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MEDITERRANEAN ACTION PLAN

Fifth Meeting of MED Unit and Regional
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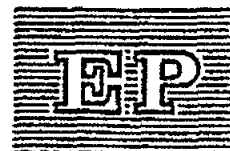
Malta, 19-20 September 1992

DRAFT

CAMP PROJECT FOR FUKA-MATROUH AREA (EGYPT)



United Nations
Environment
Programme



MEDITERRANEAN ACTION PLAN

DRAFT

**AGREEMENT RELATIVE TO THE COASTAL AREA
MANAGEMENT PROGRAMME
FOR THE COASTAL AREA OF FUKA-MATROUH**

MEDITERRANEAN ACTION PLAN

AGREEMENT BETWEEN

THE GOVERNMENT OF THE ARAB REPUBLIC
EGYPT as Contracting Party to the
Convention for the Protection of and
of the Mediterranean Sea against
Pollution and its related Protocols

THE UNITED NATIONS ENVIRONMENT
PROGRAMME, as the Secretariat
to the Convention for the
Protection of the Mediterranean
Sea against Pollution and its
related Protocols

In conformity with the legal obligations of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its related Protocols, and in particular article 4 of the Convention for the Protection of the Mediterranean Sea against pollution, which entered into force on 12 February 1978 and based on the recommendations made at various intergovernmental and expert meetings during which a Coastal Area Management Programme for selected pilot areas was formulated and approved by the Sixth Ordinary Meeting of the Contracting Parties to the Barcelona Convention (Athens, October 1989), and by the Seventh Ordinary Meeting of the Contracting Parties to the Barcelona Convention (Cairo, 8-11 October 1991), agree on the following:

1. The present Agreement is aimed at development and implementation of the Coastal Area Management programme for the Coastal area of Fuka-Matrouh (Egypt).
2. This Agreement shall be valid for the period of the 1993-1994 biennium and may be extended, amended, changed, or terminated by mutual consent of both parties.
3. The description of the Coastal Area Management Programme for the Coastal area of Fuka-Matrouh might be subject to annual revision and negotiation between the signatories of this Agreement.

For and on behalf of

THE GOVERNMENT OF THE
ARAB REPUBLIC OF EGYPT

Name:.....
(H.E. Mr. Atef Ebeid)

Title: Minister of Cabinet Affairs
Minister of State for
Administrative Development
and Minister in charge of
the Environment

Date: 9 November 1992

THE UNITED NATIONS
ENVIRONMENT PROGRAMME

Name:.....
(Prof. Salvino Busuttil)

Title: Co-ordinator
Mediterranean Action Plan

Date: 9 November 1992

LIST OF ABBREVIATIONS

APM	Atelier du Patrimoine de Marseille
BP/RAC	Blue Plan/Regional Activity Centre
CAMP	Coastal Areas Management Programme
CIEMAT	Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas - Madrid
ECE	Economic Commission for Europe
EEC	European Economic Community
EEAA	Egyptian Environmental Affairs Agency
EIA	Environmental Impact Assessment
EIB	European Investment Bank
FAO	Food and Agriculture Organization of the United Nations
GIS	Geographic Information System
IAEA	International Atomic Energy Agency
LBS	Land-Based Sources Protocol
MAP	Mediterranean Action Plan
MARPOL	International Convention for Prevention of Pollution from Ships
MEDPOL	Long-Term Programme for Pollution Monitoring and Research in the Mediterranean
MEDU	Coordinating Unit of the Mediterranean Action Plan
OCA/PAC	Ocean and Coastal Area/Programme Activity Centre
PAP/RAC	Priority Actions Programme/Regional Activity Centre
REMPEC	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
SPA/RAC	Specially Protected Areas/Regional Activity Centre
UNEP	United Nations Environment Programme

UNEP/DPCU	UNEP/Development Planning and Coordination Unit
UNEP/GRID	UNEP/Global Resource Information Database
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
WB	World Bank
WHO/EURO	World Health Organization/Regional Office for Europe
WMO	World Meteorological Organization

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1. PREPARATORY ACTIVITIES
2. BACKGROUND INFORMATION ON THE FUKA-MATROUH AREA
3. STRATEGY OF THE PROGRAMME

Fuka-Matrouh area is a semi-desert, sparsely populated area lying at the Mediterranean coast of Egypt, West of Alexandria. It is impossible to define the exact borders of the area, but for the purpose of some development analyses, it should be situated in the area limited by Marsa Matrouh at the West, the Siwa Oasis at the South, and El-Alamein at the East. The principal objective of the CAMP is to propose a concept of sustainable development of the Fuka-Matrouh area, the basic elements of which are: increase and concentration of population (especially by settling the Bedouins), development of economic activities which would respect the natural characteristics and resources of the area, cessation of degradation of natural systems, and prevention of negative environmental processes in the future.

The strategy of the programme is based on the principles of integrated planning and management of coastal resources. All activities should lead to the preparation of environmental management plans integrating all knowledge gained by individual actions.

This programme has been focused on the preparation of an integrated planning study of the area of Fuka-Matrouh, scenarios of development and environmental impacts, monitoring programme and establishment of a database. The problems of development-environment interrelations will be studied in an integrated way, and the basis will be established for future planning activities.

For the successful implementation of this programme, an active involvement of the national and local authorities is probably the most important factor: they will provide adequate contribution in kind and cash, and manpower required for each activity, study and management plan. Additionally, the knowledge of the local conditions and the precise allocation of the environmental problems in the area can only be secured by the relevant national and local institutions. The co-ordinating and supervising role of the central governmental services is essential for the determination and methodological approach of the scopes and objectives of each activity. In order to avoid doubling of efforts, the results of all activities implemented by other international organizations and institutions in the Fuka area will be analyzed and their appropriateness will be determined for the use within various activities of this CAMP (provided, of course, a permission by those organizations).

The relevant national or local authorities will play the central role in each action by forming national teams, whereas MAP experts will form the MAP part of the joint teams, including a MAP project leader for each activity. This structure enables the stimulation of the national and local potentials and their active involvement with the planning and methodological process from the beginning of each action, so that the transfer of knowledge and the cooperation with the international and national experts will be continuous and fruitful.

3.1. Objectives of the programme

Long-term objectives of the programme are the following:

- Assist the Egyptian Government in developing an environmental policy and legislation based on the integrated planning within a framework of a coastal region;
- propose a development concept of the area of Fuka-Matrouh harmonized with the receptive capacity of the environment;
- create conditions for the establishment of the system of integrated planning and management of the area's resources by:
 - a) establishing a monitoring programme of the environment on a permanent basis;
 - b) setting up a database of all necessary environment and development indicators;
 - c) setting up the necessary administrative structure;
 - d) providing training of national and local experts on various aspects of the programme.

The immediate objective of the programme is to give, within the individual actions, solutions of environmental problems of the most urgent nature which could be implemented immediately. In the elaboration of those solutions a particular attention will be paid to the strategic objectives of the programme.

3.2. Main expected benefits of the programme

This programme is expected to provide the following benefits:

- improvement of the state of a number of ecosystems;
- incorporation of environmental considerations into development activities and decision-making process;

- enhancement of the national and local capacities in solving various development and environmental problems;
- transfer of knowledge from relevant international organizations to the national and local institutions;
- practical verification of theoretical and methodological knowledge of MAP components;
- creating conditions for responding to some accidental situations.

4. SUMMARY OF PROPOSED ACTIVITIES

5. SUMMARY OF BUDGET AND COST SHARING

6. INSTITUTIONAL FRAMEWORK

7. DETAILED DESCRIPTION OF IMMEDIATE ACTIONS

Prospective activities

7.1 Systemic and prospective analysis including environment/development scenario

To be prepared

7.2 Implications of expected climatic changes in the coastal area of Fuka-Matrouh

BACKGROUND

The greenhouse effect is pressing environmental problem, one which presents major scientific challenges across a wide range of disciplines. Changes in global climate between now and the middle of the 21st century are likely to be dominated by the influence of global warming due to increasing concentrations of carbon dioxide and other gases in the atmosphere. These greenhouse gases individually and collectively change the radiative balance of the atmosphere, trapping more heat near the Earth's surface and causing a rise in global-mean surface air temperature and as a consequence substantial global warming is virtually certain.

