UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Project of the Governments of Egypt, Jordan, Sudan and Yemen

PROJECT DOCUMENT

Project number:	GF/RAB/08/XXX
Project title:	Promotion of strategies to reduce unintentional production of POPs in the Red Sea and Gulf of Aden (PERSGA) coastal zone
GEFSEC Project ID	2865
Thematic area code	EAE BC 16 – Stockholm Convention
Starting date:	September 2008
Duration:	2 years
Project site:	PERSGA Hqs. in Jeddah, Saudi Arabia
Government Co-ordinating agency:	Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)
Counterpart:	
Executing agency/ cooperating agency:	PERSGA in cooperation with national ministers of the Ministry of Environment (MOE) in the participating countries
Project Inputs:	
- UNIDO inputs:	$ 30,000 (in-kind)
- Support costs (10 %):	$ 100,000
- Counterpart inputs:	
- GEF	$ 1,000,000 (including PPG of $50,000)
- PERSGA	$ 186,000 (cash)
	$ 214,000 (in-kind)
- Egypt	$ 500,000 (in-kind)
- Jordan	$ 500,000 (in-kind)
- Sudan	$ 300,000 (in-kind)
- Yemen	$ 300,000 (in-kind)
- Grand Total:	**$ 3,030,000 (excl. support costs)**

Brief description:

Sustainable management of the resources of the Red Sea and Gulf of Aden called for a collective regional approach, which culminated in the establishment of the *Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden* (PERSGA). PERSGA has fostered a spirit of international cooperation and exchange of knowledge among governments, research institutions and civil societies in the region. The capacity of regional institutions has been enhanced and mechanisms are now in place for the collection and integration of regional data on the status of the environment. Regional action plans have been developed and integrated into the national sustainable development plans of the PERSGA member states. The proposed project will

build on the existing cooperation and collaboration experiences of these countries (and their effort on sustainable coastal zone management) and integrate the Stockholm Convention (SC) requirements to the industrial sector of the coast to reduce and/or eliminate unintentionally produced persistent organic pollutants (UP-POPs).

Four PERSGA countries (Egypt, Jordan, Sudan and Yemen) have become Parties of the SC and during regular consultation meetings of PERSGA, they have also agreed that close cooperation is needed to collectively implement the SC's measures concerning introduction of best available techniques (BAT) and best environmental practices (BEP) for the coastal zone industries. The countries have further agreed that it could be possible that a larger impact on the environment and the coastal zone economy be attained if the cooperation is made at regional level rather than each country intervenes alone at the industries of its own coastal zone. Consequently, PERSGA has approached UNIDO for assistance through developing and implementing a Medium-Sized Project (MSP) to enable the introduction of BAT and BEP to the industrial sector of the coastal zone. It is important to note that Saudi Arabia is a self financed country, Somalia is politically unstable and Djibouti has expressed problems of language and preferred not to join the four countries.

The objective of the proposed project is to reduce and/or eliminate the unintentional production of POPs (UP-POPs) in key sectors of industry (cement, incineration, metallurgy and pulp and paper) recognized as important source categories in Annex C of Article 5 of the Stockholm Convention through the introduction of BAT/BEP strategies in the industrial sector of the coast in the PERSGA eligible member countries. By achieving this goal, the project will permit PERSGA member countries attain compliance with their obligations under the Stockholm Convention on POPs, particularly those related to the industrial sector releases of UP-POPs. The project will further contribute to the improvement of human health and environmental conditions in the coastal zone as the project is linked to national sustainable development plans of the participating countries

Approved:

	Signature:	**Date:**	**Name and title:**
On behalf of **the Governments of**			
Egypt	_____	_____	_____
Jordan	_____	_____	_____
Sudan	_____	_____	_____
Yemen	_____	_____	_____
On behalf of UNIDO:	_____	_____	_____

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LIST OF ABBREVIATIONS

BAT	Best available techniques
BEP	Best environmental practices
EEAA	Egyptian Environmental Affairs Agency
EU	European Union
GEF	Global Environment Facility
HCB	Hexachlorobenzene
ICZM	Integrated Coastal Zone Management
LAS	League of Arab States
LBS	Land-based Sources
M&E	Monitoring and evaluation
MOE	Ministry of Environment
MSP	Medium-sized Project
NEA	National executing agency
NGO	Non-governmental organization
NIP	National Implementation Plan
PCBs	Polychlorinated biphenyls
PCDD/PCDF	Polychlorinated dibenzo-p-dioxins and dibenzofurans
PCU	Project Coordination Unit
PERSGA	Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden
PMC	Project Management Committee
PNSC	Project National Steering Committee
POPs	Persistent organic pollutants
PPER	Project Performance and Evaluation Review
REA	Regional executing agency
RS	Regional Strategy
RSGA	Red Sea and Gulf of Aden
SAICM	Strategic Approach for International Chemical Management
SAP	Strategic Action Programme
SC	Stockholm Convention
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UP-POPs	Unintentionally produced POPs
WB	The World Bank

SECTION A. CONTEXT

A.1 Context/History

The Coastal Areas

1. Coastal areas have always been a major focus for the development of human civilizations and many coastal cities and towns worldwide have cultures and ways of life that go back over many centuries. Coastal zones have a rich potential to modern society and have a strategic role to play in meeting the needs and aspirations of current and future generations living at the coastal lines. Some of the facts that document the economical, social and environmental benefits of the oceans and the coasts are listed in the box below. It is important to mention that persistent organic pollutants (POPs) can be transported to the oceans by air, water and soil with no or little alterations of their original chemical composition. The non-atmospheric source releases of the POPs in the coastal areas include direct discharge of industrial effluents, sewages and solid source releases and irrational dumping and dredging of waste. The accumulation of POPs on the oceans and seas products are of particular importance as they can build up steadily over the years in the fatty tissue of the animals and humans that draw their food from the sea products. They have been linked to alterations in the functioning of hormone systems in fish, wildlife and in rare cases that have also been verified in humans.

Statistics on Oceans and Coastal Zones

- Oceans comprise 72% of the earth's surface;
- Coasts contain more than 60% of human population;
- 44 of the world's nations are small island developing states, especially dependent on oceans;
- Coasts yield 90% of the global fisheries on which 400 million fishermen rely;
- 90% of world trade moves by ship;
- Travel and tourism is the largest industry in the world, much of it related to coastal and marine areas;
- Over 25% of the world's energy supplies are produced in offshore ocean areas;
- Coral reef resources contribute $375 billion per year to the world's economy, supporting over 500 million people with income and food.

Degradation of marine resources

- 75% of global fisheries are either fully utilized or over utilized
- 70% of 126 marine mammal species are threatened.
- 50% of the world's mangroves have been lost and important sea grass habitats are rapidly being destroyed.

2. However, the rapid population growth, globalize economy and the extensive development activities in many coastal areas not only have degraded the natural resources (see box above), but also led to increasing pressure on the integrity of both the marine and coastal ecosystems. Although non-coastal communities have pressing environmental issues, maintaining sustainability in the coastal development is of particular importance. This is due to the fact that "more than half of the world's population lives within 60 km of the shoreline and this could rise to three quarters by the year 2020". Moreover, sixteen (16) of the twenty (20) mega cities of the world are located in coastal areas. The livelihood of the coastal population and major inputs to national economies are always dependant on coastal and marine resources. Hence, the need for improved management and for re-thinking of development planning is critical and undeniable.

3. The coastal zone of the Red Sea and Gulf of Aden (RSGA) is expected to witness a rapid economic and tourism growth in the next few years. Several coastal investment projects are planned in Egypt, Jordan, Saudi Arabia and Sudan mainly in the petroleum and petrochemical industries. This is not to mention that theses countries have benefited from the substantial increase in the oil prices and are planning to change the style of life of the new generations by planning new modern cities at the coastal zone. Rapid industrialization will create high pollution rate and hotspots, as the use of raw materials, chemicals and energy will increase as well. The industry of transformation as well as the industry related to infrastructure development will be

established such as cement, steel, aluminium and others that will provide job opportunities for the youth.

The Red Sea and Gulf of Aden and PERSGA

4. The RSGA contain some of the world's most important coastal and marine environment and resources. The high rate of population and economic growth in the coastal areas in the region has resulted in an increasing pressure on the environment. There is a growing risk of marine pollution and environmental degradation due to several human economic activities where one of them is the industrial pollution.

5. The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) is an intergovernmental body dedicated to the conservation of the coastal and marine environment in the region. The Ministerial Council governs ministers handling environment affairs portfolios in each of the seven PERSGA member states namely Djibouti, Egypt, Jordan, the Kingdom of Saudi Arabia, Somalia, Sudan and Yemen.

6. PERSGA has produced the "Agenda for the New Millennium: Sustainable Development in the Red Sea and Gulf of Aden". Accordingly, PERSGA prepared the "Integrated Strategy and Business Plan", which is aligned with PERSGA's commitments towards the WSSD proceedings as well as with the Capacity 2015 initiative.

PERSGA's Land Base Protocol

7. PERSGA has prepared the "Protocol for the Protection of the Marine Environment of the Red Sea and Gulf of Aden from Land-Base Sources (LBS) of Pollution", which was approved in a regional meeting and is currently in the signatory process. The Protocol states that:

8. *"The contracting parties are: Committed to the precautionary principle and the 'polluter pays principle', and to the use of Environmental Impact Assessments together with the use of the best available technologies and ideal environmental practices, including clean technology production";*

9. *"Determined to take the necessary measures in a framework of close cooperation among themselves, to protect the Red Sea and Gulf of Aden from Land-Based sources of pollution".*

10. Article 5 of the Protocol, states that the contracting parties shall prevent pollution from LBS, with particular emphasis on the gradual elimination of inputs of toxic, persistent and bio-accumulating substances by implementation of work plans based on source control.

11. Article 19 of the Protocol, deals with the "adoption of regional measures, work plans and programmes".

National Integrated Coastal Zone Management (ICZM) Plans

12. PERSGA has recently prepared the National Integrated Coastal Zone Management (ICZM) Plans for Djibouti, Sudan and Yemen. The respective Governments adopted and endorsed the plans as national policy. In other countries of the region such as Egypt, Jordan and Saudi Arabia, the ICZM is already in place. ICZM plans provide framework for integrated management of coastal areas: horizontally, among all related stakeholders and vertically, within the organization structure of each stakeholder. Regional capacity building programmes have been implemented, which resulted in strengthening the capacity of individuals as well as organizations in this field, to develop and undertake the ICZM measures.

Countries background information

13. The four participating countries have ratified the Stockholm Convention. Egypt ratified it on 2 May 2003, Jordan on 8 November 2004, Sudan on 29 August 2006 and Yemen on 9 January 2004. The countries are all eligible for technical assistance from UNDP and the World Bank.

14. By becoming Party to the Stockholm Convention, the countries have demonstrated that the reduction or elimination of POPs is a respective national priority and that they are committed to take appropriate actions. Due to the transboundary movement of POPs and the special nature of the coastal zone, it is of importance to take preventive measures to reduce the negative impact of industrial activities, human settlements and particularly in areas of uniqueness to the ecological integrity of the coastal zone. These preventive measures can be more effective if undertaken in a coordinated manner at the regional level and coupled with the regular collection and interpretation of high quality scientific data to provide corrective feedback and enable effective decisions. The participating countries have therefore decided to integrate their collective efforts under the regional umbrella of PERSGA and take united actions in reducing UP-POPs releases from the industrial sources

15. The countries have received GEF assistance to develop their National Implementation Plans (NIPs). Egypt, Jordan and Sudan have published their NIPs and the Yemeni NIP development is in the final phase. The national priorities are elaborated in Annex 2 along with the country specific information.

16. Article 12 of the Stockholm Convention states that appropriate technical assistance to developing country parties shall be made available, to assist them, taking into account their particular needs, to develop and strengthen their capacity to implement their obligations under the Convention. Article 13 indicates that new and additional financial resources shall be made available to enable these parties to meet the agreed full incremental costs of implementing measures, which fulfil their obligations under the Convention.

17. Consistent with the above-mentioned articles, the proposed project reflects the national priorities set out in the NIPs and country reports of the participating countries. It further elaborates the proposed measures and addresses additional issues that are not currently dealt with in the action plan such as resources mobilisation. The project has also received strong support from the national GEF focal points, which is confirmed by the endorsement letters attached to the document.

18. The proposed project responds to country requests, addressed to UNIDO through PERSGA, for assistance in meeting their obligations under Article 5 of the Stockholm Convention concerning the reduction of UP-POPs releases in the RSGA coastal zones as listed in Annex C of the Stockholm Convention. The countries indicated that the reduction of UP-POPs releases in the selected industries is among the top priorities in their NIPs. Knowing the special situation of the coastal zone, where the majority of the population and industries are present, a strong commitment has been conceptualized by initiating the UP-POPs release reduction measures in the four participating countries, Egypt, Jordan, Sudan and Yemen. PERSGA approached UNIDO seeking its assistance to develop a GEF MSP to facilitate the reduction and elimination of UP-POPs in the RSGA region, in particular by promoting the use of BAT and BEP.

19. It was agreed at the regional inception workshop held in Jeddah, Saudi Arabia, 12-18 March 2006 for the development of the MSP proposal that country reports would be developed to demonstrate the baseline status of UP-POPs and their relevance in the coastal zone. Country reports supported the PDF-A concept and that the coastal zones are the major hubs of industrial activities and human habitat. Pressure on the environment is therefore more intense, which was confirmed by the estimates of PCDD/PCDF releases during the NIP development. Because of the intensive industrial and other human activities, the share of PCDD/PCDF release estimates of the coastal zones from the total country releases are found to be higher than other areas, which confirms that coastal zones are indeed the priority locations for the introduction of BAT and BEP. Detailed country reports are given in Annex 2.

20. The ICZM plans of the countries indicated that large-scale monitoring activities and institutional capacity buildings are major needs to ensure a good environmental management of the coast. Lack of transfer of clean technology, weak regional monitoring, absence of modelling and assessment as well as lack of scientific and technical investigations are the key barriers to the implementation of the necessary control measures for reducing pollution. The reduction of UP-POPs releases through the introduction of BAT and BEP related socio-economic implications as well as public awareness initiatives are generally lacking in the countries.

A.2 The GEF intervention

Baseline scenario

21. The current baseline constitutes well-capacitated national governments with the preliminary identification of UP-POPs sources and release estimates. Initial public awareness and participation has been achieved through the development process of the NIPs in these countries. The NIPs also highlights the general socio-economic status of the countries and provided a strong baseline for the GEF support.

22. However, without the subsequent GEF intervention at the coastal zone of these countries, the current awareness situation will not be maintained and will eventually show a gradual but continuous capacity deficiencies and leave the existing gaps in relation to the continuous effort for the reduction of UP-POPs releases unchanged. Adaptive and feasible management of available national resources and systematic response to initiate private sector involvement in the release reduction measures could not, therefore, be achieved. The key barriers that the MSP aims to eliminate are outlined below.

- Source specific UP-POPs release inventories are available at the national context but these inventories lack the regional integration vision and conclusions to aggregate them. Source specific technology needs and transfer are not identified in these reports. This hinders focused planning and implementation of BAT and BEP at wider scope such as at regional level. Cumulative release estimates on the regional context are not available and time trend analysis of the releases has not been assessed.
- There is a limited technical experience and capacity to enable identification and rational use of alternative technologies and to ensure successful implementation of BAT and BEP.
- The roles of national and regional investment banks have not been fully understood and investigated as to the possibilities of mobilizing resources for BAT and BEP implementation in the industrial sector although these banks invest in the industrial production projects. Therefore, there are no specific POPs related investment technology promotion policies for enterprises to support the transfer of BAT and BEP.
- UP-POPs and their effects are not regularly monitored in the coastal zone of the participating countries. There is no entity at the regional context to undertake the regular monitoring activities, to harmonize and provide an organizational back up for UP-POPs release reduction measures. General lack of information on the laboratory capacities and expertise in POPs analysis further encumbers the current situation. Therefore, due to the lack of monitoring activities, the information on human and environmental health impacts of UP-POPs sources and the level of exposure have not been assessed.
- There is a lack of information relating to socio-economic considerations associated with the introduction of new industrial control measures to inform the industries and local governments on decisions that need to be undertaken and their impact to the communities in the coasts. Such information should reflect the different capabilities and changing conditions among the participating countries to accommodate the socio-economic effect of new technologies.
- There are no special indicators for coastal zones that would link together the positive and/or negative impacts on society when implementing the possible control measures such as their effects on public health, environmental and occupational health, agriculture including aquaculture, biota (biodiversity), economic aspects, movement towards sustainable development and their social costs.

23. The formulation of suitable and effective management framework to reduce or eliminate releases from UP-POPs sources should be underpinned by adequate scientific and socio-economic data and information. Under the baseline scenario, decision makers could not take into account threats posed by POPs on human health and the environmental resources in the regional context. The costs incurred by possible ecological changes and therefore identification of realistic remedial measures needed for effective management could not be easily identified. Difficulties in providing an adequate scientific and socio-economic data (including the absence of

specific coastal zone scientific data with special emphasis on the risk POPs pose to human, wildlife, marine life and the environment) further escalated the current weaknesses.

