

GLOBAL ENVIRONMENT FACILITY

Strategic Action Programme
for the
Red Sea and Gulf of Aden

Project Implementation Plan

Regional Organisation for the Conservation of the Environment of
the Red Sea and Gulf of Aden (PERSGA)
United Nations Development Programme (UNDP)
United Nations Environment Programme (UNEP)
The World Bank

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ABBREVIATIONS AND ACRONYMS

ADB	African Development Bank
AIS	Automatic Identification System
APR	Annual Project Report
CO	Country Office (UNDP)
CRIPEN	Centre de Recherche, de l'Information et de la Production de l'Education Nationale
CTA	Chief Technical Advisor
DAM	Direction des Affaires Maritimes
DEP	Direction de l'Elevage et des Pêches
DNV	Det Norske Veritas
EEAA	Egyptian Environmental Affairs Agency
EPC	Environment Protection Council
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FR	Financial Report
FTI	Fisheries Training Institute
GEF	Global Environment Facility
GIS	Geographic Information System
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positioning Systems
GTZ	Gesellschaft für Technische Zusammenarbeit
HCENR	Higher Council for the Environment and Natural Resources
IALA	International Association of Lighthouse Authorities
ICZM	Integrated Coastal Zone Management
IFAD	International Food and Agricultural Development
ILO	International Labour Organisation
IMO	International Maritime Organisation of the United Nations
IOMoU	Memorandum of Understanding on Port State Control in the Indian Ocean
ISERST	Institut Supérieur d'Etudes et de Recherches Scientifiques et Techniques
IUCN	World Conservation Union (formerly International Union for the Conservation of Nature)
LMR	Living Marine Resources
MA	Marine Affairs (Yemen)
MARPOL	The International Convention for the Prevention of Pollution from Ships
MEMAC	Marine Emergency Mutual Aid Centre
MEPA	Meteorology and Environment Protection Agency
MFW	Ministry of Fish Wealth
MGP	Micro-Grants Programme
MPA	Marine Protected Area
MSRRC	Marine Science and Resource Research Centre

NGO	Nongovernmental Organisation
nm	Nautical mile (1 international nautical mile=1.852 kilometres=1.1508 miles)
NPC	National Programme Co-ordinator
ONTA	Office National du Tourisme et de l'Artisanat
PA	Public Awareness
PAID	Port Autonome International de Djibouti
PFS	Procurement/Finance Specialist
PC	PERSGA Co-ordinator
PCMA	Public Corporation for Maritime Affairs
PDF	Project Development Facility
PERSGA	Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden
PIP	Project Implementation Plan
PIR	Project Implementation Review
PMT	Project Management Team
PSC	Port State Control
QDR	Quarterly Delivery Report
SAP	Strategic Action Programme for the Red Sea and Gulf of Aden
SGP	Small Grants Programme
SOLAS	Safety of Life at Sea Convention
TF	Task Force
TSS	Traffic Separation Schemes
UKHO	United Kingdom Hydrographic Office
UNDP	United Nations Development Programme
UNDP-PC	UNDP Programme Co-ordinator
UNEP	United Nations Environmental Programme
VHF	Very High Frequency
VTS	Vessel Traffic Systems
WB	World Bank
WG	Working Group

I. OVERVIEW

1. The Global Environment Facility (GEF) Council approved the Project Brief for the Strategic Action Programme for the Red Sea and Gulf of Aden (SAP) in November 1997. The United Nations Development Programme (UNDP) signed two Preparatory Assistance documents to facilitate the formulation of the agency-specific Project documents. In order to discuss and agree on a detailed implementation arrangement and a work plan for the full-scale Project, two consultative meetings were held with the Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) and within the three GEF implementing agencies. During the Nairobi consultative meeting held in May 1998, it was agreed that a common management document—the Project Implementation Plan (PIP)—would be co-operatively developed and attached to each agency-specific Project document.

2. *Project Implementation Plan.* The Project Implementation Plan is intended to provide an overall management framework for implementation of the SAP. This type of common document has the following benefits:

- It will assure full complementarity and integrity of activities under the Project components to be supported by the three co-operating GEF implementing agencies.
- A common Project implementation framework and reference material will be provided for use by all co-operating parties.
- The implementation arrangements, including procurement and disbursement procedures, to be used for activities supported by each of the GEF implementing agencies, will be more easily understood and available for ready access.
- Countries with activities at the national level will be able to obtain specific information concerning planned activities in a comprehensive manner.
- Effective Project planning and management by PERSGA, co-operating countries and the GEF implementing agencies is enhanced by having a common, integrated work plan.

3. The preparation of the PIP benefited from the contribution of several international specialists. Written sections were shared and discussed with PERSGA and among the three GEF implementing agencies. The Country Work Plans were prepared after conducting two-person missions during the months of May and June 1998 to Djibouti, Somalia (Nairobi Offices), Sudan and Yemen.

4. The PIP serves as the main reference document to be used for operational purposes. Section I of the PIP focuses on SAP component work plans, where activities of a regional nature (whether Project- or country-funded) will facilitate the participation of all countries in regional activities. Section II of the PIP document focuses on activities funded by GEF that will be carried out at a national level in the four southern countries.

A. PROJECT MANAGEMENT

The Council of Ministers and PERSGA

5. PERSGA was officially established in September 1996 with the signing of the Cairo Declaration by all parties to the Jeddah Convention; its Secretariat is hosted by Saudi Arabia. It is the official regional organisation concerned with development and implementation of regional programmes for the protection and conservation of the environment of the Red Sea and Gulf of Aden. Major functions of PERSGA include the implementation of the Jeddah Convention, the Action Plan, and the existing Protocol concerning Regional Co-operation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency.

6. On 26 October 1996, the PERSGA Council of Ministers approved the SAP and delegated responsibility to the PERSGA Secretariat to work directly with countries, international financial institutions and other interested parties to assist them to develop and implement projects which will support the SAP process. The PERSGA Council of Ministers consists of Ministers responsible for environment in their respective member countries. The Council meets on a rotational basis in the participating countries. It provides PERSGA with the high level political support needed to ensure strong co-operation and commitment among participating countries, as well as making strategic decisions regarding PERSGA's programmes and financing. The Project provides for briefing of the Council of Ministers about Project progress. The support and advice of the Council will be sought when new protocols and modifications or annexes to the Conventions are deemed necessary.

The Regional Task Force

7. In each of the PERSGA member countries, the Government has appointed a member to a regional Task Force (TF). The TF members represent their respective Governments and their commitments to the Red Sea/Gulf of Aden Convention and act as the overall National Focal Point for PERSGA activities. Under the Chairmanship of the Secretary General of PERSGA, the TF consists of PERSGA representatives from each participating country, the three GEF partners (UNDP, UNEP, World Bank) and the Islamic Development Bank. With regard to the Project, the Chief Technical Advisor (CTA), the PERSGA Co-ordinator (PC) who will be the immediate counterpart to the CTA, and the Riyadh-based UNDP Programme Co-ordinator (UNDP-PC) also serve as members of the TF.

8. The members of the TF are not Project-funded. The TF serves as the technical advisory body to PERSGA regarding implementation of the SAP. It will guide and oversee the Project, provide strategic decisions, review and assess the overall thrust of Project progress, provide technical and political support and facilitate Project implementation in the respective countries. The TF is the forum whereby co-operation among participating countries, international financial institutions and donors is enhanced. The TF will meet at least once a year on a rotational basis to discuss Project progress and facilitate implementation of the SAP. Potential donors, such as the European Union (EU) and bilateral donor organisations, will also be invited to the TF

meetings. In addition, the National Programme Co-ordinators will be invited to the TF meetings, as they will be familiar with day-to-day running of the Project at the national level.

Country Based Implementation and Co-ordination

9. The Project will be implemented through Project-funded regional activities in Djibouti, Egypt, Jordan, Saudi Arabia, northern Somalia, Sudan and Yemen. Saudi Arabia will fund its participation in the regional activities. Project-funded country-based activities will involve Djibouti, northern Somalia, Sudan and Yemen. In the four countries where the Project will implement national activities, a National Programme Co-ordinator (NPC) will be funded. Each NPC will make complementary reports to the PC, CTA and PERSGA in his/her country regarding implementation of country-based activities. The NPC will co-ordinate various in-country components, in co-operation with the TF member, and will ensure that implementation of these components is progressing smoothly. The structure of the Project management team is provided in the organisational chart in Figure 1. Terms of Reference are provided in Annex A.

Daily Management of the GEF Project at PERSGA Headquarters

10. The Project will be executed by PERSGA under the overall authority of the Secretary General of PERSGA. Day-to-day Project management will be the responsibility of the PC and the CTA in close co-operation with Lead Specialists. For the GEF implementing agencies, the UNDP Resident Representative's Office in Saudi Arabia provides day-to-day backstopping for the Project through the services of the UNDP-PC. The UNDP-PC will provide both technical and administrative backstopping and monitoring for the Project on behalf of the three implementing agencies.

11. The PC, CTA, the Lead Specialists and the Procurement/Finance Specialist (PFS) make up the Project Management Team (PMT). The PC and the CTA act as the anchor and team leaders for the PMT under the guidance of the Secretary General and the Office of the UNDP Resident Representative. In the spirit of flat and effective management and to ensure greater transparency in decision making, it is expected that the PC and the CTA and their PMT will hold weekly meetings to exchange information and to co-ordinate Project activities. Lead specialists who are not present in PERSGA offices will link by telephone conference or e-mail to these weekly management meetings. The Riyadh-based UNDP-PC will travel to Jeddah at least once a month to attend one of the weekly PMT meetings, to ensure substantive and administrative support and backstopping to Project implementation.

B. GENERAL APPROACH TO IMPLEMENTATION

12. It is the foremost aim of the Project to provide maximum benefits to the countries of the Region and their inhabitants, and to assure sustainability of Project achievements beyond the duration of the Project. To achieve these goals, highest priority will be given to institutional strengthening and capacity building. Training and education of various target groups will be part of all Project activities. Specialists from the Region will be involved in and carry out Project activities. International exchange of knowledge

and experience, including establishment of international partnerships, is considered to be of pivotal importance for the long-term success of the Project; however, international consultants will only be involved where the required expertise is not available in the Region. Their main task will be to transfer knowledge and experience. All data gathered by international consultants will be made available to PERSGA and the countries of the Region.

13. The Project will concentrate first on production of training materials and development of training courses. The training activities will be carefully prepared and targeted appropriately. Selected trainees should be able to participate in Project activities and later on-the-job training to further develop skills. An initial workshop will be held to assess training needs and guide the Project in the development of appropriate programmes. Other early workshops will address regional selection and standardisation of methods and techniques for surveys, data collection and development of databases. Methodologies will be designed in a way that they fulfil the requirements of the Project while being as user-friendly as possible. The type and range of data to be collected will be carefully considered and quality control will receive the highest priority.

II. COMPONENT WORK PLANS

COMPONENT 1.

INSTITUTIONAL STRENGTHENING TO FACILITATE REGIONAL CO-OPERATION

Introduction

14. Significant strengthening of existing institutional arrangements is required for successful implementation of the priority actions identified in the SAP. With the commitment to regional co-operation generated by the SAP preparation process, and given the transboundary character of many environmental threats, co-operation and co-ordination among the various sectors will be substantially strengthened at both the regional and national levels. In the Region, the PERSGA Secretariat represents the most appropriate existing institutional and programmatic framework in which regional co-operation and co-ordination can be achieved. A priority in the SAP is institutional strengthening to promote regional co-operation.

15. Component 1 has the following objectives:

- Enhanced institutional capacity (both technical and administrative) of PERSGA to effectively lead and co-ordinate the SAP as a long-term regional programme.
- Closer co-ordination among existing projects and programmes in the Region.
- Enactment of adequate environmental policies and legislation for managing transboundary environmental issues.
- Enhancement of environmental management capacity throughout the Region.
- Increased participation in regional and global Conventions on the environment.
- Development of strong regional networks among environmental organisations.
- Effective linkages between national and regional goals for protection and management of coastal and marine resources.

Component Implementation Arrangements

16. This component is crucial for the success of the Project since it will provide administrative and technical support to the other components. The resource mobilisation element included in the component will contribute to sustainability of the SAP as a whole. The component will be implemented by the PERSGA Secretariat which will play a central role in:

- Providing administrative services to the TF as well as regional expert Working Groups (WGs).
- Developing additional regional protocols as called for in the SAP.
- Establishing an effective information exchange system and databases.
- Developing an efficient financing and resource mobilisation programme.

Strengthening the Institutional Capacity of the PERSGA Secretariat

17. The PERSGA Secretariat played a commendable leadership role in ensuring active Government participation at both the political/policy and expert levels during the preparation of the SAP. These were indispensable leverages in the implementation of the GEF PDF-B Project and will be crucial in the implementation of the GEF Project.

18. To ensure that PERSGA is able to continue in this role, a Project Management Team (PMT) within PERSGA will be established, consisting of regional Lead Specialists in the thematic areas of the SAP, administrative support staff (an administrative assistant funded by UNEP and a procurement/finance specialist) and the CTA, both funded by UNDP. The PMT will strengthen the capacity of PERSGA and will also be responsible for programme administration and financial management, including procurement and disbursement. In order for the Project to produce meaningful, relevant and timely accounting information, it should have an adequate financial management system in place. Essential elements of this system include:

- Planning and budgeting
- An adequate computer system
- Adequate internal controls
- Defined links among the staff of the Project (headquarters and field positions)
- A well-defined system for financial reporting.

Enhancing Regional Co-operation

Programme Work Plan and the Task Force

19. The activities to be carried out under this component will require development of a work plan for Region-wide implementation of the SAP (see Annex B). In furtherance of this goal, the SAP TF will be maintained under revised terms of reference to allow it to oversee implementation and monitor the progress of the full programme.

Cross-Sectoral Co-ordination and Consultation

20. Activities to be carried out include co-ordination and support of implementation of the national components of the SAP, and their incorporation into national policies and investment programmes. Regional expert WGs will be established for the different themes envisaged under the other Project components. Support will be provided for WG meetings and for cross-sectoral training workshops.

Regional Protocols

21. The development of new regional protocols will be carried out in line with the decisions of the Council of Ministers of PERSGA. A communication-information-data exchange system will be put in place. This will include newsletters, e-mail and Internet services, a regional library and an information database.

Developing a Sustainable Financing and Resource Mobilisation Strategy

22. Successful implementation of the SAP requires that a range of resources, both human and financial, be mobilised to support the priorities of the Programme. This will be undertaken through a multidimensional approach that includes seeking funds from bilateral and multilateral donors, designing self-financing mechanisms for the respective components, and establishing an environmental fund, as outlined below.

Financial Sustainability and Resource Mobilisation

23. While support for environment and natural resources management programmes and investments in the Region traditionally has been provided by national Governments, often with assistance from international and bilateral organisations, the implementation of the SAP will require new types of resources to support such measures in many countries. A review of the opportunities for self-financing of the different components of the SAP will be carried out at the regional and national level to identify potential economic sources and mechanisms. Consultations with co-operating Governments and stakeholders, including the private sector, will be regularly organised.

Red Sea and Gulf of Aden Environmental Fund

24. An assessment will be carried out to determine the feasibility of establishing the proposed Red Sea and Gulf of Aden Environmental Fund to support transboundary activities identified in the SAP. Project activities will therefore involve an evaluation of existing economic instruments within the countries that may contribute to the proposed Fund as well as possible support from other donors. This will include procedures to define disbursement priorities and the legal, governance and administrative structure of the proposed Fund.

COMPONENT 2.

REDUCTION OF NAVIGATION RISKS AND MARITIME POLLUTION

Introduction

25. The Red Sea and Gulf of Aden extend over a distance of some 1700 nautical miles and are on average between 120 and 150 nautical miles wide. They form part of a major world shipping route which currently carries around 7 percent of global seaborne trade. Much of the world's crude and refined oil cargoes pass through the Red Sea and Gulf of Aden and this Region would suffer significant damage were a major oil spill to occur. The overall aim of this component of the Project is to support the objectives of the SAP by reducing the risks of maritime accidents and minimising maritime pollution in the Region.

Component Preparation Process

26. In order to co-ordinate and support development of this component of the SAP, the PERSGA "Navigation Working Group" was established in November 1996 and chaired by the PERSGA Navigation Advisor, a regional expert in maritime affairs. Two

regional workshops were held—one organised by the Public Corporation for Maritime Affairs (PCMA) of Yemen in Aden and the other by the Suez Canal Authority of Egypt in Ismalia. At the first workshop, Det Norske Veritas (DNV) of Norway made an initial presentation on the report it was preparing for PERSGA under the supervision of the World Bank, entitled “Navigation Risk Assessment and Management Plan for the Red Sea and Gulf of Aden.” The seminar in Aden discussed matters relating to navigation safety and pollution control and generated a number of recommendations. The follow-up seminar held in Ismalia brought together many of the same experts from the Region to assess the semi-final DNV report, suggest amendments to this report and put forward further recommendations to PERGSA. Following completion of the DNV Report and the SAP, two internationally recognised experts in maritime affairs—one from the Region and a second with long-term experience in the Region—prepared a detailed work plan for implementation of the component under the supervision of PERSGA and the World Bank. This work plan is available in the Project files.

Objectives

27. The recommendations arising from these seminars, as reflected in part in the DNV report, have been used in the SAP process for the identification of priority actions to be included in the component for improvement of navigation safety and control of marine pollution in the Region. They emphasise the need to take “preventive actions” in a number of areas to avoid potential risks through better practices and improved navigation and safety methods. The objectives of the component are to support PERSGA and the co-operating countries to:

- Implement international Conventions to which the countries are signatory.
- Establish a Memorandum of Understanding on Port State Control (PSC) specific to, or which includes, regional states.
- Provide means by which PSC training requirements may be met.
- Introduce, in co-ordination with the International Maritime Organisation (IMO), additional Traffic Separation Schemes (TSS) and other routing systems.
- Survey selected portions of the Red Sea and Gulf of Aden.
- Consider the provision of additional aids to navigation in the Region.
- Study requirements for additional Vessel Traffic Systems (VTS), particularly in the Red Sea.
- Strengthen regional co-operation in combating oil pollution.
- Support regional workshops on key topics.

The Navigation WG will also review potential financing mechanisms to support long-term operation of navigation systems and oil spill management programs at the regional, national and local levels. Recommendations on these will be prepared for consideration and/or adoption by regional states and local authorities. The implementation of the Navigation WG’s recommendations will contribute directly to achieving the objectives of the SAP.

Component Implementation Arrangements

28. Implementation of this component will be co-ordinated by the Navigation Advisor who will be regionally based and make regular visits to PERSGA. The Navigation Advisor will supervise and chair the Navigation WG, which includes specialists in maritime affairs, navigation and marine pollution control from the co-operating countries. The Navigation Advisor will arrange the meetings, prepare the agenda and facilitate follow-on activities. At the country level, the Navigation Advisor will work with the NPCs, PERSGA National Focal Points and specialist members of the Navigation WG to develop and implement regional and national level activities. The Navigation WG will support regional training and exchange programs and activities regarding environmental aspects of maritime affairs. It will provide a forum for joint planning of activities, evaluation of progress, exchange of data and lessons learned.

Co-ordination of Working Group Activities

29. PERSGA will arrange and co-ordinate all WG meetings and seminars and act as the channel through which contacts with the IMO, International Labour Organisation (ILO) and other international organisations are made. Given the significant relationships between the activities for reduction of navigation risks and control of maritime pollution, and those supported under other Project components, the Navigation Advisor will work closely with the PERSGA Project team to exchange information, promote co-ordination and prevent duplication of effort. Special attention will be given to co-ordinating activities under this component with those concerning habitat management, development of Marine Protected Areas (MPA) and Integrated Coastal Zone Management (ICZM). Copies of reports and all significant correspondence concerning the activities of the Navigation WG will be provided by the Navigation Advisor to PERSGA.

PERSGA Navigation Working Group

30. The formal establishment of the PERSGA Navigation WG with a long-term role and a mandate to contribute to the objective of increasing navigational safety and protection of the marine environment in the Region will be a valuable means of achieving Project objectives in this regard. To this end, a number of steps will be taken, including:

- Definition of the Terms of Reference for the Navigation WG during the implementation phase of the SAP.
- Definition of the membership of the Navigation WG to be made up of experts from the co-operating countries, that is, Djibouti, Egypt, Jordan, Saudi Arabia, northern coast of Somalia, Sudan and Yemen, led by an expert from the Region.
- Definition of a five-year work program tied to the SAP implementation process.

Implementation of Conventions and Port State Control

31. Accession to the major IMO Conventions varies considerably among PERSGA member countries. Some countries have acceded to many of these Conventions, but

others have not so far been able to do so. For the successful introduction of PSC in the ports of the Region, it is essential that more countries ratify key maritime Conventions, particularly those relating directly to PSC. A substantial amount of work will need to be carried out in order to move the ratification of these Conventions forward, including:

- Identification of “baseline” conditions in each of the states with reference to the Conventions.
- Identification of technical, commercial, institutional or legal reasons why Conventions have not been ratified by the states concerned.
- Means of promoting the ratification of these Conventions, drawing upon the experience of states in other parts of the world.
- Review of existing PERSGA protocols and recommendations on development of additional protocols as necessary.

32. The Navigation WG will play a key role in bringing to the attention of the Governments concerned the need to accede to and implement these Conventions. It will obtain guidance and assistance from IMO and bilateral sources on methods of obtaining support for these procedures. It will also seek exposure for key personnel to the experience of states that are well advanced in the ratification process and in the implementation of PSC procedures.

Support for Port State Control

33. The SAP identified the establishment of a Regional Agreement on Port State Control as a priority action to reduce risks from ships with substandard conditions and crews. Under the component, the Navigation WG will receive support to undertake the required administrative actions to establish PSC in the PERSGA Region; conduct a Regional Workshop on PSC; and fund a series PERGSA-sponsored courses to train PSC Officers in international standards and establish reporting procedures in the Region. The objectives of the workshop are to inform key personnel in the Region and to bring them together to discuss the benefits of and methods used in implementation of PSC. This will provide a framework for later Project-supported training activities for PSC. As part of the process of developing PSC, the Navigation WG will review Port Regulations at each port in the Region and promote inclusion in the regulations of essential safety clauses. Such clauses could include the requirement for anchors to be ready for dropping from the time a vessel reaches the port approaches; requirements for berthing and final departure from the port, and “model” rules on safety for use by regional ports.

Regional Agreement on Port State Control

34. One issue that will need to be resolved is whether the co-operating countries of PERSGA should develop a Regional Agreement for the Red Sea and Gulf of Aden, or whether they should join the larger Regional Agreement for the Indian Ocean that is currently being developed under the auspices of IMO and with the support of ILO. This process has resulted in the signing of a Memorandum of Understanding on Port State Control in the Indian Ocean (IOMoU) by nineteen countries in the “Indian Ocean Region.” The IOMoU is based on financial and other commitments by its members and

provides for the establishment of a Secretariat, located in Goa, India, and an Information Centre located in Pretoria, South Africa. The PERSGA countries represented at this meeting included Djibouti, Somalia (through a UNDP nominee), Sudan and Yemen, each of whom has signed the IOMoU. However, a number of PERSGA countries bordering the Red Sea were not represented at the Pretoria meeting, in particular Egypt, Jordan and Saudi Arabia. In light of the new development, the Navigation WG, as a priority action, will review the matter and make recommendations with regard to the most efficient way to develop a Regional Agreement on PSC.

Improved Communications for Shipping

35. A Global Maritime Distress and Safety System (GMDSS) has been established in recent years. Under the IMO SOLAS (Safety of Life at Sea) Convention, all vessels above 300 tons will need to carry radio and other equipment that allows them to contact coast radio stations and communicate by satellite or other means with Maritime Rescue Co-ordination Centres, “Ship Earth Stations” (ships), vessels in distress, etc. The GMDSS system also requires “Coast Earth Stations” to be provided with modern equipment to allow them to carry out their communications responsibilities. To accelerate implementation of this system in the Region, the Navigation WG will review plans for the installation of GMDSS equipment at centres in the Region and make recommendations on the most cost-effective means of achieving satisfactory regional coverage, strengthening institutional capacities and training the required skilled personnel.

Traffic Separation Schemes (TSS)

36. The whole of the Red Sea may be considered to be an “environmentally sensitive area” and any damage to ships or spillage of oil may adversely affect the area. The concept of TSS and other ships’ routing measures has been accepted for more than 20 years as a means of improving the safety of navigation. The IMO is the only international body that has been recognised as competent to approve ships’ routing measures at the international level. However, IMO does not (normally) act to initiate or provide routing measures. The definition and submission to IMO for approval are primarily the responsibility of the government or governments concerned. These requests can be organised and co-ordinated by special regional bodies such as PERSGA.

37. TSS were introduced some years ago in the Gulf of Suez, the Strait of Tiran and the Strait of Bab al Mandab and have been amended from time to time to improve the safety of navigation in these areas. The introduction of additional routing measures under this component of the SAP is intended to further increase the safety of navigation in the Region. Routing measures are introduced to improve the safety of navigation, to prevent or to reduce the risk of marine pollution and/or other damage to the marine environment caused by ships colliding and/or grounding, and to prevent or reduce the risk of new obstructions being created along international trading routes. The accuracy of navigation on board ships has increased in recent years due to the introduction of modern position fixing methods such as satellite navigation systems (Global Positioning Systems-GPS, Doppler GPS etc.). DNV stated in its report that around 1 million “end on” situations between northbound and southbound vessels transiting the Red Sea occur

each year. These vessels, when using the routes from Bab al Mandab to the southern entrance to the Gulf of Suez, which are very similar, risk being involved in “end on” collisions. The purpose of the routing measures proposed for the Red Sea is therefore to separate the tracks of the northbound vessels from those of the southbound vessels by a suitable distance.