The question of the probable climate warming in the next few decades is a question concerning both the world in general and the Mediterranean in particular.

In spite of uncertainties surrounding predicted climatic changes, greenhouse gases seem to have accumulated in the atmosphere to such a level that the changes may have started already and their continuation may now be inevitable.

There is a consensus in the scientific community that if allowed to continue to build up, a doubling of the greenhouse gases concentration (relative to the pre-industrial era) will occur sometime in the 21st century, possibly as early as 2030 AD. A corresponding global increase of temperature by the end of 21st Century of between 2-5 °C is predicted.

Cyclogenesis and rainfall are often promoted by land-sea temperature contrasts. Because land and sea have different effective thermal inertias, a large-scale warming could affect this contrast, possibly reducing it in winter months. This could in turn lead to reductions in rainfall and in storminess, particularly in the eastern Basin. On the other hand, warmer sea surface temperatures both in the Mediterranean and in the North Atlantic could lead to increases in atmospheric moisture and thus precipitation.

Another main consequence of a warmer atmosphere is an accelerated rise of sea level, due to the melting of alpine and polar glaciers and to the thermal expansion of oceanic waters. Sea-level has been rising since the last glacial maximum (120m rise in last 16,000 years at rates as rapid as 8 to 12 mm/year). In recent historical times, the rate has been 0.5 to 1.5 mm/yr. Analysis of tide gauge data, the principal source of evidence for detecting relatively short-term sea level trends, suggest the world-wise rise has been about 10-15 cm in the past 100 years.

Depending on the extent of oceanic thermal expansion and (especially) the behavior of the polar ice caps (Greenland and the western Antarctic ice shelf), conservative to moderate estimates of sea level rise range 13-39 cm (by 2025), 24-52 cm (by 2050) and 35-100 cm (by 2100).

There will be a significant lag in sea level rise, however coupled with oceanic thermal inertia. For example, if greenhouse gas concentrations stopped increasing in the year 2030, warming would continue for many decades. Since the glacial melting and thermal expansion of the oceans would continue, so would sea level rise.

Superimposed on sea level rise will be the effects of local tectonic and sediment compaction. Vertical earth movements in the Mediterranean commonly occur at a rate of 1-5 mm/year averaged over thousands of years, and 3-20 mm/year averaged over 15-20 years. Local subsidence can exceed 5 mm/yr. It follows that in the future the economic cost of protecting or abandoning structures or land on the Mediterranean coast will depend strongly upon the local land movement coupled with sea level rise. Where land is subsiding, the net relative change could be much more than the global eustatic rise of sea level where land is rising, the relative change will be significantly reduced.

OBJECTIVES, EXPECTED BENEFITS

The objective of this study is to assess possible implications of expected climatic changes on ecosystems, land-use and sea-use practices and other human activities of the Coastal Area of Fuka and to propose suitable management and policy response options.

The study is expected:

- to examine the possible effects of the sea level changes on the coastal ecosystems;
- to examine the possible effects of temperature elevations on the terrestrial, aquatic and marine ecosystems, including the possible effects on economically important species;
- to examine the possible effects of climatic and ecological changes on the socio-economic structures and activities;
- to determine areas or systems which appear to be most vulnerable to the above changes and
- to propose suitable management and policy response options.

ASSUMPTIONS

The study will be based on:

- the best available existing knowledge and insight into the problems relevant to the subject of the study;
- assumptions accepted at the Second World Climate Conference (Geneva, 1990), i.e. increased temperature of 2-5 °C and sea level rise of 35-100 cm by the end of the 21st century.
- results of the scenarios of climatic changes in the Mediterranean developed by the Climatic Research Unit of the University of East Anglia, U.K.

OUTPUTS

Main outputs of the study will be:

- useful database for coastal zone management of the Coastal Area of Fuka-Matrouh;
- assessment of the problem of climatic changes;
- development strategies for the Coastal Area of Fuka-Matrouh in the changed climate conditions; and
- proposal of management and policy response options.

INSTITUTIONAL FRAMEWORK

The project will be carried out under the auspices of the national and local governments in collaboration with the Mediterranean Co-ordinating Unit, experts from Egyptian Universities and Institutions and international experts.

The Task Team co-ordinator will be an Egyptian expert nominated by the national authorities.

The Task Team will be established by the national authorities, in consultation with the local authorities and the Mediterranean Co-ordinating Unit. The Task Team will be composed of Egyptian experts covering all of the subjects appearing in the outline of the report and representatives of local and national governments, the Senior Marine Scientist of the Mediterranean Co-ordinating Unit and an international expert selected by the Unit.

WORKPLAN

- Nomination of the co-ordinator of the Task Team November 1992
- Establishment of the Task Team December 1992
- Preparatory meeting of the Task Team January 1993
- Collection of data and relevant documentation April 1993
- Analysis and evaluation of the data and documentation collected June 1993
- Presentation of the preliminary analysis at the Task Team meeting June 1993
- Finalization of the draft report September 1993
- Presentation of the final draft of the report at the Task Team meeting September 1993
- Finalization and publication of the report and presentation to the national and local authorities November 1993

BUDGET

The parties involved will provide the following (in '000 of US\$):

Source	Cash		Kind		Total	
	1992	1993	1992	1993	1992	1993
<u>UNEP contribution</u>						
- MED POL	-	10	-	-	-	10
<u>Counterpart contribution</u>	-	-	-	20	-	20
TOTAL	-	10	-	20	-	30

Integrated planning and management programme

Integrated planning represents a basis for the implementation of the activities within the Coastal Area Management Programme for the Area of Fuka-Matrouh. It is a dynamic process of achieving goals and objectives for environmentally sustainable development within the constraints of physical, social, and economic conditions and the constraints of legal, financial and administrative systems and institutions. It is a comprehensive approach requiring a certain training of local and national experts which are expected to implement it.

The integrated planning and management programme for the coastal area of Fuka-Matrouh will be carried out through the following activities:

1. Training course on the methodology of integrated planning and management in coastal areas.
 2. Training programme on the Geographical Information System (GIS).
 3. Preparation of an integrated planning study for the area Fuka-Matrouh.
-
- 7.3 Training course on the methodology of integrated planning and management in coastal areas and on the Geographical Information System (GIS)
 - 7.3.1 Training course on the methodology of integrated planning management in coastal areas

BACKGROUND

The character of environmental and developmental problems in Mediterranean coastal areas, as well as on the sites where MAP is carrying out coastal areas management programmes is such as to require a comprehensive approach which will enable the conflicts between environmental management, and economic and social development to be resolved. And in this context, integrated planning is a major tool to carry out the task. Therefore, a training course on the methodology of integrated coastal planning and management for local and national planners is a prerequisite preceding the preparation of the integrated planning study.

PAP/RAC has been developing for a number of years this methodology, for which "A Common Methodology Framework for Integrated

Planning and Management of Mediterranean Coastal Areas" was prepared in 1988. This document has confirmed itself in practice through a number of planning studies prepared within CAMPs over the period 1989-92. Currently, "Guidelines for Integrated Coastal Zone Management in Developing Countries" are being prepared in co-operation with UNEP's Oceans and Coastal Areas Programme Activity Centre (OCA/PAC). Both documents will serve as the basis for the training course.

The course will last two weeks. It will consist of a survey of the methodology of integrated planning and management in coastal areas (one week) and a practical exercise based on a case study prepared for the purpose (one week).

The course will be attended by 10-15 planners and other experts dealing with the environmental management issues in relevant national and local institutions. The course will be held in Cairo. The participants will be selected among the experts who have been envisaged to take part in the study preparation. The selected experts should be specialists in various development and environment domains.

OBJECTIVES, EXPECTED BENEFITS

The objectives of this course is to provide an advanced training on the methodology of integrated planning and management in coastal areas and to prepare the local and national experts for the work on the integrated planning study of the Fuka-Matrouh area. It is not envisaged that the knowledge of the participants be increased on the sectorial subjects which are the contents of the integrated planning process; the participants will be helped to start thinking along the methodological lines of integrated planning and management.