24. As stated in Article 10 of the Stockholm Convention, stakeholder awareness on the consequences, requirements and practices for applying effective measures to reduce or eliminate releases from an unintentional production of POPs needs to be continuously raised. Moreover, without the GEF support and public participation of all concerned parties, addressing all these issues and corrective actions would not be facilitated and promoted. Provision of vital scientific as well as socio-economic data to politicians and policy makers is generally inadequate due to the following:

    (a) lack of effective tools to communicate appropriate messages in a form that is easily understood;

    (b) lack of adequate resources for them to undertake outreach and public participation programmes; and

    (c) lack of awareness among decision makers on the importance of public participation to implement the provisions of the Convention.

Project Scenario

25. The project will implement the principles of both environmentally and economically sustainable development and critically review trends and lessons to integrate them in regionally coordinated actions. Information on key regional trends, including sources of UP-POPs, vulnerability and impacts of these sources on the environment, human health, socio-economic development and public participation will be readily available. Region-specific, but nationally connected indicators and their interpretation in forms that are understandable to decision-makers and the public will be clearly highlighted.

26. The broad participatory nature of the regional strategy for the introduction of BAT and BEP will generate and substantiate on technical lessons and knowledge for further replication in other coastal zone regions. The practical application of the Regional Strategy (RS) will largely contribute to the regional and international discussion on UP-POPs releases and their impacts on coastal zones and a meaningful response will be obtained to make new management change through adaptation of policies and measures.

27. Since ecological problems connected to POPs would not disappear shortly but increasingly need to be brought to attention through regular reporting procedures, newsletters and web publishing, thus environmental problems are dealt in with more anticipatory rather than reactive way.

28. BAT and BEP implementation initiatives open new, innovative economic incentives designed for sustainability, which facilitates the private sector to take over the implementation of the BAT and BEP measures from local and regional government authorities. The private sector is more and more engaged in the adaptation and design of new public and private partnerships and cost-sharing arrangements thus public and private interests are better recognized and addressed. Through increased reinvestment at the local-scale, but regionally coordinated, implementation services will strengthen the base for a higher quality of the environment in the coastal zone, increase competitive advantage of this region in tourism and open the possibility for economic diversification.

29. PERSGA will have the capacity to integrate POPs into its current programme portfolio. Thus coastal zone and its ecosystem, socio-economic development and environmental status will be overseen in a broader way. PERSGA, as a regional entity has the capacity to maximise the effectiveness of the implementation of Annex C related obligations under the Stockholm Convention. PERSGA can effectively direct the countries' attention to scientifically approve priority areas of action within the region.

30. While UP-POPs releases continue to pose threats on the environment and public health, the project will build a widespread awareness of the nature of the POPs problem and provides for the possibilities of solutions as well as constraints on mitigation and adaptation of these through the RS.

Concept of the regional strategy for promoting BAT and BEP

31. Figure 1 below demonstrates the concept of the regional strategy (RS) for promoting BAT and BEP implementation as developed and agreed by national POPs focal points of the four participating countries and participants during the inception workshop of the preparatory phase. The RS is designed to introduce BAT and BEP through interdependent modules such as resources mobilization, economic development, environment protection and/or social development. The implementation of these modules, such as resources mobilization, is organized centrally in PERSGA to have a regional flexibility in the RS. The modules can take into consideration the specific local circumstances of RS in one country and adapt the necessary modules during the implementation to suit other countries. It is also designed in such a way that allows newly joining countries to collectively implement those modules where identified UP-POPs sources require immediate action.

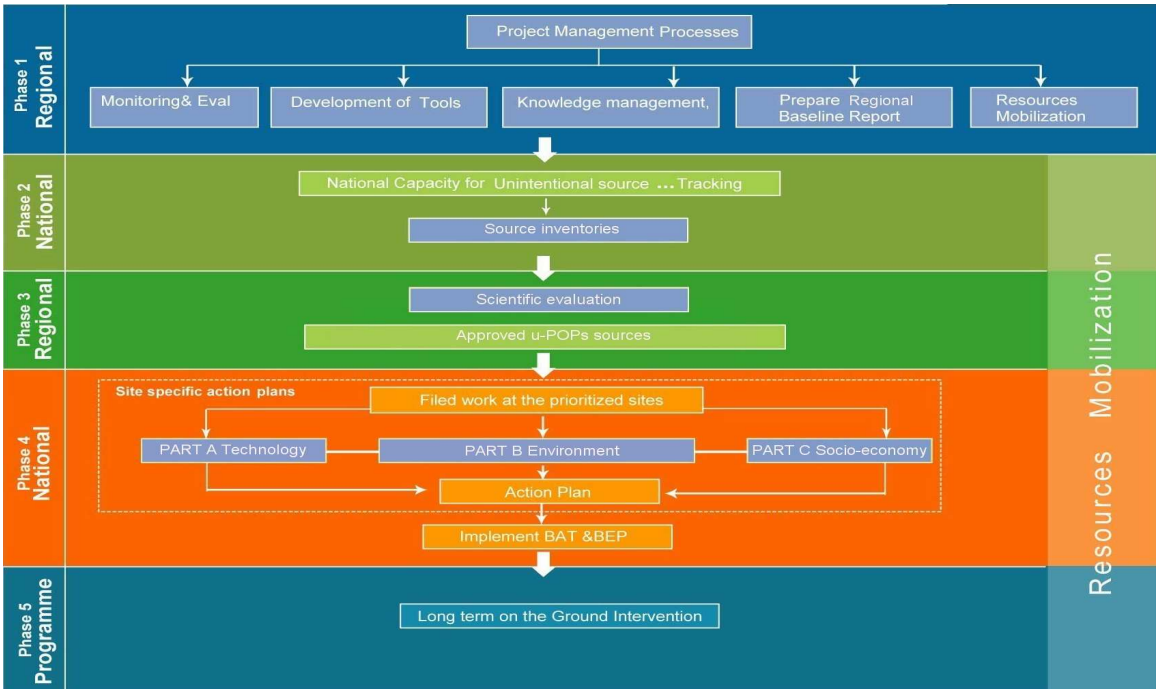


Figure 1: Regional Strategy for promoting BAT and BEP introduction

32. The RS has five phases, which will be implemented nationally and regionally and are fully integrated under the overall project management processes.

Phase I establishes the management structure and oversees the implementation of the RS.

Phase II develops the inventories of UP-POPs sources, identify types of used technologies in the industries, estimates the total impact of the industries on the coastal zones environment and human health. It also highlights the baseline of socio-economic implications of the industries and their public awareness and participation aspects.

Phase III approves the UP-POPs priority sources for which BAT and BEP introduction is most important.

In ***Phase IV***, the sources specific BAT and BEP action plans are developed and implemented through the generated funding resources.

Phase V represents continuity of the implementation of the initial MSP project, which turns into a sustainable programme and included in the entire PERSGA's regional portfolio.

33. The **Regional Strategy modules** are as follows:

The **project management module**: coordinates all activities at both national and regional level. It includes the monitoring and evaluation, where adaptive and corrective measures will be undertaken to confirm its adherence to the work plan associated to the pre-identified indicators as well as to modify the implementation course in response to the unforeseen risks and inevitable changes in local circumstances.

The **knowledge management module**: will be responsible in delivering the timely reports on project implementation (later on the implementation of the entire RS) and providing adequate cross-cutting technical information for decision makers such as the implementation impacts on the socio-economic development of the region or the effectiveness of the implemented BAT and BEP on reducing the pollution load pressure on coastal zone ecosystem or effect of that on human exposures.

The **tool development module**: will provide adequate methodological instruments for the field data collection, field monitoring and implementation of the RS. It will also transfer lessons of field experience into the regular update of these tools to provide uniform structure of data for processing and timely response to practical challenges.

The **regional baseline report module**: will report the baseline data before the implementation of the RS is initiated. Afterwards, this module will be repeated regularly to provide a time-trend analysis of the measures and to confirm the continuous effectiveness of the RS implementation.

The **resource mobilization module**: will facilitate private industries' cooperation and buy-in the RS with initial GEF assistance that will stimulate the private sector to generate new financial resources for the implementation. The project baseline is that one GEF dollar generates one US dollar of additional co-financing sources during the implementation of the project. With the involvement of the private sector as well as the development banks, the goal of this module is to reach within the project timeframe additional US$ 1.4 to each US$1.0 of GEF currently available. This module will be crucial to measure the effectiveness of the RS when it turns into a full programme for all PERSGA member countries. The ratio could also be increased when some of the countries, such as Sudan and Yemen, will factor the BAT and BEP requirements for new source categories.

The **source inventories module**: will develop and maintain the information on the UP-POPs sources and their impacts on environment, human health, socio-economy and public awareness. This module also includes the regular updating of these inventories as implementation procedures and new data become available e.g. during Phase IV.

A **scientific evaluation module**: cumulates the inventory findings and the monitoring results (generated in Phase IV), analyse them and draws conclusions. This information is an input for the knowledge management module.

34. Site specific BAT and BEP action plans in Phase IV comprises of three modules. Part A compiles the technological and economical aspects of the introduction of BAT and BEP. It includes the material flow sheet diagram planning of the necessary modifications, adapted environmental best technological practices for the facility, costs and benefit assessments of the modifications. Part B elaborates how the implemented BAT and BEP will affect the environment and human health. It identifies monitoring points plan and procedures for analytical assessments. Part C develops monitoring programme for the socio-economic implications of the introduction of BAT and BEP. It also elaborates the public awareness programmes for the site area. Parts A, B and C together, with the generated funds and resources, are the integrated components of the site-specific action plans and implementation

35. The advantages of simultaneous implementation of different modules are as follows:
   – It speeds up the implementation process by allowing activities to be undertaken simultaneously in different phases when reliable technical and scientific information is available. For example, there are countries such as Egypt, which have already identified

the UP-POPs industrial sources at the coastal zone, can proceed to initiate the source-specific activities (Parts A, B and C) such as planning of BAT/BEP and develop specialized monitoring system and specific public awareness programmes for the selected areas.

– It saves resources because not all modules would be necessarily implemented individually but rather grouped in one cluster. If for example there are two sources in one town, the public awareness, socio-economic assessment as well as the research and monitoring activities can be developed jointly.

– It eases the process of nomination of experts and their respective government counterpart departments allowing a quick start of the project, since the need for broad expertise in implementing one single module is not needed. In some cases, experts who performed the dioxins inventories during the NIP would have the adequate competence to take the lead for the introduction of BAT and BEP as well.

Implementation Principles

36. The project implementation strategy will be based on the following principles:
- Established and well-defined cooperation among governmental bodies involved in coastal zone management, local authorities, private sector, NGOs and local communities;
- Accountability of the project related work and expenditures of all involved parties;
- Transparency through clearly defined monitoring indicators and evaluation methodologies throughout the implementation.

A.3 Special Features

37. With the signing of the Cairo Declaration in September 1995, all parties to the Jeddah Convention officially established the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA). Its Secretariat is hosted by Saudi Arabia in Jeddah. It is the official organisation concerned with the development and implementation of regional programmes for the protection and conservation of the environment of the Red Sea and the Gulf of Aden (RSGA). PERSGA member countries are Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan and Yemen. Major functions of PERSGA include the implementation of the Jeddah Convention 1982, the Action Plan and the Protocol concerning Regional Co-operation in Combating Pollution by Oil and other Harmful Substances in Cases of Emergency.

38. In October 1996, the PERSGA Council of Ministers approved the Strategic Action Programme (SAP) for the Conservation of the Environment of the RSGA and delegated responsibility to the PERSGA Secretariat to work directly with countries, international financial institutions and other interested parties to assist them in developing and implementing projects to support the SAP process.

39. In each of the PERSGA member countries, the government has appointed a member to a regional task force. The task force members represent their respective governments and their commitments to the SAP and act as the national focal points for SAP activities.

40. The SAP was funded by the GEF, comprising the GEF Implementing Agencies namely UNDP, UNEP and the World Bank and executed by PERSGA under the overall authority of the Secretary General of PERSGA. The day-to-day project management was the responsibility of the designated project manager and the PERSGA/SAP co-ordinator in close co-operation with the regional lead specialists. For the GEF implementing agencies, the UNDP Resident Representative's Office in Saudi Arabia provides the day-to- day support for the project through the services of the UNDP Programme Co-ordinator.

41. The SAP was implemented through project-funded regional activities in Djibouti, Egypt, Jordan, Saudi Arabia, northern Somalia, Sudan and Yemen. Saudi Arabia funds its participation in the regional activities. Project-funded country-based activities have been fully involved in Djibouti, northern Somalia, Sudan and Yemen.

42. The Secretary General of PERSGA is the regional focal point for to the three GEF implementing agencies to oversee the SAP programme. The Project Manager, who has the general responsibility for running the programme, has managed the SAP and supervised all the components of the programme. Specialists were assigned for specific components relative to their experience and competence.

43. The SAP programme was comprised of eight components:
    - Institutional strengthening to facilitate regional co-operation
    - Reduction of navigation risks and maritime pollution
    - Sustainable use and management of living marine resources
    - Habitat and biodiversity conservation
    - Development of a regional network of marine protected areas
    - Support for Integrated Coastal Zone Management
    - Public awareness and participation
    - Monitoring and evaluation of programme impacts

44. The SAP implementation ended in 2005, which was the driving force for PERSGA during 1999-2004.

45. PERSGA is re-vitalizing the ongoing projects and programmes. A number of approved programmes and activities, in collaboration with several regional and international organizations, have been implemented. Understanding the global challenges and success of the Stockholm Convention and building on the expertise of PERSGA in the field of environment and project management, the Secretary General aims to build capacity in the organization to implement POPs related projects and programmes. The implementation of this MSP would be a crucial step in this process.

46. The implementing arrangements of the MSP were built on the previous and enhanced experiences gained from SAP. It will use the same project management and coordination outline framework. However, few changes will be included such as the technical coordination at regional level to enable a better sharing of harmonized information among the countries.

Consultation, Coordination and Collaboration between and among Implementing Agencies, Executing Agencies and the GEF Secretariat, if appropriate

47. The NIPs in the PERSGA zone were assisted by different Implementing Agencies/Executing Agencies (IAs/EAs) such as UNEP, UNDP and UNIDO. Coordination was done during the NIP development through the MEAs implementation subcommittee of the League of Arab States (LAS). Regular reporting on progress of the NIPs has been done by the participating countries and priorities of the countries were reconciliated against the other regional progress of the LAS. UNITAR has supported the countries on action plans development by providing training models and management planning systems, which will be used to harmonize the work of PERSGA regional projects. This project has been discussed during the SEA to SEA regional conference in Cairo organized by PERSGA and LAS in October 2005, with UNDP and the World Bank (WB) and was recommended for further development. During the investment phase, the World Bank will be invited together with Regional Development Banks to further pursue the recommendations for technology transfer and modernization of the industry.

SECTION B. REASONS FOR UNIDO ASSISTANCE

48. UNIDO is committed to assist its developing country Member States in accordance with Article 12 of the Stockholm Convention. The GEF has approved Enabling Activities proposals submitted by UNIDO for more than 40 countries, including China and India that have opted to undertake the NIP development through the GEF full project cycle. In addition, UNIDO is executing or developing a range of demonstration and capacity building projects geared to support the Convention implementation in a wide range of developing countries and countries with economies in transition. UNIDO has made considerable effort to build this assistance programme. This commitment is based on a clear understanding that these activities are compatible with UNIDO's mandate and corporate strategy and will lead towards the Millennium Development Goals.

49. In the region, UNIDO has assisted Egypt to develop the NIP, whereby a report on the coastal zone activities related to the industry has been provided in Annex 2 to this proposal. Presently, UNIDO is assisting Sudan to develop the SAICM project covering the issues of hazardous waste management and a report will be provided on the status of the coastal zone.

50. UNIDO is implementing Integrated Development Programme for the industrial sector in Egypt, Jordan, Sudan and Yemen, where policy issues related to future location of industries and free zones have been included. Some of these policies affect the coastal zone management and would be integrated in the project activities during implementation.

SECTION C. THE PROJECT

C.1. Objective of the project

51. The objective of the project is to reduce and/or eliminate the unintentional production of POPs (UP-POPs) in key sectors of industry (cement, incineration, metallurgy and pulp and paper) recognized as important source categories in Annex C of Article 5 of the Stockholm Convention through the introduction of BAT/BEP strategies in the industrial sector of the coast in the PERSGA eligible member countries. By achieving this goal, the project will permit PERSGA member countries attain compliance with their obligations under the Stockholm Convention on POPs, particularly those related to the industrial sector releases of UP-POPs. The project will further contribute to the improvement of human health and environmental conditions in the coastal zone as the project is linked to national sustainable development plans of the participating countries.