Proposed Areas for New TSS

38. Under the component, the Navigation WG, in full co-ordination with the IMO and concerned national Governments, will undertake actions to formally establish new TSS in selected priority areas. These areas include:

- *Northeast Side and Southwest Side of the Hanish Islands.* It is proposed to improve the safety of navigation in the Region through introduction of two new TSS on the northeast and southwest side of the Hanish Islands. The schemes have been proposed since vessels passing to the northeast and southwest of the Hanish Islands must navigate in areas in which shallow water, rocks, islands and other navigational hazards are found. The introduction of new TSS for these specific areas is intended to provide safe routes around the various hazards, supported by additional aids to navigation where required. New obstructions are being reported each year in areas which are used by transiting vessels. By defining TSS and Recommended Tracks, the extent of the area that will ideally be re-surveyed as a matter of urgency to handle the larger vessels “in transit” will be reduced. Two TSS have been initially defined for submission to IMO. These will connect with the existing TSS in operation for Bab al Mandab and the southern entrance of the Gulf of Suez through the use of “Recommended Tracks.” The Tracks could be shown on charts of the Red Sea, or could be referred to in notes on the charts covering the area.
- The Recommended Tracks have been designed to separate the two streams of traffic; the proposed Tracks lie 2.5 nautical miles on each side of defined positions. By connecting existing TSS at the southern and northern ends of the Red Sea to the new TSS around the Hanish Islands by tracks, the desired separation of northbound and southbound traffic by a distance of around 5 nautical miles will be achieved. The tracks have been designed to ensure that ships remain in deep water areas close to the centre of the Red Sea where possible; are routed well clear of shallow areas (to allow searoom in the case of navigational errors, engine and/or rudder failure, drifting etc.); and make maximum use of existing and possible future navigational aids and other routing measures.
- *Extension of Ras Muhammed TSS.* Another “routing measure” which has been proposed is the extension of the TSS around Ras Muhammed at the southern tip of the Sinai Peninsula in Egypt. An “area to be avoided” is regarded as a routing measure as it prevents vessels from entering certain defined areas at sea. UK Admiralty Chart No. 8 indicates that an “area to be avoided” exists south of Ras Umm Sidd. This is a particularly sensitive area of the marine environment. The notes state that “to avoid risk of pollution, vessels carrying dangerous or toxic cargoes, or any other vessel exceeding 500 GRT should avoid the area indicated.” It is recommended that IMO be asked to extend this “area to be avoided” to the west of Ras Muhammed to ensure that traffic is kept clear of the headlands and reefs around

the southern end of the Sinai Peninsula. An “area to be avoided” is considered by IMO to be a routing measure which can be introduced when “...it is exceptionally important to avoid casualties...” Any unauthorised vessel entering the area to be avoided would be warned that it is entering this area by the VTS stations operating in Gulf of Suez and the Strait of Tiran.

39. The objective of separating northbound and southbound traffic transiting the Red Sea is partially achieved by introducing the two proposed TSS adjacent to the Hanish Islands. To confirm this separation, it is envisaged that this traffic will navigate between Bab al Mandab and the southern end of the Gulf of Suez along Recommended Tracks. These Tracks will be defined for presentation to the IMO Navigation Sub-Committee responsible for Routing Measures as soon as the necessary foundation work has been done. This work will require the positive contribution of the Navigation WG in achieving the approval of Egypt, Eritrea, Saudi Arabia, Sudan and Yemen for submission of agreed tracks to the IMO.

Hydrographic Surveys and Navigational Aids

40. A fundamental requirement for navigation safety and implementation of this component of the SAP is the accuracy of navigational charts and other navigational information that is made available to vessels operating in the area. An examination of navigational charts for the Region reveals that surveys for large areas of the Red Sea and Gulf of Aden were carried out many years ago, using the technology available at that time. Subsequent surveys, or accidents to ships, have demonstrated that isolated rocks and other obstructions were not discovered or recorded on surveys which may have been carried out 100 years or more ago, or that depths have changed since the surveys were done. Shallow water, rocks or other obstructions in or near routing measures must be recorded on charts and in other navigational publications. The failure to carry out surveys in the past has led to problems in TSS, and IMO requires survey results to be submitted to it before it will approve a new or revised scheme.

Survey Procedures

41. The United Kingdom Hydrographic Office (UKHO), is responsible for producing charts of this area and for carrying out survey work in the Region. It receives data from a number of sources. These include surveys carried out by naval or private survey vessels for Governments in the Region, surveys carried out for oil companies involved in offshore exploration, data from United Kingdom naval survey vessels which may be sent to the Region or are in transit and depth recordings from commercial ships. Much of the survey work required by the UKHO is now carried out by commercial survey companies under contract with standards set by the UKHO, and frequently under the direction of a naval survey officer or naval hydrographic adviser. Charts are also produced by other organisations, such as the French Navy in the area around Djibouti, and the Saudi Arabian Ports Authority for the coast of Saudi Arabia.

Priority Areas for Survey

42. Under the SAP, two priority areas are due to be defined and surveyed. The cost of hydrographic survey work is very high and it must be assumed that the surveying

required will be carried out by a commercial company at normal commercial rates. In order to limit costs, it is recommended that the two areas selected for these surveys be the proposed TSS to the northeast and southwest of the Hanish Islands. It is therefore proposed that these areas should be surveyed, covering the planned TSS and beyond these to a distance of 500 meters on either side of the traffic lanes and 1000 meters to the north and south of the boundaries of each scheme.

43. Additional areas that may be considered for priority survey, subject to availability of funds, include the existing TSS in the Strait of Bab al Mandab, particularly if the Navigation WG decides that an amendment to this scheme should be submitted to IMO; the approaches to Port Sudan or Suakin in Sudan, as these ports are being expanded and the need for new survey work is recognised by the Government; and the approaches to the Port of Aden, which may be given priority because it is anticipated that there will be a lot more use of the port by very large container vessels from late 1999 onwards. As these locations are relatively close to each other, additional mobilisation costs for the survey vessel should be low if a larger number of surveys can be conducted at one time.

Survey and Improvement of Navigational Aids

44. The component will facilitate arrangements and provide support for a survey of the positions and characteristics of any navigational aids in the Region. This survey will be independently prepared and provide the basis for possible SAP-supported actions to upgrade these facilities. Subject to the approval of the Navigation WG and concerned National Authorities, it is planned that the regional members of the International Association of Lighthouse Authorities (IALA) would ask IALA to carry out a separate survey of navigation aids in the Red Sea and Gulf of Aden. This survey would exclude the Gulf of Suez, which has already been inspected by IALA. The IALA survey is required to determine the present status of these aids and what actions, if any, may be necessary to improve or extend them. Proposals for improving their effectiveness and/or means of operation may be put forward by IALA. These would then be reviewed by PERSGA and the Navigation WG for consideration for funding under the SAP.

Vessel Traffic Systems (VTS)

45. A VTS is described as “any service implemented by a competent authority primarily designed to improve the safety and efficiency of traffic and the protection of the environment.” It may range from the provision of simple information messages to extensive management of traffic within a port or waterway. It may cover some or all of the following functions: provision of routine information; co-ordination of ship movement reports; monitoring of compliance with established traffic rules; provision of advice or guidance; and/or regulation of traffic. The principal function of the surveillance is to monitor traffic flow in and around the TSS and detect any vessels that fail or may be about to fail to comply with the traffic regulations. It is then possible to broadcast warnings to the vessel “at fault” and to all vessels operating in the area. Modern VTS vary from simple radar/VHF-based systems to complex installations involving multiple radars, VHF stations and channels, and computerised data processing.

The functions of the VTS can vary from the provision of relatively simple information to relatively complex traffic regulation.

46. VTS are frequently associated with port areas and some, but by no means all, IMO TSS. The establishment of ships' routing measures implies that vessels in the area will be navigated in accordance with the requirements and constraints that the measure imposes. Experience shows that this is not always the case and that some ships will be navigated in contravention to the measure, leading to possibly dangerous situations for these vessels and for other users. This means that a routing measure should be monitored to achieve maximum effectiveness, and that vessels which do not follow the requirements of the measure, and which may be standing into danger, should be warned and/or penalised as appropriate. The future fitting of transponders to ships carrying hazardous cargoes will allow for their automatic identification (Automatic Identification System, AIS). It will then be possible to display on a radar screen data on the ship's identity, type, size, course, speed, cargo carried etc.

VTS in the Northern Red Sea

47. Some of the larger Port Authorities in the Region already operate "Vessel Traffic Services." Outside the Suez Canal and port areas in the Red Sea, TSS exist along the whole length of the Gulf of Suez and the Strait of Tiran. In addition, certain vessels are not allowed to enter the environmentally sensitive area south of Ras Muhammed on the Sinai Peninsula. The need to introduce VTS to allow both surveillance of and guidance for these areas has been recognised for some years and steps are now being taken to provide these. The Gulf of Suez VTS will be a multi-station installation covering the whole of this Gulf to the southern limit of the TSS. It is expected to be in operation by the end of 1999. The VTS for the Strait of Tiran and its approaches is also expected to come into operation in 1999. These VTS will monitor important areas in the northern end of the Red Sea.

VTS in the Southern Red Sea

48. Traffic using the TSS in the southern end of the Red Sea through the Strait of Bab al Mandab has not been and is not currently monitored. The radar and/or VHF communications equipment could be set up on Mayyun (Perim) Island or on the higher land (possibly on Jebel al Menhali, 270 metres high) on the coast of Yemen, 5 nautical miles east-northeast of the island or on the Djibouti side of the Strait. If it is decided that the VTS should be located on the Yemeni side of the Strait, it may be necessary to link the VTS to the Port of Aden. Under the component, a feasibility study will be prepared for establishment of a VTS at the southern end of the Red Sea that will initially monitor traffic in the area around this TSS. The Terms of Reference have been prepared, based on consultation with IMO, IALA and local authorities. Under the Terms of Reference, the Consultant will evaluate alternative sites for the VTS, provide detailed cost estimates for investment and operation of the facility, review training requirements for operators and users, and assess potential user-based funding mechanisms. On the basis of this feasibility study it is planned that the component will support development of the initial phase of the VTS for the southern Red Sea.

Regional Workshop and VTS Training

49. The Consultant will also plan and conduct a Regional Workshop on VTS. The objectives of the workshop are to increase appreciation within the Region for the importance of VTS in monitoring TSS and other routing measures, as well as their role in improving safety in port areas. This will provide a framework for later Project-supported training activities for VTS. The workshop will be attended by members of the Navigation WG and by other key personnel involved in these issues. It will be followed by a series of VTS training courses held at various locations in the Region for operators of regional and local systems.

Oil Spill Prevention and Management

50. The component, using GEF and PERSGA funding, will support three complementary activities for oil spill prevention and management at the national level, including:

- *Regional Oil Spill Contingency Strategy.* Terms of Reference for the conduct of a feasibility study on a Regional Oil Spill Contingency Strategy will be prepared, within which sub-regional, national and local Oil Spill Contingency Plans will be located. Following evaluation and approval, the strategy will be implemented by the countries of the Region.
- *Djibouti MEMAC.* Under earlier international support to the Region, the Djibouti Marine Emergency Mutual Aid Centre (MEMAC) was established to provide support for control of oil spills. Under this assistance a stockpile of equipment and materials for combating oil spills has been established at Djibouti, and personnel have been trained. The current agreement for operation of the centre provides for its response to demands for assistance in case of oil pollution incidents in Djibouti, Somalia and the Gulf of Aden coast of Yemen. Under the component, technical assistance will be provided to prepare and negotiate a Revised Agreement to allow this facility to become part of a PERSGA-supervised network of response centres and to update its current Sub-Regional Oil Spill Contingency Plan.
- *Oil Spill Combating Training.* Under the PERSGA-funded work programme, courses for oil spill preparedness and combating procedures will be held, making use of centres within the Region where possible and of opportunities for training at specialised centres outside the Region as necessary in order to achieve training objectives.

COMPONENT 3.

SUSTAINABLE USE AND MANAGEMENT OF LIVING MARINE RESOURCES

51. The last review of fisheries in the Red Sea and Gulf of Aden Region was prepared by FAO in 1989; it provided information on fisheries resources through 1987. Published information after this date is very scarce. In April 1997 a regional fisheries workshop was held at PERSGA, in the framework of the PDF phase of the SAP. Participants had prepared updated reports on the state of Living Marine Resources (LMR) in their countries. Based on these reports, national and regional data were

collated in a standardised format and analysed in a regional context. Migratory species with stocks shared by several countries received special attention, though very limited information was available. Threats to fisheries and potential environmental damage caused by fishing activities were identified. As a result a proposal for regional fisheries management, outlining actions needed to reduce threats and to develop sustainable use of the LMR, has been prepared. The scope of this component, which focuses on ecosystem health and biodiversity conservation, is different from previous fisheries studies in the area and the background data required are more diverse, including environmental and socio-economic information. Major issues to be addressed include:

- Lack of information on transboundary stocks.
- Inadequate data on benthic and demersal stocks.
- Unregulated exploitation of high profile species, especially sharks and lobsters.
- Lack of co-operation in management of shared stocks.
- Lack of training in collection of fisheries data.
- Lack of public awareness in sustainable use of LMR.
- Lack of surveillance and enforcement of existing fisheries regulations.
- Shrimp and fish farming resulting in environmental degradation.
- Lack of monitoring.

Component Implementation Arrangements

52. Within this component a WG will be established for sustainable use and management of LMR. It will be co-ordinated by a regional lead specialist based at the PERSGA Secretariat. The lead specialist will be funded by the Project for a period of four years and by PERSGA as of the fifth year. He/she will arrange and co-ordinate all WG meetings and seminars. PERSGA will act as the channel through which contacts with FAO, IFAD and other international organisations are made. The expert in LMR will assure close co-ordination with other WGs, particularly the ones on Habitat and Biodiversity Conservation, and ICZM.

Capacity Building for Sustainable Management of Living Marine Resources

53. The WGs will meet twice annually to plan joint activities, evaluate progress, and exchange data and lessons learned. Each country will delegate one specialist to the WG meetings. Additionally regional and international experts may be invited as necessary, depending on the subject to be discussed. WG members are the link between the regional Project and the national Government agencies concerned with the management of LMRs. Specific issues will be dealt with by special expert committees to be formed ad hoc as required during the implementation process.

54. *Training:* Existing fisheries research and training institutions will be upgraded in order to improve their ability to develop and conduct training courses for fisheries managers and applied researchers directly involved in fisheries assessment, monitoring

and management. Two sub-regional research and training centres will be established, to conduct regional, sub-regional and national training courses. The one for the Gulf of Aden will be at Aden while the one for the Red Sea remains to be selected. Fishermen throughout the Region will be trained in the collection of accurate fisheries data at landing sites in order to enable them to contribute to statistics and stock assessment.

Development of a Sustainable Management Strategy for Transboundary Fish Stocks and Invertebrates

55. *Standardised Methods.* At present fisheries data are not comparable because of a lack of standardisation. In order to make data comparable throughout the Region, a workshop will be held to develop standardised methods for data collection, statistical analyses and presentation. A manual in Arabic, English and French will be produced and placed at the disposal of fisheries workers throughout the Region.

56. *Identification Guide.* Another obstacle to meaningful fisheries statistics is the lack of a reliable identification guide. In conjunction with the Biotaxonomic Programme of FAO, a “Species Identification Guide to the Living Marine Resources of the Red Sea and Gulf of Aden” will be produced by a group of regional and international taxonomists. It will be published in Arabic and English with a plastic paper edition for use in the field. It will complement the manual on standardised data collection methods and become an important tool for fisheries statistics, fisheries management and ecological monitoring. While the taxonomy of most resource groups is reasonably well documented in the Red Sea, field surveys have to be conducted in the Gulf of Aden. This activity will be supported by non-GEF resources as an element of the SAP implementation process.

57. *Assessment of Transboundary Stocks.* Conservation and management of transboundary pelagic finfish and sharks is hampered by a complete lack of knowledge about their stocks in the Region. Stock assessments—covering migration routes, major spawning and nursery areas, fishing pressures and economics—will require experimental trawls for two 180 day periods in order to cover one full annual cycle. This activity will be supported by non-GEF resources as an element of the SAP implementation process.

58. *Shark Stocks.* Elasmobranch resources, highly threatened throughout the Region, need special attention. A regional study will analyse the impacts of present shark fisheries on shark populations and the local socio-economic parameters of fishing communities involved in shark fisheries. Data will be collected at landing sites throughout the Region and from experimental trawls.

59. *Invertebrate Stocks.* Lobsters and shrimp face high fishing pressure wherever they occur. Other invertebrate resources such as cuttlefish and kokian are locally threatened. Their stocks will be assessed, exploitation pressures and economics reviewed and management plans developed. This activity will be partially supported by non-GEF resources as an element of the SAP implementation process.

60. *Ornamental Fish.* The collection of ornamental fish for the international aquarium trade is rapidly expanding throughout the Region and is in urgent need of

regulation. Present practices in ornamental fish collecting will be surveyed, and stocks assessed in those areas where fish are collected. Quotas will be set by species and site, considering ecological conditions and the reproductive biology of individual species. A surveillance and monitoring programme will be set up. Standards for transporting and keeping fish collected in the Region will be set and monitored. The development of captive breeding programmes in the Region in conjunction with collecting activities will be encouraged. A proposed self-financing mechanism for the surveillance and monitoring programme will be developed, based on the principle that the industry should contribute to the costs of this type of activity.

61. *Management Strategy.* Based on the information obtained from the activities described above, an overall sustainable management strategy for transboundary fish stocks and invertebrates will be developed. This management strategy will include mechanisms to monitor and regulate fishing activities and trading; introduction of quotas and closed seasons; regulations on fishing gear and methods; and community-based management which builds, wherever possible, on the revival and strengthening of traditional fisheries conservation practices. The implementation of the management strategy will be initiated at national and local levels through the network of fisheries workers trained under this programme.

62. *Public Awareness.* Public awareness programmes for various target groups within the coastal area, especially the fishing communities and other users of marine resources, will be developed in support of the management strategy.

Establishing the Legal and Policy Framework for Conservation and Sustainable Management of Living Marine Resources

63. *Regional Agreements and Protocols.* Current national legislation and regional agreements on exploitation of LMR will be reviewed. A workshop will be held to draft regional agreements and protocols for the sustainable use of transboundary stocks and protection of threatened and endangered species, which will be reviewed by the member countries and then submitted to the PERSGA Council for approval.

64. *National Legislation.* The national regulations on species, size, fishing gear and seasons of exploitation will be reviewed, consolidated and controlled through licensing and marketing systems, in line with regional agreements and protocols. Regulations on the collection of ornamental fish for the aquarium trade will be included.

65. *Surveillance, Monitoring and Enforcement.* Regional and national fisheries surveillance, control and monitoring systems will be reviewed and upgraded. Possible self-financing mechanisms to support implementation will be assessed. Consultations will be held with Governments and concessionaires to find means of enhancing enforcement of fisheries laws and regulations. Financial mechanisms, such as licensing and fines, to cover the capital and recurrent costs of enforcement programmes will be identified.

66. *Integration of Fisheries into CZM.* The development and management of the fisheries sector within the context of ICZM planning will be promoted with regard to

protection and management of the resources and the environment, taking into account the interactions between fisheries and other sectors. This applies to both capture fisheries and aquaculture. These activities will be conducted in close co-ordination with the ICZM component.

COMPONENT 4. HABITAT AND BIODIVERSITY CONSERVATION

67. The Red Sea and Gulf of Aden contain some of the world's most important coastal and marine habitats and species communities. There is a wide variety of coral reef types in the Red Sea with a structural complexity unmatched on earth and their diversity is greater than anywhere else in the Indian Ocean. The number of species confined to the Region and found nowhere else is extremely high. The Region in general and the Gulf of Aden in particular are among the biologically least known parts of the Indo-Pacific, a major obstacle to meaningful management. Key habitats that need attention are coral reefs, seagrass beds and mangroves; taxa of concern are reef fish, sea turtles, sea birds and marine mammals. Important issues of habitat and biodiversity conservation include the following:

- Habitat destruction through unplanned coastal development.
- Habitat destruction through extensive dredging and filling.
- Deterioration and destruction of coral reefs.
- Deterioration and destruction of mangroves.
- Deterioration and destruction of seagrass beds.
- Threats to marine turtles, seabirds and marine mammals.
- Loss of biological diversity.
- Lack of public awareness.
- Lack of monitoring.

Component Implementation Arrangements

68. Within this component a Working Group (WG) will be established to address the conservation of habitats and biota. This WG will be co-ordinated by a regional lead specialist based at the PERSGA Secretariat. The lead specialist will be funded by the Project for a period of four years and by PERSGA as of the fifth year. He/she will arrange and co-ordinate all WG meetings and seminars. The lead specialist in Habitat and Biodiversity Conservation will assure close co-ordination with other WGs, particularly the ones on Sustainable Use and Conservation of LMR, and ICZM.

Capacity Building for Habitat and Biodiversity Conservation

69. The WGs will meet twice annually to plan joint activities, evaluate progress, and exchange data and lessons learned. Each country will delegate one specialist to the WG meetings. Additionally regional and international experts may be invited as necessary,

depending on the subject to be discussed. WG members are the link between the regional Project and the national Government agencies concerned with habitat and biodiversity conservation. Specific issues will be dealt with by special expert committees to be formed ad hoc as required during the implementation process.

70. *Training.* Training courses will be held on survey and monitoring methodologies of key resources such as coral reefs, seagrass beds and mangrove areas, and key taxa such as reef fishes, marine turtles, seabirds and marine mammals. The aim is to achieve conservation and, where appropriate, sustainable use of these resources.

71. *Regional Reference Collection.* A reference collection of coastal and marine plant and animal species of the Region will be established, to allow verification of data collected and assure the greatest possible accuracy in all survey, assessment and monitoring activities. A suitable site for a regional collection will be identified. It should allow for the highest professional standards in collection maintenance and management. Scientists, collection managers and technicians will be trained internationally, because such training is not available in the Region. This activity will be supported by non-GEF resources.

72. *Public Awareness.* Public awareness programmes for various target groups, especially within the coastal communities, will be developed in support of the Management Strategy.

Development of a Regional Conservation Plan for Turtles, Seabirds and Marine Mammals

73. *Surveys and Training.* Seasonal surveys of marine turtles, sea birds and marine mammals, including migration routes, nesting and feeding areas will be conducted throughout the Region. Their present exploitation by local communities will be reviewed. Formal and on-the-job training of biologists from the Region will accompany these activities. Members of coastal communities will be educated and trained in the protection and monitoring of turtles, nesting seabirds and marine mammals, and actively involved in the surveillance and monitoring schemes.

74. *Conservation Plan and Public Participation.* Based on the above findings, a regional conservation plan for turtles, sea birds and marine mammals will be developed. Wherever possible, it should build on traditional beliefs and conservation practices. The implementation of this conservation plan at the regional, national and local levels will be initiated through extensive public awareness programmes, with participation of the coastal communities involved in the earlier training described above.

75. *Pilot Relief Projects.* In Somalia and Sudan small-scale pilot relief projects for the poorest fishing communities will be developed to reduce pressure on turtles and certain other easily accessible nearshore resources. These programmes will include the provision of boats and basic fishing gear. Possibilities for improving access to national and regional markets will be assessed.

Development of a Regional Conservation Plan for Key Habitats: Mangroves, Seagrass Beds and Coral Reefs

76. *Habitat Conservation Workshop.* A regional workshop on habitat conservation with emphasis on mangroves, seagrass beds and coral reefs will be organised in order to draft a detailed work plan for the conservation of key habitats. Habitat conservation will be integrated into coastal zone management. This activity will be co-ordinated with the components on MPAs and ICZM.

77. *Mangrove Conservation.* Surveys on the status of the Region's mangrove areas will be conducted to develop a regional framework for site-specific action, including sustainable use of mangrove resources; alternative animal fodder, fuel and building materials; and management of freshwater resources. The mangrove-associated fauna will be surveyed with special emphasis on sensitive stages of harvestable resources (fishes, shrimps). Based on the survey results, protection programmes, and where necessary, rehabilitation programmes will be developed. Local mangrove nurseries and re-plantation schemes will be established, with special attention to the genetic source of seedlings.

78. *Seagrass Conservation.* Seagrass beds will be mapped and surveyed throughout the Region and their status assessed, particularly in trawlable areas. Seasonal surveys of diversity and biomass of seagrass-associated fauna, with special emphasis on harvestable fish and shellfish species, will be conducted as a basis for the development of a comprehensive management and conservation scheme.

79. *Coral Conservation.* The corals reefs of the Region are threatened by numerous human activities, such as coastal development, tourism and fisheries. Furthermore, natural stress is of major concern: In 1998 reefs in most parts of the Region suffered the most extensive coral bleaching ever recorded, resulting in high coral mortality. The socio-economic consequences are very severe. Coral reefs of the Arabian Region are still the least known within the entire Indo-Pacific Realm, which hampers the Region's participation in recent international coral reef initiatives. Meaningful management is only possible if all major components of a specific reef ecosystem are known and its dynamic processes are fully understood. Applied research will be conducted including the determination of the extent and severity of the bleaching, its ecological and socio-economic consequences, and paths of recovery. Jointly with ROPME, a Regional Action Plan for the Management and Conservation of Coral Reefs will be developed. Additionally, seasonal surveys of selected coral reef areas will be conducted using methods standardised throughout the Region to determine the root causes and degree of widespread deterioration of reef habitats. Based on the results, protection programmes and, where necessary, rehabilitation schemes will be developed. A programme for a sustainable, non-consumptive use of coral reefs by tourists will be developed, including a long-term monitoring scheme.