The expected benefits of this training course are the following:

- understanding of the integrated planning approach as a practical tool in resolving the problems of environmentally sensitive area;
- acquaintance with modern tools and techniques of integrated planning, in particular with a software support to integrated planning;
- appreciation of values of an inter - and multidisciplinary way of tackling environment-versus-development problems, and thus re-evaluation of the knowledge the participants have of the current problems of the Fuka-Matrouh area;

- case study exercise which will enable the participants to go through the most important steps of the integrated planning procedures, and help them understand better the changes following development plans and their effects on the state of environment in the Fuka-Matrouh area.

ASSUMPTIONS

- The course must precede the preparation of the Integrated Planning Study of the Fuka-Matrouh area.
- National and local authorities must meet all the necessary technical requirements to enable carrying out of the course.

OUTPUTS

- training of planners and personnel
- training course documents;
- report of the course.

INSTITUTIONAL FRAMEWORK

This activity will be carried out in Cairo, under the auspices of the national authorities, with the help of local authorities, and in collaboration with PAP/RAC, which will engage international experts.

There will be two co-ordinators, one on behalf of the Egyptian Environmental Affairs Agency (EEAA), and the other on behalf of PAP/RAC.

The participants of the course will be selected from relevant departments of EEAA, local authorities of the Fuka-Matrouh area, and other relevant specialized institutions.

The participating parties will provide as follows:

PAP/RAC secures professional assistance for the organization of the course in Cairo. It will provide the following:

- experts to run the course
- training documents;
- software for the computer part of the course.

EEAA will meet all the technical requirements for the organization of the course in Cairo. It will provide the following;

- attendance of 10-15 local and national experts;
- hardware equipment;
- other equipment for the course;
- premises;
- administrative and logistic support.

WORKPLAN

- Nomination of lecturers by PAP/RAC November 1992
- Preparatory meeting in Cairo December 1992
- Selection of participants January 1993
- Training course in Cairo April 1993

BUDGET

The parties involved will provide the following (in '000 of US \$):

Sources	Cash		Kind		Total	
	1992	1993	1992	1993	1992	1993
<u>UNEP contribution</u>						
- PAP/RAC	5	10	-	-	5	10
<u>Counterpart contribution</u>						
- Egyptian institutions	-	-	-	20	-	20
TOTAL	5	10	-	20	5	30

7.3.2 Training programme on GIS

Geographical Information System (GIS) is one of the basic tools of integrated planning. GIS consists of the geocoded base of physical, environmental and socio-economic data, and a series of analytical techniques which enable for a complex analysis and modeling of interrelated thematic subjects. All those operations are performed on PCs with the software support of the pcARC/INFO package. Within the framework of PAP, professional and material conditions have been created for the implementation of a training programme on GIS. The objective of the training programme is to create professional conditions for the application of GIS required for the process of integrated planning within the CAMP "The Area of Fuka-Matrouh" and, particularly, for the preparation of the Integrated Planning Study for the area of Fuka-Matrouh. Since it is a complex activity, it is envisaged in two phases:

- an orientative course in Split for the organizers of GIS application in Egypt;
- a training course in Egypt with a practical application of the pcARC/INFO software.

OBJECTIVES, EXPECTED BENEFITS

The objectives of this training programme are the following:

- to train local experts in the application of GIS in integrated planning and management of resources in the area of Fuka-Matrouh;
- to create geocoded information system to serve as a tool in planning and decision-making process.

The expected benefits of this programme are the following:

- understanding of the importance of GIS for the implementation of integrated planning and management process;
- enhancement of capabilities of planners and decision makers in Egypt to assess and manage coastal zone resources;
- integration of physical, environmental and socio-economic database into a single information base for the CAMP project.

ASSUMPTIONS

The following is required for the implementation of this training programme:

- experience of local experts in using PCs who are to serve as organizers of this activity;
- environmental, spatial and socio-economic database prepared in advance;
- hardware in Egypt suitable for use of the pcARC/INFO software.

OUTPUTS

- training of Egyptian experts;
- establishment of GIS in one Egyptian institution;
- practical results related to a number of specific aspects (thematic maps-coverages) to be used as inputs in other activities of this CAMP.

INSTITUTIONAL FRAMEWORK

This activity will be carried out under the auspices of the national and local authorities in collaboration with PAP/RAC and UNEP/GRID. The national team leader will be an Egyptian expert nominated by local authorities. PAP/RAC and UNEP/GRID will provide training expertise and scientific coordination of the activity. The participating parties will provide the following:

PAP/RAC provides for the entire organization of the orientative course in Split and offers professional assistance for the training course in Egypt.

(i) Orientative course in Split

- IBM compatible PCs and peripheral equipment;
- pcARC/INFO software;
- premises for the course;
- experts to run the course;
- administrative and logistic support;
- expenses pertaining to the accomodation of Egyptian experts in Split.

(ii) Training in Egypt

- experts to run the course;
- pcARC/INFO software on a non-commercial basis for training purposes;
- training documents.

MEDU

- financial support in the preparation of the database for the programme.

UNEP/GRID assists in the implantation of the programme in Split and Egypt and provides the following (tentative);

- 1 computer expert to run the course in Split;
- 1 computer expert to run the course in Egypt.

Egyptian national authorities will provide general coordination of the programme.

Egyptian national institution in charge carries out the organization of the programme in Egypt and provides for the following:

(i) Orientative course in Split

- 2 local experts to attend the course

(ii) Training in Egypt

- team of local experts to be trained and in charge of the project;
- IBM-compatible PCs and peripheral equipment;
- necessary sources of data;
- premises for the working team;
- administrative and logistic support.

WORKPLAN

- | | |
|--|----------------|
| - Selection of participants for the course in Split | November 1992 |
| - Orientative course in Split | End 1992 |
| - Selection of the working team in Egypt and the preparation of the database | February 1993 |
| - Start of the training in Egypt and the first mission of PAP and GRID experts | April 1993 |
| - Completion of the preparation of a set of thematical maps and the second mission of PAP and GRID experts | September 1993 |
| - Completion of the first analysis and the third PAP experts mission | December 1993 |
| - Preparation of thematic maps for the integrated planning study | May 1994 |
| - Final report | June 1994 |

BUDGET

The parties involved will provide the following (in '000 or US \$):

Source	Cash			Kind			Total		
	1992	1993	1994	1992	1993	1994	1992	1993	1994
<u>UNEP contribution</u>									
- PAP/RAC	6	15	10	-	-	-	6	15	10
- MEDU (data)	-	10	-	-	-	-	-	10	-
<u>Counterpart contribution</u>									
- Egyptian Institutions	-	-	-	5	20	15	5	20	15
<u>Others</u>									
- purchase of equipment from an external source	-	20	-	-	-	-	-	20	-
TOTAL	6	45	10	5	20	15	11	65	25

7.4 Integrated planning and management study for the Fuka-Matrouh area

BACKGROUND

Being a long-term process, the integrated planning is effectuated in several stages. These stages are indicated by "A Common Methodological Framework for Integrated Planning and Management of Mediterranean Coastal Areas" prepared by PAP/RAC and adopted at an expert meeting held in Izmir, Turkey. The initial phase of the process includes the identification of main development problems and environmental threats in the area concerned. within the framework of PAP activities this phase is effectuated through the preparation of an Integrated Planning Study which, besides its problem-oriented part, contains also a broad strategy of future development, or a development outlook. This study is not a substitute but a prerequisite for the integrated plan of the area of Fuka-Matrouh.

The area of Fuka-Matrouh so sparsely populated and contains several small settlements. The geographical area covered by the Study may be defined as an area stretching along the Mediterranean coast of Egypt, between the town of Matrouh in the West, the Siwa oasis in the South, and the town of El-Alamain in the East. Needless to say, the area under study will not be treated equally in its entirety. What will be taken into consideration is the part of the territory which corresponds to the geographic spread of the phenomenon under study.

The purpose of the Integrated Planning Study is to provide an effective instrument for achieving the balance between the social and economic development and the protecting and rational use of coastal resources. The Integrated Planning Study is not a substitute for existing sectorial planning efforts, but rather proposes linkages between sectorial planning activities to achieve more comprehensive goals.

OBJECTIVES, EXPECTED BENEFITS

The objectives of the preparation of the Integrated Planning Study are the following:

- to establish, in a rapid and rational way, the basis of the process of integrated planning and management of the resource of the area of Fuka-Matrouh;
- to give guidelines for resolving urgent land-use problems of the area;

- to train the local and national planners, on a practical examples, to prepare an integrated plan.