C.2. The UNIDO approach

Project Implementation Arrangement

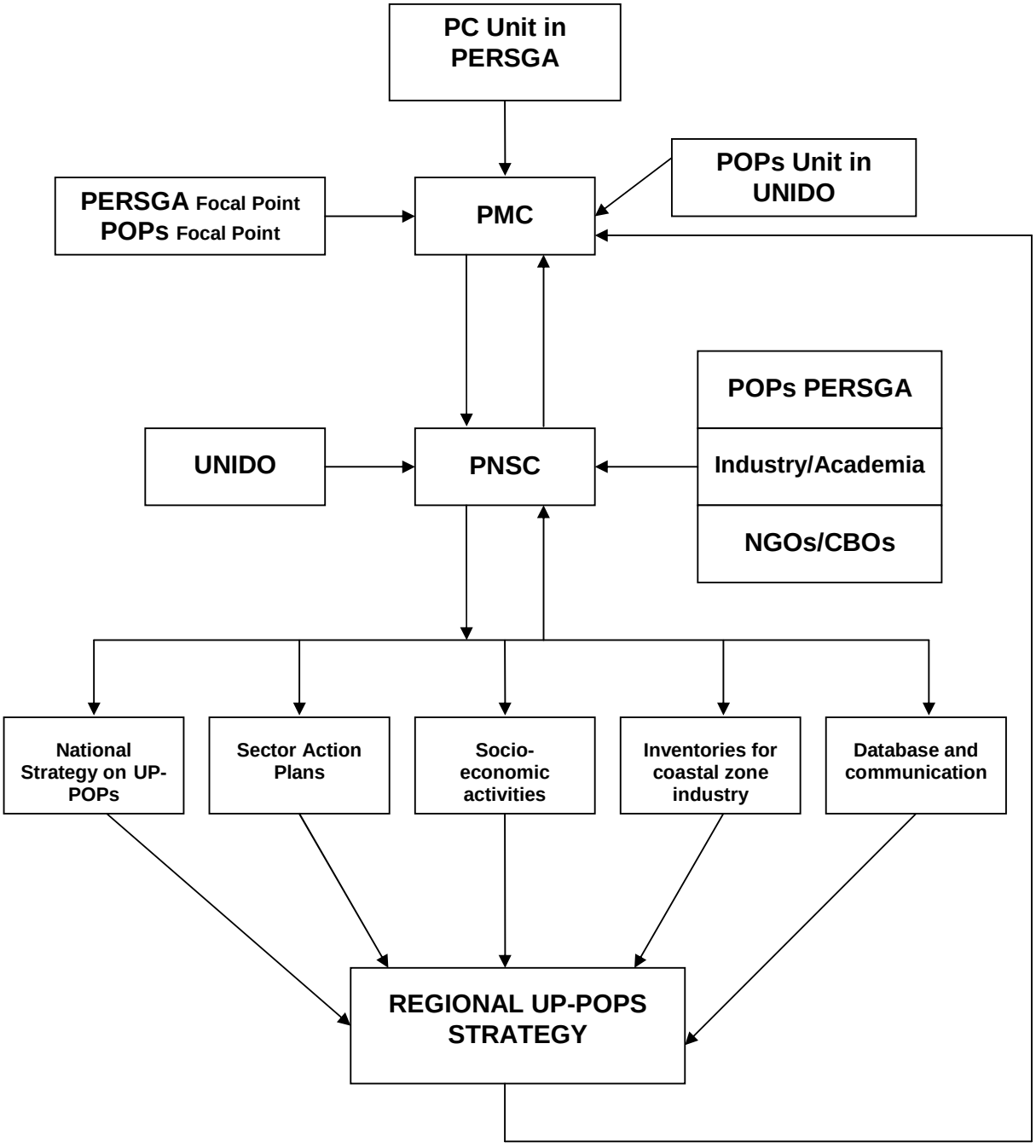
52. ***UNIDO*** will be the ***Implementing Agency (IA)*** for this proposed MSP and will work closely with ***PERSGA***, the designated ***Regional Executing Agency (REA)***. UNIDO will be responsible for overseeing and monitoring the project budgets and expenditures, recruitment and contracting of international consultants, procurement of equipment (when not done by PERSGA) and project evaluation as well as organizing independent audits to ensure the proper use of GEF/UNIDO funds. Financial transactions, auditing and reporting will be carried out in compliance with PERSGA and UNIDO rules and procedures. UNIDO will appoint a project manager who will monitor the implementation progress and be responsible for the organizational back up of the project. International experts will be appointed by UNIDO that will provide technical back up to the project management team and the industries.

53. PERSGA will be the regional executing agency for this project and with national line ministries and agencies as the ***national executing agencies (NEAs)*** cooperating with PERSGA at country level. PERSGA will deliver specific inputs (services, expertise, procurement of equipment) to the project and produce specific outputs through a contractual agreement between PERSGA and UNIDO. PERSGA will be responsible for the implementation of the activities financed through co-financing instruments of the donors. PERSGA is accountable to UNIDO for the proper use of funds provided to it and for the quality, timely and effectiveness of the services it provides and the activities it carries out.

54. PERSGA will establish the POPs unit which will be the ***project coordination unit (PCU)*** with one staff at management level, namely a project coordinator be recruited by the project since little experience is available in PERSGA on POPs issues and there is a need to support this by GEF funds, and two at general service level be provided for by PERSGA. The PCU will be responsible for the day-to-day project implementation and the timely and verifiable attainment of project objectives. A ***Project National Steering Committee (PNSC)*** will be established and will act as the management committee for the national execution of this project activities and the decision making body of the project at national level. The ***project management committee (PMC)*** will comprise of PERSGA, UNIDO, and or POPs and PERSGA national focal points of the participating countries. The PMC will hold its regular sessions every six months throughout the project implementation, but additional meetings can be held if necessary. It will oversee the project related work of the BAT and BEP regional strategy and the implementation teams and will review, comment on and approve the work plan. All decisions of the committee, such as respective responsibilities, timelines and the budget will be clearly communicated to the parties concerned. Activities will be implemented through instruments of subcontracts. Submitted tenders, contracts and terms of references will be reviewed and evaluated by the PMC in accordance with the existing UNIDO and PERSGA procedures. Any major changes in the project plans or programmes will require the approval from the PMC to take effect. PMC members will facilitate the implementation of the project activities in their respective organizations, ensure that activities are implemented in a timely manner and facilitate the integration of project-inspired activities into existing programmes and practices. Representatives

of partner and co-financing organizations, which are not represented in the PNSC, will be invited to attend the meetings as needed.

Organizational Chart



C.3 RBM code and thematic area code

EAE B-16 Stockholm Convention

C.4. Expected outcomes

55. The main project outcome is to develop a regional strategy (RS) for the introduction of BAT and BEP in the industrial facilities of the coastal zone of four countries (Egypt, Jordan, Sudan and Yemen) as required by Annex C of Article 5 of the Stockholm Convention. The strategy will include measures ensuring public participation, provide targeted capacity building, study socio-economic implications of environment and monitor impact on human health. The RS will strive to maximize private sector involvement in the planning and implementation activities as well as devising a more integrated and comprehensive resource mobilization scheme. The RS would also support training for technical staff to enable them to carry out preliminary technical feasibility studies required for the introduction of BAT/BEP in the selected sectors and eventually enable the industries to fully select and transfer environmentally sound technologies. The RS will also make necessary provisions to document and disseminate, to PERSGA members, all the experiences gained and corrective measures taken during the implementation process.

C.5. Outputs and activities

56. The following outputs and activities were identified during the preparatory phase:

Outputs/activities		Responsible
Output 1: Project Management Structure The activities under this output will result in the establishment of the management structure (PMC and PNSC) of the Regional Programme of POPs under PERSGA.		
Activity 1.1	*Establishment of Project Management Committee (PMC)* • Project management committee will be established comprising of PERSGA, UNIDO and GEF POPs focal points and PERSGA national focal points of the participating countries. • POPs unit established in PERSGA will comprise of the Project Coordinator (assisted by an international part-time consultant to be contracted by the project) that will act as secretary to the project management committee and two general staff (to be provided for from the already existing staff under PERSGA).	PERSGA, UNIDO CTA
Activity 1.2	*Establishment of the Project National Steering Committees (PNSC) and its functions* • The PNSC is technical in nature and members selected comprising of the national project managers, technicians, POPs and PERSGA national focal points and UNIDO. The POPs focal point will act as the national team leader and PERSGA focal point will act as alternate. • Detailed work plan with clear description of activities developed and agreed upon by all national stakeholders. • Communication strategy prepared and implemented at three levels: with all stakeholders, with project team and with national executing ministries/agencies (ministries of industry, environment, finance, investment agencies, conservation agencies, technology promotion agencies, etc.). • Funds mobilization, partnerships and sustainability plan prepared jointly with industry private sector, regional and national investment banks.	PERSGA, UNIDO
Activity 1.3	*Knowledge management and reporting* • Establishment of an e-stakeholder forum, a database of experts, NGOs, organizations and enterprises, which will be adjusted to the POPs programme. Preparation and publishing of newsletters and progress reports. Maintenance of a website for this project under the main PERSGA website (www.persga.org) and linked it to the UNIDO website (www.unido.org/pops). • Establishment of a database for storing the project related implementation information.	PERSGA UNIDO

Outputs/activities		Responsible
Activity 1.4	*Inception Workshop* After setting up the project structure, management and coordination issues, an inception workshop combined with a PMC meeting will be held. Nominated POPs and PERSGA focal points will hold presentations on how they would develop and implement the agreed measures and actions of the project. Media will be invited to reflect this partnership between GEF/UNIDO/PERSGA/Governments/NGOs, etc.	PERSGA UNIDO Governments NGOs
Activity 1.5	*Funds mobilization, partnerships and sustainability plan* At least four meetings are planned by the PMC to inform and increase the interest of donors, foundations, investment banks such as the Islamic Development Bank, African Development Bank, League of Arab States companies/corporates, private sector or national banks to promote the proposed activities and investments, especially those, which aim to introduce industry specific measures or technology for up-grading the facilities.	PERSGA Governments Regional Banks
Output 2:	**Institutional and human resources capacity established for various stakeholders**	
Activity 2.1	*Improvement of survey tools (such as adapted questionnaires, expert group meetings and workshops, teleconferences, desk work), data collection and monitoring*	PERSGA CTA
Activity 2.2	*Undertake stakeholder analysis and identification of roles and responsibilities at the national level (PERSGA existing guidelines will be adapted to include POPs matters)*	PERSGA CTA
Activity 2.3	*Assessment of the needs of the stakeholders on capacity development and improvement for the selected technical staff of the industrial sector*	PERSGA CTA
Activity 2.4	*Capacity building for stakeholders implemented at all levels (regional, national and factory)* Based on the agreed assessed needs, which are elaborated in the technical reports of the previous Activity 2.3, the models and tools for capacity building will be developed as a customized package for each stakeholder, particularly for the environment, health and socio-economic modules. It will include technical infrastructure upgrading models and associated training materials.	PERSGA NEAs
Output 3:	**Comprehensive baseline survey conducted for the coastal zone** A comprehensive technical database will also be developed as part of the overall database on project related information and reporting.	
Activity 3.1	*Development of the detailed inventory of UP-POPs releases for the coastal zone industries* Annex C POPs source release identification and quantification will be carried out in accordance with the latest version (2nd edition) of the "Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases" prepared by UNEP Chemicals and used during the NIP development. An in-depth inventory will be carried out using sampling and analysis methodology based on the actual conditions of the factory (rather than using the estimating factors proposed by the UNEP toolkit). Linkage would be made with on going industry related projects and environmental programs and projects related to industrial pollution abatement (cleaner production, life cycle analysis, pollution prevention and abatement, chemical accidents and risk assessment and mitigation, etc.).	PERSGA UNIDO
Activity 3.2	*Development of environment and health related POPs inventory* • Update and upgrade the methodology of PERSGA for Research and Monitoring Network and Guidelines to include POPs, the locations of sampling points, sampling frequency, methodology of monitoring as well as reporting of the results.	PERSGA Governments

Outputs/activities		Responsible
	• In order to achieve the reporting goals of the Convention and enable global monitoring of POPs releases, it is necessary to establish and strengthen regional or sub-regional technical capacities, expertise and laboratories. To this end, PERSGA will identify a laboratory in the region for the analysis of Annex C POPs. Some research laboratories on POPs chemicals may exist in Egypt, Kuwait and Saudi Arabia, though there is a need for adequate sampling systems associated with them. In this phase of the project a suitable laboratory will be identified, Terms of Reference will be elaborated, and a service agreement will be signed with the respective authorities.	
Activity 3.3	*Development of the socio-economic inventory* Task teams, under the management of the regional team leaders for public participation and social aspects, will apply PERSGA's socio-economic assessment scheme for the region.	PERSGA NGOs
Activity 3.4	*Desk-validation of the inventories* The inventories, which will be prepared through Activities 3.1, 3.2, and 3.3 will be reviewed and validated according to international standards accuracy.	PERSGA NEAs
Activity 3.5	*Maintenance of technical data and information* PERSGA socio-economic assessment will be updated with UP-POPs related information and the data generated in Activity 5.3. This will lead to a time-trend analysis and will identify the socio-economic indicators of the impacts of the introduction of BAT and BEP.	PERSGA NEAs
Output 4: Approved UP-POPs sources Activities detailed under Output 4 will be centrally managed by PERSGA as a major input to the existing project scope as well as future strategic plans and projections.		
Activity 4.1	*Scientific evaluation of the inventory results* Evaluate the data and inventory results and establish a list of locations and industries, where introduction of BAT and BEP would be most urgent. This evaluation is based on emission data collected in Activity 3.1 and other coastal environment data using the adapted methodology of PERSGA. The priority list (using the criterion mentioned in Activity 4.2 below) is a crucial confirmation document for prioritization basis to start the introduction of BAT and BEP at the identified locations and determine the needed input for the approval of UP-POPs sources for action plan development.	UNIDO PERSGA
Activity 4.2	*Development of criteria for the prioritisation of identified sources* The PNSC will develop the criteria, which will consider, beyond scientific reasons, *inter alia*, the: • size of the coastal zone of the country in which the source is identified, • economic development status of the country in which the source is located, • number of sources, which have already been selected in the country, and • level of financial and human inputs of the industrial sector. It is assumed that the criteria will take into consideration the national objectives, but in a regional context. The PMC will review and approve the criteria.	PNSC PMC
Activity 4.3	*Approval of UP-POPs sources for action plan development* The scientifically approved priority list of sites, based on emission source releases, will be further processed and the ranking criteria developed under Activity 4.2 will be applied to all sources identified, confirmed and validated. A PMC meeting will be held to decide for the locations of the industrial sources where planning for the introduction of BAT and BEP will be undertaken.	PMC UNIDO
Output 5: UP-POPs source specific plans to promote BAT and BEP developed		
Activity 5.1	*Identification of project managers, sector experts and/or task teams and establishment of national executing offices in the relevant national executing ministries/ agencies* The regional team for industry and economic development will implement the activities detailed under Activities 5.1 and 5.2.	UNIDO

Outputs/activities		Responsible
Activity 5.2	*Part A: Report for BAT and BEP arrangements*	
Activity 5.2.1	*Detailed technology assessments of the selected UP-POPs sources*	UNIDO
Activity 5.2.2	*Identification of the most feasible options including support for BAT and BEP alternatives*	UNIDO
Activity 5.2.3	*Development of detailed plan for introduction of BAT and BEP strategies* Following the field assessments and discussions, experts will develop in detail the most feasible options and supportable alternatives. The cost of the implementation will include the loss of income if the production should be stopped during the modification process.	UNIDO NEAs
Activity 5.3	*Part B: Establishment of environmental and health related research and monitoring system* The regional team for public participation and social aspects will implement the activities detailed under Activity 5.3. Experts will apply PERSGA socio-economic assessment tool to assess public awareness and map the local socio-economic situation in the area of the selected industrial facility.	PERSGA
Activity 5.3.1	*Identification of on-site sampling points* Proposals for modifying the existing facilities should include plans for the evaluation of compliance with the target values for releases of chemicals listed in Annex C in stack gases and other outputs that are applicable for the given facility. Methods for sampling will be developed and specially adapted to the sampling locations.	UNIDO NEAs
Activity 5.3.2	*Identification of off-site sampling points* Soil, sediment, water and habitat sampling points will be identified and marked by existing Global Positioning System (GPS). These sampling sites will be used to monitor the presence of pollutants and draw a time-trend analysis.	UNIDO NEA
Activity 5.3.3	*Assessment of occupational safety measures at the UP-POPs source* Field visits of experts will assess the critical points of the technology transfer where UP-POPs might be released, linked to the employment figure of the facility to identify the impacted groups and the possible exposures and develop safety measures for the identified groups, which will be integrated into the facilities' overall occupational safety and health policy.	UNIDO PERSGA NEAs
Activity 5.3.4	*Development of specialized research and monitoring system for the selected area where PERSGA has already an existing monitoring network and sampling points for pollutants in place* If additional resources can be mobilized for research, baseline samples will be taken and analysed in the PERSGA outreach or other laboratory.	PERSGA CTA
Activity 5.4	*Part C: Establishment of socio-economic and public participation initiative*	
Activity 5.4.1	*Identification of target groups* Article 10 of the Stockholm Convention identifies those groups, which are either particularly sensitive for POPs or their role is important for the successful implementation of the Convention. Experts will adapt the aforementioned obligations to the local circumstances and develop a survey, which identifies the size of the population in order to elaborate public awareness programmes.	PERSGA
Activity 5.4.2	*Identification of preferred tools for awareness raising* Successful projects have been characterized by holding regular meetings with concerned citizens, providing days for public visits, posting releases and operational data on the Internet and displaying real-time data on operations and releases at the facility site.	PERSGA UNIDO