80. *Control of Destructive Activities.* The legislation and practice of construction work, dredging and landfill throughout the Region will be reviewed. Based on the results, a mechanism for the control and monitoring of these activities, with regard to the conservation of mangroves, seagrass beds and coral reefs, will be developed.

Establishing the Legal and Policy Framework for Conservation of Habitats and Biodiversity

81. *Regional Agreements and Protocols.* The present national legislation and regional agreements on the conservation of habitats and biodiversity will be reviewed. Jointly with ROPME, and supported by the EU and Gulf Co-operation Council, a regional protocol on biological diversity and special protected areas will be developed. Other regional agreements will follow.

COMPONENT 5.

DEVELOPMENT OF A REGIONAL NETWORK OF MARINE PROTECTED AREAS

82. The establishment of a *system* of MPAs aims at conserving all ecosystems of the Red Sea and the Gulf of Aden as a whole. The proposed network therefore contains examples of all major biogeographical sub-units of the Region and major habitat types within each sub-unit. It includes prime examples of the full range of coastal and marine habitat types and species communities.

83. All countries in the Region have designated MPAs, but they are few in number and only one or two are adequately managed. Many of the current and/or proposed protected areas are under high pressure from fishing and tourism; others are at risk from navigation and development activities in adjacent areas. To avoid designating more MPAs than can be managed, the proposed programme emphasises institutional and capacity building, including resource mobilisation. The programme is designed in a way that the experience gained during this regional exercise will allow each country to introduce conservation management to the full set of MPAs in its territory.

84. During the SAP process, thirteen declared and proposed/suggested MPAs, representing different ecosystem types and biodiversity richness and uniqueness, were identified as regionally or globally important (see Table 1). Of these, eight are covered by existing projects with various funding sources, so the proposed programme will fund only the remaining five sites and selected regional activities. The component will focus on these priority sites while at the same time retaining a regional approach in planning, management and provision of training.

Objectives

- Establishment of a regional network of experts specialised in MPA planning and management.
- Increased human capacity in MPA management through regional training and exchange programmes.
- Completion of site-specific management plans, supported by detailed habitat, biodiversity and resource use surveys, and public consultation.
- Commitment from the respective Governments.
- Effective implementation of a network of representative MPAs.

- Establishment of a process of regular regional review meetings with exchange of data, information and management expertise.

Component Implementation Arrangement

85. The MPA programme will be integrated with other components of the Project through regular consultation of its WG with others. Because of close linkages, this component has a number of activities that will need to be carried out in association with other Project components, such as the following:

- Information generated from other components such as surveys on LMR, GIS, and stock assessment should be incorporated into MPA management planning.
- The organisation of regional workshops on habitat conservation will improve the integration of this component into the management of MPAs.
- Educational programmes established to train members of the coastal community in the protection and monitoring of turtles, nesting seabirds and marine mammals should be undertaken jointly with representatives from MPAs.
- Regional workshops on conservation plans for key habitats, mangroves, seagrass beds and coral reefs should be conducted in association with the MPA WG.
- Research initiatives that study the benefits of MPAs for sustainable use of LMR should be undertaken.
- The location and significance of MPAs needs to be integrated into coastal zone management plans and any peripheral development and management constraints need to be incorporated.
- Representatives from the MPA WG should submit articles and information to the Regional WG on Public Awareness and Participation for inclusion into their newsletters, educational materials and web pages.

86. At the country level, the NPC and the PERSGA National Focal Points will play an important role in co-ordinating national and regional activities of the programme. A system of integration and co-operation will be established between the SAP Project and other individual projects taking place in the member countries under separate funding mechanisms.

Regional Networking

87. A WG of MPA planners and managers, chaired by a Regional Specialist based at the PERSGA Secretariat, will be established. The WG will be responsible for implementation of this component in a participatory manner. This will be achieved through joint planning activities, evaluating progress, and exchange of data and lessons learned. WG members are the link between the regional Project and the national Government agencies in charge of MPAs. They are the key counterparts for all country-based activities within the Project.

Regional Training and Exchange Programme

88. The component emphasises capacity building and human resources development in the Region. A training and exchange programme will be designed, following assessment, to upgrade existing capacities in various aspects of management of MPAs, with full involvement of the WG. In general, training will concern the following:

- Sanctuary management, survey and monitoring, and marine ranger duties. These courses will be held at various sites throughout the Region, building on the experience of existing MPAs.
- Exchange programmes and study tours for current and proposed MPA managers, scientists and rangers in different countries of the Region to enhance the transfer of experience within and outside the Region.
- Formal overseas professional training of selected candidates followed by on-the-job training in home countries. PERSGA will seek additional non-GEF resources to meet the costs associated with this activity.

Master Plan for MPAs

89. Most of the countries involved in the SAP lack experience in developing and implementing master and management plans for MPAs. Therefore, a regionally standardised, site-specific Master Plan will be developed for each MPA, as a long-term policy document. It will include site-specific management plans that define the every day work in the MPA. They are short- or medium-term and will be revised on a regular basis according to the results of the monitoring programme. The guidelines for the establishment and management of MPAs will be adapted to regional conditions, including consideration of the specific abiotic, biotic and socio-economic conditions. This will require standardisation of all procedures and activities leading to the drafting of the management plans, such as habitat, biodiversity and resource use, public consultation, recurrent costs, etc.

90. The standard format will be used as a template for developing site-specific management plans for MPAs. The activity will be conducted in conjunction with intensive training programmes in MPA issues for concerned parties within the participating countries, adjusted as necessary to local needs.

Exchange of Information between Decision Makers and Building Commitment

91. Under the authority of PERSGA, a series of regular review meetings will be held to exchange data, information and management experience among members of different Project component groups. A regional twinning arrangement by which two countries with similar projects agree to co-operate directly on a bilateral basis to exchange information, expertise and equipment to meet common goals will be promoted and established. To allow easy access to information and efficient information exchange, copies of management plans for all regional MPAs will be deposited at PERSGA.

Table 1. Sites suggested to form a regionally representative network of Marine Protected Areas

Country	Protected area	Year of declaration	Management/ Projects	Priority
Djibouti	Iles des Sept Frères and Ras Siyan	Suggested	None	Regional
Egypt	Ras Mohammed National Park	1992	High, supported by EU project	Regional
Egypt	Giftun Islands and Straits of Gubal	Proposed	GEF-Egypt and EU projects	National/ Regional
Eritrea	Dahlak Islands	Proposed	GEF-Eritrea project	Global
Jordan	Aqaba coral reefs	Proposed	GEF-Jordan project	Regional/ Global
Saudi Arabia/ Egypt	Strait of Tiran	Proposed	None	Regional
Saudi Arabia	Wajj Bank, Sharm Habban and Sharm Munaybirah	Proposed	None	Global
Saudi Arabia	Farasan Islands	1996	Terrestrial: high Marine: low	Global
Somalia	Aibat and Saad ad-Din Islands, Saba Wanak	Suggested	None	Global
Sudan	Sanganeb Marine National Park	1990	Low	Global
Sudan	Mukkawar Island and Dunganab Bay	Proposed	None	Regional
Yemen	Socotra Islands	1996	GEF-Socotra biodiversity project	Global
Yemen	Belhaf and Bir Ali area	Proposed	None	Regional

COMPONENT 6.

SUPPORT FOR INTEGRATED COASTAL ZONE MANAGEMENT

92. Integrated coastal zone management in most countries in the Region is adversely affected by weak co-ordination between ministries, overlapping jurisdictions, conflicting objectives, and weak execution of land use plans. Effective implementation of ICZM plans will reduce the incidence of inappropriate development decisions and provide an effective mechanism for sustainable long-term use of the coastal zone. Throughout the Region the adoption of this planning and management process to support development decisions could significantly decrease unnecessary degradation of the coastal and marine environments. The effective use of ICZM is especially important in supporting the co-operating countries to meet challenges related to long-term development of coastal settlements and development zones, further expansion of international and domestic tourism, and maintenance of the rich biodiversity and cultural heritage of the coastal zone.

93. Preparation of the SAP identified the need to strengthen integration of environmental and natural resource concerns in planning and management of the coastal zone. An important activity under the component will be creation of a PERSGA co-ordinated network of regional specialists to promote ICZM and exchange experiences between co-operating countries. This will be complemented at the regional level by

support for training activities focused on the use of ICZM and related tools such as environmental assessment and Geographic Information Systems (GIS) in planning and management of the coastal zone. Current use of ICZM is concentrated in the northern countries in the PERSGA Region and is mainly taking place at the national level. Under the component support will be provided for model ICZM activities in the four southern countries, to balance efforts and to demonstrate sub-national approaches to ICZM for selected priority areas. A mechanism for the promotion of ICZM in these areas will take the form of national and/or local level ICZM working groups that include a full range of stakeholders including relevant Government agencies, academic institutions, community leaders, private sector interests and nongovernmental organisations (NGOs).

Objectives

94. The component has as objectives to:

- Enhance regional exchange of expertise, experience and information on coastal zone management through establishment of a regional WG.
- Strengthen national and local government capacity to develop and implement ICZM plans at the national and local level through training and model projects.
- Promote the capacity of both national and local government departments to work co-operatively to implement land use planning and environmental planning policies and procedures.
- Provide training in the practical skills of policy planning, environmental assessment, monitoring and management in the context of the ICZM process.
- Reduce environmental degradation within the Region through use of management tools such as environmental assessment, environmental auditing and strategic environmental assessment.
- Improve the technical support base and provision of information required by decision makers through guidelines for standardisation and routine updating of GIS.
- Increase political and public support for ICZM through participatory approaches in development and implementation.

Component Implementation Arrangements

95. Implementation of this component will be co-ordinated by the ICZM Specialist based in PERSGA. The Specialist will supervise establishment and operation of an ICZM WG that includes specialists from the co-operating countries participating in this aspect of the SAP implementation process. The Specialist will work at the country level with the NPCs and PERSGA National Focal Points to develop and implement national level activities, including planning and management of model ICZM activities to be undertaken in the four southern countries. Given the significant relationships between ICZM activities and those supported under other Project components, the ICZM Specialist will work closely with the PERSGA Project team to exchange information, promote co-ordination and prevent duplication of effort. Special attention will be given to co-ordinating activities under this component with those concerning marine

navigation, habitat management and MPA development. The component will also be co-ordinated with current GEF-supported activities in Egypt, Jordan, Yemen; others planned under the Project for the four southern countries; and programmes supported by national Governments, international financial institutions and donor organisations in the co-operating countries.

Regional Networking

96. The WG will constitute a forum for joint planning of activities, evaluation of progress, exchange of data and lessons learned. It will be chaired by the ICZM Specialist who will arrange the meetings, prepare the agenda and facilitate follow-on activities. The WG will support regional training and exchange programmes and activities concerning GIS. The WG will also provide advice on the field level model ICZM activities to be undertaken in the four southern countries. In addition, the WG will act as a link between the regional Project and a range of national and local government bodies responsible for ICZM. To support this process, the following will be undertaken:

- Personnel will be identified to form a Regional WG of experts on ICZM with specialists drawn from each co-operating country.
- A series of meetings will be convened at the regional or sub-regional level to review the status of ICZM and supporting instruments such as physical and environmental planning, environmental assessment procedures and GIS.
- Site visits will be undertaken in the Region for field level review of case studies in coastal zone management and the application of ICZM and supporting instruments in specific locations.
- Regional, sub-regional and national workshops will be held to enhance capability in this area.
- Based on the results of these activities, a common framework for regional ICZM plans will be established.
- Outreach activities will be identified to increase support by decision makers and stakeholders in use of ICZM as a mechanism for sustainable management of the coastal zone.

Regional Training and Exchange Programme

97. The component will support regional activities for capacity building and human resources development. Training programmes will be conducted in conjunction with meetings of the WG to the fullest extent possible. An exchange programme will be facilitated by the WG and activities will be developed on an individual basis for a limited number of well qualified candidates. The proposed training programmes will be co-ordinated with complementary activities included under other Project components. The exchange programmes, study tours and formal training outside the Region are a non-GEF funded activity under the Project for which PERSGA will seek to mobilise funding from public and private sources.

98. In general, training and exchange activities will concern the following:

- Role of coastal and marine ecosystems in economic and social development.
- Role of coastal and MPAs in ICZM.
- Environment and development trends in the Region.
- Planning and implementation of ICZM.
- Use of physical and environmental planning in the ICZM process.
- Use of environmental assessment and environmental audits in the ICZM process.
- Use of strategic environmental assessment in the ICZM process.
- Use of resource valuation and environmental economics in ICZM.
- Mechanisms for inter-governmental and cross-sectoral co-ordination.
- Public participation in the planning process in coastal areas.
- Public information programmes to support the ICZM process.
- Methods of conflict resolution.
- Monitoring and evaluation of ICZM programmes and activities.

Geographic Information Systems

99. ICZM and related environmental planning and management efforts in the Region require measures to strengthen operational use of GIS and related information data systems. The component will include support for measures to:

- Improve understanding of the application of GIS to the development and implementation of ICZM.
- Support development by the WG of PERSGA guidelines for standardisation and routine updating of GIS.
- Undertake a regional review of the present GIS and related databases in the Region that contain data relevant to ICZM.
- Provide technical advice and support to harmonise the different systems to facilitate and expand information exchange within the Region.
- Undertake well designed GIS applications as an element of model ICZM activities supported under the component.

Model ICZM Plans

100. The component will support the preparation and assist in implementation of model ICZM plans for selected sites in the four southern countries—Djibouti, Sudan, the northern coast of Somalia and Yemen. The development of ICZM in these countries is less advanced than in the northern ones and measures need to be taken to improve their knowledge of the ICZM planning and management process in order to achieve regional goals for conservation of the coastal and marine environment. ICZM activities supported by the Project will focus on a series of representative areas that are under pressure due to

current and/or planned development, locations potentially subject to major land use changes associated with port or aquaculture development, important areas of critical habitat, or areas adjacent to declared or proposed MPAs. All model ICZM plans will be prepared through use of broad-based participation with a range of stakeholders. Work to be undertaken in these countries will be closely co-ordinated with the activities supported under other components, especially those concerning marine navigation, conservation of habitats and biota, and MPAs. In order to support this activity, a Terms of Reference for a representative ICZM study has been prepared that can be used by PERSGA and the co-operating countries as the basis for development of TORs for the site-specific model ICZM plans. Details of key activities are provided in the Country Implementation Plans.

COMPONENT 7. PUBLIC AWARENESS AND PARTICIPATION

101. Public awareness and participation activities will be designed and incorporated into the Project in a way that meets the requirements and recommendations of the thematic Project components. The linkage between this component and the rest will be through the WGs. A WG for this component also will be established. In each country, a national specialist will be assigned to join the Group. In general, the WG will be responsible for:

- Development and implementation of a work programme for the component.
- Assessment of training needs, and implementation of regional training programme.
- Support for national activities to enhance public awareness.
- Development of SAP micro-grants programme (MGP) and acting as selection committee for screening and awarding funds for successful proposals submitted by environmental NGOs and local groups.

102. Inputs for public awareness materials will be provided primarily by the WGs of the other components and will be co-ordinated by the Public Awareness and Participation WG.

Role of NGOs and Local Groups

103. The component will ensure wide participation by NGOs (regional or national) and local groups. Some of the activities such as dissemination of public awareness materials, education and briefing of public gatherings will be assigned to environmental NGOs and local groups.

Micro-Grants Programme

104. The development of the MGP will require the following steps:

- Seeking the guidance of the global GEF Small Grants Programme (GEF/SGP) by establishing contacts with the SGP Co-ordinator in UNDP New York.

- Developing a detailed MGP with types of activities that can be supported; and establishing criteria for approval, financial management, reporting requirements, proposal format, submission, and the process leading to the awarding of funds.
- Disseminating MGP information to environmental NGOs and local groups in the Region, and providing support and advice, when requested, on development of proposals for consideration.
- Monitoring the implementation of the MGP and providing feedback to the other components.
- Preparing and disseminating annual reports on the MGP.
- Preparing public awareness materials and tools (newsletters, brochures, poster, etc.).

105. The WG will be responsible for issuing materials on a regular basis, including the PERSGA newsletter (Al-Sambouk), updating interested parties on Project activities, and reporting news on developments in the environmental management field. The newsletters will also be used as a means of information and experience exchange with other projects in the Region as well as world-wide. Colour brochures, articles, and TV clips will also be produced. Raising public awareness through radio and TV in the Region is equally important to attract the attention of the general public, which may not be able to get written materials. A web site on the Internet for the SAP will be designed and regularly maintained and updated. This ensures world-wide dissemination of information about Project activities as well creating global awareness of environmental issues about the Red Sea and Gulf of Aden Region.

Global Exchange of Experience

106. Through this component the SAP will be linked to other similar regional GEF initiatives. It will facilitate exchange and sharing of information and experience. The Project will arrange a number of focused and well-organised exchange visits involving the Project WGs and other members of working teams.

107. To ensure that lessons learned are disseminated and shared world-wide, the Project will be linked to global programmes such as IW: Learn, Train-Sea-Coast programme, the UNDP SIOCAM initiative, the Water Forum of the Global Water Partnership, etc. The Project will make use of specialised training opportunities organised under those initiatives and ensure that the Region is continuously updated with new developments in the various fields of the SAP.

COMPONENT 8.

MONITORING AND EVALUATION OF PROGRAMME IMPACTS

108. The monitoring and evaluation component is a built-in programme that will essentially allow continuous and structured monitoring and evaluation of programme impacts. In this manner, the capacity of PERSGA in self-monitoring and evaluating activities will be enhanced substantially. Results from this component will serve as an early warning system regarding programme progress and will be of great importance in

recommending corrective measures/steps if problems arise. It will also enable the Project to fulfil the reporting requirements of the GEF implementing agencies.

Component Implementation Arrangements

109. The component will be implemented in an integrated manner with the participation of Project specialists and stakeholders. It will be mainstreamed in Project components with well-defined monitoring and evaluation criteria.

110. *Benchmarks Outputs and Indicators.* At the onset of the Project, a specialist working with the assistance of the CTA and the UNDP-PC will develop a matrix of Project targets to be achieved against a set of benchmarks and indicators to measure programme impacts. This will take into account the GEF implementing agencies' standard guidelines for monitoring and evaluation of GEF international waters projects. The matrix will specify type, quality, quantity and collection methods of data to be used. In addition, a standard format for analysis and reporting will be included in the matrix.

111. Pilot testing of the matrix will be carried out at the end of the first year of the Project. It will cover activities of a regional and national nature. All stakeholders including NGOs and local groups are to be involved in the exercise. Baseline technical data and outputs produced by the Project components should serve as the reference point for measuring impacts. Feedback from the pilot testing will improve and enrich the matrix and guide the process of monitoring and evaluation. Reports produced from this component will be used to provide information for the Annual Project Progress Report and GEF Project Implementation Review. They will also be widely disseminated to ensure transfer of lessons learned.

III. COUNTRY IMPLEMENTATION PLANS

COUNTRY IMPLEMENTATION PLAN: DJIBOUTI

Introduction

112. During the PDF phase of the SAP a country report on the marine environment in the Republic of Djibouti was prepared. It was endorsed at a national workshop held in December 1996. The final draft was submitted in July 1997. In June 1998, a short mission to Djibouti was undertaken in order to:

- Review the information contained in the country report with an emphasis on new developments since July 1997.
- Assess potential changes in the ranking of priority actions.
- Update the information on current and planned marine environmental activities which are relevant to the SAP.
- Discuss the implementation arrangement for country-based activities with representatives of Government agencies, NGOs and the UNDP Country Office.

Parallel Activities

113. Major initiatives and activities relating to the marine environment relevant to the SAP are briefly summarised here below:

- *Survey of Coastal and Marine Habitats and their Management (PERSGA)*. A PERSGA consultant visited Djibouti and conducted a survey covering over 180 locations. Information was gathered in the field using selected indicators. The consultant concluded that the reefs were in generally good condition and fish populations in excellent condition. Based on the survey, an environmental management plan was proposed and discussed at a workshop with in-country representatives. A preliminary proposal for an Environmental Management Plan was presented. The report is currently under review by PERSGA.
- *Biodiversity Strategy and Action Plan; and National Environmental Action Plan (GEF/UNDP)*. These GEF-supported activities, which began in 1996, largely consist of capacity building support for enhanced environmental management and environmental assessment. Djibouti's biological diversity is assessed mainly based on existing reports and publications. Existing laws and regulations are being reviewed. Based on the results of these activities, recommendations for the conservation of the country's biodiversity are prepared. An environmental planning framework is being put into place, which will help the relevant Government agencies to better carry out their mandate for planning and enforcement. The project is being implemented with technical assistance from IUCN. Results from this project will provide useful baseline information for the present Project initiative.

SAP Activities at the National Level

114. Although Djibouti is the smallest of the PERSGA member countries, it has a relatively long coastline of about 370 kilometres, with a great variety of coastal and marine habitats and a high biological diversity. Its position at the juncture of the Red Sea and the Gulf of Aden underlines its biogeographical importance. Except for some priority locations in the vicinity of the capital, most of the coastal and marine habitats and biota are still in a reasonably healthy and pristine state. Most LMR are still under-exploited. In order to preserve Djibouti's unique coastal and marine resources some basic infrastructure has to be provided. In the framework of the SAP the following activities will be carried out in Djibouti.

Objective 1. Institutional Strengthening and Enhanced Regional Co-operation

115. The TF chaired by the Secretary General of PERSGA will meet on a regular basis to review Project activities and guide the Project by taking strategic decisions. Two Djiboutian representatives will attend the TF meetings: a TF Member, who is delegated by the Government, and a NPC employed by the Project.

116. The Project (UNDP component) will fund the position of the NPC for a period of five years. The position of the NPC will be open, on a competitive basis, to all Djiboutian nationals who fulfil the requirements outlined in the TOR. It will be announced in the national press and in circular letters to relevant organisations, agencies and individuals. Candidates short-listed will be interviewed by a panel, including representatives from Government agencies, the UN and PERSGA. It should be emphasised that this is a full-time position. The NPC will report to the CTA and to the Directorate for the Environment (DE). The DE is the agency in charge of national co-ordination of environmental projects. The office of the NPC will most probably be located in the DE. Office equipment, a 4 WD vehicle, and the running costs of the office for the first three years will be funded by the Project. Thereafter, the Government is expected to cover the running costs.

117. Djiboutian nationals will participate in regional workshops and training activities. Additionally, national workshops will be held and training courses conducted in order to enhance national capacity to execute various Project components. The Project will also assist in the organisation of cross-sectoral co-ordination.

118. GIS is an important management tool which will be needed for implementation of several Project components. There is no GIS unit in any marine environmental project in Djibouti and this capacity has to be built from scratch. The national GIS will be linked to a regional one at PERSGA. A regional GIS and database workshop will be held to decide upon the software to be used.

Objective 2. Reduction of Navigation Risks and Maritime Pollution

119. The main Government counterpart agencies dealing with navigation risk assessment and maritime pollution issues are the Directorate of Maritime Affairs (DAM) and the International Autonomous Port of Djibouti (PAID). PSC needs major attention.

Old and substandard vessels frequently call at Djibouti Port and pose constant threats of pollution. The port area is heavily polluted by refinery products and oily wastes.

120. Djibouti hosts the MEMAC, which is in charge of spill response in the Gulf of Aden (Yemen, Djibouti and Somalia). The MEMAC had been handed over from IMO to Djibouti in 1994. In June 1998, the mission mentioned above inspected the facilities and found the equipment, the warehouse where the equipment is stored, and two tugboats well maintained and in good condition. Some supplies, such as dispersants, were beyond the expiration date. Major problems are lack of funding for training drills, lack of communication (telephone, radio) at the centre and the fact that any spill response requires the approval of all three member countries. It is anticipated that as part of the SAP process, the co-ordination and operation of the centre will become a responsibility of PERSGA.

121. At the national scale the SAP will conduct/support the following activities:

- National participation in regional workshops and training programmes on risk assessment, pollution control and oil spill response.
- Participation of a national specialist in the regional WG on Navigation Risk and Maritime Pollution.
- Assistance to the Port of Djibouti to improve PSC.
- Assistance in identifying potential donors and private sector interests that could support the further development of the MEMAC.

Objective 3. Sustainable Management of Living Marine Resources

122. The Directorate of Stock-farming and Fisheries (DEP) is the lead agency in implementation of this component. Only artisanal fisheries are allowed in Djibouti. Between 1993 and 1996 a project was carried out with support from GTZ to evaluate fisheries resources and exploitable yields in Djibouti. The stocks of most bony fish resources are reasonably well known, although certain pelagic stocks need re-evaluation and stocks of sharks and invertebrates have to be assessed. Recently new fisheries regulations were prepared in collaboration with FAO, but they are still awaiting approval by the Government. In a programme that has recently been approved by the African Development Bank (ADB) a strategy for fisheries in Djibouti will be developed. Basic infrastructure will be provided in the framework of this programme.

