 516	3.1	147 435	1 146 306	84 775
D. Civil Works Maintenance	334 411	37.0	-	-	569 511	63.0	-	-	-	-	903 922	2.0	180 784	619 186	103 951
Total Recurrent Costs	6 723 029	71.7	736 717	7.9	609 320	6.5	1 313 783	14.0	-	-	9 382 848	20.9	1 165 746	7 835 745	381 357
Total PROJECT COSTS	10 361 907	23.1	5 169 893	11.5	4 385 114	9.8	12 217 171	27.2	12 701 834	28.3	44 835 918	100.0	8 014 950	34 712 696	2 108 272



ORGANIZATION AND MANAGEMENT

A. Project Coordination and Policy Guidance

1. The MALR will have overall national responsibility for the project, which will continue to be implemented under the guidance of an NCC under the chairmanship of the National Coordinator appointed by MALR. The composition of the NCC will be such as to ensure top-level support from the relevant line agencies of government. The role of the NCC will be to provide guidance on issues of policy and strategy consistent with national programming concerns and to facilitate, support the work of the project management team, and monitor project performance. It will also formally approve (and subsequently receive reports upon) project AWP/Bs. The NCC will meet twice-yearly, preferably following the receipt of supervision mission reports so that current findings can be discussed and any issues resolved.

2. At the local level, the role of the Project Coordination Committee (PCC) will be strengthened with greater emphasis on its role as the interface between the project and the regular government agencies and services. The independent project management has tended to isolate communities from the regular Governorate services. With the project's emphasis on sustainability it is crucial to improve the links between the communities and the regular service providers on whom they will depend for future assistance. The PCC will need to be more proactive in forging such links. In recognition of this, the PCC will be chaired by the Governor or the Secretary-General of Matruh Governorate with the project manager as vice-chairperson. Figure 1 shows the general organizational structure of the project.

B. Phasing of Project Implementation

3. The project will be implemented over a period of six years. In order to ensure a smooth and rapid transition from MRMP-I to this project it is proposed to undertake preliminary activities for the elaboration of new CAPs.

4. The project will be implemented through the mechanism of approved AWP/Bs. These documents will allow established Government formats but incorporate the element of flexibility that is necessary to cater to the demand-driven nature of many project activities. The CAPs prepared by each community will form the basis of the AWP/B, supplemented by the plans of project management departments for supporting activities, e.g. extension, research, training, etc. These plans will be prepared in accordance with the government calendar for national budgeting. Plans and budgets will be submitted to the PCU for review, amendment and approval, prior to consolidation of the composite project AWP/B, which will be submitted to the NCC for approval. Joint beneficiary/community/project review workshops will be held at the end of each year in the SRSCs to provide feedback on project performance. These workshops will ensure that the AWP/Bs for the coming year are consonant with expressed needs and aspirations of communities and that they address perceived deficiencies in project implementation.

5. The participatory planning process in PY 1 will develop the overall development framework for each local community (LC) and social unit (SU) within the LCs. Resources would be allocated on an annual basis allowing for adjustments of allocations based on experience. Therefore each SU will prepare a yearly plan for the funds allocated to it, based on its overall development framework, although this may be revised in the light of experience and new opportunities.

6. Once the participatory planning and resource allocation processes are well established, consideration will be given to a pilot experiment to transfer the funds to selected LCs to manage disbursement to beneficiaries. These LCs should have established a registered community-based



organization. This step, which will mirror procedures under the Sherouk Fund, will better prepare communities for the future management of their development.

7. The LCs will be required to reselect their representatives for the project to allow communities to reassess their choices in the light of emerging new requirements. This process will be renewed in PY 3 in order to guarantee the accountability of the *mandoubs* to their constituencies. In order to broaden managerial experience, each LC should elect an assistant/substitute to the *mandoub* to replace him when absent and help him in his contacts with member households. The assistant/substitute will also provide a potential replacement for the *mandoubs*.