Outputs/activities		Responsible
Activity 5.4.3	*Identification of required information* Field visit of experts will screen the current level of knowledge of the target groups identified. The assessment will be carried out according to pre-developed tools of PERSGA socio-economic assessment such as questionnaires, public hearings or interviews at the workplace.	PERSGA NEAs
Activity 5.4.4	*Development of specific public awareness programmes, public participation tools and socio-economic in*centives Creating and maintaining public goodwill towards employees of a factory, which releases UP-POP, and their dependants is critical. Outreach should begin in the planning of the project as early as possible. The public and citizens' advocacy groups will have understandable concerns about the construction or modification and operation of a facility and dealing with these openly and honestly will help prevent misinformation and misunderstanding. It is crucial that their concerns and information regarding the facility is understood and properly addressed. The results of the field assessment will be compiled into the Regional Public Awareness Inventory and data will be published based on the reporting and information dissemination tools of PERSGA.	NEAs PERSGA
Output 6: Implementation of BAT and BEP action plans		
Activity 6.1	*Implementation of the site-specific action plans* At the regional workshop for the preparation of the Project Document, participating countries expressed their need to include Activity 6.2 on the implementation of the site-specific action plans of the regional strategy. The site-specific implementation is a training opportunity for technicians of the industry to enable them to learn a systematic methodology of technical evaluation of the source release process and determine the technical feasibility of options identified through a pilot experience. The technicians will learn how to identify and select an environmentally sound technology that will respond to the specific need of the emission source on the site.	UNIDO NEAs
Activity 6.2	*Site specific plans and additional financial resources mobilised* GEF funds will not be used to undertake all these activities; rather will only be used to cover one sector pilot learning experience case (demonstration purpose) and the rest of the sectors will be the duty of the national executing agencies and related ministries, that would help the private sector to secure funding for transfer of EST. The RS will then make the results available to the whole sector in the participating countries and ensure a continuous future application of this methodology and approach. Egypt has expressed interest to lead one pilot learning experience and work with national and regional banks and other funding partners to demonstrate the case and qualify it as a learning site for other countries to have their technicians visit the site and start replication of the experience in their national sector facilities.	UNIDO NEAs
Output 7: Regional BAT and BEP strategy developed As PERSGA will manage the whole project, the activities detailed under Output 7 will be an open-ended activity that will also be centrally managed by PERSGA to ensure regional ownership and continuity of the development and adaptation process of the strategy in the future. Individual countries may implement other national BAT and BEP strategies that are not related to the coastal zone management.		
Activity 7.1	*Preparation of the regional strategy for BAT and BEP* Phases I to VI are elements of the RS as shown in Figure 1. In order to implement the measures of the MSP, the RS will be established. This process is an ongoing activity having different modules such as inventories, data management and specific action plans, which can be implemented in a flexible manner independently from each other under the central coordination and supervision of PERSGA. This allows the information to be kept regionally, while conclusions can be drawn nationally or locally. It also enables the corrective measures to be undertaken at the regional level in the future, if needed.	PERSGA UNIDO

Outputs/activities		Responsible
Activity 7.2	*Development of a common legislative and regulatory framework* Review of national POPs legislations governing the chemicals management, environmental legislations of the coastal zone and identify the areas of legislation gaps that would need to be bridged to establish a common legislation and regulatory framework for the industries at the coastal zone. Identify national technical and emission standards, policies and practices that would support establishing the regional legislation framework. Hold a regional workshop to reach consensus and adopt policy and legislative recommendations to be included in the strategy for implementation.	PERSGA NEAs
Activity 7.3	*Endorsement of the regional strategy* PERSGA will host a formal PMC meeting, where main national stakeholders will also be invited to endorse the regional BAT and BEP strategy. The regional strategy together with the endorsement workshop report will be submitted to UNIDO and GEF as final results of the project.	PERSGA PMC UNIDO
Output 8: Adaptive monitoring and evaluation		
Activity 8.1	*Monitoring and evaluation* Recalling GEF and UNIDO rules, the project evaluation task will be carried out by an independent evaluator. PERSGA has its own rules of procedures for project monitoring and evaluation. These rules and practices are to improve the performance of the stakeholders as well as to safeguard the adherence to the details of the project document. The PERSGA procedures will be revised based on the performance indicators of this document and adapted by the PMC. The evaluation and reporting frequency are as follows: • Quarterly progress reports will be prepared for each output. • Quality of the deliverables will be evaluated against pre-approved criteria by PERSGA. • Quarterly financial reports will also be developed and submitted. • At least one of the two evaluation missions (mid-term and final) will be undertaken by an independent body to evaluate the quality of the implementation and proper use of funds. • At the end of the project, a report will be compiled on the lessons of the adaptive monitoring and evaluation (as a PERSGA commitment to avoid discrepancies). It will include the quality of the achieved results versus the management practices and corrective measures, which were taken throughout the implementation. The project logical framework is elaborated in Annex 1.	UNIDO PERSGA

C.6. Tentative Timeline of Activities

Outputs/Activities	Duration of Project (in months)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Output 1: Project Management Structure																								
Activity 1.1 Establishment of Project Management Committee																								
Activity 1.2 Establishment of the Project National Steering Committees and their functions																								
Activity 1.3 Knowledge management and reporting																								
Activity 1.4 Inception Workshop																								
Activity 1.5 Funds mobilisation, partnerships and sustainability plan																								
Output 2: Institutional and human resources capacity established																								
Activity 2.1 Improvement of survey tools, data collection and monitoring																								
Activity 2.2 Undertake stakeholder analysis and identification of roles and responsibilities at the national level																								
Activity 2.3 Assessment of the needs of the stakeholders on capacity development and improvement																								
Activity 2.4 Capacity building for stakeholders implemented at all levels (regional, national and factory)																								
Output 3: Comprehensive baseline survey conducted																								
Activity 3.1 Development of the detailed inventory of UP-POPs releases for the coastal zone industries																								
Activity 3.2 Development of environment and health related POPs inventory																								
Activity 3.3 Development of the socio-economic inventory																								
Activity 3.4 Desk validation of the inventories																								
Activity 3.5 Maintenance of technical data and information																								
Output 4: Approved UP-POPs sources																								
Activity 4.1 Scientific evaluation of the inventory resutls																								
Activity 4.2 Development of criteria for the prioritisation of identified sources																								
Activity 4.3 Approval of UP-POPs sources for action plan development																								

Outputs/Activities	Duration of Project (in months)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Output 5: UP-POPs source specific action plans to promote BAT and BEP developed																								
Activity 5.1 Identification of project managers, sector experts and/or task teams and establishment of national executing offices in the relevant national executing ministries/agencies																								
Activity 5.2 Part A: Report for BAT and BEP arrangements																								
Activity 5.3 Part B: Establishment of environmental and health related research and monitoring system																								
Activity 5.4 Part C: Establishment of socio-economic and public participation initiative																								
Output 6: Implementation of BAT and BEP action plans																								
Activity 6.1 Implementation of the site-specific action plans																								
Activity 6.2 Site specific plans and additional financial resources mobilised																								
Output 7: Regional BAT and BEP strategy developed																								
Activity 7.1 Preparation of the regional strategy for BAT and BEP																								
Activity 7.2 Development of a common legislative and regulatory framework																								
Activity 7.3 Endorsement of the regional strategy																								
Output 8: Adaptive Monitoring and Evaluation																								
Activity 8.1 Monitoring and Evaluation																								

C.7. Risks, Sustainability and Replicability

Risks

57. The key indicators, assumption, risks and mitigation measures are outlined in the table below:

Indicators	Assumption	Risks	Mitigation measures
The regional strategy for the introduction of BAT/BEP published.	Selected industries will cooperate in introducing BAT & BEP.	Industries will not cooperate in BAT & BEP implementation.	An action plan and a strategy "for the introduction of BAT/ BEP to enable the reduction and elimination of the UP-POPs chemicals in the priority land based industrial sector of the 4 participating countries sharing the RSGA coastal zone" produced.
The framework of demonstration sites agreed upon by experts and governments	Development banks and other funding organizations will support the project.	Two years will not be enough to develop a comprehensive investment portfolio.	A framework for the establishment of demonstration sites and a portfolio of investment projects in selected industries of the region developed.
International recognition of the socio-economic initiative and its activities (adopted as an international model, published in international journals, etc.)	Socio-economic indicators can be established for impacts of BAT & BEP measures.	BAT & BEP introduction will negatively affect the socio-economics and tourism development of the region.	Issues of socio-economic importance addressed such as community perception on risks of POPs chemicals, enhanced public participation of the coastal zone management structures and raising awareness on topics related to chemical s management as linked to international waters.
PERSGA established the POPs Regional Programme.	The project will be successful and will be integrated under the PERSGA regional portfolio as a programme.	PERSGA will not have enough capacity, especially human resources to integrate POPs into its regional activities.	The human and institutional capacities of managing Annex C POPs in the region have been strengthened in the areas related to other PERSGA programmes and objectives.

Sustainability

58. Sustainability will be achieved through maximization of the use of available resources at PERSGA and at the national counterparts institutions entrusted to implement the RS of BAT and BEP, while the GEF resources will be used to create the necessary capacity for initiating and undertaking the MSP activities. The successful implementation of the MSP will result in a regional strategy report on BAT & BEP, which will be provided to the Council meeting of PERSGA to include it as part of its regional programme and action plans portfolio. Thus, the agreed activities of the MSP and the implementation plan of the regional strategy will continue as a PERSGA programme. To facilitate this process, PERSGA has already established a POPs unit, which will facilitate the uptake of the Stockholm Convention in general and BAT and BEP obligations in particular and will eventually be the implementation body of the project.

59. It is also foreseen that PERSGA member states, currently not included in the project, will join the implementation process in the near future when information and awareness raising plan is fully developed and implemented. To this end, the project is designed in a way to ease the admittance of new members as it is clearly elaborated in the project concept of the RS modules.

60. One of the main objectives of the project is to develop an economically sustainable mechanism for the introduction of BAT and BEP into selected industries. The funds mobilization plan and activities will provide constant generation of resources such as loans, partnerships or joint ventures and public-private participation, which will be the driving force for financial sustainability after the project completion. It will also pave the way for the private industry to take over certain parts of the implementation such as planning or implementing BAT and BEP measures through subcontracts.

Replicability

61. Specific actions within the work plan have been budgeted to foster knowledge transfer such as training, workshops, scientific evaluations and publication, information exchange as elaborated in detail in the project description. The major elements of these are summarized below:

- *Training*: The project will involve capacity building by developing and delivering training modules. The training sessions will be provided by international experts but will involve local staff ('train the trainers') that will be able to serve as resource persons for training beyond the project life. Consideration will be given to the integration of POPs modules into the existing training programmes of the environment and research organizations in the region (e.g., at universities, specialized centres, chemicals management organizations, foundations involved in outreach activities of PERSGA).

- *Innovative financing mechanisms*: Replicability of BAT and BEP measures beyond the project life will require capacity that includes not only know-how and a supportive policy environment, but also innovative financing mechanisms. Through exploring and piloting BAT & BEP in selected industries, the project will set models for mobilization of a broader set of financing options and establishes cooperation patterns with the private sector to take over the goals of the project and engage in replication of work in the future.

- *Knowledge transfer through the knowledge management and workshops*: Reports will be presented in the form of workshop reports, newsletters, inventories and data collection reports. Conclusions of the scientific evaluations of the data and regular monitoring results will be published in scientific journals and will be integrated into public awareness programmes beyond the project. The final phase of the project will also involve organizing a workshop on approval of the regional strategy and its integration into PERSGA regional portfolio. Knowledge transfer will be facilitated through UNIDO beyond the PERSGA region for the benefit of other countries.

SECTION D. INPUTS

D.1. Counterpart inputs

62. Paragraph 2 of Article 13 of the Stockholm Convention foresees that the financial mechanism of the Convention shall provide the agreed full incremental costs of the implementing measures for developing countries and countries with economies in transition. To this end, the incremental costs of all activities of the project were assessed based on the "Evaluation of GEF Incremental Cost Methodologies"[1].

63. The baseline costs of US$ 1.6 million will be covered by participating governments sources, while incremental costs, which provide additional global benefits directly related to the Stockholm Convention, will be financed from GEF, PERSGA (governmental) and UNIDO resources (US$ 1.38 million).

64. Financing for the project will come from national and international sources and reflects the project's integration into government and partner agency work programmes. The distribution of funds across activities reflects the interests of particular contributors in different activities and outputs associated with the project. Funding requirements have been discussed with key stakeholder organizations and project partners at the regional workshop.

65. During the preparatory phase of the project, UNIDO in cooperation with PERSGA have explored a partnership to conduct a training course on "Oceans, industry and human health" funded by the Living Ocean Foundation, a US-based NGO. Funds were also promised by Cousteau Society and the Harvard University to hold exhibition and awareness raising for the countries of the project, whereby a Memorandum of Understanding has been drafted. A joint UNIDO and Islamic Development Bank meeting was held in Saudi Arabia followed by a meeting between PERSGA and the Bank where contribution of US$ 100,000 has been envisaged from the Bank to hold investment awareness workshops for the member countries of the Bank through the various activities of the project. Meeting was also held with the League of Arab States (LAS), which agreed to contribute through the industrial sector unions for the implementation of the surveys planned by the project. LAS will hold a joint consultation meeting between the sector unions and the local banks to secure more funding for the project.

66. The total project cost is US$ 3,030,000 where US$ 1,000,000 is GEF grant (including the funds expended for the PPG). The governments of Egypt and Jordan will contribute US$ 500,000 each while Sudan and Yemen will contribute US$ 300,000 each as in-kind contribution to the project mainly through the use of the infrastructure and facilities of the NIP projects as well as staff time. PERSGA will contribute US$ 400,000 where US$ 186,000 in cash and US$ 214,000 in-kind.

D.2. UNIDO inputs

67. UNIDO will provide an in-kind contribution of US$ 30,000 for project management and preparation of technical reports.

[1] Evaluation of GEF Incremental Cost Methodologies, GEF Evaluation Office December 27th 2005.

Summary Incremental Cost Matrix in US$

Project Outputs	Baseline	Increment	Alternative
Output 1: Project Management structure established	359,000	175,000	534,000
Output 2: Institutional and human resources capacity for various stakeholders established	190,000	219,000	409,000
Output 3: Comprehensive baseline survey for the coastal zone conducted	151,000	141,000	231,000
Output 4: Approved UP-POPs sources as priority area of action to introduce BAT/BEP strategies	15,000	60,000	75,000
Output 5: UP-POPs source specific action plans to promote BAT/BEP developed	355,000	336,000	691,000
Output 6: Implemented BAT and BEP pilot experience and showcase developed	351,000	326,000	677,000
Output 7: Regional BAT and BEP strategy developed	141,000	85,000	226,000
Output 8: Adaptive monitoring and evaluation plan	38,000	38,000	76,000
TOTAL	**1,600,000**	**1,380,000**	**2,980,000**

SECTION E. BUDGET

E.1 Project Budget (GEF only) in US$

Outputs	Budget line	Budget description	Year 1		Year 2		Total	
			US$	w/m	US$	w/m	US$	w/m
Output 1: **Project Management structure**	11-01	Chief Technical Advisor	4,300	0.5	4,300	0.5	8,600	1.0
	11-50	International short-term consultants	8,600	1.0	8,600	1.0	17,200	2.0
	13-00	Administrative support	6,000	6.0	6,000	6.0	12,000	12.0
	15-00	Project travel	5,000		5,200		10,200	
	17-50	National short-term consultants	16,000	8.0	16,000	8.0	32,000	16.0
	45-00	Equipment (office facilities, equipment for Sudan and Yemen as LDCs)	15,000				15,000	
		Subtotal	***54,900***	***15.5***	***40,100***	***15.5***	***95,000***	***31.0***
Output 2: **Institutional and human resources capacity established**	11-01	Chief Technical Advisor			8,600	1.0	8,600	1.0
	11-50	International short-term consultants	30,000	3.0	30,000	3.0	60,000	6.0
	17-50	National short-term consultants	30,000	12	30,000	12	60,000	24.0
	33-00	On-the job training	10,000		10,000		20,000	
	35-00	Workshops/meetings	11,400				11,400	
		Subtotal	***81,400***	***15.0***	***78,600***	***16.0***	***160,000***	***31.0***
Output 3: **Comprehensive baseline survey conducted**	11-50	International short-term consultants	10,000	1.0	5,000	0.5	15,000	1.5
	15-00	Project travel	10,000		5,000		15,000	
	17-50	National short-term consultants	20,000	8.0	10,000	4.0	30,000	12.0
	51-00	Printing/translation/etc.			1,000		1,000	
		Subtotal	***40,000***	***9.0***	***21,000***	***4.5***	***61,000***	***13.5***
Output 4: **Approved UP-POPs sources**	11-50	International short-term consultants	5,000	0.5			5,000	0.5
	33-00	On-the job training			10,000		10,000	
		Subtotal	***5,000***	***0.5***	***10,000***		***15,000***	***0.5***