The expected benefits of the study are the following:

- identification and examination of the major development problems of the area of Fuka-Matrouh, and their impacts on the environment;
- development outlook of the area based on the capacity of the environment to sustain the proposed development projects;
- arguments for the establishment of the integrated planning process in the area of Fuka-Matrouh;
- proposals for the solutions to the problems which are clearly identifiable, and provision of a strategy for immediate actions.

ASSUMPTIONS

This activity will be carried out under the following assumptions:

- for the preparation of the study, experienced local and national experts will be nominated;
- the time schedule of the preparation of the study will be harmonized with that of the preparation of systemic and prospective analysis, including a development-environment scenario, and training on GIS and integrated planning methodology;
- sources of information for the basic aspects of the study will be available.

OUTPUTS

- Final report of the study which will contain the identification of all major development projects and environment problems, institutional, organizational and legal framework, for the establishment of integrated planning process.
- Annex to the report which will contain all the sectorial inputs to the study.

INSTITUTIONAL FRAMEWORK

The activity will be carried out under the auspices of the national and local governments in collaboration with PAP/RAC, MEDU and reputed national experts.

The team will have two-coordinators, one on behalf of the national and local authorities, and one on behalf of PAP/RAC and MAP. The team will be established by local and national authorities, in consultation with PAP/RAC and the Mediterranean Co-ordinating Unit. It will be composed of Egyptian experts covering most of the subjects of the study with counterpart international experts provided by MAP and PAP/RAC. The local/national part of the three longer missions to cover major phases of the study preparation.

The parties participating in this activity will provide the following:

PAP/RAC is responsible for the preparation of the study in the Fuka-Matrouh area. It will provide the following:

- general coordination of the preparation of the study;
- consultants to work on the study: regional planner, economist/regional planner, environmental planner.

MEDU is responsible for the general overview of the study. it will provide the following:

- support to the data collection.

Egyptian national institution in charge will be responsible for the organization of the study preparation in Egypt. It will provide the following:

- offices for the working team;
- relevant equipment (map copying machine, typewriters, photocopier, PC hardware and necessary peripheral equipment, drawing and accessories, stationary, etc);
- sources of data;
- 8 local and national experts and supporting staff (2 persons) as part of the working team;
- transportation for the field work and other logistic support;
- administrative support;
- adequate legal status of MAP consultants;
- printing of the final report.

WORKPLAN

- Nomination of MAP and counterpart team leaders December 1992
- Preparation of the study programme March 1993
- Selection of the team members March 1993
- Preparation of the missions to Egypt July 1993
- Mission of the MAP team to identify the state in Fuka-Matrouh October 1993
- Mission of the MAP team to Egypt to prepare development-environment outlook January 1994
- Mission of the MAP team to Egypt to prepare the first draft of the study March 1994
- Expert meeting to outline the first draft of the study May 1994
- Drafting of the study June 1994
- Final editing of the study September 1994
- Presentation of the study to Egyptian authorities November 1994

BUDGET

The parties involved will provide the following (in '000 of US \$)

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- PAP/RAC	20	45	-	-	20	45
<u>Counterpart contribution</u>						
- Egyptian institutions	-	-	40	120	40	120
TOTAL	20	45	40	120	60	165

Legal Instruments and Institutional Structure

7.5 Environmental legislation and institutional framework

BACKGROUND

As a separate component of the CAMPs it constitutes an indispensable tool for advancing the enforcement aspect of this programme. It is composed of the following stages:

First, exploration of the existing state and of the implementing quality of the relevant legislation affecting the resource management of the coast and concerning marine water, surface and ground water, wastes, hazardous substances, noise, nature and landscape, land-use planning and accidents.

Second, development of such a legislation and specialization, taking into account all contextual factors (e.g. economic, social, geographical), and harmonization, to the degree possible, of its enforcement at the Mediterranean level.

Third, investigation into the present structure of the implementing administrative framework and its role in the enforcement strategy of the environmental legislative process.

OBJECTIVES, EXPECTED BENEFITS

The long-term objective of this activity is twofold: to develop an effective environmental legislation and to contribute to the evolution of the most adequate institutional structure designing and implementing a comprehensive national environmental policy.

The immediate objectives are:

- to assist in developing an environmental policy and a general integrated environmental legislation;
- to advise on issues of institutional development concerning environmental administration;
- to assist in the institutional development of in-service training programmes on environmental issues and environmental policy;
- to assist in the development of specific, sectoral environmental legislation in accordance with the identified priorities and needs;

- to advise on the implementation of the relevant International Conventions.

The expected benefits are:

- systematization and effective organization of the development of national environmental legislation reflecting a sound combination of general, integrated environmental Law and specific sectoral legislation;
- identification of the most appropriate environmental legislation suited for the needs and priorities of the country;
- upgrading knowledge on issues of environmental law through training courses;
- improvement of the existing institutional structure ;dealing with environmental administration at the national and district level;

ASSUMPTIONS

The implementation of this activity will be based on the following assumptions:

- MEDU will provide the expertise for environmental Law and all the relevant legal material;
- expertise knowledge on environmental Law will be effectively employed in relation to the above stated activity if it adequately combines a comparative approach to Environmental Legislation and Administration with the Conventional regimes, precepts and organizational aspects of International Environmental Law;
- The Egyptian Environmental Affairs Agency (EEAA) and relevant Egyptian Ministries will fully support this activity, and will define and initiate the implementation of any aspect of this activity, and secure the necessary input from national legal and other experts;
- MEDU will provide the expertise on the possible organization of in-service training programmes on issues of environmental policy, administration and law.

OUTPUTS

The main outputs of this activity will be:

- The enactment of a suitable general, integrated Law on Environmental Protection;
- The development and adoption of specific sectoral Environmental Legislation which does not presently exist;
- The development of an effective institutional and decision-making structure relating to environmental protection;
- The effective implementation of the Barcelona Convention and its related Protocols as well as of other relevant International Environmental Conventions;
- The training of public servants dealing with issues of environment and development to make them familiar with national environmental policy, administration, international co-operation and law.

INSTITUTIONAL FRAMEWORK

The activity will be carried out by a task team composed of an international legal expert provided by MEDU, of national experts provided by the Egyptian Environmental Affairs Agency (EEAA).

A national legal expert nominated by the competent Egyptian authorities and an international legal expert provided by the MEDU will act as co-ordinators.

The task team will be established by the competent national authorities in consultation with the MEDU. The Task Team may further ask for the advice of other international specialists if such a need arises, who will be provided by the MEDU.

WORKPLAN

- Nomination of the co-ordinator of the Task Team January 1993
and establishment of the Task Team
- Preparatory meeting of the Task Team March 1993
- Advice on, and specific suggestions for the May 1993
environmental legislation as well as advice
on specific institutional questions, and on
general enforcement strategy of environmental
Law by an international legal expert

- Preparation of specific sectoral environmental legislation and assessment of institutional developments May 1993
- Preparation of a training policy and of programmes of in-service training for the competent public sector employees concerning environmental policy, administration, international co-operation and law September 1993
- Review of the prepared specific sectoral Environmental Legislation and of institutional developments November 1993
- Finalization of the draft report January 1994
- Presentation of the final draft report to the Task Team meeting March 1994
- Publication of the final version of the report and presentation to the Egyptian authorities June 1994

BUDGET

The parties involved will provide the following (in '000 of US \$)

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- MAP contr.	20	10	-	-	20	10
<u>Counterpart contribution</u>						
- Egyptian Institutions	-	-	20	10	20	10
TOTAL	20	10	20	10	40	20

7.6 Land-based Sources and Dumping Protocols

BACKGROUND

I. Land-Based Sources Protocol

A) Common measures

The Contracting Parties to the Convention for the Protection of the Mediterranean Sea Against Pollution (1976 Barcelona Convention) undertook the obligation to take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories (Article 8).

In order to implement the above obligation, the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (LBS) was adopted in 1980 and came into force in 1983.

The LBS Protocol lays down (Article 5) that the Contracting Parties shall eliminate pollution of the Protocol Area from Land-Based Sources by substances listed in Annex I ("Black list of substances") to the Protocol and that to this end, they shall elaborate and implement, jointly or individually, as appropriate, the necessary programmes and measures, which shall include, in particular, common emission standards and standards of use.