8. The participatory process will be facilitated by community facilitators who will initially assist *mandoubs* in meetings with their constituencies. Training will be provided to communities and representatives as follows:

- (a) training of community representatives (*mandoubs*) and their substitutes in the project methodology and strategy and their roles and responsibilities;
- (b) training of *mandoubs* and community members on the criteria and processes for identifying disadvantaged households, establishing investment priorities, requirements for community/beneficiary contributions to project investments, and modalities of arbitrage in resource allocation.

9. The design of the new CAPs following the proposed approach should be carried out during the very initial stages so that the CAPs/annual plans are ready for implementation at project start-up. Since it will not be possible to recruit the proposed new complement of community development staff before project start-up, existing staff will need to be redeployed and retrained to undertake the task. It is proposed that the Extension Director should be put in charge of the participatory planning exercise together with one assistant at headquarters to form the central team and a minimum of five staff (one per SRSC) assigned as community facilitators.

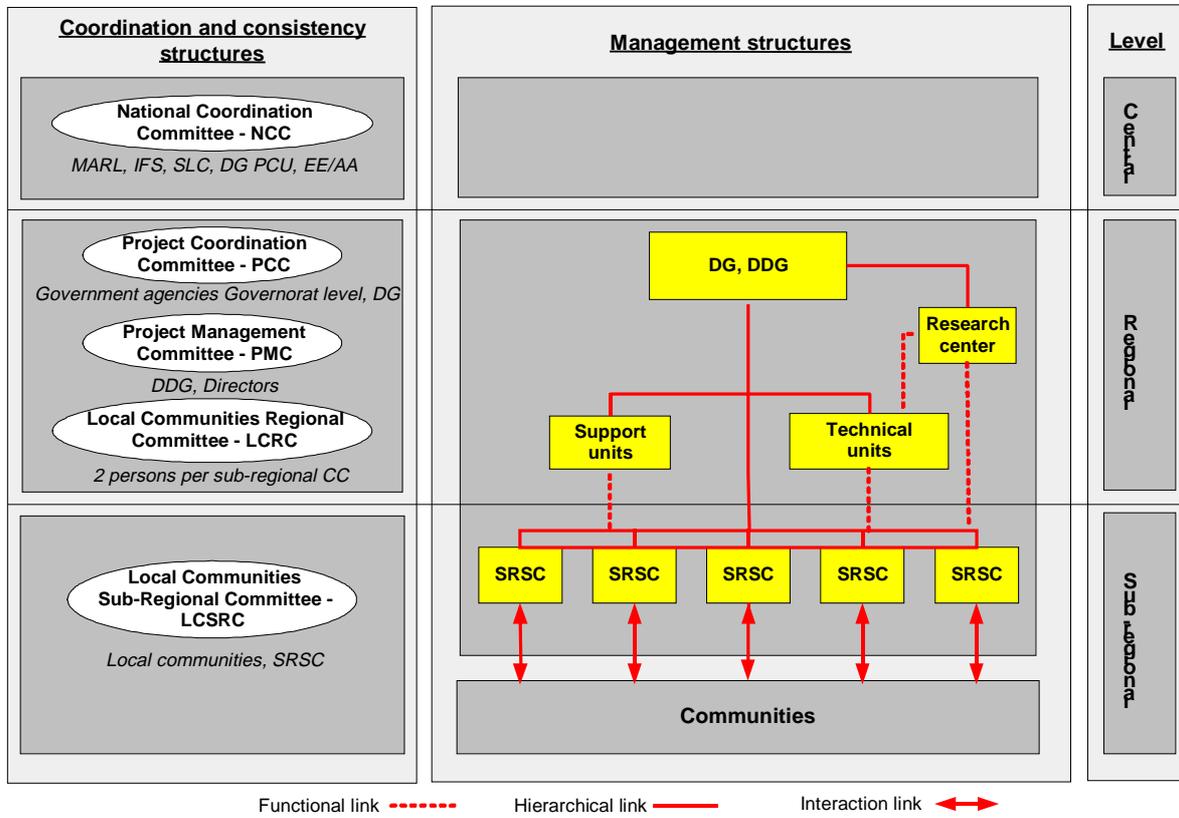
C. Participatory Monitoring

10. **Participatory M&E.** The project will strengthen procedures that allow communities to evaluate their own performance and provide periodic feedback from the project clientele on the efficacy of project activities. This will be ensured through; (i) regular review meetings in each social unit (*bayt*) at which the community will assess its progress in implementing activities planned under its CAP, identify constraints faced and seek solutions thereto. This will cover both individual and collective activities; and (ii) annual review and planning workshops held in each SRSC to provide a forum for reviewing project design and implementation performance with PCU staff and for discussing any modifications necessary.

11. Part of the participatory M&E exercise will be devoted to women's focus groups to ascertain their views on the overall development activities implemented in the community and on special women's activities. For the latter, the aspects covered will include constraints faced, benefits gained, unmet aspirations and impact on women's status both in the household and among the wider community. If feasible, this exercise will be also carried out at the SRSC level to allow for exchanges of experiences and learning from best practices to take place across SUs and LCs.



General Organizational Chart



FINANCIAL AND ECONOMIC ANALYSIS

A. Financial Analysis