Outputs	Budget line	Budget description	Year 1		Year 2		Total	
			US$	w/m	US$	w/m	US$	w/m
Output 5: **UP-POPs source specific action plans to promote BAT and BEP developed**	11-01	Chief Technical Advisor			8,600	1.0	8,600	1.0
	11-50	International short-term consultants	40,000	4.0	40,000	4.0	80,000	8.0
	15-00	Project travel	10,000		10,000		20,000	
	17-50	National short-term consultants	25,000	10	25,000	10	50,000	20.0
	33-00	On-the job training			50,000		50,000	
	35-00	Workshops/meetings			11,400		11,400	
	51-00	Printing/translation/etc.			5,000		5,000	
		Subtotal	***75,000***	***14.0***	***150,000***	***15.0***	***225,000***	***29.0***
Output 6: **Implementation of BAT and BEP action plans**	11-50	International short-term consultants			50,000	5.0	50,000	5.0
	15-00	Project travel			15,000		15,000	
	17-50	National short-term consultants			20,000	8.0	20,000	8.0
	33-00	On-the job training			20,000		20,000	
	45-00	Equipment			204,000		204,000	
	51-00	Printing/translation/etc.			2,000		2,000	
		Subtotal			***311,000***	***13.0***	***311,000***	***13.0***
Output 7: **Regional BAT and BEP strategy developed**	11-50	International short-term consultants			30,000	3.0	30,000	3.0
	15-00	Project travel			5,000		5,000	
	17-50	National short-term consultants			20,000	8.0	20,000	8.0
		Subtotal			***55,000***	***11.0***	***55,000***	***11.0***

Outputs	Budget line	Budget description	Year 1		Year 2		Total	
			US$	w/m	US$	w/m	US$	w/m
Output 8: **Adaptive monitoring and evaluation**	11-50	International short-term consultants			20,000	2.0	20,000	2.0
	51-00	Printing/translation/etc.			8,000		8,000	
		Subtotal			***28,000***	***2.0***	***28,000***	***2.0***
TOTAL PPG							***50,000***	
PROJECT TOTAL COSTS			**256,300**	**54.0**	**693,700**	**77.0**	**1,000,000**	**131.0**

E.2 Co-financing budget by Outputs (in US$)

Outputs/Activities		Co-financing (US$)				
		UNIDO	PERSGA		Participating countries	TOTAL
			Cash	In-kind		
Output 1: Project Management structure						
1.1	Establishment of project management committee (PMC)	0	10,000	10,000	80,000	100,000
1.2	Establishment of Project National Steering Committee (PNSC)	0	0	0	80,000	80,000
1.3	Knowledge management and reporting	0	5,000	5,000	79,000	89,000
1.4	Inception Workshop	0	5,000	10,000	40,000	55,000
1.5	Funds mobilization, partnerships and sustainability plan	15,000	5,000	15,000	80,000	115,000
	Subtotal	***15,000***	***25,000***	***40,000***	***359,000***	***439,000***
Output 2: Institutional and human resources capacity established						
2.1	Improvement of survey tools (adaptive questionnaires, expert group meetings and workshops, teleconferences, desk work, etc.) data collection and monitoring	0	10,000	0	50,000	60,000
2.2	Undertake stakeholder analysis and identification of roles and responsibilities at the national level (PERSGA existing guidelines will be adapted to include POPs issues)	0	5,000	10,000	50,000	65,000
2.3	Assessment of the needs of the stakeholders on capacity development and improvement	0	5,000	10,000	50,000	65,000
2.4	Capacity building for stakeholders implemented at all levels	0	5,000	14,000	40,000	59,000
	Subtotal	***0***	***25,000***	***34,000***	***190,000***	***249,000***
Output 3: Comprehensive baseline survey conducted						
3.1	Development of the detailed inventory of UP-POPs releases for the coastal zone industries	0	10,000	10,000	50,000	70,000
3.2	Development of environment and health related POPs inventory	0	5,000	10,000	30,000	45,000
3.3	Development of the socio-economic inventory	0	5,000	10,000	30,000	45,000
3.4	Desk-validation of the inventories	0	5,000	5,000	0	10,000
3.5	Maintenance of technical data and information	0	10,000	10,000	41,000	61,000
	Subtotal	***0***	***35,000***	***45,000***	***90,000***	***231,000***

Outputs/Activities		Co-financing (US$)				
		UNIDO	PERSGA		Participating countries	TOTAL
			Cash	In-kind		
Output 4: Approved UP-POPs sources						
4.1	Scientific evaluation of the inventory results	0	5,000	10,000	5,000	15,000
4.2	Development of criteria for the prioritisation of identified sources	0	5,000	10,000	5,000	15,000
4.3	Approval of UP-POPs sources for action plan development	0	5,000	10,000	5,000	15,000
	Subtotal	***0***	***15,000***	***30,000***	***15,000***	***65,000***
Output 5: UP-POPs source specific action plans to promote BAT/BEP developed						
5.1	Identification of project managers, sector experts and/or task teams and establishment of national executing offices in the relevant national executing ministries/agencies	0	6,000	10,000	30,000	46,000
5.2	Part A: Report for BAT and BEP arrangements					
5.2.1	Detailed technology assessments of the selected UP-POPs sources	0	0	10,000	30,000	40,000
5.2.2	Identification of the most feasible options including support for BAT and BEP alternatives	0	5,000	0	30,000	45,000
5.2.3	Development of detailed plan for introduction of BAT and BEP strategies	0	5,000	0	30,000	45,000
5.3	Part B: Establishment of environmental and health related research and monitoring system					
5.3.1	Identification of on-site sampling points	0	5,000	0	30,000	45,000
5.3.2	Identification of off-site sampling points	0	10,000	0	30,000	40,000
5.3.3	Assessment of occupational safety measures at the UP-POPs source	0	5,000	5,000	30,000	40,000
5.3.4	Development of specialised research and monitoring system for the selected area where PERSGA has already existing monitoring network and sampling points for pollutants in place	0	5,000	5,000	25,000	35,000
5.4	Part C: Establishment of socio-economic and public participation initiative					
5.4.1	Identification of target groups	0	10,000	0	30,000	40,000

Outputs/Activities		Co-financing (US$)				
		UNIDO	PERSGA		Participating countries	TOTAL
			Cash	In-kind		
5.4.2	Identification of preferred tools for awareness raising	0	5,000	10,000	30,000	45,000
5.4.3	Identification of required information	0	5,000	0	30,000	35,000
5.4.4	Development of specific public awareness programmes, public participation tools and socio-economic incentives	0	10,000	0	30,000	40,000
	Subtotal	***0***	***71,000***	***40,000***	***355,000***	***466,000***
Output 6: Implementation of BAT and BEP action plans						
6.1	Implementation of BAT and BEP action plans	0	0	0	170,000	170,000
6.2	Site specific plans and additional financial resources mobilised	15,000	0	0	181,000	196,000
	Subtotal	***15,000***	***0***	***0***	***351,000***	***366,000***
Output 7: Regional BAT and BEP strategy developed						
7.1	Preparation of the regional strategy for BAT and BEP	0	5,000	5,000	60,000	70,000
7.2	Development of common legislative and regulatory framework	0	5,000	10,000	41,000	56,000
7.3	Endorsement of the regional strategy	0	5,000	0	40,000	45,000
	Subtotal	***0***	***15,000***	***15,000***	***141,000***	***171,000***
Output 8: Adaptive monitoring and evaluation						
8.1	Monitoring and evaluation	0	0	10,000	18,000	28,000
	Subtotal	***0***	***0***	***10,000***	***18000***	***28000***
GRAND TOTAL		**30,000**	**186,000**	**214,000**	**1,600,000**	**2,030,000**

SECTION F. MONITORING AND EVALUATION, REPORTING

68. UNIDO will monitor and evaluate the implementation of the project in accordance with established UNIDO and GEF procedures. Monitoring and evaluation (M&E) will be based on measurable performance indicators through verifiable points, which are elaborated in the context of each Output.

69. An inception workshop will be organized to launch the project and will be attended by all project teams. Relevant government counterparts, co-financing partners, UNIDO representatives and the identified stakeholders will be invited. During this workshop, stakeholders will also be briefed on the M&E measures.

70. A detailed schedule of the project review mechanisms will be developed by project management, in consultation with project partners and incorporated in the Inception Workshop Report. Such a schedule will include: finalized timeframes for the PNSC meetings, UNIDO's reporting requirements (or relevant advisory and/or coordination mechanisms) and project related M&E activities.

71. *Monitoring:* A day-to-day monitoring of implementation progress will be the responsibility of the PCU based on the project's work plan and its indicators. The indicators with their means of verification will be approved at the inception workshop, which will also be the first meeting of the PNSC.

72. UNIDO project manager or designee will be responsible to monitor the implementation progress. UNIDO will field monitoring and evaluation missions. During these missions policy-level meetings of the parties directly involved in the implementation of the project will be considered. The first of such meetings will be held within the first three months of project implementation. This will also assist in acquainting all concerned parties with the reporting procedures.

73. *Reporting:* After the Inception Workshop, the PMC will prepare a project Inception Report that will include a detailed work plan for year one; a detailed project budget for the first full year of implementation; and detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms.

74. All elements of the project will be the subject of the evaluation measures of the Implementing Agency (UNIDO). This will include the Project Performance and Evaluation Review (PPER) and external evaluations. The mid-term project review will focus on the lessons learned from the current project experience including lessons about the project design, implementation and overall management. The final report prior to the end of the project will focus on similar issues but will give strong emphasis to the potential project impacts beyond the initial objectives. Recommendations for follow-up activities will be included in each of these reports.

75. PERSGA will be responsible for the production of the Quarterly Project Review including Financial Reports. This report is a UNIDO/GEF requirement and is the most important reflection of the progress of the project when M&E start performing the deskwork.

76. *Evaluation:* Project evaluation will be based on the Quarterly Project Review/Financial Reports, technical reports of international experts and workshop reports. At least two (2) UNIDO field evaluations (mid-term and final) will be carried out to safeguard project adherence to the work plan and the use of funds. These evaluations will determine progress being made towards the achievement of outputs and will identify course correction if needed. The final independent evaluation will also look at impact and sustainability of results.

77. *Audit:* The project is subject to financial audits as required in accordance with the UNIDO/GEF rules and regulations.

Indicative Monitoring and Evaluation plan

Item	Responsible	Budget (US$)	Time
Quarterly progress reports and financial statement	UNIDO/PERSGA	7,000	Quarterly
Project Implementation Reviews (PIRs)		6,000	Annual
Mid-term review report	UNIDO	(UNIDO)	After one year of the start of the project
Terminal evaluation report	Independent expert	10,000	At the end of the project
Financial audit report	Independent audit firm	5,000	At the end of the project
TOTAL		28,000	

SECTION G. PRIOR OBLIGATIONS AND PREREQUISITES

78. The Project Document will be signed by UNIDO and the Governments of Egypt, Jordan, Sudan and Yemen. GEF assistance will be provided subject to UNIDO being satisfied that obligations and pre-requisites listed below have been fulfilled or are likely to be fulfilled. When fulfilment of one or more of these pre-requisites fails to materialize, UNIDO may, at its discretion, either suspend or terminates its assistance.

G.1 Prior to Project Effectiveness

79. Legally binding co-financing agreements are signed for participation in the project.

G.2 During project implementation

80. Quarterly Progress reports, annual Project Reports and Project Implementation Review reports as well as measure impact indicators should be prepared. The project work plan and consequently the budget will be updated annually.

G.3 Within one year of start of project implementation

81. Annual audited financial reports should be prepared and submitted to GEF.

SECTION H. LEGAL CONTEXT

82. The Project Document shall be the instrument referred to the Standard Basic Agreement between the Governments of Egypt, Jordan, Sudan, Yemen and UNIDO. The project objectives shall be in line with objectives of the Policies of the Governments of the participating countries.

83. The following types of revisions may be made to this Project Document with the signature of the Project Manager, provided he or she is assured that the other signatories of the Project Document has no objection to the changes as follows:

- Revision in, or in addition of, any annexes of the Project Document; and
- Revisions that do not involve significant changes in the immediate subcomponents, objectives, outcomes or activities of the project, but are caused by rearrangement of the inputs already agreed to or by cost increases due to inflation.

ANNEXES

Annex 1: Project Result Framework

Annex 2: National Priorities and Country reports

Annex 3: Terms of Reference

Annex 1: Project Result Framework

Objective	Outputs	Means of verification (monitoring mechanisms)	Assumption and risks
To develop a regional strategy for promoting BAT & BEP introduction in selected industries.	- An action plan and a strategy "for the introduction of BAT & BEP to enable the reduction and elimination of the unintentional production of POPs chemicals in the priority land based industrial sector of the four participating countries sharing the RSGA coastal zone" produced. - A framework for the establishment of demonstration sites and a portfolio of investment projects in selected industries of the region developed. - The human and institutional capacities of managing Annex C POPs in the region have been strengthened in the areas related to other PERSGA programmes and objectives. - Issues of socio-economic importance addressed such as community perception on risks of POPs chemicals, enhanced public participation of the coastal zone management structures and raising awareness on topics related to chemicals management as linked to international waters. - Approaches taken and lessons learned during the preparatory phase and the MSP implementation would continue to be available to other coastal zone management projects and programmes in other regions.	- The regional strategy published. - The endorsement report of the strategy. - The framework of demonstration sites agreed upon by experts and governments. - PERSGA established the POPs Regional Programme. - Assessment reports on the performance of numbers of people/institutions who participated in the capacity building programmes. - International recognition of the socio-economic initiative and its activities (adopted as an international model, published in international journals, etc.). - A document published in Arabic and English that records approaches taken and lessons learned during the project.	*Assumptions* – Selected industries will cooperate in introducing BAT & BEP. – Development banks and other funding organizations will support the project. – Sufficient local expertise on which capacity building and other project activities can be built. – Socio-economic indicators can be established for impacts of BAT & BEP measures. – The project will be successful and will be integrated under PERSGA regional portfolio as a programme. *Risks* – Industries will not cooperate in BAT & BEP implementation. – Two years will not be enough for developing a comprehensive investment portfolio. – BAT & BEP introduction will affect the socio-economics of the region negatively. – PERSGA will not have enough capacity, especially human resources to integrate POPs into its regional activities.
Output 1: Project Management Structure	- POPs unit established in PERSGA. - PMC team selected and contracted. - PNSC established and functioning.	- Procurement files. - Minutes of meetings of the PMC (at least two bi-annual meetings).	*Assumptions:* - Commitment in PERGA to establish the management structure. - UNIDO expertise in providing capacity building at PERSGA on POPs related matters is available.

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
	- Detailed work plan with clear description of activities developed and agreed upon by all stakeholders. - Detailed work plan with clear description of activities developed and agreed upon by all stakeholders. - Communication strategy prepared and implemented on three levels: with all stakeholders, with project team and with implementing agencies. - Funds mobilization, partnerships and sustainability plan prepared involving regional banks and private sector.	- Reports on fund raising activities (at least four events to be conducted). - Report of the inception workshop. - Information and reports are published and disseminated as per the communication strategy (website, publications, periodical progress reports, etc.).	- UNIDO expertise and additional assistance in resources mobilization will trigger the activities. *Risks:* - Those, who were capacitated in PERSGA during the MSP development, leave the organization. - Lack of transparency and improper information dissemination discourages the implementation process. - Lack of expertise in the area of POPs at PERSGA region. - Personal commitment of the PNSC members to participate effectively. - Two years might not be enough for negotiating a financial mechanism for the proposed measures.
Output 2: Institutional and human resources capacity established	- PERSGA stakeholder analysis (SA) manual updated, translated and produced. - SA conducted. - The assessment needs of the stakeholders conducted. - The survey tools on industry, environment and socio-economic developed. - Capacity building programmes designed as per the assessment needs. - Capacity building programmes conducted. - Institutions and human resources are capable of implementing the activities of the project. - All stakeholders participated in the project.	- Survey reports of the SA using the manual - Completed SA report. - Report of the assessment needs endorsed by all stakeholders. - Survey tools are published. - Trainers/training institutions selected. *(note: for the following indicators exact figures to be identified as a result of the assessment needs report)* - Number of capacity building activities. - Total number of institutions and human resources involved in capacity building activities categorised according to the list of stakeholders. - Percentage of institutions/people involved in capacity building programmes that participated in the project activities.	*Assumptions:* - Successful implementation of Output 1. - Institutions/human resources who participated in the capacity building activities are committed to work on the project activities. - Article 10 of the Stockholm Convention identifies target groups. *Risks:* - Lack of experience in identifying possible stakeholders on UP-POPs. - Lack of interest by the experts to participate in the project. - Not all stakeholders groups will be identified due to lack of information on the effects of POPs.

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 3: Comprehensive baseline survey conducted	- Inventory of the UP-POPs resources developed. - Inventory of the environment and health related issues developed. - Inventory of the socio-economic aspects developed. - The three inventories are compiled into an electronic database. - The database is accessible to all stakeholders.	- Reports of the technical validation of the quality of each inventory. - Data analysis reports generated from the database. - Distribution records of the database. - Feedback from stakeholders on the effectiveness of the database.	*Assumptions* - Inventory tools and data would be reliable to measure effectiveness of the BAT & BEP measures. - Validation would take place before the finalization of the inventories, which will enable the task teams to go back to the field if necessary. - By standardizing the reporting format and the database, the inventories would be easy to compile and consistent. *Risks:* - There is no baseline for assessing the effectiveness of the measures of the regional BAT & BEP strategy. - Lack of information on the status of the environment and human health at selected locations. - To correct the identified inaccuracies would require additional time. - Lack of validated information on regional level concerning Annex C POPs releases and their effects on the environment, socio-economic and human health.
Output 4: Approved UP-POPs sources	- Criteria for prioritizing identified sources developed. - List of priority sources in scientific point of view prepared.	- Technical report, which prioritizes the UP-POPs sources, socio-economic, environment and human health aspects. - Manual, which list the criteria for selecting UP-POPs sources for BAT & BEP implementation and how the criteria should be applied. - At least dozen locations confirmed for further action. - Prioritization meeting report prepared.	*Assumptions:* - Criteria will be refined during the MSP implementation to take corrective measures. - POPs focal points in the PSC will safeguard that regional impacts are prior to national objectives. - Well-informed decision makers in the PSC. *Risks:* - Inventory reports will not rank and link together the different aspects of BAT and BEP introduction such as socio-economic, environment and release estimates. - Lack of transparency in selecting the UP-POPs sources. - Disagreement on the criteria.
Output 5: UP-POPs source specific action plans to promote BAT and BEP developed	- At least 4 action plans for the selected UP-POPs sources are prepared.	- Each action plan approved by all stakeholders.	*Assumptions:* - UNIDO pool of experts is large enough to utilize the expertise of the most appropriate one to the given field. Competitive remuneration will be provided.