The Protocol also lays down (Article 6) that the Contracting Parties shall strictly limit pollution from land-based sources in the Protocol area by substances or sources listed in Annex II ("Grey list of substances") to the Protocol and that to this end, they shall elaborate and implement, jointly or individually, as appropriate, suitable programmes and measures.

In addition, the Protocol lays down (Article 7) that the Contracting Parties shall progressively formulate and adopt, in cooperation with competent international organizations, common guidelines and, as appropriate, standards or criteria dealing in particular with :

- (a) the length, depth and position of pipelines for coastal outfalls, taking into account, in particular, the methods used for pretreatment of effluents;
- (b) special requirements for effluents necessitating separate treatment;

- (c) the quality of sea-water used for specific purposes that is necessary for the protection of human health, living resources and ecosystems;
- (d) the control and progressive replacement of products, installations and industrial and other processes causing significant pollution of the marine environment;
- (e) specific requirements concerning the quantities of the substances listed in Annexes I and II discharged, their concentration in effluents and methods of discharging them.

The calendar of activities for the progressive implementation of the Protocol approved by the Fifth Ordinary Meeting of the Contracting Parties (Athens, September 1987) envisages that by 1995 common measures will be adopted for all substances listed in Annexes I and II to the Protocol.

Up to October 1991, the Contracting Parties to the Barcelona Convention and Protocols adopted the following common measures in terms of the LBS Protocol:

1. Interim Environmental Quality Criteria for Bathing Waters (1985) (Article 7.1(c));
2. Interim Environmental Quality Criteria for Mercury (1985) (Article 7.1(c));
3. Measures to Prevent Mercury Pollution (1987) (item 4 of Annex I);
4. Environmental Quality Criteria for Shellfish Waters (1987) (Article 7.1(c));
5. Measures for Control of Pollution by Used Lubricating Oils (1989) (item 6 of Annex I);
6. Measures for Control of Pollution by Cadmium and Cadmium Compounds (1989) (item 5 of Annex I) ;
7. Measures for Control of Pollution by Organotin Compounds (1989) (item 3 of Annex I) ;
8. Measures for Control of Pollution by Organohalogen Compounds (1989) (item 1 of Annex I).
9. Measures for Control of Pollution by Organophosphorus Compounds (1991) (item 2 of Annex I).

10. Measures for Control of Pollution by Persistent Synthetic Materials (1991) (item 7 of Annex I).
11. Measures for Control of Pollution by Radioactivity (1991) (item 9 of Annex I).
12. Measures for Control of Pollution by Pathogenic Microorganisms (1991) (item 8 of Annex II).

B) Survey of Land-Based Sources of pollution

The assessment of the total pollution input to the Mediterranean Sea from Land-Based Sources was the major objective of the MED X project launched by UNEP in 1977 and implemented in cooperation with ECE, UNIDO, FAO, UNESCO, WHO and IAEA. The report "Pollutants from Land-Based Sources in the Mediterranean" was published as "UNEP Regional Seas Reports and Studies No 32".

The Contracting Parties to the Barcelona Convention decided to launch new, improved survey of land-based sources of pollution in the Mediterranean Sea and the following set of new questionnaires was sent in June 1989 to all National Co-ordinators for MED POL with the request to be completed and returned by November 1989 :

1. Questionnaire on liquid domestic discharges;
2. Questionnaire on industrial discharges containing selected substances listed in Annexes I and II to the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources;
 - (a) Questionnaire on industrial discharges of petroleum hydrocarbons;
 - (b) Questionnaire on oil discharges from refineries;
 - (c) Questionnaire on oil discharges from reception facilities.

II. Dumping Protocol

The Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircrafts was ratified by all Contracting Parties to the Barcelona Convention and entered into force on 12 February 1978.

According to articles 7 and 14 of the Protocol, Contracting Parties to the Protocol owe to report on :

- issuance of permits (including non issuance of permits, so called "nil reports") and
- reports on actual dumping.

OBJECTIVES

The main objective of this project is the environmental protection of the coastal area of Fuka-Matrouh through the full implementation of the Land-Based Sources Protocol and the Dumping Protocol.

WORKPLAN

- Establishment of the working group with representation of national and local authorities and the Mediterranean Co-ordinating Unit November 1992
- Survey of Land-Based Sources of Pollution (MED X bis) February 1993
- Elaboration of the detailed plan of implementation of the project April 1993
- Adoption of the plan with financial considerations May 1993

BUDGET

The parties concerned will provide the following (in 000 of US\$):

Source	Cash		Kind		Total	
	1992	1993	1992	1993	1992	1993
<u>UNEP contribution</u>						
- MED POL (LBS)	5	5	-	-	5	5
<u>Counterpart contribution</u>	-	-	20	20	20	20
TOTAL	5	5	20	20	25	25

7.7 Emergency Protocol and MARPOL Convention (Contingency Plan and Port Reception facilities)

BACKGROUND

Appropriate measures for (a) prevention of operational marine pollution originating from shipping and (b) response to accidental marine pollution should be considered as key elements of general environmental protection strategy and consequently of the coastal area management policy for Fuka-Matrouh Areas.

OBJECTIVE, EXPECTED BENEFITS

The objectives of REMPEC's contribution to the Fuka-Matrouh Area are:

- to identify methods for prevention of operations (routine, intentional) pollution of the sea in the area, caused by oil and garbage discharges from vessels;
- to increase the level of preparedness of locally existing structures (administrative, technical, industry) (to respond effectively to the immediate threat which a shipping accident causing pollution of the sea by oil may present.

In order to achieve these objectives, it is necessary:

- to evaluate the density and type of traffic in the sea of the Fuka-Matrouh area;
- to identify potential sources of marine pollution related to maritime transport;
- to evaluate the adequacy of possibly existing reception facilities (or arrangements) for oil residues and garbage;
- to identify possible sources of this type of pollution in the area (ports, terminals, tank farms, etc);
- to identify and evaluate already existing arrangements and structures for dealing with accidental marine pollution;
- to identify and evaluate available resources for accidental oil pollution control;
- to identify existing infrastructure elements which may possibly be of use in case of major oil pollution emergency (radio communications, airfields, disposal sites, etc);

- to identify needs for training local personnel in subjects related to response to accidental marine pollution.

Results of these preliminary surveys should be presented in the form of a study which may serve as a basis for:

- Setting up necessary installations and/or arrangements for reception of oil residues and ship-generated refuse (garbage, sewage);
- formulating a local contingency plan as a supplement to the existing national contingency plan.

At a later stage, prevention of operational pollution and response to accidental pollution by harmful substances other than oil may also be included in the proposed study, should the survey prove the need for it.

ASSUMPTIONS

All available knowledge concerning the above-mentioned topics which already exist in various components of the Mediterranean Action Plan (PAP, MEDU, REMPEC) will be used as a basis for the study. This, in particular, refers to identification of coastal zone sensitivity.

OUTPUTS

Principal outputs are expected to be:

- proposal of ship-general oily waste and refuse management;
- proposal of draft local contingency plan;
- proposal for improvement of existing contingency arrangements;
- proposal of training course on ship-generated pollution control and response adapted to local needs;
- proposal for the preparation of a sensitivity map.

INSTITUTIONAL FRAMEWORK

The REMPEC contribution to the project will be carried out by a consultant recruited by REMPEC in close co-operation with the Co-ordinating Unit for the Mediterranean Action Plan and the Priority Actions Programme, as well as with local authorities and with the REMPEC Egyptian National Focal Point.

WORKPLAN

- Collection of relevant information from PAP/RAC, MEDU January 1993
- Assessment of local conditions May 1993
- Collection and processing of additional data September 1993
- Finalization of the Report April 1994

BUDGET

The parties involved will provide the following (in '000 of US \$)

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- REMPEC	20	10	-	-	20	10
<u>Counterpart contribution</u>						
- Metropolitan Municipality			10	10	10	10
<u>Others</u>						
- World Bank						
TOTAL	20	10	10	10	30	20

7.8 Monitoring of the marine environment

BACKGROUND

Monitoring of the marine environment is one of the main objectives of the Mediterranean Action Plan. National Monitoring Programme for Egypt is ongoing since 1986 and this programme will utilize the experience and knowledge gathered through the National Monitoring Programme for Egypt.