1. Six representative farm models have been developed to reflect the incremental incomes due to project interventions. These interventions represent a combination of crop and livestock activities and are based on the two principal farming systems of cereals/livestock and cereals/trees/livestock. Farm models for both farming systems are presented for small and medium farmers, reflecting the impact of improved technology on agriculture and livestock productivity, together with models reflecting the establishment of new orchard areas. Details of the farm models are given in Table 1. These indicate that all proposed improvements are financially attractive and that major income benefits will be derived from tree crop production.

Table 1: Farm Models

Farm model	Project Interventions	Results
Barley and livestock – small 15 sheep/goats 10 fd barley 20 fd close grazing	Improved barley production No increase in area under crops Fodder shrubs as inputs for livestock Better animal productivity with same number of animals Use of additional water for livestock and crops (human needs already satisfied)	Income increases by 31% IRR – 17%
Barley and livestock – medium 50 sheep/goats 20 fd barley 20 fd close grazing	As above	Income increases by 29% IRR – 27%
Tree, barley and livestock – small 15 sheep/goats 10 fd barley 2.4 fd orchard	Improved barley production Fodder shrubs as inputs for livestock Supplementary irrigation for orchards Improved orchard management (pruning, fertilizer, pesticide) Better animal productivity with same number of animals Use of additional water for livestock and agriculture (human needs already satisfied)	Income increases by 55% IRR – 45%
Tree, barley and livestock – medium 50 sheep/goats 20 fd barley 4.75 fd orchard	As above	Income increases by 51% IRR – 53%
New plantation and livestock – small 15 sheep/goats 10 fd barley 2 fd of orchard	Improved barley production Planting of new trees Small increase in area under crop Better animal productivity with same number of animals Use of additional water for livestock and agriculture (human needs already satisfied)	Income increases by 89% IRR – 27%
New plantation and livestock– medium 50 sheep/goats 20 fd barley 4 fd of orchard	As above	Income increases by 73% IRR – 35%



2. The risk analysis on the impact of variability in rainfall indicated that overall agricultural and resource improvements in the project area show good financial returns that are sufficiently robust to cope with adverse climatic conditions, with the exception of new orchards that have a 41% probability of showing returns below 12% because of poor rainfall. However, technological packages should be designed in such a way as to minimize on-farm investment costs. For new orchards, the proposed provision of seedlings and start-up fertilizer free-of-charge under the project to poorer farmers is shown to be fully justified.