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
	- Specialised research and monitoring system on environment and health (SRMSEH) developed. - A comprehensive public awareness programme designed and tested. - The socio-economic initiative for POPs established. - Regional task teams established and maintained by PERSGA	- Validation report of the quality of each action plan. - The manual of the SRMSEH is incorporated into the PERSGA Regional Environmental Monitoring Programme. - Technical report of the pre-test of the public awareness programme. - The socio-economic initiative is incorporated into PERSGA structure. - Network of the regional task team is functioning.	- BAT & BEP needs to be in line with the facility long-term plans. - Participants from chambers and associations will facilitate the discussions between the facility and the experts. *Risks:* - Each identified facility needs special experts for BAT & BEP planning based on their technology. - Limited expertise on BAT & BEP on both regional and international levels. - The standpoints of facility and experts are too far to reach an agreement. - Lack of information on the occupational exposure concerning UP-POPs at the facilities.
Output 6: Implementation of BAT & BEP action plans	- The selected one pilot site specific plan (SSP) implemented. - 80% reduction of dioxin/furans is targeted at selected sites - 50% reduction of UP-POPs at regional level	- The implemented SSP is well functioning.	*Assumptions:* - This activity will not interfere with the development of the project aim: the "regional strategy". - The full implementation of other sectors will be covered by additional non-GEF sources. *Risks:* - Lack of time and available resources. - Lack of field experience in implementing BAT and BEP plans.
Output 7: Regional BAT and BEP strategy developed	- The regional strategy is of high quality and serves as an international model. - Regional strategy for the introduction of BAT and BEP is endorsed. - Integration of the project under PERSGA strategic action programme as the Regional Programme for POPs	- Document of the regional strategy and the endorsement workshop report. - Report of the technical review of the regional strategy.	*Assumptions:* - Highly satisfactory implementation of Outputs1-Output6. *Risks:* - PNSC will not endorse the document. - Financial resources will not be utilised immediately upon completion for the implementation of the strategy. - If funding resources are not available, shortly the document will be out of date.

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 8: Adaptive monitoring and evaluation	- Monitoring and evaluation policy prepared and agreed upon. - Monitoring mechanisms are in place as per the M&E policy.	- All required reports as per the M&E policy are available and in file.	*Assumptions* - Based on the feedback of the M&E measurements, adaptive management measures to be taken all through the project implementation process. - PMC team should ensure that sufficient time and resources are available for better implementation of the M&E policy. *Risks* - M&E mechanisms will not be fully followed, which jeopardises project implementation.

Annex 2: NATIONAL PRIORITIES AND COUNTRY REPORTS

EGYPT: Country Report and Summary of National Implementation Plan (NIP) activities

Egypt is one of the biggest countries in Africa. It enjoys a unique geographical location, being situated on the northeastern corner of the African continent. The country over decades has gone through a major economic development while the population increased from 48 million in 1986 to 60 million in 1996 and in 2005 standing around 70.5 million. While the total area is more than one million km^2, only 35,000 km^2 are habitable and most of it lies along both sides of the Nile banks.

Most of the industrial activities except some mining and oil exploration are concentrated in this area. Like in any developing country, chemicals are widely used in industry, agriculture, trade and health. While agrochemicals and pharmaceuticals are well controlled under the country's strict registration scheme, quality control laws, and periodic monitoring and registration schemes, the industrial chemicals used in various outlets have no strict control measures, causing lack of information on toxicity and environmental fate.

The country, through various Government decrees, is a signatory to many chemicals and environment related Global Conventions. In particular, Egypt is a major player in the region for Basel Convention on hazardous waste and also to the Rotterdam Convention on Prior Informed Consent in addition to the Stockholm Convention on POPs. Egypt is also playing an efficient role for preparing the Strategic Approach for International Chemical Management (SAICM).

Egypt over the years, has initiated a number of laws/decrees related to air emission control, banning highly toxic and persistent pesticides, introducing strict regulations for importing / producing/using/exporting toxic and hazardous chemicals. The country possesses good quality laboratories to carry out residue analysis for crops, food, contaminated land, and chemical residues in many environment / human / animal matrices. The country faced major obstacles when it came to the unintentional POPs. Public awareness on chemical safety, data collection/assessment and management/dissemination of data, carrying out regular monitoring of toxic chemicals and interpretation of their economic/social/health impact, understanding and introduction of Best Available Technology and Best Environment Practices (BAT/BEP) in relevant industry sectors and above all land remediation and right technology adoption for disposal of toxic/hazardous wastes. Under this context, the enabling activities of GEF project on POPs gave an excellent opportunity to assess the country's capacity/capability and help in drawing out strategies/action plan for sound management of chemicals especially the industrial and unintentional POPs.

Egypt has prepared its National Plan to reduce unintentional production of POPs in the Red Sea Coast and Regions within the borders of Egypt, specifically the governorate of the Red Sea. This plan integrates the country's National Implementation Plan (NIP) and is one of its proposed priorities.

The Red Sea Governorate

The Red Sea Governorate is blessed with a variety of regional merits such as climate, coastal beaches that are famous for water and marine treasures, including coral reef and different kinds of fish and snails, as well as marine islands. Such merits directed developmental activities towards the tourist sector as a pioneer project of integrated development that could be invested in the marine environment that in turn could be a base for tourist attraction in the Red Sea Region. The total area of the Red Sea Governorate, which is one of the most important governorates in Egypt, is about 130 000 km^2, which equates 1/8 of the total area of Egypt. The length of its coast on the Red Sea shores reaches 1080 km, starting from El-Zafarana in the north until the Egyptian-Sudanese boarders deep in the south, and this area represents about 1/3 of the total coastal areas in Egypt.

Location

The Red Sea Governorate extends vertically. It is bounded on the east by the Red Sea Coast, on the west by the mass of mountains looking over the Nile Valley and meeting with its governorates (Bani Sweif-Menia-Assyout-Suhag-Qenna-Aswan), and on the north by the two governorates of Suez and Giza. This location provides the Red Sea Governorate with an important status in foreign trade in addition to the merit of fishing activities and coastal tourism. The management system of the Governorate has also been developed and its geographical boarders amended since the residential

resolution of constructing the governorate in 1940 then appointing a mayor for the governorate in 1961.

The cities of the governorates are:

1. Ras Ghareb is located at a distance of 160 km north of Hurghada and the main center for extracting oil.
2. Hurghada is the capital and first tourist center in the governorate.
3. Safaga is located at a distance of 160 km south of Hurghada and the second tourist center in the governorate, distinguished with its harbor that connects Egypt with other countries in trade.
4. El-Khosier is one of the oldest cities of the governorate and located at a distance of 140 km south of Hurghada. It is famous for its castle and mineral treasures and also a tourist center.
5. Marsa Allam is located at a distance of 276 km south of Hurghada. It was established to serve geological missions searching for minerals in the Red Sea Mountains. The city was planned and established on scientific and environmental bases consistent the tourist development plan. It is the fourth tourist center that is famous for the "Camels Valley Reserve".
6. El-Shallateen is 500 km away from Hurghada close to the Sudanese borders. It is famous for "Elba Mountain Reserves" and rare birds and wild animals.

Economic Sector Profiles:

1. Industrial sector: major industries in the Red Sea governorate are mining, food industry, metal welding (iron, copper and aluminum), wooden industries and handicraft projects and services.
2. Economic activities at Red Sea governorate: Due to the geographic nature that characterize the governorate, the Red Sea governorate have many of the natural resources such as petroleum, iron, gypsum, marble, gold, white, sands, granite, manganese, phosphate, lead, tin, barite, emerald, amazonite, aluminum, diatomic, tungsten, potassium, stone soil, calcium, carbonate, silver, clay and agate, copper, quartz, asbestos, strontium, chromites, quartz, chrome and talc.

Environmental significance of the Red Sea Coast:

The Red Sea is distinguished with a unique biological diversity. It is famous for its various coral reefs, (Mangarof) trees, sandy and rocky beaches, marshy grounds and salty swamps. Such environments contain a unique biological diversity including a variety of different kinds of fish that exceed 1000 types, solid coral reefs that exceed 205 types, soft coral reefs that exceed 100 types, birds that exceed 300 types, sea mammals that exceed 300 types, moss that exceeds 500 types. There are also more than 11 types of sea herbs, only two types of (Mangarof) trees, 4 types of turtles, more than 2000 types of sea invertebrates such as crabs, starfish, worms and other creatures in addition to hundreds of wild animals, desert plants and other in the salty swamps.

Pollution spots lying within the Regional Branch of the Red Sea Coast in Egypt:

1. Oil pollution in Ghareb and Shokheir cities north of Hurghada

Causes of Problem*:*
Oil leakage into the sea during shipment of raw oil to transporting ships, and exhausting of lines in a great number of oil fields as they have not been renewed ever since more than 40 years. This pollution can be clearly depicted in some places such as the General Oil Company. Moreover, there have been many complaints recently against oil spots, which threaten tourism in the Red Sea region.

Measures taken concerning the problem*:*
Inspection of oil companies is regularly carried out by the Regional Branch of the Red Sea region, the Red Sea reserves and the General department for Environment. Inspection in 2005 was carried out with the use of helicopters. However, the fields lying within the working area of the Branch could not all be covered. The Branch also follows up any oil pollution in coordination with the operation Room of the Agency and Red Sea Governorate.

Proposed solution to the problem:

The Regional Branch of the Red Sea region suggests that the Branch should be provided with an apparatus to measure oil properties and to define oil nature in order that pollution source be defined.

2. Sanitary drainage pollution in Ghareb city

Causes of Problem:
Lack of a treatment station for the sanitary drainage water in the city, and leaking it untreated directly to the water or through drainage pipes or in big vehicles that remove it from places far from the sea.

Measures taken concerning the problem:
A committee was formed represented by the Regional Branch of the Red Sea region, the General Department for Environment, the Red Sea reserves, the Agricultural Province, Health and social Affairs Province, and Manpower to discuss the city problems and to propose solutions.

A treatment station for sanitary drainage water of a capacity of 20.000 m^3 is being established for the cultivation of a tree forest of 1200 feddans. This is due to be completed during 2006-2007.

Proposed solution to the problem:
Completing the establishment of the treatment station of the city sanitary drainage water as soon as possible, and preventing leakage into the sea whether directly or indirectly.

3. Air pollution in Safaga city and Hamrawein village in Khoseir

Causes of Problem:
The shipment of phosphate and kilnker from Abu Tartour Harbor, Alumina and coal from Safaga Harbor and raw phosphate from Hamrawein Harbor in Khoseir.

Measures taken concerning the problem:
Air pollution in Safaga city is being followed up and precautions taken so that releases could be reduced during the shipment of phosphate from Abu Tartour Harbor. The discharging process of Alumina and Coal at Safaga Harbor has been inspected and recommendations given to the company concerning the preservation of air in the area within the work of the Company. Moreover, the Regional Branch of the Red Sea region is following up the shipment of phosphate in Hamrawein-Khoseir. The Department has recently cooperated in the protection of the environment and the reduction of releases to the air. The Mayor of the Red Sea Governorate has issued a resolution related to the prevention of any shipment processes until environmental conditions are improved.

Proposed solution to the problem:
El-Nasr Mining Company that is responsible for El-Hamrawein Harbor has implemented all the recommendations of the Environmental Affairs Agency.

4. Piling up and incineration of solid waste in public dumpsites

Causes of Problem:
Lack of solid waste recycling plants except for one with a limited capacity in Hurghada. However, work in this plant has recently come to a halt but is due to continue work during April this year. All cities of the Governorate also lack healthy burial sites.

Measures taken concerning the problem:
In cooperation with the General Department for Environment, the Regional Branch of the Red Sea Governorate is studying the possibility of establishing healthy burial sites in all the cities. The results of the study will be promptly presented to the Mayor. Moreover, a meeting at the city council of Safaga was held concerning the means of removing barriers facing the solid waste recycling plant.

Proposed solution to the problem:
Establishing healthy burial sites in the cities and removing obstacles facing the solid waste recycling plant in Hurghada.

5. Pollution resulting from changing oil of boats and disposing of it in the Red Sea water in addition to sanitary drainage and solid waste

Causes of Problem:
Lack of stations to receive oil, sanitary drainage and solid wastes from boats.

Measures taken concerning the problem:
The Red Sea reserves carry out inspection processes of safari boats for working treatment stations before the boats sail to any of the southern or northern regions. On the other hand, daily boats are required to fix treatment stations according to a binding resolution and solid waste from boats.

Medical Waste:
So far no hazardous solid medical waste has been monitored, because such medical waste is disposed of in public dumpsites. The Governorate is not provided with the needed potentials, such as special incinerators, to dispose of medical waste in a proper manner.

Note: *A new incinerator was developed to dispose of the medical waste of Hurghada Hospital and will soon start working.*

Random Housing:
The Governorate has monitored the random housing areas in three regions; El-Melaha; El-Arab and Zerzara that constitute about 50,000 families. The Governorate is working on improving their living conditions and providing them with different important services.

The Governorate's problems related to municipal waste can be summarized as follows:

1. Lack of environmental awareness of the people, which increases the problem of dumping waste in the streets or at the sea.
2. Lack of potentials needed to collect and transport waste especially in the random housing areas in the northern and southern cities away from Hurghada.
3. The deteriorating state of available open public dumpsites that represent a source of pollution to the surrounding areas.
4. Lack of potentials needed for the treatment of waste to transform it into organic fertilizers. There is only one plant available with limited potentials.
5. Lack of an integrated system to deal with medical waste.
6. Lack of a means to re-use construction wastes that pile up in public dumpsites.
7. Lack of prepared harbors to receive liquid and solid waste from daily tourist and safari boats, as it is the case with the River Nile, which resulted in disposal of such waste in the water.

Proposed solutions to environmental problems in the Red Sea:

1. Achieve coordination of all the authorities working in the environmental field according to specification. These authorities are represented in the Regional Branch of the Red Sea Region (Branches Central Department), the Red Sea reserves (Central Department for Protection of Nature), the General Department for Environment and Environmental offices in cities.
2. Prepare stations at harbors along the coast to receive solid and liquid waste in coordination with border guards and Environmental Protection Police.
3. Regular follow-up of tourist villages and establishments to control environmental performance.
4. Provide potentials to the Regional Branch of the Red Sea Zone represented in means of transportation and communication along the Red Sea Coast and the training needed to support the work of the Branch.
5. Establish a number of plants specified in recycling solid waste to prevent the piling up of such waste in the streets and valleys.
6. Make use of treated sanitary drainage water.
7. Support environmental awareness.
8. Study the social state of the Eastern Desert inhabitants and provide them with full support to act as a partner in the protection of the wild environment.

Assessment of the unintentionally releases of POPs at Red Sea Coast in Egypt:

This part addresses a review of the assessment of the unintentionally releases of POPs and other information gathered against the strategies and action plans developed.

Preliminary inventory of PCDDs/PCDFs:

The procedures adopted during the preparation of the NIP in the inventory of dioxins and furans are as follows:

1. Identify the sources relevant to the categories and subcategories listed in the standardized toolkit developed by UNEP.
2. Collection of the needed information on the processes by applying the standard questionnaire provided by UNEP.
3. Collection of the industrial information required for inventory through the following:
   a. using the industrial database developed by the Ministry of Industry;
   b. conduction of the modifications of the standard questionnaire developed by UNEP in order to match with the Egyptian guidelines for each industrial sector;
   c. develop letter forms for each industrial sector to be sent to different industries facilities to collect more data and information;
   d. estimating the emission form the identified sources by using the default emission factors as provided by the toolkit.

Accomplishments:

The evaluation of current situation of unintentionally produced POPs listed in Annex C of the Convention in Red Sea Coast is not compatible with supplement C of the Stockholm Convention, and it is shown in the Table 1 below:

Table 1: Current situation of unintentionally produced chemicals

Chemicals	Status	Current situation
Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDDs/PCDFs)	Some sources use high technology and others use low technology	Not compatible with the Stockholm Convention
Hexachlorobenzene (HCB)		
Polychlorinated biphenyls (PCBs)		

Waste incinerators including co-incinerators of municipal, hazardous or medical waste or of sewage sludge

1. Medical waste incinerators:

There are 12 hospital incinerators in the Red Sea. The expected levels of dioxins and furans emissions from these incinerators were estimated using the Standardized Toolkit for the identification and quantification of dioxin/furan releases. According to the detailed inventory and this estimation, Table 2 below that south of Sinai has the largest expected emission of dioxins and furans, as compared with what expected for other governorates at the Red Sea Coast.