123. The SAP will address issues which are of regional importance, such as the assessment of key resources including transboundary pelagic stocks (with non-GEF funding). The following activities will take place at the national scale:

- A national representative will participate in the regional WG on LMR. National specialists will attend regional and international workshops and training activities.
- Fisheries research and training will be upgraded, in close co-operation with other ongoing projects in this field. Besides the participation in regional training activities, national training courses will be held.

- Stocks of shark and invertebrate resources will be assessed. The impact of fisheries on shark populations will receive special attention. These activities will result in improved statistics, which are an important prerequisite for fisheries and environmental management. Based on the results of these surveys, management will be introduced, including monitoring, surveillance and control programmes. Mechanisms of law enforcement will be identified. Fisheries will be integrated into ICZM.
- A brief study on the potential of ornamental fish collecting for the aquarium trade has been conducted. The SAP will assist in follow-up studies and the introduction of proper management.
- Education and training programmes on sustainable fisheries management will be conducted for members of coastal communities, addressing selected target groups.

Objective 4. Habitat and Biodiversity Conservation

124. Recent studies in Djibouti have shown that most subtidal habitats are still in a healthy condition, though some small areas suffered severe damage from uncontrolled tourism. Among intertidal habitats, some mangrove areas show serious signs of degradation. Further studies on seabirds, turtles and marine mammals are necessary, since very little is known about these key biota. In Djibouti there is a particular need to build the national capacity to manage and conserve habitats and biodiversity.

125. The SAP will address issues of regional importance, including mapping of habitats and compilation of inventories of biota, as a basis for the introduction of conservation management. The following activities will take place on a national scale:

- A national representative will participate in the regional WG on Habitat and Biodiversity Conservation. National specialists will attend regional and international workshops and training activities.
- Formal and on-the-job training for marine biologists will be provided. This includes formal education overseas, participation in regional training activities, and national training courses.
- Education and training programmes on conservation of coastal and marine resources for selected target groups in coastal communities will be conducted.
- Key habitats, such as coral reefs, seagrass beds, mangroves and their associated biota, will be surveyed, applying regionally standardised methods and techniques. Seasonal surveys of marine turtles, seabirds and marine mammals will be conducted. Based on the results, management plans will be drafted and implemented, and a long-term monitoring programme set up.
- The ecological and socio-economic effects of the recent coral bleaching event will be assessed and a rehabilitation plan developed.

Objective 5. Representative Network of Marine Protected Areas

126. Within Djibouti's territorial waters one area of regional importance has been identified to become part of a regional representative network of MPAs, the "Iles des Sept Frères and Ras Siyan." This is a unique headland with a large mangrove area and a group of uninhabited, coral reef fringed islands at the juncture of the Red Sea and the Gulf of Aden. At present ONTA and ISERST are jointly in charge of the management of protected areas. In order to introduce full-scale conservation management, the following activities will take place:

- A national representative will participate in the regional WGs on MPAs. National specialists will attend regional and international workshops, training activities, exchange programmes and study tours.
- High level meetings will be held and the legislation in place will be reviewed. Meetings will also be held with stakeholders in the area and an alternative livelihood programme will be developed for local fishermen.
- Habitat and resource surveys will be conducted, using regionally standardised survey methods. Basic equipment to conduct the surveys, such as a 4 WD vehicle, boat and diving equipment will be provided.
- Based on the results of the surveys, a site-specific master plan, which is a long-term policy document and includes the management plan, will be developed for the MPA. Issues that will receive special attention include regulation of fisheries and utilisation of the mangroves, protection of the islands from visitors during the bird breeding season, installation of mooring buoys at major dive sites, and a study on the potential effect of increased siltation from passing vessels.
- An eco-tourism plan will be established and a feasibility study for sustainable financing conducted.
- National and local consultations will be held to launch the site-specific master and management plans. The implementation of these plans includes provision of basic facilities and equipment to operate the MPA, the presence of regionally trained marine rangers, and introduction of site-specific public awareness programmes.
- A long-term monitoring programme will be developed and implemented.

Objective 6. Support to ICZM

127. The component will support development of ICZM in Djibouti and will focus on institutional capacities and applied training of personnel in the principles and application of ICZM. This will be accomplished through Djiboutian participation in the work programme of the ICZM WG at the regional level, conduct of country-specific training activities, preparation of a model ICZM activity and use of GIS to support coastal zone management. These activities will be closely co-ordinated with the NPC and national PERGSA TF member. Most elements of this component will be executed nationally and measures will be taken to have national level training courses and materials prepared in French. Activities in Djibouti under the ICZM component will include:

- A national representative will participate in the regional WG on ICZM. National specialists will attend regional and international workshops, training activities, exchange programmes and study tours.
- Country-specific ICZM training activities will be conducted to address the specific issues in Djibouti, especially tourism development.
- A basic framework for ICZM at the national level will be developed to provide general guidelines for use of this approach in Djibouti.
- A model ICZM plan will be prepared for a site jointly selected by Djiboutian and PERSGA representatives; candidates for this site include the Djibouti City region and Iles des Sept Frères and Ras Siyan.
- The model ICZM activity will be supported using a participatory approach with broad-based stakeholder involvement.
- Support will be provided to facilitate Djiboutian participation in a PERSGA regional GIS network designed to support the SAP process.
- Support for training of personnel in GIS applications will focus on the model ICZM plan and sensitivity mapping of the coastline using regionally standardised methods.

128. The activities under this component will be co-ordinated with the MPA component activities at Iles des Sept Frères and Ras Siyan.

Objective 7. Public Awareness and Participation

129. Training and support will be provided to Government institutions and NGOs dealing with public awareness. At present, the key institutions providing environmental education and conducting environmental awareness programmes at the national scale are ISERST and CRIPEN. The following activities will take place under this component:

- A national representative will participate in the regional WG on Public Awareness and Participation. National specialists will attend regional and international workshops, exchange programmes, study tours and training activities including overseas training.
- Public awareness materials will be acquired or developed and disseminated. These materials will be in French and reflect the specific educational, social and environmental situation in Djibouti.
- Djiboutian NGOs will be encouraged to seek funds from the SAP MGP to implement small-scale pilot conservation projects involving stakeholders and local communities.
- High level meetings, assessment of training needs for public awareness and review of school curricula will be part of the national and local environmental awareness programme.

Objective 8. Monitoring and Evaluation

130. Benchmarks and indicators for monitoring and evaluation of the impacts of SAP activities will be developed through a participatory process involving all countries. Indicators specific to Djibouti will be assessed through a consultation process with the participation of all concerned groups. Once the matrix of indicators and targets is set, the SAP will facilitate its implementation, making use of data generated from the components listed here above, and other ongoing and planned activities funded from outside the SAP. Djiboutian specialists will participate in relevant workshops and information exchange programmes. National environmental monitoring programmes will be developed.

COUNTRY IMPLEMENTATION PLAN: NORTHERN COAST OF SOMALIA

Introduction

131. During the PDF phase of the SAP a country report on the marine environment of the Gulf of Aden coast of Somalia was prepared. The final draft was submitted in May 1997. A mission to Somalia will need extensive preparation. In May 1998 the UNDP Somalia Country Office, UNEP, FAO Kenya and UNCTAD Somalia, all based in Nairobi, Kenya, were visited in order to prepare a mission to Somalia and to:

- Review the information contained in the country report with an emphasis on new developments since May 1997.
- Assess potential changes in the ranking of priority actions.
- Update the information on current and planned marine environmental activities which are relevant to the SAP.
- Discuss the implementation arrangement for country-based activities with representatives of international agencies operating in Somalia.

Parallel Activities

132. The most important recent initiative relating to the marine environment of Somalia is the UN project "Protection and Sustainable Development of Somalia's Environment, Seaports and Coastal Areas." In February-March 1998 an interagency mission visited Somalia in order to re-assess the situation with regard to environmental protection, biodiversity conservation and sustainable use of LMR. The lead agency was UNDP while IMO was the implementing organisation. Major conclusions of this mission were that in general Somalia's coasts are under no serious threats from pollution. Allegations of dumping of toxic wastes in Somali waters by foreign vessels were not confirmed. Virtually all navigational aids are out of order. The main issues that need to be addressed in the fisheries sector are the state of the resources and the possibility of involving Somalis in fishing, processing of fisheries products and trading. The most outstanding threats to the area's coastal and marine resources are the international ship traffic in the Gulf of Aden and uncontrolled fisheries.

133. As a result of the interagency mission, IUCN conducted studies on fisheries in northwest Somalia, the biological diversity of the Saad ad-Din island group, and the coastal and marine resources of a stretch of coastline of 130 kilometres between Berbera and Karin. IUCN opened an office in Hargeisa. The SAP will co-ordinate further biodiversity and fisheries assessments with IUCN.

SAP Activities in Somalia

134. In a situation where there is no functional central authority, Project implementation arrangements will differ from those in other PERSGA member states. Similarly to the UNDP Country Programme in Somalia, the SAP will be implemented in co-operation with local authorities. There is presently no project support in the marine environmental field in the area and very basic infrastructure has to be provided in order

to implement the SAP. Many of the SAP activities, such as support to ICZM, will be difficult in the present situation. In those cases the Project will aim at: (i) assuring that Somalia is not losing pace with the rest of the Region; and (ii) having infrastructure and mechanisms in place when the situation is back to normal. In the framework of the SAP the following activities will be carried out in Somalia.

Objective 1. Institutional Strengthening and Enhanced Regional Co-operation

135. A regional TF chaired by the Secretary General of PERSGA will meet on a regular basis, to review Project activities and guide the Project by taking strategic decisions. Two Project-employed NPCs, one each representing the northwest and the northeast, will participate in the TF Meetings. Other persons may be invited as observers at the discretion of the Secretary General.

136. The Project (UNDP component) will fund the position of the two NPCs, for a period of five years. The position of the NPC will be open, on a competitive basis, to all Somali nationals who fulfil the requirements outlined in the TOR. The announcements for the posts will be disseminated by the UNDP Country Office to relevant organisations, agencies and individuals. Candidates short-listed will be interviewed by a panel, including representatives of the Project, UN agencies, and PERSGA. It should be emphasised that this is a full-time position. The NPCs will report to the CTA and to the UNDP Somalia Country Office.

137. For the northwest, the NPC will be based at Berbera and keep close contacts with the authorities in Hargeisa. The NPC for the northeast will be based in Bosaso and keep close contacts with the local authorities in Garawe. Suitable locations for their offices will be selected during the implementation mission. Office equipment, VHS radio communication, and the running cost of the offices will be funded by the Project. A 4 WD vehicle will be rented or bought for each office.

138. Somali nationals will participate in the regional workshops and training activities. Additionally, local workshops will be held and training courses conducted in order to enhance national capacity to execute the various Project components. The Project will also assist in the organisation of cross-sectoral co-ordination.

139. GIS is an important management tool which will be needed for implementation of several Project components. There is no GIS unit in any marine environmental project along the Gulf of Aden coast of Somalia and this capacity has to be built from scratch. The feasibility of installing a GIS locally will be assessed during the implementation mission in co-ordination with the existing Somalia GIS at the UNDP country office. Alternatively, data may be stored in a database with GIS capability and kept at PERSGA for later transfer to Somalia. A regional GIS and database workshop will be held to decide, among other issues, upon the software to be used.

Objective 2. Reduction of Navigation Risks and Maritime Pollution

140. Virtually all navigational aids are out of order. The existing ones need maintenance and additional ones have to be installed. The lighthouse at the Berbera Port, the largest harbour in the area, collapsed about three years ago and no funds are

available to replace it. With the assistance of UNCTAD new training facilities have been installed at Berbera Port. They are suitable for oil spill response drills and can be used for training activities in the framework of the SAP. At the local level the SAP will conduct / support the following activities:

- National participation in the regional workshops and training programmes on risk assessment, pollution control and oil spill response.
- Participation of national specialists in the regional WG on Navigation Risk and Maritime Pollution.
- Assessment of navigation risk near the two major ports.
- Assistance to the ports of Berbera and Bosaso to improve local conditions.

Objective 3. Sustainable Management of Living Marine Resources

141. The absence of adequate fisheries regulations allows for almost unrestricted exploitation of LMRs. Some resources, such as lobster and shark, show signs of overfishing. Offshore fishing for deepsea lobster and pelagic stocks is carried out under licensing arrangements of questionable legality. In order to manage fisheries resources an appraisal of the state and potential yield of major groups is urgently needed.

142. The SAP will primarily address issues which are of regional importance, such as the assessment of key resources including transboundary pelagic stocks (with non-GEF funding). The following activities will take place at the national scale:

- Two local representatives will participate in the regional WG on Sustainable Use and Management of LMR. Somali specialists will attend regional and international workshops and training activities.
- Fisheries research and training will be upgraded. Basic equipment and supplies will be provided. Besides the participation in regional training activities, national training courses will be held.
- Stocks of fisheries resources will be assessed (largely non-GEF funded), with an emphasis on high profile taxa, such as lobster and shark. The impact of fisheries on shark populations will receive special attention. These activities will result in improved statistics, which are an important prerequisite for fisheries and environmental management. Based on the results of these surveys, management will be introduced, including monitoring, surveillance and control programmes. Mechanisms for enforcement of fisheries regulations will be identified.
- Since the private sector in Somalia is interested in the exploitation of ornamental fish for the aquarium trade, a survey of this resource will be conducted.
- Training programmes on sustainable fisheries management, addressing selected target groups, will be conducted.
- Pilot relief projects will be carried out for the poorest fishing communities, including provision of boats and basic fishing gear. Possibilities for improved access to national and regional markets will be assessed.

Objective 4. Habitat and Biodiversity Conservation

143. The coastal and marine habitats and biota of Somalia are the least known within the entire Indian Ocean. IUCN has recently initiated a biodiversity assessment. SAP activities in this area will be co-ordinated with IUCN.

144. Most intertidal and subtidal habitats along the Gulf of Aden coast of Somalia are still in a healthy condition. Among intertidal habitats, some mangrove areas show signs of degradation. Further studies on seabirds, turtles and marine mammals are necessary, since very little is known about these key biota.

145. The SAP will address issues which are of regional importance, including mapping of habitats and compilation of inventories of biota, as a basis for the introduction of conservation management. The following activities will take place on a national scale:

- Two representatives, one each from northwest and northeast Somalia, will participate in the regional WG on Habitat and Biodiversity Conservation. Somali specialists will attend regional and international workshops and training activities.
- Training of marine biologists will be provided. This includes participation in regional training programmes, and the conduction of training activities in Somalia.
- Education and training programmes on conservation of coastal and marine resources for selected target groups in coastal communities will be conducted.
- Key habitats, such as coral reefs, seagrass beds, mangroves and their associated biota, will be surveyed, applying regionally standardised methods and techniques. Seasonal surveys of marine turtles, seabirds and marine mammals will be conducted. Based on the results, management plans will be drafted and implemented, and a long-term monitoring programme set up.
- The ecological and socio-economic effects of the recent coral bleaching event will be assessed and a rehabilitation plan developed.

Objective 5. Representative Network of Marine Protected Areas

146. Within Somali territorial waters one area of global importance was identified during the first mission to the country: Aibat and Saad ad-Din Islands and Saba Wanak on the coast near Zayla. It will become part of a regional representative network of MPAs. This area is in need of a full-scale survey. In order to introduce conservation management, the following activities will take place:

- A local representative will participate in the regional WG on MPAs. National specialists will attend regional and international workshops, training activities, exchange programmes and study tours.
- High level meetings will be held and a proposal for legislation prepared. Meetings will also be held with stakeholders in the area. Alternative livelihood programmes will be offered for local fishermen.

- Habitat and resource surveys will be conducted, using regionally standardised survey methods. Basic equipment to conduct the surveys, such as a 4 WD vehicle, boat and diving gear will be provided (rented or bought, depending on the local situation).
- Based on the results of the surveys, a site-specific master plan, which is a long-term policy document and includes the management plan, will be developed. Issues that will receive special attention include regulation of fisheries, collection of marine invertebrates and utilisation of the mangrove, and restricted access to the islands during the bird breeding and turtle nesting season.
- An eco-tourism plan should be established and a feasibility study for sustainable financing conducted (for future use).
- Local consultations will be held to launch the site-specific master and management plans. The implementation of these plans includes the provision of basic facilities and equipment to operate the MPA, the presence of regionally trained marine rangers, and the introduction of a site-specific public awareness programme.
- A long-term monitoring programme will be developed.

Objective 6. Support to ICZM

147. The component will support development of ICZM in the northern coast of Somalia and will focus on institutional capacities and applied training of personnel in the principles and application of ICZM. This will be accomplished through Somali participation in the work programme of the ICZM WG at the regional level, conduct of country-specific training activities, preparation of a model ICZM activity and use of GIS to support coastal zone management. These activities will be closely co-ordinated with the two NPCs and PERGSA TF members. Most elements of this component will be executed nationally. Activities in the northern coast of Somalia under the ICZM component will include the following:

- Two Somali representatives will participate in the regional WG on ICZM. Specialists will attend regional and international workshops, training activities, exchange programmes and study tours.
- Country-specific ICZM training activities will be conducted to address the specific issues in northern Somalia.
- Discussions will be conducted concerning the use of ICZM in the future development process in northern Somalia and a preliminary framework prepared with support from local specialists.
- A model ICZM plan will be prepared for a site jointly selected by Somali and PERGSA representatives; possible locations include Berbera, Bosaso and the site of the proposed MPA of Aibat and Saad ad-Din Islands and Saba Wanak on the coast near Zayla. Depending on political developments in the future, consideration could also be given to activities being undertaken in the Berbera and Bosaso regions, which includes the largest coastal settlements and port facilities.

- The model ICZM activity will be supported using a participatory approach with broad-based stakeholder involvement.
- Support will be provided to facilitate Somali participation in a PERSGA regional GIS network designed to support the SAP process.
- Support for training of personnel in GIS applications will focus on the model ICZM plan and sensitivity mapping of the coastline using regionally standardised methods. It is anticipated that for technical reasons, the data will be collected in Somalia and processed at PERSGA for use by national counterparts.

The activities under this component will be co-ordinated with the MPA component activities at Aibat and Saad ad-Din Islands and Saba Wanak.

Objective 7. Public Awareness and Participation

148. Training and support will be provided to groups engaged in public awareness. The following activities will take place under this component:

- Two local representatives will participate in the regional WG on Public Awareness and Participation. National specialists will attend regional and international workshops, exchange programmes, study tours and training activities including overseas training.
- Public awareness materials will be acquired or developed and disseminated. As far as possible these materials will reflect the specific educational, social and environmental situation in the area.
- NGOs will be encouraged to seek funds from the SAP MGP to implement small-scale pilot conservation projects involving stakeholders and local communities.
- Meetings, assessment of training needs for public awareness and review of school curricula will be part of the national and local environmental awareness programme.

Objective 8. Monitoring and Evaluation

149. Benchmarks and indicators for monitoring and evaluation of the impacts of SAP activities will be developed through a participatory process involving all countries. Indicators specific to Somalia will be assessed through a consultation process with the participation of all concerned groups. Once the matrix of indicators and targets is set, the SAP will facilitate its implementation, making use of data generated from the components listed here above, and other ongoing and planned activities funded from outside the SAP. Somali specialists will participate in relevant workshops and information exchange programmes. National environmental monitoring programmes will be developed.

COUNTRY IMPLEMENTATION PLAN: SUDAN

Introduction

150. During the PDF phase of the SAP a country report on the marine environment in the Republic of the Sudan was prepared. It was endorsed at a national workshop held in November 1996 in Port Sudan. The final draft was submitted in April 1997. In July 1998, a short mission to Sudan was undertaken in order to:

- Review the information contained in the country report with an emphasis on new developments since April 1997.
- Assess potential changes in the ranking of priority actions.
- Update the information on current and planned marine environmental activities which are relevant to the SAP.
- Discuss the implementation arrangement for country-based activities with representatives of Government agencies, NGOs and the UNDP Country Office.

Parallel Activities

151. Major initiatives and activities relating to the marine environment relevant to the SAP are briefly summarised here below:

- *Survey of Coastal and Marine Habitats and their Management (PERSGA)*. A PERSGA consultant visited Sudan and conducted a survey covering about 180 locations. Information was gathered in the field using selected indicators. The consultant concluded that the reefs were in generally healthy condition supporting good fish populations. In some shallow reef areas impacts of unknown cause were detected. Based on the survey, an environmental management plan was proposed and discussed at a workshop with in-country representatives. A crucial need for improvements in physical infrastructure was identified in order to make such a plan viable. Potential costs for infrastructure development are estimated at up to US\$100 million.
- *National Biodiversity Strategy and Action Plan (GEF/UNDP)*. The GEF is funding a biodiversity enabling project which seeks to assist Sudan in preparation of a National Biodiversity Strategy and Action Plan as well as Sudan's first report to the Biodiversity Convention Secretariat. The project will assess the biological diversity of Sudan, both terrestrial and marine, mainly based on existing reports and publications. The project will also enter relevant information into a national database. Existing laws and regulations are being reviewed for their consistency under the Convention. Based on the results of these activities, recommendations for conservation of the country's biodiversity will be prepared. The project is expected to be completed in late 1999. IUCN is acting as the technical support agency for this project.

SAP Activities at the National Level

152. Sudan has 750 kilometres of coastline with the most complex coral reefs and possibly the highest biological diversity in the entire Red Sea. So far environmental problems are largely restricted to the vicinities of the cities of Port Sudan and Suakin. However, a planned free zone and a large-scale shrimp farming project may pose very serious threats to the country's coastal and marine environment in the near future. Yet unlike other countries in the Region, Sudan does not have a single GEF project in the marine environmental field. In many areas very basic infrastructure has to be provided in order to implement the SAP. In the framework of the SAP the following activities will be carried out in Sudan.

Objective 1. Institutional Strengthening and Enhanced Regional Co-operation

153. The TF chaired by the Secretary General of PERSGA will meet on a regular basis to review Project activities and guide the Project by taking strategic decisions. Two Sudanese representatives will attend the TF meetings: a TF Member who is delegated by the Government, and a NPC employed by the Project.

154. The Project (UNDP component) will fund the position of the NPC for a period of five years. The position of the NPC will be open on a competitive basis to all Sudanese nationals who fulfil the requirements outlined in the TOR. It will be announced in the national press and in circular letters to relevant organisations, agencies and individuals. Candidates short-listed will be interviewed by a panel, including representatives from Government agencies, the UN and PERSGA. It should be emphasised that this is a full-time position. The NPC will report to the CTA and to the Higher Council for Environment and Natural Resources (HCENR). In order to facilitate co-ordination and communication, a National Focal Point for the SAP will be appointed in each relevant agency.

155. There is general agreement that the NPC's office will be located in Port Sudan. A suitable site will be selected in conjunction with the HCENR. Office equipment, a 4 WD vehicle, and the running cost of the office for the first three years will be funded by the Project. Thereafter, the Government is expected to cover the running costs.

156. Sudanese nationals will participate in regional workshops and training activities. Additionally, national workshops will be held and training courses conducted in order to enhance national capacity to execute various Project components. The Project will also assist in the organisation of cross sectoral co-ordination.

157. GIS is an important management tool which will be needed for the implementation of several Project components. There is no GIS unit in any marine environmental project in Sudan and this capacity has to be built from scratch. The national GIS will be linked to the regional one at PERSGA. A regional GIS and database workshop will be held to decide upon the software to be used.

Objective 2. Reduction of Navigation Risks and Maritime Pollution

158. The main Government counterpart agencies dealing with navigation risk and maritime pollution issues are the Sea Ports Corporation and the Maritime Administration. Sudan Line is a commercial shipping company that has an important role in observing maritime traffic at high sea in the absence of a surveillance system. A new maritime code has been drafted and is presently under review. The sea area between Port Sudan and Suakin has to be surveyed in detail. Some navigational aids have recently been installed, but in the Towartit anchorage area and Wingate reef existing navigational aids need maintenance and additional ones have to be installed. PSC needs major attention. At the national scale the SAP will conduct / support the following activities:

- National participation in regional workshops and training programmes on risk assessment, pollution control and oil spill response.
- Specialised training to develop a capacity to implement the Maritime Law.
- Participation of a national specialist in the regional WG on Navigation Risk and Maritime Pollution.
- Assistance to the ports of Port Sudan and Suakin to improve PSC.

Objective 3. Sustainable Management of Living Marine Resources

159. The Marine Fisheries Administration, the Marine Fisheries Research Centre and the Faculty of Marine Sciences and Fisheries of the Red Sea University will jointly participate in the implementation of this component. Further input is expected from the Marine Conservation Committee. The use of LMR is governed by the Sudanese Fisheries Ordinances and Regulations of 1937, amended in 1975 and 1978, which prohibit unsustainable fisheries, dumping of refuse into the sea, collection of corals, shells and aquarium fishes. Considering the present scale of exploitation, these regulations are considered adequate and not in urgent need of revision.

160. The SAP will address issues of regional importance, such as the assessment of key resources including transboundary pelagic stocks (with non-GEF funding). The following activities will take place at the national scale:

- A national representative will participate in the regional WG on Sustainable Use and Management of LMR. National specialists will attend regional and international workshops and training activities.
- Fisheries research and training at the Marine Fisheries Research Centre, which had so far concentrated on oyster culture, and Red Sea University will be upgraded. Basic equipment and supplies will be provided. Besides participation in regional training activities, national training courses will be held.
- Stocks of fisheries resources will be assessed (partly non-GEF funded), with an emphasis on high profile taxa, such as najil, lobster and kokian. The impact of fisheries on shark populations will receive special attention. These activities will result in improved statistics, which are an important prerequisite for fisheries and

environmental management. Based on the results of these surveys, management will be introduced, including monitoring, surveillance and control programmes. Mechanisms of law enforcement will be identified. Fisheries will be integrated into ICZM.