B. Economic Analysis

3. The economic viability of the project was examined over 20 years to reflect the economic life of the major investments. An import parity price was used for barley. For other agricultural outputs, financial prices were assumed to adequately reflect economic prices. For livestock outputs, the economic price has been assumed to equate to the financial price as the livestock sector is not characterized by any economic distortion. Financial prices were adjusted using a standard conversion factor of 0.9 whilst the economic cost of labour has been estimated at 50% of the prevailing wage rate to reflect the excess in the supply of labour and the lack of alternative employment opportunities in the labour market during most of the year. The economic price of water provided by the project through investments in water infiltration through dykes is represented by the long-term marginal cost of water delivered by pipeline from Alexandria plus local transport for supplemental irrigation of orchards. Cisterns are assumed to only satisfy human and animal consumption needs.

4. The quantified benefits include incremental net farm incomes from agriculture and livestock, lower cost of water supply to rural areas, increased fertility due to reduction of soil erosion and increased water infiltration. The non-quantified benefits include benefits associated with the strengthening of communities and women's development capacity, support for off-farm income-generating activities and marketing, road construction and biodiversity conservation, species protection and carbon sequestration activities. The full costs of the project support activities have been added to farm model costs for the economic analysis. On this basis, the EIRR is 12%¹. Economic viability is ensured mainly by a better water harvesting capacity allowing for an increase in the area under orchards and better productivity of both crops and livestock. The non-quantified benefits will improve the economic viability of the project. Similarly, when costs that do not directly contribute to quantified benefits such as project management, development initiatives fund and biodiversity conservation are omitted, the EIRR increases to 14%. Sensitivity analysis indicates that up-take ratios may significantly affect economic returns. In a demand-driven project, this is a clear indication that substantial effort should be put into fostering community participation.

¹ This EIRR is nearly equivalent to that calculated for MRMP-I at appraisal.

EXPERIENCE OF MRMP-I AND DESIGN IMPLICATIONS FOR MRMP-II

A. Background

1. The Matruh Resource Management Project (MRMP-I), a development project with a strong adaptive research and technology base, was launched by the World Bank in 1994 to break the cycle of resource degradation and poverty in the rainfed areas in the western part of Egypt's NWC region. Scheduled to close at the end of 2001, the project has been extended until the end of 2002. The total project cost of USD 29.4 million is cofinanced by the Government, a World Bank (IDA) loan, and beneficiary contributions. The mandated area extends 320 km along the NWC from Ras El-Hekma in the east to El-Salloum on the Libyan border in the west and 60 km inland.

B. Evaluation of Achievements

2. MRMP-I has made clear progress in achieving its objectives of sustainable resource management and poverty alleviation. The beneficiary pool of 6 000 households envisaged at appraisal has gradually been enlarged to more than 18 700 households and, of these, over 51% have directly benefited from project activities. Project interventions have increased the incomes of more than 58% of all households, although to a variable extent, but mostly by 25% or more. The project has also effectively improved resource management by extensive development and conservation activities. However, it is too early to assess the sustainability of the achievements and impact.

3. MRMP-I has supported the construction of water storage cisterns and reservoirs that have increased storage capacity by about 1.2 million m³ (more than four times the original target of 0.25 millionm³). Water harvesting structures (stone, earthen and cement dykes) were constructed to improve crop production over an area of 3 200 fd and reduce soil erosion. In the upper catchment area, around 2 260 fd of degraded rangeland were reseeded (showing a good survival rate), leading to improved vegetative cover and reduced soil losses. The construction of check dams to control gully erosion has also served to provide water for crops on 730 fd. About 65 km of windbreaks, using a local plant known as 'boos', were planted to protect the sandy soil from wind erosion. These measures led to increased productivity of between 80 and 215%, with small farmers achieving proportionally higher results.