Table 2: Estimated emission levels of dioxins and furans in air and residue

No. of medical waste incinerator	Location	Total releases of PCDD/PCDF (g TEQ/a)	
		air	residue
4	Red Sea governorate	0.192	0.342
1	North of Sinai governorate	0.6	0.1
4	South of Sinai governorate	0.24	0.4
3	Suez governorate	0.18	0.3

2. Open burning of waste, including burning of dumpsites:

Municipal solid wastes are collected and dumped in special places where, an auto combustion of wastes takes place releasing dioxins and furans as follows:

Table 3: Estimated releases of dioxins and furans as a result of open burning of wastes and burning of dumpsites

Dumpsite location	Total releases of PCDD/PCDF (g TEQ/a)	
	air	residue
Red Sea Coast	7.8	9.3
Red Sea governorate	2.178	2.646
South of Sinai governorate	2.22	2.659
North of Sinai governorate	0.468	0.561
Suez governorate	2.87	3.44

3. Fossil fuel-fired utility and industrial boilers:

An inventory was made on stations of power generation in the Red Sea Governorates. The required data on releases of dioxins and furans were estimated at about 0.5 g TEQ/a to the air.

4. Chemical Industry (Petroleum Industry):

Presently, the only PCDD/PCDF emission is generated from the flaring of the gases released from the petroleum industry. An inventory was made on Petroleum companies in the Red Sea Governorate. Releases of dioxins and furans were estimated as about 0.07g TEQ/a to the air.

The inventory of unintentionally produced POPs in the Red Sea Coast depend on the theoretical results calculated by using the Standard toolkit for identification and quantification of dioxin and furan releases prepared by UNEP chemicals, so these results is connected with a range of uncertainties.

Public awareness plan for unintentional releases of POPs in the Red Sea Coast of Egypt

The plan should include development and initiation of a sustainable and periodical POPs information dissemination system for the public and for government stakeholders and decision-makers, including nongovernmental organizations (NGOs) and media representatives. The public should also be informed about unintentional releases of POPs pollution. This would support active participation as people become aware of their contribution to the pollution problem (e.g. vehicles, farming equipment and industry). In addition, informed and aware individuals would take precautions to protect themselves and their families when they understand the health hazards they face. The purpose of this plan is to create a sustainable system to disseminate technical and general information to the broad range of audiences. Such a system will guarantee that the information would be disseminated on a regular basis. The plan includes steps to be taken by the country to ensure implementation of the plan, starting with the information that should be disseminated to the public on a daily basis.

Strategy and Action Plan elements

1. Policy statement

The policy behind Egypt's NIP is to identify and mitigate hazards of chemicals including POPs with the purpose of protecting the Egyptian environment and human health from risks of these hazardous substances, whether imported or generated locally.

This protection covers all stages of production, handling, storing and safe disposal of these substances in addition to the substitution of hazardous materials by non/less hazardous alternatives. This can be achieved through the adoption of cleaner production approach and the application of risk management methodology.

Egypt, which is not only a contracting party to the Stockholm Convention on POPs but also to several conventions such as Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Dangerous Chemical Substances and Pesticides in International Trade and Protocol on Persistent Organic Pollutants/Convention on Long-Range Transboundary Air Pollution. This contractual agreement confirms Egypt's commitment to an internationally coordinated environmental and human health protection from the effects of POPs through implementation of the plan.

The Ministry of State for Environmental Affairs (MSEA) coordinates the fulfillment of Egypt's commitments to the Stockholm Convention. The ministry will cooperate through the implementation of the plan with the Ministries of Agriculture, Foreign Trade and Industry, Health and Population, Transportation, Interior Affairs, Foreign Affairs, Finance, Planning, Manpower, Petroleum, Electricity and Energy, Education, Water Resource and Irrigation, Higher Education and Scientific Research, Communication and Information Technology and Information.

2. Implementation Strategy

A project proposal to prepare the NIP as stipulated in Article 7 of the Stockholm Convention was prepared by Egypt and approved within the tripartite framework of GEF's financing mechanism. The Egyptian Environmental Affairs Agency (EEAA) of the MSEA was selected as the national executing agency with UNIDO acting as the GEF implementing/executing agency with expanded opportunities. The participation of all stakeholders and interested parties within Egypt in the enabling activities project to prepare the NIP is considered of paramount importance.

All available information concerning production, use, stockpiles, import and export of 12 chemical substances targeted by the Convention was gathered and evaluated within the framework of the project. The technical infrastructures for POPs evaluation, their measurements and research including monitoring the releases of these substances into the ambient, their impact on the environment and human health were simultaneously initiated. The project collected information concerning the presence of POPs in the environment, food, selected veterinary commodities and exposure of Egypt's population to these substances. Ascertainment of the current level of the targeted groups awareness of problems concerning POPs and a survey of the activities carried out by NGOs in this field is an integral part of the preparatory process of the plan.

3. Strategies and Action plans

Measures to reduce releases from the unintentional production of PCDDs/PCDFs, HCB and PCBs

- Prevention of burning rice straws in open fields and encouraging it's recycling.
- Prevention of uncontrolled burning of biomass (agricultural and animal wastes).
- Prevention of uncontrolled burning processes of solid waste in random landfill, especially plastic products.
- Applying the BAT/BEP in industry to reduce the releases of dioxins and furans from industrial sources.
- Applying the BAT/BEP in composting factories.
- Applying the BAT/BEP in medical waste incinerators to reduce the resulting dioxin and furans releases.
- Applying the BAT/BEP in power generation stations to reduce the resulting dioxin and furans.
- Using natural gas in power generation stations to reduce the resulting dioxins and furans.
- Applying BAT/BEP and using alternatives in chemical industries to reduce the resulting dioxin and furans releases and replacing the substances that contain chlorine in paper industry.
- Using non-chlorinated substances in pulp and paper production.
- Applying BAT/BEP and using alternatives in petroleum oils waste treatment stations.
- Using unleaded fuel and catalysts in transportation sector.
- Applying BAT/BEP in smoke and cigarette industry.

Facilitating or undertaking Information Exchange and Stakeholder involvement:

- Establishing registries for releasing and transporting POPs for the purpose of collecting and disseminating information on annual estimation of chemicals under the Convention that are released or disposed of.
- Dissemination and elaboration of data and making access to such available information.
- Establishing a mechanism for information exchange.
- Establishing databases for the results concluded.

- Involvement of the public in combating POPs and their effects on public health and the environment and providing the opportunity for them to participate, at national level, in the implementation of the provisions of the Convention.
- Exchange of educational and public awareness tools related to unintentional produced POPs.

Public awareness, information and education (Article 10)

- Setting a plan for the protection of public health from potential hazards of exposure to unintentional releases of POPs.
- Setting a strategy for raising awareness campaigns.
- Training of workers, scientists, women and youth organizations, staff and administrators on how to deal with unintentional produced POPs.
- Raising awareness of decision makers concerning unintentional produced POPs.
- Making information on unintentional produced POPs available to the public through different channels of the media (TV, radio, press and printed materials).
- Raising awareness of the public, especially women and children, concerning unintentional produced POPs and their effects on health and the environment.

Effectiveness evaluation (Article 6)

- Checking current health hazards of unintentional produced POPs.
- Taking sample from different sites.
- Checking the model used and the credibility of results.
- Measuring unintentional produced POPs levels in air and soil and their effects.
- Using more accurate and sensitive means in analysis and effective evaluation.
- Establishing a network for monitoring, supervision, evaluation and follow up.

Research, development and monitoring (Article 11)

- Establishing a methodology for inventory processes of the source as generating POPs and analytical methods for measuring levels of releases.
- Encouraging researchers on unintentional produced POPs.
- Development of research programmes on the measurement methods of POPs releases from transportation means.
- Giving priority to the development of monitoring and research programmes as instruments for monitoring the efficiency of the conclusions and measures of the Convention.
- Emphasizing the need for research and development in the area of POPs (removal, emissions, fate, effects, etc.) within the state policy on science and technological development.

JORDAN COUNTRY REPORT

The Kingdom of Jordan lies in the Middle East and the Arab world, extending between the latitudes of 29°11` N and 33°22` N, and the longitudes of 34°59` E and 39°12` E. The area of the country is 92,000 km^2, of which more than three-quarters is desert (Figure 1).

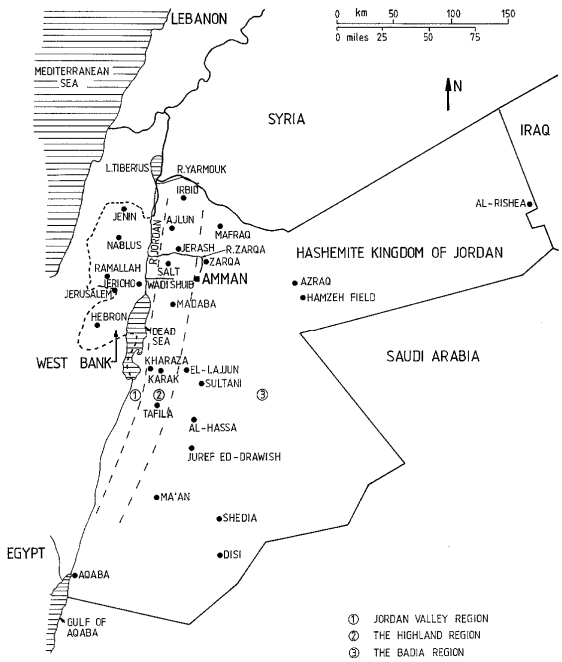


Figure 1: Map of Jordan

There are three main geographic regions:

- *Jordan-Valley Region (the Ghor):* This has the distinction of including the lowest region on the earth. The Dead Sea surface is ~400 m below normal sea level. The climate is sub-tropical: hot and dry in summer and warm during winter, with monthly-average temperatures ranging between 16°C in winter and 35°C in summer. However, temperatures up to 50°C have been reached, in the shade, during summer. The Zarqa, Yarmouk, Wadi Shuib valleys and Jordan River are the major sources of the water used for irrigation.

- *The Highland Region* (*the mountainous terrain*): The elevation of this region varies between 1000 and 1500 m above normal sea level. During summer, the climate is moderate and dry, whereas the winter is cold and rainy. The monthly-average temperatures are 10°C in winter and 30°C in summer. The region experiences the highest rainfall in the country; its annual average being approximately between 300 and 550 mm with occasional light snowfalls. Most (i.e. 88 %) of the country's population lives in this region, the main cities and towns being located there.

- *The Badia Region (the desert):* This plateau extends eastwards from the highland region. Its elevation varies between 600 and 900 m above normal sea level. It comprises most of the country and is linked with the Arabian Desert. The climate prevails there is very hot, dry and dusty in summer and cold and dry in winter, with monthly-average temperatures of 5°C in winter and 37°C in summer. The maximum temperature during the summer months usually exceeds 40°C. The average annual rainfall is less than 50 m m, but the amount may vary significantly from year to year.

In addition to the previous region, there is *Coastal Area (Aqaba*)): Throughout the human history and as early as 5,500 years ago, Aqaba represented a strategic location linking land and sea routes from

Asia, Africa and Europe. In ancient times, Aqaba was the main port for shipments from the Red Sea to the Far East and in 106 AD the town was a thriving trade centre.

In 2001 and under the direction and leadership of His Majesty King Abdullah II, the Aqaba taskforce was created. A team that shares one vision and that is, to turn the Aqaba Special Economic Zone into a world class Red Sea business hub and leisure destination enhancing the quality of life and prosperity of the community through sustainable development and a driving force for the economic growth of Jordan.

Today, Aqaba remains one of the most important cities of the region, ensuring its role as a distinctive destination for living, business and tourism. The Aqaba Special Economic Zone Authority functions as your one-stop investment and information centre.

In 2002, ASEZA adopted a new Master Plan to promote and stimulate investments in the Zone. The plan is a comprehensive vision that defines a long-term development throughout the area with respect to land use, zoning, density and design guidelines to simplify and streamline the planning approval process.

The new Master Plan removes development barriers and encourages investment in industrial and port activities, urban tourism, residential development, commercial and retail ventures, academic and institutional development, coastal communities, recreational and open space facilities. To date, detailed planning has been developed in five special areas: Aqaba Town, the Port Areas, the Coral Coastal Zone, the Southern Industrial Zone and the Airport Industrial Zone.

A list of permitted uses for each special area has been defined and is available from ASEZA's Physical Planning Directorate. Currently, all developments in the region must follow the ASEZA General Building Regulations and Design Guidelines.

Aqaba Town: The town of Aqaba is a desert and coastal oasis, which blends to traditional and contemporary architectural and cultural elements to create a unique environment. The Master Plan for Aqaba Town was developed to complement the existing configuration of the city, while introducing new development opportunities for investors. The recently constructed Corniche – a continuous pedestrian promenade along the waterfront, will compliment development initiatives planned for Aqaba Town.

Areas of future opportunity include the conversion of the Main Port to a mixed- – use zone containing retail, commercial, residential, educational, and recreational uses. The creation of this diverse tourist and residential development will be complimented by the expansion of two urban tourist zones along the waterfront. Along the Sharif Hussein Boulevard, a multi-purpose retail and commercial development zone will be introduced.

Port Areas: The Aqaba Port Areas consist of three locations namely:

1. Main Port:

The Master Plan calls for the existing Main Port facilities to be moved south to consolidate these industries into a common area. Currently, port activities are located in three different areas and by merging these locations, the port will become more functional and efficient. Following the consolidation of the ports, the existing Main Port will be transformed into a modern waterfront district.

Future plans for this new waterfront district include retail and entertainment complex centered on the Inner Harbor where cruise ships and ferries will dock. A public walkway along the waterfront will provide the public a place to congregate outside and enjoy waterfront cafes. The Master Plan for this district provides numerous opportunities, such as waterfront restaurants, retail shops, entertainment facilities, residential and hotel development, cruise ship and ferry terminals and a customs centre.

As part of this plan, the existing Main Port warehouses and outside storage areas will be converted into a Business Incubator Complex to encourage new research, development, and trading companies, or any suitable complimentary multi-use development

2. Aqaba Container Terminal (ACT)

In March 2004, APM Terminals, one of the world's largest container terminal operators, signed a 2-year Terminal Management Contract with Aqaba Development Corporation (ADC). Under the contract, APM Terminals Jordan will operate, manage and market the Aqaba Container Terminal (ACT), as well as implement a number of upgrades to the facility. The Port of Aqaba will continue to act as a catalyst, accelerating changes required for the development of the maritime sector in Jordan.

APM Terminals is part of the A.P. Moller – Maersk Group, whose headquarters are in Copenhagen, Denmark and operates more than 30 container terminals throughout the world.

3. Southern Industrial Zone Port

The Industrial Port, located on the waterfront in the Southern Industrial Zone, will be expanded to include a new multi-purpose jetty and terminal. Additional areas have been designated for the relocation of facilities from the Main Port to the Industrial Port.

Coral Coastal Zone

The Coral Coastal Zone is located along the Gulf of Aqaba between the Marine Sciences Station and the Royal Diving Club. Private sector led development is currently transforming Aqaba's Coral Coastal Zone into a new resort community with the construction of a new marina, residential development, and hotel and entertainment facilities.

The development scheme for this area utilizes proper planning methods to ensure viable development parcels, protection of the beach and coral reefs and encouragement of incremental growth to achieve various long-term objectives without compromising environmental protections.

Southern Industrial Zone

A natural mountain buffer separates the coastal tourist area form the Southern Industrial Zone. The Southern Industrial Zone is located adjacent to the border with Saudi Arabia. The Zone consists of an industrial area along the Southern Industrial Zone port and an upper expansion area on a plateau overlooking the lower industrial area.

The planned reorganization of existing industrial parcels in the Lower Industrial Area will improve the vehicular circulation while adding more development sites and capacity. Part of this initiative includes a railway terminal and a lower loop roadway. New access roads and extended utility systems are planned to service the industrial expansion area.

Airport Industrial Zone

The Airport Industrial Zone is located next to King Hussein International Airport and north of the main town. This site contains a sizeable area of land ideal for industrial facilities. A relocated Airport Road will provide highway access to the newly constructed Aqaba International Industrial Estate (AIIE). The Industrial Estate is designated as a Qualifying Industrial Zone, which allows exports to be shipped duty-free and quota-free to the US market.

Land uses permitted within this Zone include warehousing, logistics and distribution, light manufacturing, high technology industries, showrooms and smart-office complexes. Further opportunities exist for airport-related business activities requiring direct runway access, such as air cargo services and aircraft maintenance services.

Environmental Zones

In addition to the five development zones, the Master Plan includes designated environmental zones to protect and preserve natural areas and locations of historic and cultural significance.

Coral Reserves

The Coral Reserves protect the magnificent coral reefs along the Coral Coastal Zone. These reserves extend from a line 350 meters out into the water from the mean water line to a line 50 meters inland from the mean water line.