OBJECTIVES, EXPECTED BENEFITS

The general objectives of the pollution monitoring programme are to determine the sources levels, pathways and trends of pollution along the coastal area Fuka-Matrouh. The information obtained through the implementation of the monitoring programme will be used as a management tool for the development of the whole coastal area.

ASSUMPTIONS

For the implementation of the proposed monitoring programme, the following is assumed:

- full support of the Egyptian Environmental Affairs Agency (EEAA)
- participation of Institute of Oceanography and Fisheries, Alexandria
- financial contribution from MAP

OUTPUTS

The main output of the implementation of the programme is the creation of a permanent monitoring of the coastal pollution.

The results of the monitoring programme will assist Egypt in the implementation of the Barcelona Convention and its related protocols as well as relevant International Conventions.

INSTITUTIONAL FRAMEWORK

Programme will be developed and implemented in full cooperation between EEAA and MAP, utilizing the participating Egyptian institutions in the ongoing National Monitoring Programme of Egypt.

WORKPLAN

The first phase of the proposed monitoring programme is estimated to cover a time period of 18 months. The plan of activities is the following:

- establishment of the working group and preparation of the programme November 1992
- implementation of the programme, field work December 1992-December 1993
- assessment of the results, continuous process December 1993-February 1994
- revision of the programme March 1994

BUDGET

The parties involved will provide the following (in '000 of US\$):

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution:</u>						
- MED POL	5	15	-	-	5	15
<u>Counterpart contribution:</u>						
- EEAA and Institutes	-	-	10	40	10	40
<u>Others:</u>						
- The World Bank	-	40	-	-	-	40
TOTAL	5	55	10	40	15	95

7.9 Specially Protected Areas and historic sites (protection and management plan for historic and natural sites)

BACKGROUND

In addition to its originality and the natural beauty of its landscape, the Fuka-Matrouh area has important potentialities which can be exploited for an economic development of the region, and allow the country to valorise its richness, especially the water resources, and contribute to settle the nomad populations.

However, any development project for this area must imperatively take into account the ecological exigencies and attend to the safeguard of its interest sites.

OBJECTIVES, EXPECTED BENEFITS

The objective of this project is to identify the sites with ecological, aesthetical or archaeological interest, as well as species which need a particular protection (endemic or endangered species). The final report of the project will propose needed measures and precautions to preserve sites and species.

The main objectives of the study are:

- to identify and to select, and if possible to delimitate, sites of particular interest because of their biological and ecological importance and interest;
- to list vegetal and animal species in the area and examine the possible effects of scheduled activities on their representative populations;
- to hold the necessary inquiries and historical studies in order to detect the archaeological relics;
- to indicate, if necessary, the areas which need special protection.
- to propose suitable measures for an ecological management of Fuka-Matrouh area;

ASSUMPTIONS

The study will be based on the recommendations of the action plans and guidelines already approved by the Contracting Parties.

OUTPUTS

- A report on the ecological characteristics of Fuka-Matrouh area, including a detailed synthesis of studies already realized;
- Proposal for areas and species needed protection with special reference to the sites of biological, ecological or cultural interest as well as endangered species (preliminary report);
- Final report taking into account the synthesis meeting results.

WORKPLAN

- designation of the Task Team and nomination of the co-ordinator January 1993
- collection of data and relevant documentation by national expert(s) May 1993
- Task Team meeting June 1993
- presentation of the preliminary Task Team report September 1993
- synthesis report December 1993
- final report March 1994

BUDGET

The parties concerned will provide the following (in '000 of US \$)

Sources	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- SPA/RAC	10	5	-	-	10	5
<u>Counterpart contribution</u>						
- EEAA	-	-	10	10	10	10
TOTAL	10	5	10	10	20	15

Operational facilities (Sectorial planning)

7.10 Programme of environmentally sound energy planning

BACKGROUND

The damage being done to the environment by current patterns of energy production and use is now being recognized as one of the most important issues facing energy policy makers today. On the global level, the main focus is on the risks of climatic changes, while on the regional, national and local levels there are other types of effects from energy production. These effects which cause serious environmental concern are the emission of sulfur dioxide, nitrogen oxides, hydrocarbons and suspended particulate matters. In addition to these airborne pollutants, the solid and liquid wastes too should be given due consideration as polluters of sea and soils.

As a first step towards developing more environmentally sound and sustainable patterns of energy production and use, it is essential that the environmental aspects be fully integrated at the planning stage. These aspects are extremely important to coastal areas which are environmentally most fragile. Such an example is the Fuka-Matrouh coastal area which is expected to develop a strong tourist industry, a target which is possible to accomplish through an integrated planning process in which the environmental aspects are fully taken into consideration. In this context, an environmentally sound energy plan is needed to support the major development needs of the coastal area.

OBJECTIVES, EXPECTED BENEFITS

Development of environmentally sound and economical exploitation of energy resources at local or regional levels, through improved energy planning methods, utilization of renewable energy sources, and application of efficient technologies at both production and end-use levels are the long-term objective of this activity.

The immediate objectives of the programme are as follows:

- analysis of the role of renewable sources of energy (RSE) in the energy planning process taking into account economic and environmental criteria;
- development and analysis of the strategies for the substitution of conventional energy sources by RSE;
- optimization of RSE system design for typical applications;
- training of national personnel for:

- (i) collection information significant for RSE application;
- (ii) evaluation of data collected;
- (iii) methods and tools for simulation of long-term performance of RSE systems and optimization of their design.

Furthermore, this project is intended to demonstrate that there is no fundamental conflict between the objectives of economic growth and protection of the natural environment.

Expected benefits are the following:

- to identify and examine the major energy problems of the coastal area and the impact of energy production and use on the environment;
- the weigh available technologies for the exploitation of the indigenous energy sources and for the national use of energy;
- to suggest solutions to the clearly identifiable problems and to provide a strategy for immediate actions.

ASSUMPTIONS

For the implementation of the project, the following has to be assumed:

- PAP/RAC will secure participation of internationally reputed experts, and act as the general implementing institution;
- The national authorities will nominate a responsible institution, qualified to act as the national coordinator and secure the necessary administrative and logistic support, as well as available data. Should the available data be insufficient, the workplan will have to be modified accordingly.

OUTPUTS

- A plan of action for the future environmentally and economically sound energy development of the coastal area;
- A planning methodology for integrated energy-environment planning, especially aiming at coastal regions;
- A number of Egyptian energy professionals trained in both the energy-environment interactive process and the planning methodology.

INSTITUTIONAL FRAMEWORK

PAP/RAC will provide assistance in the project preparation and implementation. It will also organize meetings to review the progress of work and to have the final discussion of the study. Finally, it will prepare the final report and present it to the national and local experts and authorities.

A designated national institution will act as the responsible management institution for the project by coordinating all activities relevant to the administrative and financial aspects of it. It will also provide the means required for the measurements that will provide an estimation of the pollution caused by the energy production activities.

Municipalities of the coastal area will provide support for the establishment of a local energy office. In this context, they will provide:

- one expert who will staff the energy office and act as the local project manager;
- premises for the working team and corresponding administrative support;
- necessary sources of data.

WORKPLAN

A.

- One preliminary mission January 1993
- Training course on data collection January - April 1993
- Collection of meteorological data May - October 1993
relevant for RSE utilization:
 - (i) already existing data;
 - (ii) data on inclined surface (irradiation)
and wind energy data on several spots
- Evaluation and statistical processing November 1993
of data

B.

- Feasibility study on the application of RSE:
 - (i) analysis of energy strategies concerning effects on environment and role of RSE;
 - (ii) proposal of measures and incentives to be taken by government in order to promote environmentally sound energy planning by use of RSE
- Presentation of results

March 1994

June 1994

BUDGET

The parties involved will provide the following (in '000 of US \$)

Sources	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- SPA/RAC	20	15	10	10	30	25
<u>Counterpart contribution</u>						
- EEAA	-	-	10	10	10	10
TOTAL	20	15	20	20	40	35

7.11 Development of environmentally sound tourism

The area of Fuka-Matrouh has a large potential for the development of tourism. A part of this potential has been already activated through the construction of hotels and tourist settlements. However, unless the development of tourism takes into account the environmental capacity of the area, possible negative effects may reduce the expected economic gains in the long run.