4. The range management programme helped local communities to establish 12 000 fd of fodder shrubs, to over-seed 2 000 fd of rangeland with native species and to establish 250 selected range management areas comprising 25 fd of fenced shrub plantation and 25 fd of barley/vetch and/or barley/fodder shrub intercropping. Shrub survival rates have been more than 50% and mostly in excess of 70%. Forage production was highly variable ranging from 10 to 80 tons of fresh weight /25 fd. The range herbarium and botanical garden have identified, collected and preserved 292 native fodder plants and 53 species; and, for many species, seed multiplication has been initiated to restock the degraded rangelands. Livestock improvement activities achieved significant improvements in productivity through improved feeding regimes (which have led to a significant reduction in the use of concentrates), improved veterinary care and breeding improvements through promoting ram/buck exchanges with a resultant doubling of income from the sale of kids.

5. Crop research and extension has resulted in the widescale promotion of an improved barley variety, Giza 126, which, combined with improved cultural practices, has increased yields by 70-100% and has been widely adopted. Substantial yield increases were also achieved thanks to simple improvements in tree management practices (fertilization, pruning, integrated pest management, harvesting techniques) and post-harvest handling when applied to the rejuvenation of neglected orchards or to improve productive ones.



6. Although not originally included in the project design, the women-in-development (WID) programme has made major achievements in the area of literacy education (for 4 800 illiterate girls), establishment of small income-generating projects for around 1 000 women, training in handicrafts, home gardening (around 1 500 women), labour-saving equipment (hand pumps, gas stoves, carts for around 1 500 women), improved nutrition, health and sanitary conditions (2 500 latrines), and environmental awareness.

C. Design Implications

7. The introduction of the participatory approach under MRMP-I has laid a solid foundation on which to build during the present project. The concepts of community development, participatory planning, representation of the local population, etc., have become more familiar in the project area. Thanks to MRMP-I, there is greater trust and confidence on the part of the communities that were previously distrustful of government. The project therefore contributed to creating an institutional mechanism of dialogue and consultation with the local population. However, due to various reasons, certain shortcomings will need to be addressed under the new project as it is now evident that, in relation to community development, planning and strengthening the capacities of local communities, MRMP-I was too ambitious in terms of its objectives while having no clear strategy and the necessary means to attain its objectives (appropriate organization, human resources, training, etc.).

8. The success of the WID programme together with the desire to seek greater involvement of women in the participatory approach justifies a particular focus on women's development under the new project. The women's programme under MRMP-I was handicapped by a lack of resources and autonomy. Taking up the new challenge will require a stronger women's department with more experienced staff and more operational independence.

9. For agricultural development, the main pointer emerging from the experience of MRMP-I is the strong preference of farmers for interventions that have low costs and incur minimal effects on farming systems, rather than more complex, expensive and risky ones. This reflects both the inherent reluctance to change and a lack of resources to implement new techniques. It is further shown that technologies already developed and introduced are capable of solving the great majority of the productivity problems while the wide disparity in productivity gains achieved by farmers from the uptake of the interventions indicates that there is scope for narrowing the gap through identifying the best practices and replicating them on a wider scale. Hence, the future emphasis should be on the wider and more intensive dissemination and promotion of the presently available crop and livestock improvement packages for mainstream farming systems. The focus should be on those that require least cost and cause least disruption to current farming practices, in line with the needs of a target group that is now to comprise more of the small and poorer farming households – and those in more distant and less advantaged communities. For cost effectiveness and self-reliance, more emphasis in extension methodologies should be put on farmer-to-farmer exchanges of information.

10 The lessons learned from MRMP-I in terms of rehabilitation and development of rangeland emphasize the need to devise alternative approaches to range rehabilitation that would be more cost-effective and more widely replicable, and to consider institutional approaches focusing on community management of the rangeland resource that received little attention under MRMP-I. While the benefits of adopting an integrated approach to water management compared with the previous approaches of fragmented interventions, particularly in the context of *wadi* development, have been amply demonstrated, experience has also shown the need for more detailed and location-specific information to ensure sound planning. It has also been found that, due to the specific nature of the project environment, the available technology was not adequate to address the need to find the fine balance between providing adequate rainfall run-off to downstream areas while also preventing soil erosion. Further adaptive research is therefore required.