- Although the collection of aquarium fish is illegal at present, feasibility studies for potential future activities will be conducted because of increased pressure from the private sector to exploit this resource.
- Education and training programmes on sustainable fisheries management, addressing selected target groups, will be conducted. Pilot relief projects will be carried out for the poorest fishing communities, including provision of boats and basic fishing gear.

Objective 4. Habitat and Biodiversity Conservation

161. Recent studies in Sudan, including the PERSGA survey on coastal and marine habitats, have shown that most subtidal habitats are still in a healthy condition. Among intertidal habitats, some mangrove areas show serious signs of degradation. Further studies on seabirds, turtles and marine mammals are necessary, since very little is known about these key biota.

162. The SAP will address issues which are of regional importance, including mapping of habitats and compilation of inventories of biota, as a basis for the introduction of conservation management. The following activities will take place at the national scale:

- A national representative will participate in the regional WG on Habitat and Biodiversity Conservation. National specialists will attend regional and international workshops and training activities.
- Formal and on-the-job training for marine biologists will be provided. This includes formal education overseas, participation in regional training activities, and national training courses.
- Education and training programmes on conservation of coastal and marine resources for selected target groups in coastal communities will be conducted.
- Key habitats, such as coral reefs, seagrass beds, mangroves and their associated biota, will be surveyed, applying regionally standardised methods and techniques. Seasonal surveys of marine turtles, seabirds and marine mammals will be conducted. Based on the results, management plans will be drafted and implemented, and a long-term monitoring programme set up.
- The ecological and socio-economic effects of the recent coral bleaching event will be assessed and a rehabilitation plan developed.

Objective 5. Representative Network of Marine Protected Areas

163. Within Sudanese territorial waters two areas of global/regional importance have been identified to become part of a regional representative network of MPAs. Sanganeb was declared a Marine National Park in 1990 and several surveys have been conducted

by national and international teams of specialists. Master and management plans for this area can largely be compiled using the results of these surveys. Additional studies will only be conducted where more information is needed to meet regional standards. The second area, Mukkawar Island and Dungonab Bay, is in need of a full-scale survey. Certain issues such as shark fisheries and oyster culture need special attention. In order to introduce full-scale conservation management in both areas, the following activities will take place:

- A national representative will participate in the regional WG on MPAs. National specialists will attend regional and international workshops, training activities, exchange programmes and study tours.
- High level meetings will be held and the legislation in place will be reviewed. Meetings will also be held with stakeholders in the areas (Sea Port Corporation, Navy, fishermen communities). Alternative livelihood programmes will be offered for local fishermen.
- Habitat and resource surveys will be conducted in Mukkawar Island and Dungonab Bay, using regionally standardised survey methods. Basic equipment to conduct the surveys such as a 4 WD vehicle, boat and diving equipment will be provided.
- Based on the results of the surveys, a site-specific master plan, which is a long-term policy document and includes the management plan, will be developed for each MPA. Issues that will receive special attention in Sanganeb include regulation of recreational use, setting up moorings at popular dive sites, and assistance towards the establishment of on-site infrastructure for research and environmental education. In Mukkawar/Dungonab it is particularly important to regulate fisheries and ban elasmobranch fisheries entirely from the area. In both areas, an eco-tourism plan should be established and a feasibility study for sustainable financing conducted.
- National and local consultations will be held to launch the site-specific master and management plans. The implementation of these plans includes the provision of basic facilities and equipment to operate the MPAs, the presence of regionally trained marine rangers, and the introduction of site-specific public awareness programmes.
- A long-term monitoring programme will be developed.

Objective 6. Support to ICZM

164. The component will support development of ICZM in Sudan and will focus on institutional capacities and applied training of personnel in the principles and application of ICZM. This will be accomplished through Sudanese participation in the work programme of the ICZM WG at the regional level, conduct of country-specific training activities, preparation of a model ICZM activity and use of GIS to support coastal zone management. These activities will be closely co-ordinated with the Port Sudan-based NPC and national PERGSA TF member. Most elements of this component will be executed nationally. Activities in Sudan under the ICZM component will include the following:

- A national representative will participate in the regional WG on ICZM. National specialists will attend regional and international workshops, training activities exchange programmes and study tours.
- Country-specific ICZM training activities will be conducted to address the specific issues in Sudan, including free zone and port development, expansion of aquaculture and tourism.
- A basic framework for ICZM at the national level will be developed to provide general guidelines for use of this approach in Sudan.
- A model ICZM plan will be prepared for a site jointly selected by Sudanese and PERSGA representatives; candidates for this site include the Port Sudan region, proposed free zone port area, selected areas being considered for aquaculture development and Mukkawar Island and Dunganab Bay.
- The model ICZM activity will be supported using a participatory approach with broad-based stakeholder involvement.
- Support will be provided to facilitate Sudanese participation in a PERSGA regional GIS network designed to support the SAP process.
- Support for training of personnel in GIS applications will focus on the model ICZM plan and undertaking sensitivity mapping of the coastline using regionally standardised methods.
- The activities under this component will be co-ordinated with the MPA component activities at Sanganeb Marine National Park, Mukkawar Island and Dunganab Bay.

Objective 7. Public Awareness and Participation

165. Training and support will be provided to Government institutions and NGOs dealing with public awareness. The following activities will take place under this component:

- A national representative will participate in the regional WG on Public Awareness and Participation. National specialists will attend regional and international workshops, exchange programmes, study tours and training activities including overseas training.
- Public awareness materials will be acquired or developed and disseminated. As far as possible these materials will reflect the specific educational, social and environmental situation in the Sudan.
- Sudanese NGOs will be encouraged to seek funds from the SAP MGP to implement small-scale pilot conservation projects, involving stakeholders and local communities.
- High level meetings, assessment of training needs for public awareness and review of school curricula will be part of the national and local environmental awareness programme.

Objective 8. Monitoring and Evaluation

166. Benchmarks and indicators for monitoring and evaluation of the impacts of SAP activities will be developed through a participatory process involving all countries. Indicators specific to Sudan will be assessed through a consultation process with the participation of all concerned groups. Once the matrix of indicators and targets is set, the SAP will facilitate its implementation, making use of data generated from the components listed here above, and other ongoing and planned activities funded from outside the SAP. Sudanese specialists will participate in relevant workshops and information exchange programmes. National environmental monitoring programmes will be developed.

COUNTRY IMPLEMENTATION PLAN: YEMEN

Introduction

167. During the PDF phase of the SAP a country report on the marine environment in Yemen was prepared. It was endorsed at a national workshop held in December 1996 in Sana'a. The final draft was submitted in July 1997. In June 1998, a short mission to Yemen was undertaken in order to:

- Review the information contained in the country report with an emphasis on new developments since April 1997.
- Assess potential changes in the ranking of priority actions.
- Update the information on current and planned marine environmental activities which are relevant to the SAP.
- Discuss the implementation arrangement for country-based activities with representatives of Government agencies, NGOs and the UNDP Country Office.

Parallel Activities

168. The following section is a brief summary of the major initiatives relating to the marine environment under implementation and essentially relevant to the SAP:

- *The GEF Project: Protection of Marine Ecosystems of the Red Sea Coast of Yemen (GEF Red Sea Yemen Project).* The project is scheduled to end by June 1999. The project has achieved the following:
 - ◇ A well established office with good infrastructure (office building, equipment, computers, etc.)—Four professional staff are assigned to work permanently for the facility. Sufficient Government funding is necessary to keep the facility running and to implement its future plans after the GEF project ceases.
 - ◇ Trained counterparts—At least twenty national counterparts from several Government institutions, such as Ministry of Fish Wealth (MFW), Environment Protection Council (EPC), Maritime Affairs (MA), were trained in several aspects of marine sciences. Four of the counterparts have been allocated from the MFW as permanent staff to the project.
 - ◇ Coastal and offshore habitat surveys—Several reconnaissance and site-specific surveys of coastal and littoral habitats have been carried out. In addition, surveys of underwater habitats were done for main offshore islands of Yemeni Red Sea waters.
 - ◇ Monitoring programme—The project has set up an environmental monitoring programme of representative habitats and sites of important biodiversity along the coast and on the offshore islands. Regular assessment of these sites is currently undertaken but additional resources are needed for long-term monitoring.

- ◇ GIS—This utility is now functional with one computer unit and ArcView 3.0 software. Data from past and present surveys were fed into the GIS; personnel were trained on the use of the GIS and it is aimed to make use of the GIS as a planning tool.
- *Fourth Fisheries Development (Fisheries IV)*. This EU/World Bank/IFAD funded project started in 1993 with most of its activities concentrating on the Gulf of Aden Coast. The component relating to the construction of six fisheries facilities along the coast of the Gulf of Aden was completed in 1997. The local Fishing Co-operatives were contracted to run these facilities. A small-scale training programme is now conducted for the use and maintenance of these facilities.

Two other components of the project currently under implementation are:

- ◇ Fisheries Stock Assessment—This is being undertaken with support from FAO. Technical expertise and training will be provided. Data for stock assessment are planned to be taken from landing sites along the coast and no experimental trawling is envisaged. The duration of the component may not allow annual trend analysis nor is the geographical scale known.
- ◇ Women In Development—This will concentrate on three coastal areas. Three training centres will be constructed and equipped for training purposes. The first Rapid Appraisal (RA) for women's training needs indicated that activities will be concentrated on sewing, handicrafts, repair of fishing nets, basic education, etc.
- *Conservation and Sustainable Use of Biodiversity of Socotra Archipelago (Socotra GEF/UNDP Project)*. The project was launched in August 1997. A project implementation unit has been established on the Island. Preparations for launching two major comprehensive terrestrial and marine biodiversity surveys have been almost finalised and actual fieldwork is planned to take place in the near future. A more recent development regarding Socotra Island is its declaration as a Free Zone Area, putting much pressure on the project to accelerate the process of developing and implementing a management plan ensuring sustainable development. The project works in parallel with a UNDP-funded Basic Needs project aimed at addressing poverty-related concerns on the island.
- *World Bank Environment Component*. In response to the National Environmental Action Plan, the Government and the World Bank are preparing a project proposal for Solid Waste Management in small towns with a parallel Environmental Management Component (EM). Three main activities/outputs are proposed under the EM: Environment Assessment, Coastal Zone Management (CZM) and Protected Areas Management (PAM). Under the CZM, the proposed project will attempt to: (i) develop an enabling framework for coastal zone management, and (ii) implement ICZM pilot activities at two sites on the coast of the Gulf of Aden: Belhaf to Burum and Sharma to Jathmum. During the project preparation phase, a number of feasibility studies were conducted for these sites, the results of which will be of significance to the SAP. A detailed project proposal is currently being prepared by the Government of Yemen with the assistance of the World Bank.

- *National Biodiversity Strategy and Action Plan (GEF/UNDP)*. The GEF is funding a biodiversity enabling project which seeks to assist Yemen in the preparation of a National Biodiversity Strategy and Action Plan as well as Yemen's first report to the Biodiversity Convention Secretariat. The project will assess the biological diversity of Yemen, both terrestrial and marine, mainly based on existing reports and publications. The project will further enter relevant information into a national database. Existing laws and regulations are being reviewed for their consistency under the Convention. Based on the results of these activities, recommendations for the conservation of the country's biodiversity will be prepared. The project is expected to be completed in late 1999. IUCN is acting as the technical support agency for this project. Results from this project will be useful baseline information for the present Project.

SAP Activities at the National Level

169. In the case of Yemen, it should be noted that linkages between activities carried out on the Red Sea coast and those on the Gulf of Aden are in need of further strengthening. The two sides have each advanced in fields relevant to the other side. For example, on the Red Sea, more information and experience have been generated regarding habitat distribution/ classification and environmental monitoring/ assessment, while it is weak on fisheries aspects. On the other hand, on the Gulf of Aden coast, most studies concentrate on fisheries while little is known about habitats, biodiversity, environmental assessment, etc. The SAP will attempt to make the link and strengthen institutions on both sides to better use their comparative advantages in implementing projects at the national scale. Essentially SAP activities will seek to complement the above initiatives by making optimal use of the facilities, outputs, and human resources resulting from previous institutional support. In general, the following activities will be supported within the overall objectives of the SAP.

Objective 1. Institutional Strengthening and Enhanced Regional Co-operation

170. The TF chaired by the Secretary General of PERSGA will meet on a regular basis to review Project activities and guide the Project by taking strategic decisions. Two Yemeni representatives will attend the TF meetings: a TF Member who is delegated by the Government and a NPC employed by the Project.

171. The Project (UNDP component) will fund the position of the NPC for a period of five years. This position will be open, on a competitive basis, to all Yemeni nationals who fulfil the requirements outlined in the TOR. It will be announced in the national press and in circular letters to relevant organisations, agencies and individuals. Candidates short-listed will be interviewed by a panel, including representatives from Government agencies, the UN and PERSGA. It should be emphasised that this is a full-time position. The NPC will report to the CTA and to the EPC.

172. During the country mission mentioned above, the EPC, MFW and UNDP strongly suggested that the SAP offices be located in Hodeidah where a well-established and well-equipped office is already in place and currently used for the GEF Hodeidah Red Sea project. If this suggestion meets with general approval, the running cost of the

office will be covered by the Project for a period of three years, after which the Government will provide the necessary funds. All equipment and facilities (including vehicles, furniture, computers, communications equipment, etc.) acquired by the Hodeidah project will be made available for implementation of the SAP.

173. As discussed above, a number of activities are already ongoing in the country and it is very important that these activities are well co-ordinated. A number of cross-sectoral, multidisciplinary meetings, seminars and workshops should be conducted to achieve full integration at the national level. The SAP will facilitate such in-country co-ordination and information sharing.

174. GIS is an important management tool which will be needed for the implementation of several Project components. Three GIS units already exist, at the Hodeidah GEF Project, the Marine Science and Resource Research Centre (MSRRC) in Aden and the EPC in Sana'a. ArcView is used in Hodeidah, Aden and at the Socotra GEF project, while ArcInfo is used in Sana'a. The unit at Hodeidah contains a good set of data on the Red Sea coast while no data have so far been entered into the unit in Sana'a. The national GIS will be linked to the regional one at PERSGA. A regional GIS and database workshop will be held to decide upon standardised software to be used by all the co-operating parties.

Objective 2. Reduction of Navigation Risks and Maritime Pollution

175. The main Government counterpart agency dealing with maritime issues is the Public Corporation for Maritime Affairs (PCMA). Ports Administrations are also important in terms of infrastructure for oil pollution combating and implementation of PSC. Local contingency plans for oil export terminals were prepared and recently updated (the Ras Issa Hunt Oil Company updated in September 1997). No national contingency plan is available. The PCMA has signed a contract to purchase one tugboat for pollution control. In general, the scale of this objective is regional, however, local elements specific to Yemen that the SAP will support can be listed as follows:

- Support of national participation to the regional workshops and training programmes.
- Provision of specialised training to implement the existing Maritime Law and the Law for the Protection of the Marine Environment from Pollution.
- Selection of a national specialist to join the regional WG on Navigation Risks and Maritime Pollution.
- Provision of technical assistance to support the issuance of by-laws relating to the maritime laws.
- Support of major ports to raise capacities in adopting and implementing the Regional Agreement on PSC.
- Provision of practical on-the-job training for ports/PCMA officers on use of equipment to combat pollution, vessel inspection, etc.
- Training in the use of equipment.

Objective 3. Sustainable Management of Living Marine Resources

176. This component will be executed mainly in conjunction with MFW institutions such as the MSRRC and the Fisheries Training Institute in Aden, as well as the Hodeidah GEF project, all of which are involved in the study and management of marine habitats/resources. In addition, university research institutions such as the Oceanography Department of Sana'a University and the newly established Faculties of Marine Sciences of the Universities of Hodeidah (on the Red Sea coast) and Hadhramaut (on the Gulf of Aden) are expected to substantially contribute to the execution of this component.

177. The SAP will fill gaps in the overall habitat/resource surveys, as far as this is of regional importance. It will strengthen the integration of national-scale results into a regional framework, in particular those with transboundary implications. Within the regional context, the SAP will assist Yemen in developing a system of fisheries stock assessment. The activities will fall into the following categories:

- *Capacity Building and Training.* A national specialist will be selected to join the regional WG for Sustainable Use and Management of LMR. Young Yemeni professionals will be given the chance to attend short- to medium-term training courses in-country and abroad.
- *Upgrading Fisheries Training/Research Centres.* The MSRRC in Aden is the advisory body for the MFW regarding fisheries management. The centre has conducted a number of fish stock studies in the Gulf of Aden area, with external assistance, but these studies have been discontinued because of lack of financial resources. On the other hand, the Fisheries Training Institute (FTI) in Aden was established with the main objective to meet Government requirements for qualified staff in the fisheries sector. The Institute has very good infrastructure training facilities, laboratories, internal accommodation and teaching staff. The Institute is conducting long-term courses leading to diplomas as well as specially designed short-term courses. It has joint programmes with similar Canadian and Indian institutes. Several regional training courses have been organised by this Institute in recent years. This makes it an ideal sub-regional centre for fisheries training within the context of the SAP. Support to strengthen these institutions will be given as follows:
 - ◇ Provision of basic equipment (such as balances, microscopes, books, etc.) to the MSRRC and FTI to be used for training and implementing stock assessments studies.
 - ◇ Use of the institute's facilities for training fishermen for the collection of fisheries data along both coasts.
 - ◇ Organisation of national and sub-regional training courses in various aspects of fisheries management.
 - ◇ Enhancement of human resource capacities through involvement of the institute's staff in regional and international exchange programmes.
 - ◇ Extending activities of the MSRRC and FTI to the Red Sea coast.

- *Stock Assessments.* Under the Fisheries IV project, US\$500,000 is allocated for stock assessment of certain commercial fishes, with a planned pilot training programme for fishermen in Hadramaut. The SAP will attempt to:
 - ◇ Introduce regionally standardised data collection and management systems for pelagic fishes, above all transboundary pelagic stocks. Experimental trawling will be carried out within the context of the regional component (with non-GEF funding).
 - ◇ Extend activities of MSRRC and FTI to include both the Gulf of Aden and the Red Sea coast.
 - ◇ Contribute to the overall improvement of fisheries statistics in the country.
 - ◇ Support and conduct local training programmes in data collection and analysis for improved decision making and management of fisheries resources.
 - ◇ Assist the MFW in developing guidelines and by-laws for sustainable fisheries management.
 - ◇ Conduct a study on the impact of shark fisheries (both socio-economic and ecological implications).
 - ◇ Conduct an assessment of the ornamental fish trade, including review of its licensing system, and recommendations for more effective ways of monitoring fish collection by the private sector.
- *Invertebrate surveys and stock assessment.* The SAP will:
 - ◇ Update information on the Red Sea shrimp stock and catch (partly non-GEF funded) and review current legislation regarding shrimp fisheries.
 - ◇ Review the status of the cuttlefish catch and assist in introducing appropriate management recommendations.
 - ◇ Update studies on lobster stocks, especially spiny lobster, linking it to the similar studies under the GEF Socotra project.
 - ◇ Conduct education and training programmes for coastal communities in the field of sustainable fisheries management and environmental conservation.
- *Monitoring, Surveillance and Control.* It is understood that the Government is proposing a fifth phase of the Fisheries Development (Fisheries V). The proposal mainly deals with strengthening Government capabilities in monitoring and surveillance, in addition to standards and quality control for fisheries products. It is apparent that this type of activity is beyond the scope of the SAP. However, within the context of Government plans, the SAP will provide when requested a feasibility study on monitoring and surveillance and advise on any interim measures or identifying mechanisms to strengthen enforcement.

Objective 4. Habitat and Biodiversity Conservation

178. Recent studies revealed that subtidal habitats along the Red Sea coast of Yemen, above all coral reefs, show signs of severe degradation. Among intertidal habitats, some mangrove areas need urgent attention. In the Gulf of Aden, most subtidal habitats are in a reasonable healthy condition, though many coral reef areas were severely affected by recent bleaching events. Further studies on seabirds, turtles and marine mammals are necessary, since very little is known about these key biota.

179. The SAP will address issues of regional importance, including mapping of habitats and compilation of inventories of biota, as a basis for the introduction of conservation management. The following activities will take place at the national scale:

- A national representative will participate in the regional WG on Habitat and Biodiversity Conservation. National specialists will attend regional and international workshops and training activities.
- Formal and on-the-job training for marine biologists will be provided. This includes formal education overseas, participation in regional training activities, and national training courses.
- Education and training programmes on conservation of coastal and marine resources for selected target groups in coastal communities will be conducted.
- Key habitats, such as coral reefs, seagrass beds, mangroves and their associated biota, will be surveyed, applying regionally standardised methods and techniques. Seasonal surveys of marine turtles, seabirds and marine mammals will be conducted. Based on the results, management plans will be drafted and implemented, and a long-term monitoring programme set up.
- The ecological and socio-economic effects of the recent coral bleaching event will be assessed and a rehabilitation plan developed.

Objective 5. Network of Representative System of MPAs

180. Socotra Island was already declared a Special Protected Area in 1996. The development and implementation of its management plan is supported by GEF. Because of its unique biodiversity and biogeographic location, Socotra will be linked to the regional network of MPAs by facilitating information and experience exchange with the network and the regional WG on MPAs.

181. Within Yemeni territorial waters another area of outstanding regional importance has been identified to become part of a regional representative network of MPAs: the Belhaf and Bir Ali area. Recent surveys indicate that it may even be considered of global importance. Certain issues such as fisheries and tourism development need special attention. In order to introduce full-scale conservation management in this area, the following activities will take place:

- A national representative will participate in the regional WG on MPAs. National specialists will attend regional and international workshops, training activities, exchange programmes and study tours.

- High level meetings will be held and the legislation in place will be reviewed. Meetings will also be held with stakeholders in the area (oil terminal operators, tour operators, fishermen communities). Alternative livelihood programmes will be developed for local fishermen.
- Habitat and resource surveys will be conducted, using regionally standardised survey methods. Basic equipment to conduct the surveys, such as a 4 WD vehicle, boat and diving equipment will be provided.
- Based on the results of the surveys, a site-specific master plan, which is a long-term policy document and includes the management plan, will be developed. An eco-tourism plan should be established and a feasibility study for sustainable financing conducted.
- National and local consultations will be held to launch the site-specific master and management plans. The implementation of these plans includes provision of basic facilities and equipment to operate the MPA, the presence of regionally trained marine rangers, and introduction of site-specific public awareness programmes.
- A long-term monitoring programme will be developed.

Objective 6. Support to ICZM

182. The component will support development of ICZM in Yemen and will focus on development of institutional capacities and applied training of personnel in the principles and application of ICZM. This will be accomplished through Yemeni participation in the work programme of the ICZM WG at the regional level, conduct of country-specific training activities, preparation of a model ICZM activity and use of GIS to support coastal zone management. These activities will be closely co-ordinated with the NPC and national PERGSA TF member. Most elements of this component will be executed nationally. Activities in Yemen under the ICZM component will include the following:

- A national representative will participate in the regional WG on ICZM. National specialists will attend regional and international workshops, training activities, exchange programmes and study tours.
- Country-specific ICZM training activities will be conducted to address the specific issues in Yemen, including port development, oil and gas export facilities and expansion of tourism.
- A basic framework for ICZM at the national level will be developed which will provide general guidelines for use of this approach in Yemen.
- A model ICZM plan will be prepared for a site jointly selected by Yemeni and PERGSA representatives; candidates for this site include the Aden region, Hodeidah region, areas in the vicinity of current and proposed oil and gas export sites, and the Belhaf and Bir Ali area.
- The model ICZM activity will be supported using a participatory approach with broad-based stakeholder involvement.

- Support will be provided to facilitate Yemeni participation in a PERSGA regional GIS network designed to support the SAP process.
- Support for training of personnel in GIS applications will focus on the model ICZM plan and sensitivity mapping of the coastline using regionally standardised methods.
- The activities under this component will be co-ordinated with the MPA component activities in the Belhaf and Bir Ali area.

183. These activities will be co-ordinated with proposed World Bank-supported activities for development of an enabling framework for ICZM at the national level, strengthening environmental assessment and potential GEF medium-size grants for selected protected areas. They will also be co-ordinated with the GEF-supported programme for development of a management plan for the Socotra Archipelago.

Objective 7. Public Awareness and Participation

184. Training support will be provided to Government institutions dealing with public awareness as well as to local NGOs and groups. The SAP will continue the public awareness programme initiated by the Hodeidah GEF project, extending it to the Gulf of Aden coast with particular emphasis on local fishing communities. Yemeni NGOs will be helped and encouraged to seek funds from the SAP MGP to implement small pilot conservation projects involving stakeholders and local communities. The SAP will also support assessment of training needs for public awareness and review of school curricula, within the context of the overall regional public awareness and participation programme.

Objective 8. Monitoring and Evaluation

185. The benchmarks and indicators for monitoring and evaluation of SAP impacts will be developed through a participatory process involving all countries. Yemen-specific indicators will be developed through a consultation process with the participation of concerned groups. Once the matrix of indicators and targets are set, the SAP will facilitate its implementation, making use of data generated from the above listed components and other ongoing and planned activities funded from outside the SAP.

186. In addition, Yemen will be included in the regional issue-specific monitoring programme through linking some of the existing sites (identified within the context of the Hodeidah GEF project) along the Red Sea with additional sites along the Gulf of Aden coast. Examples of these transboundary issues are oil pollution monitoring and shark populations.