PAP/RAC has developed several tools which help in planning tourist establishments and avoiding the adverse environmental effects. Within the framework of this CAMP, the following tools will be applied:

- Environmental Impact Assessment (EIA) of an area selected for tourism development; and
- carrying capacity assessment study for tourism of the Fuka-Matrouh area.

7.11.1 Environmental Impact Assessment (EIA) of an area selected for tourism development

BACKGROUND

Following the decision to "apply the Environmental Impact Assessment as an important tool to ensure proper development activities" adopted by the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution, PAP/RAC together with OCA/PAC and in cooperation with MEDU and WHO/EURO, developed a practical procedure for EIA, as well as guidelines for five selected activities (tourism accommodation establishment, marina, sewage treatment plant for a city of more than 100,000 inhabitants, marine outfall for a town of up to 100,000 inhabitants, and sewage treatment plant for a town of 10,000 - 100,000 inhabitants).

It was decided that, prior to proposing that procedure to the countries, it should be tested in several countries through the preparation of case studies. The procedure has so far been tested in Cyprus, Egypt, Morocco, Turkey and Syria.

As part of this CAMP, an EIA has been proposed to be made of a tourist accommodation complex applying the EIA procedure and the general guidelines developed by OCA/PAC and PAP/RAC. As the construction of a tourist accommodation complex in the coastal area is expected to affect the environment, the EIA study will enable the environmental impacts to be estimated in the planning phase and measures to be taken for the prevention or reduction of environmental damage both in the short and long run.

OBJECTIVES, EXPECTED BENEFITS

The objectives of this activity are:

- to identify and assess anticipated or forecasted negative and positive impacts on environmental quality and environmental health as a consequence of the implementation of the project, in order to take measures for eliminating, minimizing or mitigating the adverse impacts, and formulate proposals for the mitigation of negative impacts;
- to define a monitoring programme for re-evaluation of the project.

A long-term objective is also the acquaintance of national and local capacities (authorities, scientific institutions) with the philosophy of EIA aiming to incorporate relevant procedures in similar projects.

The expected benefits of this activity are as follows:

- adoption of a practical procedure of EIA as an important tool in development activities;
- elimination, minimization or mitigation of possible adverse environmental impacts of the proposed project in planning, construction and exploitation phases.

ASSUMPTIONS

The basic assumption for the implementation of the proposed activity are:

- the work on the preparation of the EIA will be performed by national and local experts with the assistance of international experts;
- the national institutions will provide all necessary information on planned activities, as well as data on environment in which the proposed project is planned to be located;
- sketch design of the touristic complex must be completed;
- PAP/RAC must secure international experts to introduce and explain the EIA procedure and prepare the EIA report.

OUTPUTS

The expected outputs of this activity are:

- training of national and local experts on practical EIA procedure;
- an EIA report prepared in accordance with the proposed procedure;
- monitoring and re-evaluation of the project;
- a meeting and re-evaluation of the project;
- a meeting of national experts to review the EIA procedure and report.

INSTITUTIONAL FRAMEWORK

During their first visit, PAP international experts will organize a short training course and introduce the EIA procedure and general guidelines to the national experts. Upon visit to the site of the future project, they will prepare specific guidelines for the preparation of EIA. They will also assist the national and local authorities and experts in the organization of work and preparation of the workplan and timetable.

During their second visit, they will review a draft EIA report to be prepared by national and local experts and advise them as how to complete the work.

Their third visit will include participation in a review meeting.

PAP/RAC will partially support one or two national experts engaged as team leaders for the study, and one expert responsible for data collection and administrative arrangements.

The parties involved are responsible for the following:

The Egyptian institution is responsible for the co-ordination of the entire activity. It will provide financial support and, if necessary, expert support for the preparation of the study.

Local authorities will take part in the preparation of the final document.

PAP/RAC will provide technical support and consultancy.

WORKPLAN

- Establishment of the working team January 1993
- Visit of international experts, training course, preparation of the specific guidelines March 1993
- Collection of data and relevant documents January-May 1993
- Measurement of parameters relevant for the site January - May 1993
- Analysis and evaluation of data and the collected documentation July 1993
- Visit of international experts October 1993
- Finalization of the draft report January/February 1994
- Evaluation meeting May 1994
- Finalization and presentation of the final report to the Egyptian authorities September 1994

BUDGET

The parties involved will provide the following (in '000 of US \$):

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- PAP/RAC	10	5	-	-	10	5
<u>Counterpart contribution</u>						
- Egyptian Institutions	-	-	40	10	40	10
TOTAL	10	5	40	10	50	15

7.11.2 Carrying Capacity Assessment Study for Tourism

BACKGROUND

The Priority Actions Programme has been developing for some years the project "Development of Mediterranean Tourism Harmonized with the Environment". On the basis of national reports and case studies, "Guidelines for an Environmental Approach to the Planning and Management of Tourism Development in Mediterranean Coastal Zones" have been elaborated. Based on these project activities and documents produced during 1989 and 1990, "A Methodological Framework for Assessing Tourism Carrying Capacity in Mediterranean Coastal Zones" has been produced and presented at an expert meeting organized by UNEP in Paris, in May 1990.

The general aim of this PAP activity is to produce practical planning and management tools and instruments for the mitigation of existing conflicts between tourism and environment.

The problem of creating the algorithm for the optimum carrying capacity of a tourist site is one of the biggest challenges of the Mediterranean tourism policy.

The concept of carrying capacity for tourism may be defined as the maximum number of persons (tourists) visiting a site simultaneously without critically disturbing the physical, economic and socio-cultural environment or diminishing the quality of visitors' experience. This concept can be applied at different tourism development levels (regions, zones, project areas).

In defining the carrying capacity, several elements should be taken into account especially:

- (a) type, size and sensitivity of the attraction;
- (b) national and regional requirements, and tourism and environmental policy;
- (c) type of tourism and level of tourism development in the regional context;
- (d) all interdependencies between the region and the site;
- (e) political, cultural and economic preferences of the resident population.

The carrying capacity study will take into account all relevant environmental elements of the Fuka-Matrouh area, a zone of the "take off" stage of tourism development. Benefiting from the PAP methodology of carrying capacity assessment, this study will result in a final report which will serve as the practical basis for a long-term tourism development reconciled with the environment. The area under study is currently under the pressure of different planning and developmental initiatives. Upon the completion of the study, the local and national authorities will be able to take proper policy decisions in the field of tourism.

OBJECTIVES, EXPECTED BENEFITS

The objective of this study is to carry into life the PAP carrying capacity assessment methodology in the area of Fuka-Matrouh. The study will focus on all relevant interrelations between tourism development and the environmental constraint.

The immediate objectives of the study are as follows:

- to apply and verify the established methodology of CCA in specific Mediterranean zones;
- to obtain new experience in developing the carrying capacity methodology and its application;
- to train local (national) experts and professionals in making the carrying capacity analysis and in implementing it;
- to define specific CCAs for different zones as useful planning and management tools for tourism development harmonized with the environment;
- to prepare a pilot document on the carrying capacity assessment for a selected zone, and encourage planning and management for tourism in the Mediterranean.

The expected benefit of the study is to provide the national and local authorities, tourism promoters and professionals, as well as environmentalists and relevant regional and governmental bodies with a detailed insight into the tourism carrying capacity of the area under study, and thereby help proper decisions to be made for the future development of tourism in the area.

ASSUMPTIONS

To implement the proposed activity, the following basic assumptions have to be fulfilled.

- work on the study will be performed by experienced national and local experts;
- the national authorities have to provide relevant data on the state of development and environment in the area, as well as on the tourism development in the country as a whole.

OUTPUTS

The outputs of this activity will be as follows:

- training of local and national experts;
- report indicating the carrying capacity for tourism of the Fuka-Matrouh area.

INSTITUTIONAL FRAMEWORK

PAP/RAC will draft a workplan of the study preparation, organize expert missions, and secure the involvement of international consultants.

The national implementing institution will co-operate with PAP/RAC in the implementation of the study and secure the participation of national and local experts. It will also provide the necessary administrative and logistic support.