IV. PROCUREMENT AND DISBURSEMENT

PROCUREMENT OF GOODS AND SERVICES

187. In order to ensure adherence to procurement rules of the GEF implementing agencies, resources have been set aside in the UNDP-managed component of the Project budget for the hiring of a Procurement/Finance Specialist (PFS). This person should be completely familiar with UNDP/UNEP and World Bank rules pertaining to procurement. It will therefore be necessary that the PFS take training provided by UNDP, UNEP and WB before any major procurement is undertaken by PERSGA for this Project. This training may be offered by the organisations at their headquarters or at locations within the Region.

188. With respect to the UNDP and UNEP components of the budget, it is suggested that PERSGA adopt UNOPS Rules of Procurement for all goods and services. As these rules are widely accepted by international agencies, adoption of these rules will assist PERSGA in terms of executing Project funds received through other donors in the future. UNDP/Riyadh, through the Programme Co-ordinator, will render active support to PERSGA in adopting (revised) UNOPS rules.

189. The PFS will establish a Procurement Plan for the World Bank portion of the Project and will ensure approval of this Plan prior to initiating any procurement actions on the World Bank managed budget. The Plan will be in accordance with the World Bank Guidelines for Procurement of Goods and Works (revised September 1997) and for Consulting Services (1997).

Financial Disbursement, Management and Monitoring

190. Financial disbursements will vary slightly depending on the relevant GEF implementing agency. The procedures for each of the three implementing agencies are outlined below.

UNDP

Advances and Reporting

191. Resources will be advanced by UNDP/Riyadh on a quarterly basis, based on a submitted and approved work plan for the quarter and on quarterly budget estimates. At the end of the quarter, PERSGA will report to UNDP/Riyadh in accordance with the standard "Financial Report" (FR) format, and at the same time submit a request for the next quarterly advance. Upon acceptance of the FR, UNDP/Riyadh will advance the funds for the next quarter.

Banking

192. In order to satisfy UNDP/GEF requirements, the Executing Agency must establish a "stand-alone" bank account into which UNDP/Riyadh can make resource

transfers. It is required to be a separate account into which only UNDP-managed Project resources are deposited.

Certifying Officers on Bank Account for UNDP/GEF Resources

193. UNDP will require dual signature certification on all withdrawals and cheques from the account holding the UNDP-managed GEF Project resources. As such, the Secretary General of PERSGA (or the Co-ordinator of PERSGA in the absence of the Secretary General) will be the one certifying officer, while the second certifying officer will be the CTA, or the PFS in the absence of the CTA.

UNEP

Advances and Reporting

194. Resources will be advanced by UNEP/Nairobi on a quarterly basis, based on a submitted and approved work plan for the quarter and on a quarterly budget. At the end of the quarter, PERSGA will report to UNEP/Nairobi in accordance with the standard “Quarterly Delivery Report” (QDR) format, and at the same time submit a request for the next quarterly advance. Upon acceptance of the QDR, UNEP/Nairobi will advance the resources for the next quarter.

Banking

195. In order to satisfy UNEP/GEF requirements, the Executing Agency must establish a “stand-alone” bank account into which UNEP/Nairobi can make resource transfers. It is required to be a separate account into which only UNEP-managed Project resources are deposited.

Certifying Officers on Bank Account for UNEP/GEF Resources

196. UNEP will require dual signature certification on all withdrawals and cheques from the account holding the UNEP-managed GEF Project resources. As such, the Secretary General of PERSGA (or the Co-ordinator of PERSGA in the absence of the Secretary General) will be the one certifying officer, while the second certifying officer will be the CTA, or the PFS in the absence of the CTA.

World Bank

Banking, Advances and Reporting

197. PERSGA shall establish and maintain a financial management system (FMS), including records of separate accounts, and prepare financial statements in a format acceptable to the Bank and adequate to reflect the incomes and expenditures of the Project. Additionally, PERSGA and the Bank will agree upon a time bound action plan for the strengthening of the FMS. The system should be fully operational by March 2000.

198. A special account will be established by PERSGA with an advance made by the World Bank. Following receipt by World Bank/Washington of a “Statement of Expenses” in accordance with World Bank requirements, the World Bank will replenish the account. This is normally done on a quarterly basis. It is required that this account be managed in United States dollars.

Certifying Officers on Bank Account for World Bank/GEF Resources

199. The World Bank will require signature certification by the Secretary General of PERSGA or the PERSGA Co-ordinator on account and cheque withdrawals.

Financial Reporting: Semi-Annual Budget Revisions

UNDP and UNEP

200. A substantive budget revision for the UNDP and UNEP portions of the Project will be prepared in co-ordination with the Riyadh Office of UNDP (for the UNDP resources) and with the Water Branch/UNEP (for the UNEP resources). These budget revisions will be done in (i) April for the mandatory budget revision which will reflect prior year expenditures, thereby closing the previous year’s financial book and in (ii) October to ensure realistic budgetary rephasing in accordance with work planning needs.

201. *Timing:* As outlined above, a mandatory revision in April and an October rephasing will be submitted.

202. *Distribution:* The relevant budget revision will be sent to the relevant GEF implementing agency.

203. These reports will be prepared by the PFS under the supervision of the CTA and with support from the UNDP-PC.

World Bank

204. PERSGA shall maintain separate records and ledger accounts in respect of the Bank GEF funds and disbursements therefrom. Not later than three months after the end of any fiscal year of PERSGA in which Bank GEF funds are expended, PERSGA shall provide the Bank with: (i) a statement of account showing the use of the grant funds; and (ii) a copy of its externally audited financial statements (see below) for such year, together with the opinion of the external auditor on such statements.

Annual Independent Financial Audit by Internationally Recognised Auditing Company

205. The GEF implementing agencies require that an annual independent audit be carried out by an internationally recognised auditing company. Resources have been made available in the Project budget to facilitate an auditing contract that can be established with an auditing company for the full duration of the Project period. The audit will take place every 12 months following Project signature until the Project has

been declared closed. The audit will include all three funding sources (UNDP, UNEP and the World Bank).

Management of Resources at the Country Level

206. PERSGA will also hold responsibility for effecting/authorising transfers to the Project in Djibouti, Somalia, Sudan and Yemen, where field operations exist. The transfers will be made through the UNDP Country Offices. PERSGA will authorise UNDP Offices in these countries to transfer resources to a distinct bank account (in local currency) which will be opened for the Project, and for which two signatories might be required: signature of the Project-funded NPC and signature of the Government-designated official.

207. The account will not exceed US\$3,000 equivalent and will only be replenished by PERSGA (through UNDP local offices) after PERSGA has received acceptable reporting, with supporting documentation which will enable PERSGA to replenish the account.

208. The national GEF Project bank accounts will be subject to audit by the same company hired to conduct the overall annual audit of the GEF Project. UNDP Country Offices in the four countries should be kept informed of Project field activities, and copied on the Project work plan, financial statements/reports and any substantive reports produced by the Project.

V. GEF IMPLEMENTING AGENCY REPORTING, MONITORING AND EVALUATION

209. During the implementation of the Project, the following reporting will be required:

- *Monthly narrative report (maximum 2 pages).* Outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the coming month, and if appropriate, comments and/or recommendations relating to any unforeseen conditions which may affect the progress or the quality of the work.

Distribution: PERSGA, UNDP, UNEP, World Bank. For internal use only.

- *Semi-Annual Project Implementation Progress Reports.* Covering the intervals between the annual reports and reflecting: (i) the status of implementation progress, problems encountered and corrective actions needed; (ii) the current costs of each Project component and estimated costs for completion; and (iii) the degree of achievement of Project objectives, as measured by the status of Project indicators. These reports will include a special sections on procurement and disbursement with information on: progress of procurement activities against plans set forth in the PIP; variations in progress, reasons for variations and actions being taken to address these problems; and Project expenditures (foreign and local costs).

Timing: First report to be submitted 6 months after Project signature.

Distribution: PERSGA, UNDP, UNEP, World Bank. This report may also be shared with parties outside the three GEF implementing agencies, upon their request in accordance with established GEF policy.

- *Annual Substantive Project Progress Report.* In view of the tripartite funding relationship of this Project, every effort will be made to simplify and unify the reporting arrangements. The Project CTA will therefore review the annual reporting requirements from UNDP, UNEP and the World Bank, and design a unified reporting format which meets most of the reporting requirements of the three agencies, through one single report.

Based on the unified approach, this report will fulfil the UNDP requirements (Annual Project Report - APR), the UNEP requirement (Yearly Progress Report), and World Bank requirement (Annual Progress Report). The CTA will complete an Annual Substantive Project Progress Report, which will clearly describe and assess Project progress against the established work plan, the Project documents and the overall objectives of the Project.

Timing: First report to be submitted 12 months after Project signature and 2 months ahead of the first Annual Project Review.

Distribution: PERSGA, UNDP, UNEP, World Bank. This report may also be shared with parties outside the three GEF implementing agencies, upon their request in accordance with established GEF policy.

- *Substantive Work Plan.* Will be attached to the Annual Substantive Project Progress Report and distributed as outlined above.

- *GEF Project Implementation Review (GEF PIR).* The Project will also complete the annual GEF PIR. In order to minimise duplication of effort, it has been agreed that the UNDP electronic format for the GEF PIR will be utilised and that UNDP therefore will submit the GEF PIR on behalf of the three agencies. The CTA will liaise with the UNDP-PC and with the World Bank Red Sea and Gulf of Aden SAP Team for this purpose.

Timing: To be submitted annually. Normally in June of every year.

Distribution: PERSGA, UNDP, UNEP, and World Bank. UNDP will ensure onward forwarding to the GEF Secretariat.

This report may also be shared with parties outside the three GEF implementing agencies, upon their request in accordance with established GEF policy.

- *Mid-term and Final Evaluations.* Resources have been set aside in accordance with standard procedure to ensure that a mid-term evaluation as well as a final evaluation can be carried out. The Terms of Reference and timing of these evaluations will be determined through the Annual Review process or by correspondence. The evaluations will normally be independent of the GEF implementing agencies and of PERSGA and thus carried out by consultants not previously associated with the Project.

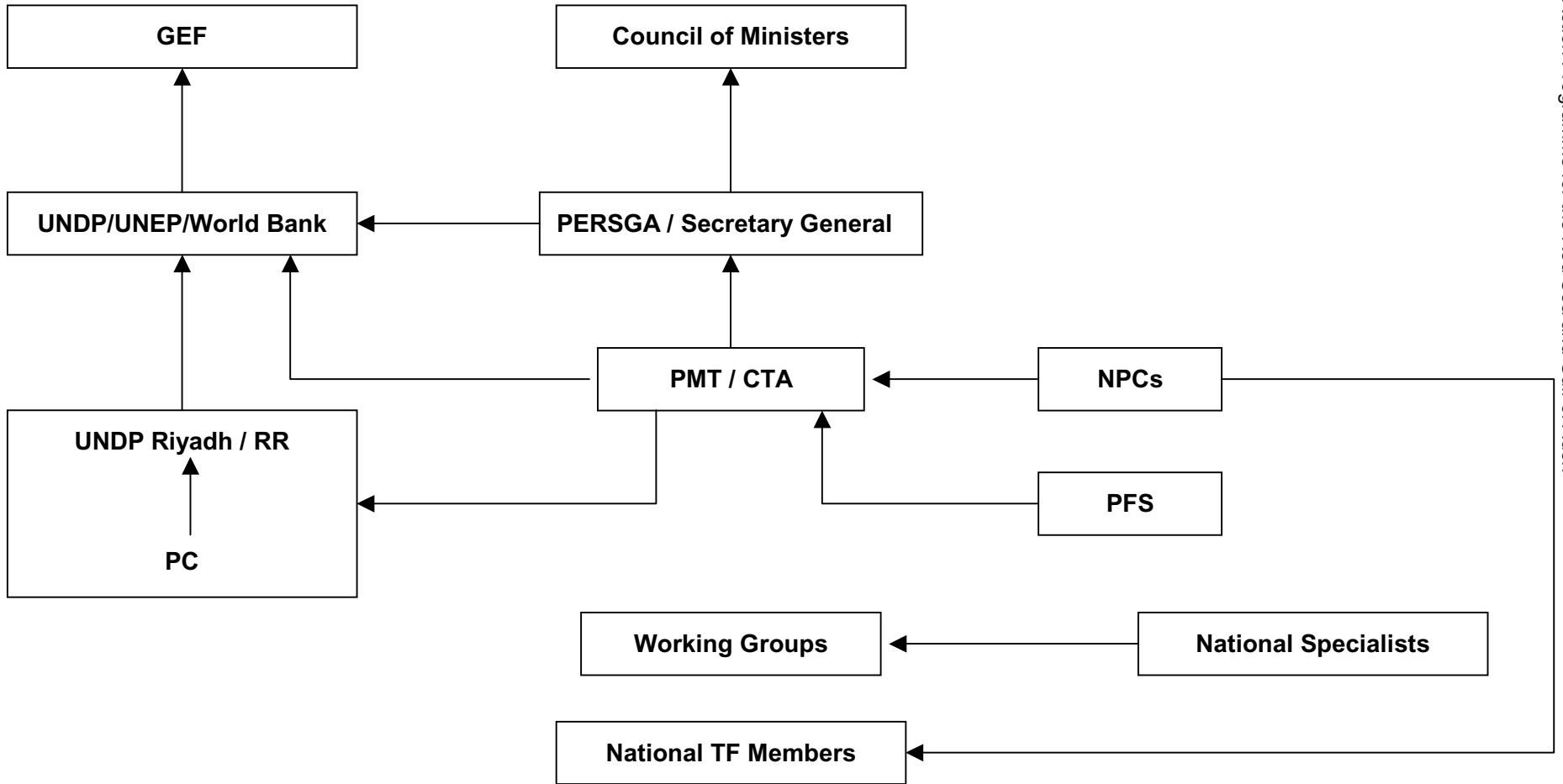
Timing: Mid-term evaluation: During third year of Project implementation. *Final evaluation:* Not later than four months prior to Project closure.

Distribution: PERSGA, UNDP, UNEP, World Bank, GEF Secretariat. This report may also be shared with parties outside the three GEF implementing agencies, upon their request in accordance with established GEF policy.

- *Ad hoc Reporting and Substantive Reports.* The Project will be producing a large number of ad hoc substantive reports within the thematic areas in which it is operating. These reports will be produced at either the national or regional levels for a variety of purposes.

Distribution: As per intention of report. Additional distribution: PERSGA, UNDP, UNEP, World Bank.

**Figure 1. Project Management Organisational Chart
(Line of Reporting / Lines of Information Flow)**



← Line of Reporting
Free Information flow between boxes
PFS Procurement/Finance Specialist
PC Programme Co-ordinator
NPCs National Project Co-ordinators

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.1 CHIEF TECHNICAL ADVISOR

The objective of this long-term (5 years) technical assistance is to provide support for the timely and effective implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden, and efficient integration of all programme components implemented by the three GEF implementing agencies.

Scope of Work

The Chief Technical Advisor (CTA) will assist in upgrading the institutional capacities of the PERSGA National Focal Points to ensure effective implementation of the SAP.

The CTA will bring substantial experience in project management as well as technical and substantive matters to the Project and will assist the Secretary General of PERSGA to successfully introduce new skills and management systems for implementation of the SAP.

Tasks

In consultation with the PERSGA Secretary General, and representatives of UNDP, UNEP and the World Bank, the CTA will:

- Supervise, co-ordinate and assist with the initiation and implementation of all GEF-funded SAP activities, consultancies, procurement actions and Project components.
- Supervise and assist the five component specialists, based at PERSGA headquarters, with their work planning and implementation in line with SAP documentation.
- Supervise, and where necessary, assist the GEF-funded NPCs in strengthening the implementation of national SAP activities, including assistance with planning, budgeting and reporting.
- Support the nationally-funded PERSGA Focal Points and TF members in their integration and involvement in the GEF-funded Project.
- Assist the PERSGA Secretary General, when so requested, in resource mobilisation from a range of public and private sector organisations in support of PERSGA's mandate and implementation of the SAP.
- Supervise and assist the GEF-funded Procurement/Finance Specialist in procurement and finance-related functions, in accordance with GEF implementing agency requirements for procurement standards and financial management and monitoring.

Reporting

The CTA will report, in parallel track, to the Secretary General of PERSGA and to UNDP/UNOPS through the UNDP Resident Representative, based in Riyadh, in the following manner:

- *On a monthly basis:* A brief narrative report (maximum 2 pages) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: PERSGA, UNDP, UNEP and World Bank for internal use only.
- *On a six-monthly basis:* A substantive budget revision for the UNDP portion of the Project to be prepared in co-ordination with the Riyadh Office of the UNDP Resident Representative. Upon clearance of the revision by GEF/RBAS, this revision will be signed. Similar budgetary work may also be required at the same intervals for UNEP and World Bank components of the Project.
- *On an annual basis:* A consolidated Annual Project Report (in accordance with UNDP format) to be prepared prior to the Annual Project Review. Distribution: PERSGA, UNDP, UNEP and World Bank.
- Annual Project Implementation Review report (in accordance with GEF format) to be prepared prior to the GEF Global Project Review. Distribution: PERSGA, UNDP, UNEP and World Bank for submission to the GEFSEC.
- An updated work plan, reflecting status of Project implementation to be completed in draft prior to the Annual Project Review. Distribution: PERSGA, UNDP, UNEP and World Bank.
- *Ad hoc reporting:* In addition to the above, the CTA may also be requested to prepare ad hoc reports on specific aspects of the Project. Such requests will at all times be channelled through the UNDP Resident Representative's office, in order to streamline and minimise ad hoc reporting requests.

Qualifications Required

- Advanced degree from an international recognised university in marine sciences, coastal zone management or environmental sciences.
- Ten years experiences in the management of complex marine projects, preferably in the Middle East and North Africa region.
- Proven successful track record in the management and backup of field and scientific staff.
- Strong management skills, with good capacities for technical, on-the-job training, delegation and interpersonal skills.
- Ability to write reports and project management plans in English.
- Demonstrated ability to manage budgets and project expenditures.
- Fluency in English is required and operational knowledge of Arabic and French is desirable.
- Ability to train and work effectively with counterpart staff at all levels.
- Strong interpersonal skills with the ability to effectively communicate with all social groups involved in the Project, including Government officials, representatives of the private sector and civil society, and local groups such as subsistence fishing communities.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.2 UNDP PROGRAMME CO-ORDINATOR

A Project of this size requires continuous support and technical backstopping from the office of the UNDP Resident Representative. A UNDP Programme Co-ordinator (UNDP-PC) will be recruited to fulfil this task. Under the general supervision of the Resident Representative, the UNDP-PC performs the function of a specialist in environment matters. The UNDP-PC is responsible to provide expert advice to UNDP and other GEF implementing agencies, Governments of the PERSGA Region and the donor community on all matters relating to the efficient implementation of the Project. Duties include:

- Co-ordinating tasks for the efficient implementation of the UNDP component in close co-operation with the CTA.
- Liaising with GEF implementing agencies to ensure efficient co-ordination.
- Supporting PERSGA in international recruitment and procurement.
- Ensuring the overall technical integrity of the Project from UNDP's backstopping and supervision perspective.
- Linking with other UNDP offices in the PERSGA Region and providing support for backstopping and supervision for those offices on the more technical aspects of the Project.
- Ensuring linkages with other GEF international waters initiatives and/or projects and ensuring lessons learned are transmitted to the Project.
- Assisting in donor co-ordination activities.
- Supporting all GEF and UNDP requirements for reporting and monitoring.

Reporting

The UNDP-PC will report to the UNDP Resident Representative in Riyadh and will keep GEF Task Mangers at UNDP, UNEP and World Bank headquarters informed of the progress made in implementing the SAP. The standard UNDP PAR system will be used for evaluation of staff performance.

Qualifications Required

- Advanced degree from an internationally recognised university in marine sciences, coastal zone management or environmental sciences.
- At least 5 years of experience in marine environmental research and conservation, programme design and implementation with emphasis on the following areas of experience:
 - ◇ UNDP Programming.
 - ◇ GEF Project design and programming.
 - ◇ Experience of local marine issues, having worked within the Arab region.
 - ◇ Full proficiency in English and Arabic.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.3 NATIONAL PROGRAMME CO-ORDINATORS

The Project will have field operations in four countries: Djibouti, northern coast of Somalia, Sudan and Yemen. Five National Programme Co-ordinators (two for Somalia) will be hired to work full-time for the duration of the Project. The NPCs will ensure effective co-ordination and implementation of Project activities at the national level, linking them to the overall Region-wide initiatives. The NPCs will work under the overall guidance of PERSGA, the CTA, PERSGA's National Focal Points and their appointed SAP TF members.

Scope of Work

- Institutional capacity building and upgrading of national capacities in the management of the coastal and marine environment.
- Development, within regional frameworks, of sustainable marine resources management strategy; management systems for MPAs; national frameworks for ICZM; and interventions to reduce navigation risks and maritime pollution.
- Enhancement of public awareness and participation regarding marine environmental issues at the national level.

Tasks

In close co-ordination with the PMT and under the guidance of the PERSGA National Focal Point, the CTA, and the office of the UNDP Resident Representative in the respective country, the NPC will:

- Supervise and co-ordinate the planning and implementation of the national elements of SAP activities, assisting in actions pertaining to procurement, consultancies, recruitment, logistics, budgeting, disbursement, etc.
- Liaise with the PERSGA National Focal Point, other governmental departments and UNDP Country Office at the operational level to ensure smooth implementation of field activities.
- Co-ordinate with the national specialists and Lead Specialists for the effective implementation of activities at the national level, and their linkage to regional activities.
- Co-ordinate the work of national members of the WGs. Prepare and facilitate their meetings, providing them with up-to-date information on the status of programme activities as a whole.
- Participate in the regional TF meetings, prepare and present reports/briefings on the status of programme implementation and plans in the respective country.

- Maintain close contacts with other planned/operational projects in the relevant fields and ensure integration of the SAP regional dimension into those projects.
- Assist the PMT in monitoring and reporting to the GEF agencies. Be responsible for the production of the required reporting from and to (collating from Project components) the Project ad hoc and regular reports.
- Propose new ways and initiatives to support the country's developmental priorities, in consultation with national specialists and based on updated knowledge of the country's developmental perspective.

Reporting

The NPC should be in continuous contact with the PMT in Jeddah but will report in writing and on parallel track to the CTA and the PERSGA National Focal Point, with copies to the Office of the UNDP Resident Representative in the respective country:

- *On a monthly basis:* A brief narrative report (maximum 1 pages) outlining the work accomplished in the preceding period, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: PERSGA, National Focal Point, and UNDP Country Office for internal use only.
- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Report should be discussed with the PERSGA Focal point. Distribution: To the CTA for his incorporation into (i) the PERSGA Annual Report, (ii) the Annual Programme Report and the (iii) GEF Project Implementation Report.
- *On an annual basis:* A workplan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project workplan to be reviewed at the Annual Project Review.
- *Quarterly Financial Reports.* The NPC will be responsible for preparing financial/expenditure reports incurred for the Project at the country level, to be incorporated into Project requests for advance of funds. He/she will be responsible for maintaining Project ledgers, inventories, etc.
- *Ad hoc reporting:* In addition to the above, the NPC may also be requested to prepare ad hoc reports on specific aspects of the Project as the need arises.

Qualifications Required

- Relevant university degree, preferably, M. Sc. or Ph.D., in marine sciences, coastal zone management and/or environmental sciences.
- Five years experiences in marine and/or environmental issues and project management.
- Good management skills, with good capacity for technical, on-the-job training.

- Excellent interpersonal skills and good team spirit.
- Ability to write reports and project management plans in English, or in the case of Djibouti in French.
- Willingness to participate in field activities/surveys and travel to remote areas within the country.
- Fluency in English, Arabic and/or French as required for the specific country.
- Knowledge in use of computer software packages for word-processing, databases and spreadsheets. Familiarity with modern communication systems (such as INTERNET, World Wide Web, e-mail, etc.)

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.4 PROCUREMENT/FINANCE SPECIALIST

The Procurement/Finance Specialist (PFS) holds the overall responsibility for all procurement actions undertaken in the GEF-funded Project and for overall financial management of the Project funds.

Accountancy Duties

- Develops/monitors/analyses Project budget ledgers and Project allocations versus expenditures at the budget line levels, country level, regional level and SAP component level.
- Establishes and updates Project budget ledgers, in accordance with UNDP, UNEP and World Bank required formats, and monitors Project expenditures.
- In consultations with the CTA, designs and prepares Project cost projections for the current year expenditures, in order to make accurate delivery projections and realistic budgeting.
- In consultation with the Component Specialists and the CTA, prepares and verifies budget revisions twice yearly, in October (“October Rephasal”) and April (“Mandatory”) and in collaboration with UNDP/Riyadh and GEF/RBAS, issues UNDP budget revisions for signature by the Executive Secretary/PERSGA and the UNDP Resident Representative/Saudi Arabia. Support for such activities will also be provided to UNEP and the World Bank at intervals appropriate for their fiscal years.
- Oversees and prepares financial transactions, payments and purchase orders, in accordance with established PERSGA and UNDP, UNEP and World Bank procedures.