WORKPLAN

- | | |
|---|-----------------------|
| - Preparatory activities; formation of the team; one expert mission; drafting of the workplan in detail | January 1993 |
| - Data collection; analysis of data | March 1993 |
| - Preparation of draft study; visit of international expert(s) | September 1993 |
| - Finalization of the draft report | October-December 1993 |
| - Editing of the report | February 1994 |
| - Presentation of the final report | June 1994 |

BUDGET

The parties involved will provide the following (in '000 of US \$:

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- PAP/RAC	15	10	-	-	15	10
<u>Counterpart contribution</u>						
- National institution	-	-	20	10	20	10
TOTAL	15	10	20	10	35	20

7.12 Soil erosion and desertification

BACKGROUND

Soil erosion and degradation are among the most severe problems of many Mediterranean coastal areas. In the Fuka-Matrouh area prevailing problems are desertification, wind-induced erosion, and the consequent loss of agricultural land.

PAP/RAC, in co-operation with FAO and the Spanish institution ICONA, has been implementing since 1986 the priority action entitled "Soil Protection as an Essential Component of the Protection of the Mediterranean Coastal Areas". Within this priority action a cooperative project on soil erosion mapping and monitoring has been formulated and is now in implementation with the participation of Spain, Tunisia and Turkey. With the participation of experts from all Mediterranean countries, a common methodology of erosion mapping and monitoring has been developed and is now being tested.

Besides that, within the framework of the same priority action, a number of case studies have been produced dealing with various important aspects of soil protection and conservation.

Experience gained through those activities will be applied in the project on soil protection and conservation in the Fuka-Matrouh coastal zone.

A study will be prepared focusing on the problems of soil protection and, in particular, wind-induced erosion which threatens to reduce the agricultural land. This form of erosion is partly provoked by inadequate farming practice.

In preparing the study, knowledge will be drawn from results of studies and projects completed in this domain.

OBJECTIVES, EXPECTED BENEFITS

Long-term objective of this activity is to contribute to the protection of soil against processes with special attention on the prevention of loss of agricultural land.

Immediate objectives are:

- to prepare a comprehensive review of the state of erosion and desertification processes and of urban expansion;
- to train national and local experts on the PAP/FAO/ICONA methodology of erosion mapping (including erosion status and dynamics) and monitoring;

- to prepare a project proposal for mapping and monitoring of erosion processes;
- to formulate proposals for the protecting of agricultural land;
- to formulate a project proposal for the application of knowledge arrived at through the study preparation and to offer it for international funding;
- to formulate proposals for an appropriate institutional arrangements;

The expected benefits are:

- upgraded knowledge of the soil protection and desertification issues;
- experts trained on mapping and monitoring of erosion processes;
- possibility of international funding of the project;
- possibility of improving the present institutional arrangements.

ASSUMPTIONS

In order to initiate and implement this activity, the following is necessary:

- National and local authorities will provide available data on erosion processes, the loss of agricultural land, and the expected urban expansion, maps and soil maps, as well as nominate the responsible national institution as a counterpart to PAP/RAC.
- PAP/RAC will secure the participation of FAO, ICONA, and internationally reputed experts as consultants.
- The responsible Egyptian institution will act as the general coordinator, and will secure the inputs from the designated national institution.

OUTPUTS

The outputs of this activity will be as follows:

- a comprehensive study on soil erosion and desertification processes including recommendations for mitigation measures;
- training of national experts on erosion mapping and monitoring;

- maps of the selected pilot areas prepared according to the developed methodology;
- a project proposal for mapping and monitoring of erosion processes to cover a larger selected area.

INSTITUTIONAL FRAMEWORK

PAP/RAC will be responsible for the elaboration of a detailed workplan of this activity, for its implementation, and for the organization of training for national experts. PAP/RAC will also prepare the final report and the project proposal of a larger mapping and monitoring programme.

National authorities will provide data and experts on soil erosion mapping and monitoring, including geologists, hydrologists, hydrogeologists and desertification specialists. They will also secure the necessary administrative and logistic support.

The responsible ministry will act as a general coordinator, and will secure the involvement of other relevant national institutions.

WORKPLAN

- | | |
|--|--------------------------|
| - Preparatory activities; one expert mission | January 1993 |
| - Training of national experts in mapping | April 1993 |
| - Training of national experts in monitoring | September 1993 |
| - Mapping of a pilot area | November 1993 |
| - Installation of a pilot monitoring system | January - September 1993 |
| - National report on mapping | January 1994 |
| - National report on monitoring | July 1994 |
| - Final report and project proposal | December 1994 |

BUDGET

The parties involved will provide the following (in '000 of US \$):

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- PAP/RAC	20	20	-	-	20	20
<u>Counterpart contribution</u>						
- Egyptian Institutions	-	-	30	30	30	30
<u>Others</u>						
- External funding*	20	-	-	-	20	-
TOTAL	40	20	30	30	70	50

* Approximately US \$ 20,000 for the purchase of monitoring equipment should be secured from external sources. Otherwise, the monitoring programme should be postponed for 1994/95 and completed by the end of 1995.

7.13 Mine fields implanted during the Second World War

To be prepared

7.14 Water resources management study

BACKGROUND

In securing satisfactory living conditions for the population and meeting the needs of the planned development of tourist and other activities in the coast, the supply of fresh water is of paramount importance. At that, the fresh water quality has to meet the WHO standards and the monitoring and distribution system should secure a feasible supply and distribution while protecting fresh water resources from pollution.

To meet the above requirements, a water resources management study will be prepared for the coastal area of Fuka-Matrouh.

It should be noted that PAP/RAC has implemented similar studies in the period 1988-1992 for the Syrian coastal zone and the Kastela Bay area while the water resources management plan has been completed and implemented for the island of Malta. The management study concerning the island of Rhodes is in preparation. Experiences obtained from all these activities will be used in the Egyptian study.

Several international projects have been carried out in the area of Fuka-Matrouh. They are tackling, among others, the problems of water resources. The results of these projects will be taken into account in the preparation of the water resources management study, making sure that the efforts are not duplicated.

OBJECTIVES AND EXPECTED BENEFITS

The long-term objectives of this activity are to contribute to the environmental protection and rational use of water resources of the Fuka-Matrouh area, and to create conditions necessary for the development of tourist and other coastal activities.

The immediate objectives of the study are to assess the availability of resources and their quality, to propose measures for the prevention of their pollution, to analyze the existing water resources management system, and recommend the system of monitoring and sanitary control. The study will also present the water balance of the existing and future needs for water and recommend a feasible approach to the planning and implementation of development projects.

The expected benefits area:

- rational and environmentally sound utilization of water in harmony with the development;
- protection of fresh water resources from pollution;
- upgrading of knowledge and experience of local and national experts and institutions.

ASSUMPTIONS

For the successful implementation of the project, national and local authorities are supposed to provide required data and information, and nominate a national institution responsible for the coordination and implementation of the study. The availability of relevant hydrological and hydrogeological studies is particularly important.

PAP/RAC will secure that the programme be carried out and that the final report be prepared.

OUTPUTS

The main output of this activity will be the water resources management study, together with the accompanying (sectorial and specific) documents.

INSTITUTIONAL FRAMEWORK

PAP/RAC will draft the workplan, organize expert missions, and provide consultants, as well as secure the participation of a relevant international institution cooperating with PAP/RAC.

The Egyptian Environmental Affairs Agency (EEAA) will act as national co-ordinator and secure the participation of relevant national and local institutions and authorities.

The national implementing institution will co-operate with PAP/RAC on the implementation of the study, and secure the participation of national and local experts (civil engineers, hydrologists, sanitary engineers, hydrogeologists). This institution will also provide the necessary administrative and logistic support as well as:

- inventory of the actual situation;
- data on development trends and programmes;
- data on hydrogeological and hydrological conditions.

WORKPLAN

- preparatory activities, forming of teams, one expert mission, drafting of a detailed workplan February 1993
- data collection, identification of problems, alternative strategies May 1993

- formulation and screening of alternatives October 1993
- draft final report, discussion and amendments February 1994
- finalization of the study and presentation to the Egyptian authorities May 1994

BUDGET

The parties involved will provide the following (in '000 of US \$):

Source	Cash		Kind		Total	
	1993	1994	1993	1994	1993	1994
<u>UNEP contribution</u>						
- PAP/RAC	15	15	-	-	15	15
<u>Counterpart contribution</u>	-	-	20	20	20	20
TOTAL	15	15	20	20	35	35