Procurement Duties

- Sources materials and vendors world-wide; prepares short-lists; issues invitations to bid or requests for quotations; analyses offers, recommends awards and issues purchases after securing most advantageous procurement terms and conditions in accordance with UNDP/World Bank Procurement Rules and Regulations. Reviews and analyses procurement requisition/plan, verifies, clarifies and ascertains adequacy of specifications and target delivery dates. Traces undelivered shipments and prepares cargo insurance claims.
- Is responsible for maintaining working files and records; is responsible for correspondence for procurement activities; seeks legal advice where appropriate; maintains budgetary control over procurement matters; prepares procurement progress reports and financial records as and when required; ensures the application of UNDP/World Bank Financial Rules and Regulations.
- Maintains appropriate business relations with suppliers and liaises with CTA and Project personnel. Obtains technical clearances from CTA for all technical bids.

Maintains current market knowledge by evaluation of technical data, price and payment terms, visits and phone/e-mail interviews and contacts.

- Resolves post-order problems (i.e., shipping delays, commissioning of equipment, incorrect deliveries, order cancellations, damages, etc.). Organises shipping logistics of equipment orders. Is abreast of INCOTERMS.
- Prepares short-list of suppliers based on firm capabilities. Disseminates bidding opportunities to international firms through advertisements and trade offices, when appropriate.

Guidelines

The following written and unwritten guidelines will be applied to performing the duties of the post:

Written

- UNDP Financial Rules and Regulations.
- World Bank Financial Rules and Regulations.
- UNDP Programme and Projects Manual.
- General Administration Handbook.
- UNOPS Handbook.

Unwritten

- Common sense in applying proper business practise and sound purchasing principles.
- Know when to negotiate and how to achieve goals successfully.
- Maintain sound ethical principles, integrity and transparency of due process.

Reporting

The Procurement and Finance Specialist will report to the UNDP Resident Representative in Riyadh and to the Secretary General of PERSGA, through the CTA.

Qualifications

- A higher degree in financial management, procurement services or accountancy.
- Five years work experience in either the procurement or project finance management field.
- Willingness to engage equally well in both requirements of the job (accountancy and procurement) irrespective of emphasis of previous training and experience.
- Knowledge of UN project management procedures.
- Full and up-to-date computer literacy, especially in all MS and Windows-based applications, including Excel, Word, and other relevant software.
- Full fluency in English and Arabic.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.5 NAVIGATION ADVISOR

Under the overall supervision of the Secretary General of PERSGA and the CTA, the Navigation Advisor will provide long-term (4 years) technical assistance, on a part-time basis, and support for the timely and effective implementation of the Reduction of Navigation Risks and Maritime Pollution Component of the GEF-funded Strategic Action Programme for the Red Sea and Gulf of Aden. The Navigation Advisor will serve as the Chairperson of the Navigation WG and will be authorised to retain the services of international and/or regional consultants to support the work.

Scope of Work

- Capacity building at the regional and national level and training in navigation and maritime pollution issues within the Red Sea and Gulf of Aden Region.
- Development and implementation of regional agreements on PSC.
- Development and implementation of TSS and VTS.
- Oil Spill Contingency Planning.

Tasks

Under the guidance of the CTA, the UNDP-PC and the Procurement Specialist, the Navigation Advisor will:

- Supervise and co-ordinate the planning and implementation of this component (at the regional and national levels) of GEF-funded SAP activities, consultancies and procurement actions. This will include serving as the Chairperson of the Navigation WG and undertaking the planning and co-ordination of its meetings.
- Re-examine and, following discussion with national organisations and the relevant IMO Committee, assist in implementing additional TSS and routing measures proposed for the Red Sea and Gulf of Aden.
- Review Port Regulations at each port in the Region to ensure the inclusion in these rules of essential safety clauses, such as the requirement for anchors to be ready for dropping from the time a vessel reaches the port approaches, to berthing, to final departure from the port. Formulate “model” rules on safety for use by regional ports.
- Review the need for and measures required to establish VTS in the Region, in particular at the southern end of the Red Sea, and for monitoring traffic in the central section of the Red Sea (following the introduction of marine transponders on ships) in the Jeddah area.
- Verify the proposed Terms of Reference for the re-survey of waters and coastlines in the Region and the areas to be surveyed, evaluate the results of the proposed initial surveys and prepare recommendations on the need for new navigational charts.

- Verify requirements for new navigational aids in the Region.
- Collate all relevant information on the current status of Maritime Conventions in each country in the Region and determine what constraints each country faces in ratifying these conventions, drawing on the experience of other regions of the world to promote ratification of the main conventions relating to PSC in the Region.
- Reconsider the need to establish a separate Memorandum of Understanding on Port State Control within the Red Sea and Gulf of Aden, consider the advantages, or otherwise, and implications of all states in the Region joining the IOMoU on Port State Control, and reach agreement on future actions. Review proposals for training PSC Officers to international standards and establish reporting procedures in the Region. Arrange for training and reporting to be implemented.
- Receive reports on serious maritime accidents within the Region, review the circumstances leading to these and formulate methods of avoiding the repetition of such accidents in future.
- Formulate regional Contingency Plans for Oil Spill Response, including consideration of available expertise and equipment, identify shortfalls and define methods of addressing the problems discovered.
- Formulate regional Search and Rescue plans, taking into account other initiatives in the Indian Ocean region and drawing upon assistance from other concerned organisations.
- Define the current situation relating to the requirements of the GMDSS within the Region and implement these requirements in terms of equipment and availability of skilled personnel.
- Tasks 2, 3, 4, 5, 6, 9, 10 and 11 will be completed with the support of inputs from consultants with the appropriate expertise, who will be charged with the preparation of reports on these elements prior to their review by the WG.

Reporting

The Navigation Advisor will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the Navigation Advisor will update the CTA and other team members on work planning, activities, progress and other relevant issues. (As the Advisor will not necessarily reside in the same location as the PMT, the briefing will be made through a telephone or e-mail link with the PMT). The Advisor should travel to Jeddah and attend one meeting each quarter.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: To the CTA for his incorporation into his monthly report.

- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for his incorporation into (i) the PERSGA Annual Report, (ii) the Annual Programme Report and the (iii) GEF Project Implementation Report.
- *On an annual basis:* A work plan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project work plan to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the Navigation Advisor to prepare ad hoc reports on specific aspects of the Project for specific purposes as these may arise.

Qualifications Required

- Relevant professional training and experience in maritime affairs and pollution management. It is desirable that the Navigation Advisor have direct experience as either deck or engineering officer in the navy and/or merchant marine.
- Ten years experience following graduation working in the maritime industry with experience in the operation of vessels and the management of marine pollution; this should include relevant experience with navigation issues in the Middle East and North Africa region.
- Proven successful track record in the backup of field and scientific staff.
- Good management skills, with good capacities for technical, on-the-job training.
- Excellent interpersonal skills and good team spirit.
- Ability to write reports and project management plans in English and Arabic.
- Fluency in English and Arabic.
- Willingness to travel to remote areas in the Region.
- Ability to train and work effectively with counterpart staff at all levels.
- Strong interpersonal skills with the ability to effectively communicate and deal with all social groups involved in the Project, including Government officials, representatives of the private sector and civil society, and local groups such as subsistence fishing communities.
- The Navigation Advisor should be a national of one of the PERSGA member countries, but need not be residing in country of origin at the time of application.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.6 LIVING MARINE RESOURCES SPECIALIST

Under the overall supervision of the Secretary General of PERSGA and the CTA, the Living Marine Resources Specialist (LMR Specialist) will provide long-term (4 years) technical assistance and support for the timely and effective implementation of the LMR Component of the GEF-funded Strategic Action Programme for the Red Sea and Gulf of Aden.

Scope of Work

- Capacity building at the national level and training for sustainable management of LMR at the national and regional levels within the Region.
- Development of sustainable management strategy for transboundary fishstocks and invertebrates.
- Development of sustainable management strategy for demersal fish stocks and marine invertebrates.
- Establishment of the legal and policy framework for conservation and sustainable management of LMR.

Tasks

Under the guidance of the CTA, the UNDP-PC and the PFS, the LMR Specialist will:

- Supervise and co-ordinate the planning and implementation of the regional and national LMR Component of the GEF-funded SAP activities, consultancies, procurement actions.
- Co-ordinate with the other component specialists, especially the Habitats, MPA and ICZM component specialists, regarding the overall planning and implementation of the LMR component at the regional and national levels.
- Supervise and assist the GEF-funded country-based NPCs (Djibouti, Somalia, Sudan and Yemen) in strengthening the implementation of LMR activities at the national level, including assistance with planning, budgeting and reporting.
- Support the nationally-funded PERSGA Focal Points (all PERSGA countries) in their integration and involvement in the GEF-funded Project.
- In close consultation with the CTA and the Procurement/Finance Specialist, ensure that planning for procurement of goods and services at both regional and national levels for the LMR component are handled effectively and efficiently, in accordance with PERSGA and GEF implementing agency requirements for procurement standards and financial management and monitoring.
- Be responsible for the production of the required reporting on the LMR activities at the national and regional levels.

Reporting

The LMR Specialist will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the LMR Specialist will update the CTA and other team members on work planning, activities, progress and other relevant issues.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: To the CTA for his incorporation into his monthly report.
- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for his incorporation into (i) the PERSGA Annual Report, (ii) the Annual Programme Report and the (iii) GEF Project Implementation Report.
- *On an annual basis:* A work plan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project work plan to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the LMR Specialist to prepare ad hoc reports on specific aspects of the Project for specific purposes as these may arise.

Qualifications Required

- Relevant M.Sc. or Ph.D. in fishery and/or marine sciences.
- Five years experience following graduation working in the implementation of marine projects, preferably in the Middle East and North Africa region.
- Proven successful track record in the backup of field and scientific staff.
- Good management skills, with good capacities for technical, on-the-job training.
- Excellent interpersonal skills and good team spirit.
- Ability to write reports and project management plans in English and Arabic.
- Fluency in English and Arabic.
- Willingness to travel to remote areas in the Region and live in camp conditions.
- Ability to train and work effectively with counterpart staff at all levels.
- Strong interpersonal skills with the ability to effectively communicate and deal with all social groups involved in the Project, including Government officials, representatives of the private sector and civil society, and local groups such as subsistence fishing communities.
- The LMR Specialist should be a national of one of the PERSGA member countries, but need not be residing in country of origin at the time of application.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.7 HABITAT AND BIODIVERSITY SPECIALIST

Under the overall supervision of the Secretary General of PERSGA and the CTA, the Habitat and Biodiversity Specialist (HAB Specialist) will provide long-term (5 years) technical assistance and support for the timely and effective implementation of the Habitat and Biodiversity Component of the GEF-funded Strategic Action Programme for the Red Sea and Gulf of Aden.

Scope of Work

- Capacity building at the national level and training for the conservation of habitats and biodiversity at the national and regional levels within the Red Sea and Gulf of Aden Region.
- Development of regional conservation plan for turtles, seabirds and marine mammals.
- Development of regional conservation plan for key habitats, such as mangroves, seagrass beds and coral reefs.
- Establishment of the legal and policy framework for conservation of habitats and biodiversity.

Tasks

Under the guidance of the CTA, the UNDP-PC and the PFS, the HAB Specialist will:

- Supervise and co-ordinate the planning and implementation of the regional and national Habitat and Biodiversity Component of the GEF-funded SAP activities, consultancies, and procurement actions.
- Co-ordinate with the other component specialists, especially the LMR and MPA component specialists, regarding the overall planning and implementation of the Habitat and Biodiversity Component at the regional and national levels.
- Supervise and assist the GEF-funded country-based NPCs (Djibouti, Somalia, Sudan and Yemen) in strengthening the implementation of LMR activities at the national level, including assistance with planning, budgeting and reporting.
- Support the nationally-funded PERSGA Focal Points (all PERSGA countries) in their integration and involvement in the GEF-funded SAP.
- In close consultation with the CTA and the Procurement/Finance Specialist, ensure that planning for procurement of goods and services at both regional and national levels for the LMR component are handled effectively and efficiently, in accordance with PERSGA and GEF implementing agency requirements for procurement standards and financial management and monitoring.
- Be responsible for the production of the required reporting on the Habitat and Biodiversity activities at the national and regional levels.

Reporting

The HAB Specialist will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the HAB Specialist will update the CTA and other team members on work planning, activities, progress and other relevant issues.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: To the CTA for his incorporation into his monthly report.
- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for his incorporation into (i) the PERSGA Annual Report, (ii) the Annual Programme Report and the (iii) GEF Project Implementation Report.
- *On an annual basis:* A work plan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project work plan to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the HAB Specialist to prepare ad hoc reports on specific aspects of the Project for specific purposes as these may arise.

Qualifications Required

- Relevant M.Sc. or Ph.D. in marine biology.
- Five years experience following graduation working in the implementation of marine projects; preferably in the Middle East and North Africa region.
- Proven successful track record in the backup of field and scientific staff.
- Good management skills, with good capacities for technical, on-the-job training.
- Excellent interpersonal skills and good team spirit.
- Ability to write reports and project management plans in English and Arabic.
- Fluency in English and Arabic.
- Willingness to travel to remote areas in the Region and live in camp conditions.
- Ability to train and work effectively with counterpart staff at all levels.
- Strong interpersonal skills with the ability to effectively communicate and deal with all social groups involved in the Project, including Government officials, representatives of the private sector and civil society, and local groups such as subsistence fishing communities.
- The HAB Specialist should be a national of one of the PERSGA member countries, but need not be residing in the country of origin at the time of application.

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A.8 MARINE PROTECTED AREAS (MPA) SPECIALIST

Under the overall supervision of the Secretary General of PERSGA and the CTA, the MPA Specialist will provide long-term (4 years) technical assistance and support for the timely and effective implementation of Marine Protected Areas Component of the GEF-funded Sea Strategic Action Programme for the Red Sea and Gulf of Aden.

Scope of Work

- Organisation and development of capacity building and training in MPA management within the Region.
- Development of a common framework for regional MPA planning.
- Development of a regional framework for the regular exchange of expertise and experience in the field of MPA management.
- Supervision of management of habitat, biodiversity and resource use surveys in various countries of the Region.

Tasks

Under the guidance of the CTA, the UNDP-PC and the PFS, the MPA Specialist will:

- Supervise and co-ordinate the planning and implementation of the regional and national MPA component of the GEF-funded SAP activities, consultancies, and procurement actions.
- Lead the team of MPA specialists in each of the PERSGA member countries by acting as the motivating force to promote the implementation of activities listed in the SAP implementation document.
- Co-ordinate fully with all other component specialists, but especially the ICZM and LMR component specialists, regarding the overall planning and implementation of the MPA component at the regional and national levels.
- Co-ordinate with and assist the GEF-funded country-based NPCs (Djibouti, Somali, Sudan and Yemen), providing assistance with planning, budgeting and reporting.
- Support the PERSGA National Focal Points (all PERSGA countries) in their integration and involvement in the GEF-funded SAP.
- In close consultation with the CTA and the Procurement/Finance Specialist, ensure that planning for procurement of goods and services at both regional and national levels for the MPA component are handled effectively and efficiently, in accordance with PERSGA and GEF implementing agency requirements for procurement standards and financial management and monitoring.
- Be responsible for the production of the required reports on MPA activities at the national and regional levels.

Reporting

The MPA Specialist will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the MPA Specialist will update the CTA and other team members on work planning, activities, progress and other relevant issues.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or quality of work. Distribution: To the CTA for incorporation into his monthly report.
- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for incorporation into (i) the PERSGA Annual Report, (ii) the Annual Programme Report and (iii) GEF Project Implementation Report.
- *On an annual basis:* A work plan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project work plans to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the MPA Specialist to prepare ad hoc reports on specific aspects of the Project for specific purposes as these may arise.

Qualifications Required

- An advanced degree from an internationally recognised university in marine sciences.
- Five or more years of experience in MPA development.
- Experience in preparation or execution of training courses.
- Proven management and administrative skills.
- Familiarity with the procedures of international organisations would be an asset.
- Fluency in Arabic and English.
- Ability to write management plans in both Arabic and English.
- Willingness to travel to remote areas in the Region and live in camp conditions.
- Ability to assist with the training of staff in PERSGA member countries.
- Strong interpersonal skills with the ability to effectively communicate and deal with all social groups involved in the Project, including Government officials, representatives of the private sector and civil society, and local groups such as subsistence fishing communities.
- The MPA Specialist should be a national of one of the PERSGA member countries, but need not be residing in the country of origin at the time of application.
- Familiarity with the procedures of international organisations would be an asset.

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A.9 INTEGRATED COASTAL ZONE MANAGEMENT (ICZM) SPECIALIST

Under the overall supervision of the Secretary General of PERSGA and the CTA, the ICZM Specialist will provide long-term (4 years) technical assistance and support for the timely and effective implementation of the Integrated Coastal Zone Management Component of the GEF-funded Strategic Action Programme for the Red Sea and Gulf of Aden.

Scope of Work

- Organisation and development of capacity building and training, at the national level, in coastal zone management and environmental assessment within the Red Sea Region.
- Development of a common framework for regional ICZM planning.
- Co-ordinate preparation of ICZM plans for selected areas in co-operation with national and local counterparts.
- Development of a regional framework for the regular exchange of expertise and experience in the field of coastal zone management.
- Establishment of guidelines for standardisation and updating of GIS systems within the Region.

Tasks

Under the guidance of the CTA, the UNDP-PC and the PFS, the ICZM Specialist will:

- Supervise and co-ordinate the planning and implementation of the regional and national ICZM component of the GEF-funded Sea SAP activities, consultancies, and procurement actions.
- Lead the team of ICZM specialists in each of the PERSGA member countries by acting as the motivating force to promote the implementation of activities listed in the SAP implementation document.
- Co-ordinate fully with all other component specialists, but especially the MPA and LMR component specialists, regarding the overall planning and implementation of the ICZM component at the regional and national levels.
- Co-ordinate and assist the GEF-funded, country-based NPCs (Djibouti, Somalia, Sudan and Yemen) in strengthening the implementation of ICZM activities at the national level, including assistance with planning, budgeting and reporting.
- In close consultation with the CTA and the Procurement/Finance Specialist, ensure that planning for procurement of goods and services at both regional and national levels for the ICZM component are handled effectively and efficiently, in accordance with PERSGA and GEF implementing agency requirements for procurement standards and financial management and monitoring.

- Be responsible for the production of the required reports on ICZM activities at the national and regional levels.

Reporting

The ICZM Specialist will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the ICZM Specialist will update the CTA and other team members on work planning, activities, progress and other relevant issues.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or quality of work. Distribution: To the CTA for incorporation into his/her monthly report.
- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for incorporation into (i) the PERSGA Annual Report, (ii) the Annual Substantive Project Progress Report and (iii) GEF Project Implementation Review.
- *On an annual basis:* A work plan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project work plans to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the ICZM Specialist to prepare ad hoc reports on specific aspects of the Project for specific purposes as these may arise.

Qualifications Required

- Advanced degree from an internationally recognised university in coastal zone management, land use planning, marine sciences and/or environment sciences.
- Five or more years of experience in working in Government or the private sector in land use planning and management.
- At least one year of experience and/or training in the field of coastal zone management.
- Proven management and administrative skills.
- Familiarity with the procedures of international organisations would be an asset.
- Fluency in Arabic and English.
- Ability to write ICZM plans in both Arabic and English.
- Willingness to travel to remote areas in the Region and live in camp conditions.
- Ability to assist with the training of staff in PERSGA member countries.

- Strong interpersonal skills with the ability to effectively communicate and deal with all social groups involved in the Project, including Government officials, representatives of the private sector and civil society, and local groups such as subsistence fishing communities.
- The ICZM Specialist should be a national of one of the PERSGA member countries, but need not be residing in the country of origin at the time of application.

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A.10 PUBLIC AWARENESS SPECIALIST

Under the overall supervision of the Secretary General of PERSGA and the CTA, the Public Awareness Specialist (PA Specialist) will provide long-term (5 years) technical assistance and support for the timely and effective implementation of the Public Awareness and Participation Component of the Strategic Action Programme for the Red Sea and Gulf of Aden.

Scope of Work

- Capacity building at the national level and training for public awareness and participation and environmental education at the national and regional levels within the Region.
- Development of public awareness education and training programmes.
- Development of micro-grants schemes.
- Promotion of role of NGOs and local groups.
- Development of monitoring and evaluation programme.

Tasks

Under the guidance of the CTA, the UNDP-PC and the Procurement Specialist, the PA Specialist will:

- Supervise and co-ordinate the planning and implementation of the regional and national PA component of the GEF-funded SAP activities, consultancies, procurement actions and Project components.
- Co-ordinate with the other component specialists (all components) for the overall planning and implementation of the PA component at the regional and national levels.
- Supervise and assist the GEF-funded country based Red Sea NPCs (Djibouti, Somalia, Sudan and Yemen) in strengthening the implementation of PA activities at the national level, including assistance with planning, budgeting and reporting.
- Following a review of micro-grants operational in other countries, for example, GEF Small Grants Programme, Africa 2000, Partners in Development, and others, the Public Awareness Specialist will design and backstop the NGO/grassroots micro-grant programme.
- Support the nationally-funded PERSGA Focal Points and TF members in their integration and involvement in the GEF-funded Project.
- Be responsible for the production of the required reporting from and to (collating from other components) the PA activities at the national and regional levels.

Reporting

The PA Specialist will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the PA Specialist will update the CTA and other team members on work planning, activities, progress and other relevant issues.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: To the CTA for incorporation into his monthly report.
- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for his incorporation into (i) the PERSGA Annual Report, (ii) the Annual Programme Report and the (iii) GEF Project Implementation Report.
- *On an annual basis:* A workplan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project workplan to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the PA Specialist to prepare ad hoc reports on specific aspects of the Project for specific purposes as these arise.

Qualifications Required

- Relevant B.A., M.Sc. or Ph.D. in communications, public relations, applied social sciences, and/or public awareness / environmental education.
- At least five years experience following graduation working in the implementation of environmental education and public awareness projects.
- Good management skills, with good capacities for technical, on-the-job training.
- Excellent computer skills (ability to design and produce PA materials) and familiarity with modern communication systems and public outreach (such as INTERNET, World Wide Web, e-mail, etc).
- Excellent interpersonal skills and good team spirit.
- Fluency in English and Arabic. Ability to write reports and project management plans in English and Arabic. A working knowledge of French would also be desirable although not required.
- Willingness to travel to remote areas in the Red Sea and live in camp conditions.
- Ability to train and work effectively with counterpart staff at all levels.
- Strong interpersonal skills with the ability to effectively communicate and deal with all social groups involved in the Project, including Government officials,

representatives of the private sector and civil society, and local groups such as subsistence fishing communities. Also good skills to communicate with the media.

- The PA Specialist should be a national of one of the PERSGA member countries, but need not be residing in country of origin at the time of application.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.11 EDITOR

Under the overall supervision of the Secretary General of PERSGA and the CTA, the Editor will provide long-term (5 years) technical assistance and support for the timely and effective dissemination of information about the GEF-funded Strategic Action Programme for the Red Sea and Gulf of Aden to a wide audience. The Editor will be in charge of the technical editing of Project reports and publications.

Scope of Work

- Development of capacity to disseminate information about the SAP to a wide audience, including the general public regionally and internationally.
- Development of skills and capacity in the preparation of reports and publications at the highest professional level.

Tasks

Under the guidance of the CTA, the UNDP-PC and the PFS, the Editor will:

- Prepare Project information for dissemination to a wider public through various channels.
- Prepare press releases and maintain contacts, on request by the Secretary General, with the regional and international press.
- Develop and maintain a Project website on the Internet.
- Be responsible for the technical editing and layout of Project reports and publications.
- Train technical personnel from the Region in the preparation of reports in English.

Reporting

The Editor will report to the CTA in the following manner:

- *On a weekly basis:* Through weekly Project team meetings, the Editor will update the CTA and other team members on work planning, activities, progress and other relevant issues.
- *On a monthly basis:* A brief narrative report (maximum 1 page) outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or quality of work. Distribution: To the CTA for incorporation into his/her monthly report.

- *On an annual basis:* A substantive progress report, prepared against the agreed work plan, outlining in greater detail activities undertaken, substantive accomplishments made, and a discussion of issues which will affect the work plan for the coming twelve months. Distribution: To the CTA for incorporation into (i) the PERSGA Annual Report, (ii) the Annual Substantive Project Progress Report and (iii) GEF Project Implementation Review.
- *On an annual basis:* A work plan outlining activities planned and the time frame for their implementation. Distribution: To the CTA for his incorporation into overall Project work plans to be reviewed at the Annual Project Review.
- *Ad hoc reporting:* In addition to the above, the CTA may also request the Editor to prepare ad hoc reports on specific aspects of the Project for specific purposes as these may arise.

Qualifications Required

- A bachelors and/or masters degree from an internationally recognised university combined with relevant professional experience as an editor.
- Excellent knowledge of English, including grammar (preferably English native speaker); basic knowledge of Arabic will be an advantage.
- Experience in technical editing of manuscripts.
- Proven management and administrative skills.
- Excellent interpersonal skills and good team spirit. The ability to communicate effectively with people of various backgrounds.
- Willingness to travel throughout the Region.
- Ability to train staff in PERSGA member countries.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.12 PART-TIME NATIONAL SPECIALISTS

National Specialists, working on a part-time basis, will be part of six specialist WGs in the themes of the Strategic Action Programme for the Red Sea and Gulf of Aden. The National Specialists will play an important role in implementing the SAP and achieving its objectives. Their work will be vital in transferring experiences and lessons learned from the national to the regional levels and vice versa.

Each national specialist will be linked to the Lead Specialist of the respective WG through the Project facility of the offices of the NPC and PERSGA National Focal Points.

Tasks

Under the guidance of the PERSGA-based Lead Specialist and the NPC/Focal Point, the National Specialist will, in general, perform the following tasks:

- Facilitate the implementation of the SAP for the respective theme, providing technical advice from the national perspective.
- Establish strong technical links to and actively participate in the respective WG ensuring dual flow of scientific information between the national and the regional elements of the SAP.
- Assist in organising and conducting national and regional workshops/training programmes in the respective theme of the SAP.
- Assist in conducting training needs assessments, developing and implementing training programmes specific to the country.
- Serve as a link with the Government implementing agency for the theme/component and ensure mainstreaming of SAP activities into the work programme of that agency.

Reporting

The National Specialist will report on parallel track to the NPC and the Lead Specialist of the respective WG, in the following manner:

- *On a bi-monthly basis:* A brief narrative report (maximum 2 pages) outlining the work accomplished in the preceding period, an outline of the work expected to be completed during the next progress reporting period and, if appropriate, comments or recommendations relating to any unforeseen conditions which may affect the progress or the quality of work. Distribution: NPC, PERSGA National Focal Point, and Lead Specialist for internal use only.
- *On an annual basis:* A consolidated report on work accomplished during the year, to be included into the overall Annual Project Report and other Project reports. Distribution: NPC, Lead Specialist and National Focal Point.

- *Ad hoc reporting:* In his/her capacity as a specialist in the respective field, and in addition to the above, the National Specialist may also be requested to prepare technical papers/reports to be used for regional seminars and other meetings.

Qualifications Required

- Relevant B.S., M. Sc. or Ph.D. from an internationally recognised university in marine sciences, coastal zone management and/or environmental sciences. In the case of individuals participating in the Navigation WG, professional training and experience in maritime affairs, navigation and/or marine pollution control is required.
- Good communication and reporting skills.
- Ability to network with others and be an active member of a team of specialists.
- Ability to write reports and project management plans in English or in the case of Djibouti in French.
- Willingness to participate in field activities/surveys and travel to remote areas within the country.
- Fluency in English, Arabic and/or French.

Consideration

The National Specialist will work from his/her home base and preferably be located in the Government implementing agency for that particular theme/component. The nature of the work will not require recruitment on a full-time basis and contracts will be established on an as-need basis for specific outputs, reports and documents to be produced. More importantly, the Specialist will be offered unique training and networking opportunities that will definitely increase self-capacities and experience arising from the association with this Project.

National Specialists will be requested to join the following WGs:

- Navigation WG.
- Sustainable Use of LMR WG.
- Habitat/Wildlife WG.
- Marine Protected Areas WG.
- Coastal Zone Management WG.
- Public Awareness and Participation WG.

Annex A. Implementation of the Strategic Action Programme for the Red Sea and Gulf of Aden - Terms of Reference

A.13 NAVIGATION WORKING GROUP

The Navigation WG will be established to promote the safety of navigation and protection of the marine environment, in a broad sense, within the Red Sea and Gulf of Aden. It will have a number of specific tasks to perform, as follows:

- Re-examine and, following discussion with national organisations and the relevant IMO Committee, assist in implementing additional TSS and routing measures proposed for the Red Sea and Gulf of Aden.
- Review Port Regulations at each port in the Region to ensure the inclusion in these rules of essential safety clauses, such as the requirement for anchors to be ready for dropping from the time a vessel reaches the port approaches, to berthing, to final departure from the port. Formulate “model” rules on safety for use by regional ports.
- Review the need for and measures required to establish VTS in the Region, in particular at the southern end of the Red Sea, and for monitoring traffic in the central section of the Red Sea (following the introduction of marine transponders on ships) in the Jeddah area.
- Verify the proposed Terms of Reference for the re-survey of waters and coastlines in the Region and the areas to be surveyed, evaluate the results of the proposed initial surveys and prepare recommendations on the need for new navigational charts.
- Verify requirements for new navigational aids in the Region.
- Collate all relevant information on the current status of Maritime Conventions in each country in the Region and determine what constraints each country faces in ratifying these conventions, drawing on the experience of other regions of the world to promote ratification of the main conventions relating to PSC in the Region.
- Reconsider the need to establish a separate Memorandum of Understanding on Port State Control within the Red Sea and Gulf of Aden; consider the advantages, or otherwise, and the implications of, all states in the Region joining the IOMoU on Port State Control; and reach agreement on future actions. Review proposals for training PSC Officers to international standards and establish reporting procedures in the Region. Arrange for training and reporting to be implemented.
- Receive reports on serious maritime accidents within the Region, review the circumstances leading to these and formulate methods of avoiding the repetition of such accidents in future.
- Formulate regional Contingency Plans for Oil Spill Response, including consideration of available expertise and equipment, identify shortfalls and define methods of addressing the problems discovered.
- Formulate regional Search and Rescue plans, taking into account other initiatives in the Indian Ocean region and drawing upon assistance from other concerned organisations.

- Define the current situation relating to the requirements of the GMDSS within the Region and implement these requirements in terms of equipment and availability of skilled personnel.

No.	Components/Activities	1998	1999				2000				2001				2002				2003			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sustainable Use of Living Marine Resources																						
3.1	Establishment of the WG and meetings					X		X		X		X		X		X		X		X		
3.2	Standardized methods for data collection																					
3.3	Design & conduct Fisheries mgmt. courses																					
3.4	Produce Identification Guide to LMR																					
3.5	TOR for transboundary stock assessment																					
3.6	Assess financing opportunity for 3.5																					
3.7	Socio-economic assessment of shark fisheries																					
3.8	Develop & implement Management Strategy for transboundary stocks																					
3.9	PA in support of 3.8																					
3.10	Feasibility study on regional fisheries monitoring and surveillance																					
Conservation of Habitat & Biodiversity																						
4.1	Establishment of the WG and meetings					X		X		X		X		X		X		X		X		
4.2	Conduct training on conservation issues																					
4.3	Seasonal surveys for key species																					
4.4	Develop & implement bio. Conservation plan																					
4.5	Survey status of key habitats																					
4.6	Organize regional workshops																					
4.7	Develop Regional Habitat Conservation Plan																					
4.8	Identify control mechanism to habitat exploitation																					
4.9	Regional agreements/protocols on habitat/stock/wildlife conservation																					
4.10	Study Financing opportunities for 4.4&7																					
Regional Network of MPAs																						
5.1	Establishment of WG and meetings					X		X		X		X		X		X		X		X		
5.2	Develop Region-specific MPA guidelines																					
5.3	Develop a Regional Master Plan																					
5.4	Conduct MPA training & exchange prog.																					
5.5	Develop & implement site-specific MPs																					
Integrated Coastal Zone Management																						
6.1	Establishment of WG and meetings					X		X		X		X		X		X		X		X		
6.2	Regional training workshops																					
6.3	Establishment of national working groups																					
6.4	Design model ICZM studies																					
6.5	Prepare model ICZM studies																					
6.6	Review GIS at regional level																					
6.7	Design regional GIS network																					
6.8	Prepare national GIS information																					
6.9	Prepare regional GIS information																					

No.	Components/Activities	1998	1999				2000				2001				2002				2003			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Public Awareness and Participation																						
7.1	Establish WG and meetings							X	X		X		X		X		X		X		X	
7.2	Produce & disseminate PA materials																					
7.3	Develop Micro-Grant Programme																					
7.4	Organise workshops & initiate dialogue																					
7.5	Assess & NGOs participation																					
Monitoring & Evaluation of Prog. Impacts																						
8.1	Define performance & progress indicators																					
8.2	Develop model annual report																					
8.3	Design a monitoring programme																					
8.4	Conduct regular monitoring and evaluation																					
												Mid-term Eval.				Final Eval.						

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ANNEX D. STRATEGIC ACTION PROGRAMME FOR THE RED SEA AND GULF OF ADEN

Executive Summary

Background

The Red Sea and Gulf of Aden contain some of the world's most important coastal and marine environments and resources. There is a great variety of reef types in the Red Sea with a structural complexity unmatched on Earth. The diversity of corals is greater than anywhere else in the Indian Ocean, and the number of species that are confined to the Red Sea and found nowhere else is extremely high. The Red Sea is one of the most important repositories of marine biodiversity on a global scale and features a range of important coastal habitats. The Gulf of Aden, one of the biologically least known branches of the Indian Ocean, holds fishery resources of international importance. The Socotra Archipelago contains unique aquatic and terrestrial ecosystems and species, with limited impact from human activities. The rich cultural heritage of the Region, especially in the narrow coastal zone, includes large numbers of significant archaeological, historical and sacred sites which are increasingly at risk from development pressure.

Although the Red Sea is still one of the least ecologically disturbed seas relative to other enclosed water bodies, it is in increasing jeopardy. There is a growing risk of marine pollution, and environmental degradation from rapidly expanding maritime activities. Coastal habitat is being converted for urban and industrial development. Tourism and recreation usage are rapidly expanding. In the Gulf of Aden the fisheries are under great pressure from over-exploitation and illegal fishing, and there are reports of toxic waste dumping by foreign vessels.

Goals and Objectives

In view of the environmental uniqueness of the coasts and waters of the Region, the threats it is facing, and the necessity for actions, the preparation of the Strategic Action Programme (SAP) for the Red Sea and Gulf of Aden was initiated in October 1995. The SAP process, co-ordinated by the Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) is underway with support from the countries of the Region, the Global Environment Facility (GEF) selected international development institutions and donor organisations.

The SAP supports and facilitates the primary goal of PERSGA, which is the conservation of the environment of the Red Sea and Gulf of Aden. The aims of the SAP are to develop a regional framework for the protection of the environment and the sustainable development of coastal and marine resources. These aims are achieved by preventive and curative actions.

The SAP is a significant *process* for reaching agreement concerning the environmental trends, threats and priorities at a regional level. It is also a *product* in the form of an Action Programme which provides a framework for continued co-operation in reaching short, medium and long-term goals through a series of complementary actions at all

levels. The Programme outlined in the SAP focuses on both *preventive* and *curative* measures required to maintain the rich and diverse coastal and marine resources of the Red Sea and Gulf of Aden. The SAP document will be implemented through a continuous, consultative and co-operative process among the littoral countries.

The SAP Task Force

The development of the SAP has been overseen by an ongoing Task Force which includes representatives of the PERSGA Secretariat and Member States, the Islamic Development Bank, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the World Bank. The Government of Eritrea has also been invited to join the Task Force and to work as a partner in the SAP process. Under the chairmanship of the Secretary General of PERSGA, the Task Force has developed and supervised the work programme, reviewed the results of the programme, and provided technical and administrative input. Four meetings of the Task Force have been held: in Jeddah (October 1995), Amman (April 1996), Sana'a (January 1997), and Jeddah (May 1997). During the first meeting, the Task Force's Terms of Reference were compiled and the work plan developed. The second meeting reviewed the technical progress and agreed on the follow-up activities for the remaining stages of the SAP. The third and fourth meetings focused on technical discussion of recent findings, the preparation of the final report including recommendations, and associated projects.

Preparation of the SAP has been supported by regional studies on navigation and fisheries. A Navigation Risk Assessment and Management Plan has been prepared to examine regional, national and local issues. The Plan has been prepared with the support of a WG of regional experts on maritime and port management, which has held meetings in Egypt and Yemen. The regional study on living and marine resources has assessed their current status and has been prepared with the support of a meeting of regional experts held in Saudi Arabia.

Country Participation

The development of the SAP has been a collaborative process whereby national experts have co-operated to produce reports which analyse environmental issues of regional, national and local significance. National reports were prepared by all co-operating countries and field surveys were conducted in countries where baseline data are limited. To widen participation further and to facilitate consensus building, a pilot national workshop was held in Jordan in August 1996 to review the country report. This was followed by a series of national workshops in other countries to finalise the country reports and to develop priority actions required by each country to address the environmental threats identified.

The coastline of Eritrea occupies a considerable portion of the western Red Sea, and its diverse range of marine habitats contains species unlike those found in the central and northern Red Sea. For these reasons, Eritrea holds a significant place in the overall marine biodiversity of the Red Sea and its participation in the SAP, as an active partner working alongside the other states, is critically important. This will be facilitated through the development of a strong and equal working partnership between the

Government of Eritrea and PERSGA. The Secretary General of PERSGA, through the assistance of UNDP, is actively discussing the modalities for such a partnership with representatives of the Government of Eritrea, so that the Programme will be a truly regional process which reflects the needs of each country.

Regional Threats

The environment and resources of the Red Sea and Gulf of Aden are threatened by a variety of human activities. The rate of population and economic growth in the coastal zones of the Region has resulted in increased pressure on the environment, from dredging and filling operations, from the disposal of domestic and industrial effluent, and from the unsustainable use of freshwater resources. A major contributor to growth in the coastal zone, and the consequent impacts, is the rapidly expanding tourism industry. Marine resources are being exploited in a non-sustainable way and also illegally.

The global importance of petroleum and the resulting maritime traffic in the Red Sea and Gulf of Aden pose a serious threat to the fragile coastal and marine environments. Routine operational leaks and spills from production in the Gulf of Suez and the transport of oil constitute the major source of marine pollution in the Region. At the same time, the growing risk of oil traffic-related accidents creates a major demand for emergency response combined with management skills to minimise risks and control major spills. Emerging issues will need to be addressed in a preventive fashion.

These threats highlight the need for effective use of environmental management practices. Most of the threats and impacts which have been identified can be prevented by proper environmental planning and management, use of environmental assessments, and also through the enforcement of appropriate regulations, most of which are already in place.

The SAP process has identified a number of major threats to the environment, and to the coastal and marine resources of the Region:

WIDESPREAD HABITAT DESTRUCTION:

- Unplanned coastal development.
- Extensive dredging and filling.
- Destruction of coral reefs.
- Destruction of mangroves.
- Destruction of seagrass beds.

NON-SUSTAINABLE USE OF LIVING MARINE RESOURCES:

- Overfishing for local and export markets.
- Illegal shark fisheries for the East Asian shark fin market.
- Turtle exploitation and egg collection.

- Incidental capture of marine mammals in fishing nets.

NAVIGATION RISKS, PETROLEUM TRANSPORT AND PETROLEUM PRODUCTION:

- Extensive risk of ship collision and grounding in major traffic lanes
- Discharge of sewage from vessels.
- Ship discharge of solid waste.
- Oil spills from exploration, production, and transport.

IMPACTS OF URBAN AND INDUSTRIAL DEVELOPMENT:

- Excessive use of surface and groundwater resources.
- Destruction of coastal and marine habitats during construction.
- Discharge of partially treated and untreated municipal wastewater.
- Industrial pollution.
- Hazardous wastes.
- Cooling water discharge.
- Waste oil disposal.

RAPID EXPANSION OF COASTAL TOURISM:

- Surface and groundwater extraction.
- Destruction of coastal and marine habitats during construction.
- Inadequate sewage and solid waste disposal.
- Disturbance to wildlife and habitats by tourists.
- Illegal collection of corals and molluscs for souvenir trade.

OTHER CONCERNS:

- Illegal disposal of toxic substances by foreign vessels in the Gulf of Aden.
- Sedimentation from agriculture and grazing in some locations.
- Risks from pesticides and fertilisers in some locations.

EMERGING ISSUES:

- Development of free zones.
- Improperly managed expansion of small and medium industries.
- Exploitation of offshore mineral deposits.
- Shrimp and fish farming.

- Ornamental fish collecting.

Actions to Address Regional Threats

Many of the threats which have been identified are related to a lack of planning and management of development in the coastal zone, limited use of environmental assessment procedures in making investment decisions, and the inadequate enforcement of existing laws. Living marine resources need to be managed effectively so that their long-term sustainable use is assured. Reducing the risks of navigation accidents will eliminate an additional threat to the marine environment. The management of coastal tourism and increased public awareness about the value of the marine environment will promote habitat and resource conservation. Areas in which management is hampered by a lack of information can be addressed by appropriate applied research. The SAP process has identified the following actions to address these threats:

ENHANCING GOVERNMENT COMMITMENT AND PUBLIC AWARENESS:

- Long-term high level commitment to protection of the Red Sea and Gulf of Aden.
- Ratification of MARPOL Convention.
- Development and implementation of regional programme for environmental awareness.

IMPROVING ENVIRONMENTAL PLANNING, MANAGEMENT, AND ENFORCEMENT:

- Strengthening the capacity for planning and management.
- Strengthening the capacity for coastal zone management.
- Strengthening the capacity for environmental assessment.
- Strengthening the capacity for enforcement of existing regulations.
- Strengthening regional environmental information systems through the standardisation and updating of databases, including those maintained on Geographic Information Systems (GIS), to facilitate data exchange.

PROMOTING HABITAT CONSERVATION:

- Effectively implementing coastal zone management programmes.
- Development of a regional network of marine protected areas.
- Development of conservation and management programmes for coral reefs.
- Development of conservation and management programmes for mangroves.
- Development of conservation and management programmes for seagrass beds.
- Development of conservation and management programmes for coastal wetlands.
- Rehabilitation of mangrove stands.

MANAGING LIVING MARINE RESOURCES AND CONSERVING BIODIVERSITY:

- Stock assessment programme for the development of a fisheries management strategy.
- Development and implementation of a management programme for shark fishery.
- Development of a regional research and management programme on coral reefs.
- Development and implementation of a programme for marine turtle conservation.
- Development and implementation of a programme for marine mammal conservation.
- Development and implementation of a programme for seabird conservation.
- Strengthening the enforcement capacity for existing fisheries regulations.
- Development and implementation of environmental guidelines for fish and shrimp farming.
- Development of mechanisms for controlling the collection of corals and molluscs.

REDUCING NAVIGATION RISKS AND OIL SPILLS:

- Adoption and implementation of PSC.
- Development and implementation of regional and sub-regional vessel traffic system.
- Upgrading existing marine navigation aids in the Red Sea and Gulf of Aden.
- Upgrading existing navigation aids in narrow passage areas and high risk areas.
- Development and implementation of a regional oil spill contingency plan.
- Preparation or upgrading of national oil spill contingency plans.
- Upgrading of existing Marine Emergency Mutual Aid Centres and the establishment of similar facilities in other sub-regions.

REDUCING IMPACTS FROM URBAN AND INDUSTRIAL DEVELOPMENT:

- Improving urban and industrial planning.
- Improving coastal zone management.
- Routine use of environmental assessment.
- Development of control mechanisms for construction work, dredging and reclamation.
- Increased priority for management of surface and groundwater resources.
- Strengthening the capacity to manage municipal wastewater and industrial effluents.
- Strengthening the capacity to manage solid and hazardous waste.
- Conservation of the cultural heritage of the coastal zone.
- Environmentally sound development of free zones.

- Environmentally sound development of small and medium industries.
- Development of regional environmental guidelines for the development of non-petroleum offshore mineral deposits.

IMPROVING MANAGEMENT OF COASTAL TOURISM:

- Development of control mechanisms for construction work, dredging and reclamation.
- Strengthening the capacity to manage wastewater discharge from coastal resorts.
- Development of mechanisms to prevent the over-exploitation of fish and shellfish for tourist consumption.
- Enforcement of existing regulations prohibiting the collection of corals, molluscs, and other marine life.
- Development of awareness programmes to reduce disturbance to wildlife and habitats by tourists.
- Proper site selection and planning for tourism developments.
- Establishing reasonable capacity limits for tourism developments.

PROMOTING APPLIED RESEARCH:




- Preparation and dissemination of a species identification guide for fishery purposes and environmental management.
- Strengthening the capacity for applied research and monitoring.
- Strengthening of environmental laboratory capacity.
- Biodiversity studies and species inventories.

The SAP: A Framework for Action

The Strategic Action Programme process provides a framework and a mechanism to enhance regional environmental management through a series of complementary policy, institutional strengthening and investment actions. The product will be the Strategic Action Programme, which will be supported by projects designed to address the identified issues. These projects will be implemented on a short, medium and long-term basis according to the nature of the issue being addressed. The SAP may be periodically updated to reflect progress in implementation and to identify new measures to address emerging issues or unanticipated events. It is envisaged that the process will not end with the completion of the initial SAP document, but will continue through further co-operation between the Task Force and PERSGA, with the Task Force acting as an advisory body to PERSGA. The process will also continue through the establishment of WGs at the Regional and Sub-Regional level, whose function will be to address transboundary issues. National WGs will also be established to deal with the implementation of projects and activities at the national and local levels.

ANNEX E. TRANSBOUNDARY ANALYSIS

Table E-1. Transboundary Analysis – Thematic Issues on a Sub-Regional Basis						
THEMATIC ISSUES	Gulf of Suez	Gulf of Aqaba	North and Central Red Sea	South Red Sea & Bab-al-Mandab	Gulf of Aden	Socotra Archipelago
<i>A. Management of Marine Protected Areas (MPAs)</i>	**	***	***	**	***	***
1. Establish a system of MPAs						
2. Strengthen understanding and experience in principles of MPAs						
3. Support stakeholder involvement in planning and implementation						
4. Facilitate the mobilisation of resources from international and domestic sources						
<i>B. Sustainable Use of Living Marine Resources</i>	***	**	**	***	***	**
1. Avoid and mitigate coastal impacts from current and proposed shrimp and fish farming						
2. Improve regional data on transboundary stocks						
3. Address regulation of exploitation of high profile species (including sharks & lobster)						
3. Reduce threats to marine turtles, seabirds and marine mammals						
4. Strengthen surveillance and enforcement mechanisms for existing fisheries						
5. Support regional co-operation in management of shared stocks						
<i>C. Reduction of Navigation Risks and Marine Pollution</i>	***	***	**	***	**	*
1. Continuation of PERSGA Navigation Working Group						
2. Implementation of International Conventions and adoption of Port State Control measures						
3. Development of improved traffic separation schemes and other routing systems in co-ordination with IMO						
4. Development and implementation of Sub-Regional Vessel Traffic Systems for Gulf of Suez, Gulf of Aqaba and Bab-al-Mandab						
5. Establishment of a radio communications network to support Global Maritime Distress and Safety Systems (GMDSS)						
6. Upgrading of existing maritime navigation aids in Main Red Sea, Gulf of Aqaba and Bab-al-Mandab						

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





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Table E-1. Transboundary Analysis – Thematic Issues on a Sub–Regional Basis						
THEMATIC ISSUES	Gulf of Suez	Gulf of Aqaba	North and Central Red Sea	South Red Sea & Bab-al-Mandab	Gulf of Aden	Socotra Archipelago
<i>D. Emergency Management</i>	***	**	**	***	**	*
1. Development and implementation of a Regional Oil Spill Contingency Plan						
2. Development of a Sub–Regional System for Emergency Mutual Aid Centres						
3. Expand system of Sub–Regional Marine Emergency Mutual Aid Centres by establishing the planned centre at Hurghada, in Egypt						
4. Strengthen existing Sub–Regional Marine Emergency Aid Centre in Djibouti						
<i>E. Environmental Education Public Awareness and Participation</i>	**	**	***	***	***	***
1. Support for training and public awareness in resource use						
2. Increase awareness and priority within existing government structure						
3. Increase expertise within countries for environmental education						
4. Increase participation of community groups						
5. Increase emphasis on environmental education and awareness in school curriculum						
6. Increase financial resources for community groups concerned with the environment						

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





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Table E-2. Transboundary Analysis – Common Concerns on a Sub-Regional Basis						
COMMON CONCERNS	Gulf of Suez	Gulf of Aqaba	North and Central Red Sea	South Red Sea & Bab-al-Mandab	Gulf of Aden	Socotra Archipelago
A. Habitat Destruction	***	***	***	***	*	*
1. Coastal development						
2. Beach mining and quarrying						
3. Mangrove destruction						
4. Destruction of seagrass beds and other sub-tidal habitats						
5. Physical damage to coral reefs						
6. Damage to coral reefs by visitors						
B. Living Marine Resources	***	***	**	***	***	**
1. Current and potential overfishing of finfish for local and export markets						
2. Capture of sharks for shark fin market, frequently in areas beyond territorial waters						
3. Current and potential overfishing of shrimp and lobster for export markets						
4. Current and potential overfishing of sea cucumber for export markets						
5. Turtle capture and egg collection by local fishermen and communities; sale of shells to tourists and for export						
6. Collection of corals and mollusks for souvenir trade						
7. Ornamental fish collection for export						
8. Conservation of marine mammals (especially dugong)						
9. Spearfishing						
10. Shrimp and fish farming						
C. Navigation Risks	***	***	**	***	*	*
1. Review current navigation charts, conduct hydrographic re-surveys and prepare updated charts in vicinity of major ports						
2. Expanded use of emergency anchors						
3. Expanded use of harbor tugs						
D. Emergency Management	**	**	**	**	*	*
1. Update or prepare National and Local Oil Spill Contingency Plans						

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






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Table E-2. Transboundary Analysis – Common Concerns on a Sub-Regional Basis						
COMMON CONCERNS	Gulf of Suez	Gulf of Aqaba	North and Central Red Sea	South Red Sea & Bab-al-Mandab	Gulf of Aden	Socotra Archipelago
<i>E. Oil and Gas Development</i>	***	***	**	***	**	n.a.
1. Use of environmental management practices in oil and gas development, including major pipelines and marine terminals						
<i>F. Industrial Activities</i>	***	***	**	**	*	n.a.
1. Surface and groundwater use						
2. Industrial Pollution						
<i>G. Urban and Tourism Development</i>	***	***	*	*	*	*
1. Surface and groundwater use						
2. Disposal of solid waste						
3. Tourism Development						
<i>H. Special Concerns</i>	*	*	**	**	***	*
1. Illegal disposal of harmful substances						
2. Sedimentation from agriculture and grazing						
3. Discharge of pesticides and fertilisers						

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 =requires priority action

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