Beach Protection Zone

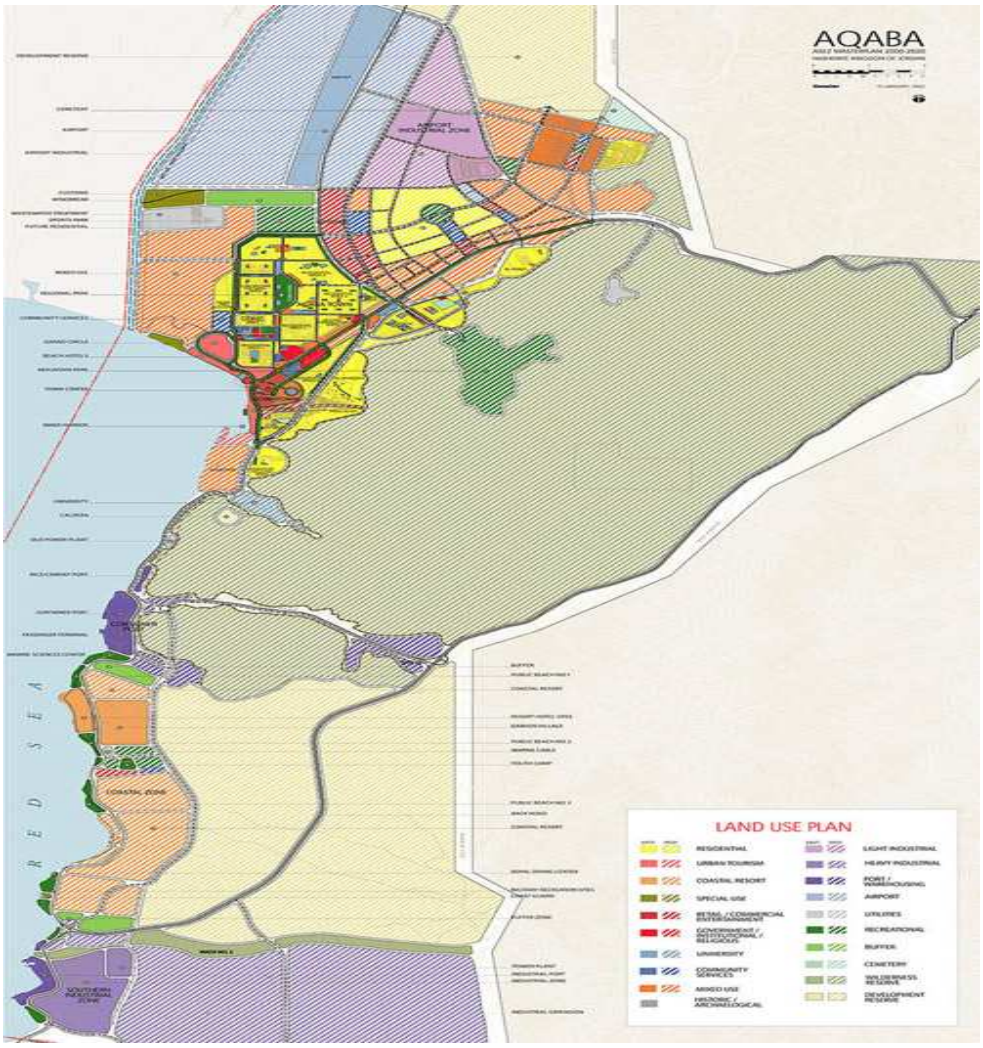
The Beach Protection Zone limits development within an area of 50 meters to 150 meters inland from the main water line. Examples of restricted development include natural landscaping and certain recreational facilities. These limits protect the natural environment, water quality and well being of the coral reefs.

Archaeological Reserve

Archeological, historical and cultural reserves protect and buffer sites of significant cultural importance. New archeological discoveries and their preservation are important to Aqaba's attraction as a tourist destination.

Natural Area Reserves

Natural Area Reserves protect mountain areas, scenic ridgelines, upper valleys, and desert areas that have significant views or habitats.



UP-POPs sources inside the coastal zone and their PCDDs/PCDFs release estimates compared to the total country releases.

Main Source	Releases to coastal area (g TEQ/a)	Releases to Jordan environment (g TEQ/a)	Percent %
Waste incineration	1. 402	9.417	14.8
Power generation	0.111	0.350	31.7
Transportation	0.012	2.353	0.50
Uncontrolled combustion	0.197	53.122	0.37
Wastewater/ disposal	0.573	12.672	4.52
Total	**2. 295**	**77. 914**	**2.94**

Specific Priorities for the costal area:

1. Control of solid waste open burning, such as landfill fires, by looking for the best available technologies alternatives and the best environmental practices.
2. Handle of sludge generated from wastewater treatment plants.
3. Manage and incinerate the medical wastes according to the scientific basis and sound technologies.
4. Enforce the minimizing related legislation and issue the necessary new ones.
5. Training on environmental management and environmental public awareness.

SUDAN

ASSESSMENT OF RELEASES FROM UNINTENTIONAL PRODUCTIONS OF ANNEX C CHEMICALS, UP-POPS (PCDD/PCDF, HCB and PCBs)

The inventory survey carried out in 2004-2005 under the NIP activities, using the dioxins and furans tool kit covered the sources of PCDD/PCDF, HCB and PCB as mentioned in Annex C, Part II and III of the Stockholm Convention. Out of these source categories the most common in Sudan are shown in Table 1 below.

Table 1: Summary of UP-POPs Emissions/Releases in Sudan

Source Categories	Annual Releases (g TEQ/a)						
	Media						
	Air	Water	Land	Products	Residues	Total	%
1. Waste Incineration	0.203	0.000	0.000	0.000	0.000	0.203	00.02
2. Ferrous and Non-Ferrous Metal Production	5.612	0.000	0.000	0.000	1.1	6.712	00.68
3. Power Generation and Heating	24.133	0.000	0.000	0.000	0.000	24.133	02.43
4. Production of Mineral Products	0.214	0.000	0.000	0.000	0.000	0.214	00.02
5. Transportation	0.178	0.000	0.000	0.000	0.000	0.178	00.02
6. Uncontrolled Combustion Processes	345.240	0.000	52.409	0.000	535.6	933.249	94.11
7. Production of Chemicals and Consumer Goods	0.000	0.000	0.000	23.992	0.000	23.992	02.42
8. Miscellaneous	0.000	0.000	0.000	0.000	0.000		00.00
9. Waste Disposal/ Landfills	0.000	0.000	0.000	0.000	2.900	2.900	00.29
10. Identification of Potential Hotspots							
Total	375.600	0.000	52.400	24.000	539.600	991.600	100.00
%	37.88	0.00	5.29	2.42	54.41		100.00

The uncontrolled combustion processes account for more than 94 % of the UP-POPs releases in Sudan. Power Generation and heating and the production of chemicals and consumer goods count for approximately 2.4% each. Third largest release/emission source is the secondary metal production, i.e. melting and further processing of scrap metals, iron, copper and aluminium.

Air as a media (38 % of the estimated releases) moves the substances long distances and is thus difficult to assess. As a reference it may be noted that the total emissions to air in the EU area (15 “old” member states) are estimated at approximately 6500 g TEQ p.a., i.e. Sudan’s releases are some 5-7 % of the EU’s releases.

The inventory concluded that dioxin and furan are not released to water since they are water insoluble but it is clear that water, rains and surface water streams can carry dust/land and residues containing dioxins and furans.

Land/soil as a media (5 % of the releases) to carry/contain dioxins and furans is usually stable in that sense that it doesn't move and also the substances in it may not move quickly. However, little is known about the interface of surface water/land and air (winds and storms)/land and how these affect the movements. The above said is relevant when estimating the geographical extension of the releases.

Products, i.e. chemical and certain consumer goods are estimated to contain some 2% of the releases. These dioxin contained products are basically easy to trace and follow-up.

Residues present more than half (54%) of the media into which the dioxins and furans are released. Residues are in practice waste from households and industries. It is likely that an essential part of the dioxins and furans released to residues transgress little by little to land/soil, to air (through winds, storms) and also to water.

It is important to mention here that the inventory has not yet covered specific coastal zone of the Red Sea. It is expected that the MSP will undertake the industrial survey during the course of implementation.

YEMEN: NATIONAL REPORT (NIP Coastal Areas of Yemen)

Background Information:

Physical and Demographic Context of Republic of Yemen

Yemen lies in the southwestern part of Asia and in the south of Arabian Peninsula. It is bounded on the north by Saudi Arabia and south by the Arab sea and Aden Gulf, to the east lays Oman and to the west is the Red Sea.

Yemen has many islands along its coasts on the Red Sea and the Arab Sea. The largest island is Soctora, which is on the Arab Sea. The new administrative division of Yemen consists of (20) governorates in addition to the capital secretariat.

Geographical structure of the country:

According to the natural formation, Yemen is divided into five regions:

Mountainous regions: they are mountain series located in the southern and western regions opposite plateaus from the western and southern part.

Plateau regions: they lie to the east and north of the mountainous highlands and opposite from them. Plateau region become wider towards the empty Quarter.

The Empty Quarter region: it is part of the desert regions of Yemen. Coastal Strip: a coastal strip on the Red Sea, Aden Gulf and Arabian Sea stretching along the Omani borders towards the west to take a new form towards the north until it reaches the Saudi borders.

Yemeni Islands: they are in abundance in the regional waters in the Red Sea and Arab Sea. Over 115 islands lie in the seawater of Yemen with distinct climatic and natural characteristics. More than 112 of these islands lie in the Red Sea region of the country.

Among those located in this region: Kamaran is the biggest, and Mayoon Island located at the Bab Mandab and has a strategic importance, Socotra is the largest Yemeni Island (3650) km^2 in the Arabian Sea and has a more exuberant flora and fauna including corals than any in other region.

Length of the coastal strip is more than 2000 km and its width ranges between 30-60 km.

The main coastal cities are Aden (northwestern side of the Gulf of Aden) Hodeideah (southeastern side of the Red Sea) and Mukalla (northeastern side of the Gulf o of Aden) (See the map of Yemen)
The Red Sea and Gulf of Aden region of Yemen represent a complex and unique tropical marine ecosystem with extraordinary biological diversity and a remarkably high degree of endemism.

It is also an important shipping lane linking the world's major oceans. Western Gulf of Aden and Arabian Sea region is a highly productive fishery region due to the Upwelling phenomenon, supporting a feed web that ultimately sustains the fish community.

The coastline is also an important shipping lane linking the world's major oceans. About 100 million tonnes of oil transits the Red Sea annually.

Both the Red Sea and the Gulf of Aden are designated "special areas" under the international MARPOL Convention.

There are nine governorates located along the Yemeni coastline, Haja, Al-Hudaydah, Taiz (Red Sea), Lahj, Aden, Abyan, Shabowa, Hadramout and Al-Mahra (Gulf of Aden and Arabian regions).

Climate:
The climate is hot and humid along the coastal strip, mild at the mountainous heights and desert weather in desirable areas.

Population:

The resident population of the Republic of Yemen according to the population projection for 2005 is 21,867,800. The population is distributed among 20 governates in addition to Sana'a City (the metropolis) (see Table 1).

Table 1: Distribution of the population by Governates (2004)

No	Governorates	Population			%	% growth	Male/100 Females
		Male	Female	Total			
1	¡Ibb	1,043,973	1,093,573	2,137,546	10.8	2.50	95.5
2	Abyan	222,999	215,657	438,656	2.2	2.47	103.4
3	Sana' City	958,173	789,454	1,747,627	8.9	5.55	121.4
4	Al baidah	288,898	282,880	571,778	2.9	2.29	102.1
5	Taiz	1,155,132	1,247,437	2,402,569	12.2	2.51	92.6
6	Al jawf	233,685	217,741	451,426	2.3	2.61	107.3
7	Hajjah	769,112	711,785	1,480,897	7.5	3.05	108.1
8	Alhodedidah	1,106,343	1,055,036	2,161,379	11.0	3.27	104.9
9	Hadramout	528,703	500,759	1,029,462	5.2	3.09	105.6
10	Dhamar	662,444	676,785	1,339,229	6.8	3.11	97.9
11	Shabwah	241,578	225,311	466,889	2.4	2.46	107.2
12	Sa'adah	357,764	335,453	693,217	3.5	3.64	106.7
13	Sana'a	466,639	451,740	918,379	4.7	2.07	103.3
14	Aden	312.312	278,101	590,413	3.0	3.79	112.3
15	Lahej	362,492	364,711	727,203	3.7	2.69	99.4
16	Mareb	127,323	114,367	241,690	1.2	2.85	111.3
17	Almahweet	248,819	247,046	495,865	2.5	2.88	100.7
18	Al mahra	48,203	40,890	89,093	0.5	4.57	117.9

No	Governorates	Population			%	% growth	Male/100 Females
		Male	Female	Total			
19	Amran	447,178	425,611	872,789	4.4	1.76	105.1
20	Al dalleh	240,976	229,484	470,460	2.4	3.54	105.0
21	Rema	193,391	201,685	395,076	2.0	3.04	95.9
		10,016,137	9,705,506	19,721,643	100.0	3.02	103.2

Red color = non coastal Governorates
Blue color = coastal Governorates

Brief summary of NIP activities:

- The chemical profile is being completed to be translated and print at the Arabic virgin in Aden University.
- Inventories of POPs pesticides completed.
- A workshop to discuss the results of the dioxins and furans and POPs pesticides inventories with related ministries and other organizations have been implemented.
- The inventories of the transformers in nineteen governates and collection of 52 samples, which were sent to Kuwait for analysis, have been completed and results received.
- Inventories of PCBs in the last two governates (Al Hudaida and Al Mahra near Oman border) completed.
- The workshop to discuss the results of the inventories of the PCBs is being organized.

Proposal for the work plan for the remaining activities:

1. Completion of the PCBs inventory and preparation of the initial PCBs inventory report.
2. Conducting a workshop to discuss and approve the results of the PCBs inventory.
3. Meeting with National Coordinating Committee (NCC) for the final approval of the POPs inventory (pesticides, PCBs and PCDD/PCDF).
4. Translation of the POPs inventory results into English.
5. Evaluation of PCBs, PCDD/PCDF and POPs pesticides inventory results by contracting:
   - Two or three international consultants (one for PCBs and another for PCDD/PCDF and POPs pesticides).
   - One national consultant to assist the international consultants.
6. Drafting the action plans of PCBs, PCDD/PCDF and POPs pesticides by contracting:
   - One international consultant (consultant from UNITAR).
   - One national consultant to assist the international consultant.
7. Conducting a workshop to discuss the draft action plans for PCBs, PCDD/PCDF and POPs pesticides (for 3 days).
8. Meeting with NCC for final approval of the action plans.
9. Drafting the NIP by contracting.
   - One international consultant (UNEP consultant).
   - One national consultant to assist the above.
10. Conducting a workshop to discuss and approve the NIP (3 days).
11. Meeting with NCC for NIP approval.

Development Plans:

Physical alteration and destruction of habitats:

Habitats refer to coastal zones such as beaches and mud flats as well as to spawning areas and fishing grounds in shallow waters. Intertribal and sub-tribal alteration of fish habitat in coast of Yemen is mainly linked to shoreline construction activities and the use of certain fish harvesting gears. Harvesting of marine plants from the intertribal zone can results in alteration or loss of habitat for other species, decreased biodiversity or unsustainable use of the resources.

Shoreline alteration:

The increase in the population and economic activities in coastal areas is leading to an expansion of construction and alterations to coastal area and waters. The impacts are therefore related more to ecosystem integrity than to human health or the economy, although the fishing industry can experience losses.

The major land-based activities affecting coastal waters and coastal areas in Yemen are industrial development and rarely the agriculture-localised impacts can result from entertainment and entrapment of fish and other marine organisms in salt-water intakes at power plants and or intakes for industrial and harbour dredging use. Seawater warming, associated with power station cooling system, has been responsible for the death of coral reef in many places these forms of habitat alteration do not generally result in impacts on human health, the economy or traditional foods, but they many cause some environmental impact.

Coastal wetlands of intertribal alteration:

Human activities in terrestrial or wetlands habitats have severe implication due to land use changes overuse and misuses. These impacts are evident for habitat losses, wetland characterization changes and natural resources degradation. It is well known that wetlands are highly productive habitats, which play an essential role in critical life stages of fish, amphibians, reptiles, birds and mammals.

Yemen has a variety of wetlands, including mangroves and sabkhas. They represent a majority stopover for thousands of sea birds migrating to and from Eurasia and Africa. These wetlands including mangroves have been subjected to several land-based activities, partially anthropogenic. The characteristics and status of wetlands of the Eastern Gulf of Aden and Arabian Sea are still entirely unknown.

Intertribal and sub-tribal alterations of fish habitat in the coast of Yemen are mainly linked to shoreline construction activities, the use of certain fish harvesting gears, the harvesting of marine plants from the inter-tidal and sub-tidal zone can result in alteration or loss of habitat for other species, decreased biodiversity, or unsustainable use of the resources.

Persistent Organic Pollutants (POPs):

The Yemeni government has banned the use of POPs pesticides since 1990 according to the official notice from the Ministry of Agriculture and Irrigation and the Ministry of Health and Population and to the last inventory made for the preparation of the NIP.

However, it is believed that smuggling of such pesticides has taken place and because of this, there is a need to implement the inventories from time to time.

Some POPs existed in the marine environment of Yemen. The available study conducted by DouAul and Al-Shwafi, 2000, reveals that the fish and the mollusks collected from the Red Sea and Gulf of Aden regions were contaminated with certain POPs and PCPs residues. Compounds of DDT were found in these organisms in both regions.

PCBs were also found in some samples of the fish collected from both regions. PCBs are not manufactured in Yemen, so their presence can thus only be from electricity usage and the possible dumping of products containing PCBs.

Dioxins and Furans, might reach the sea, through smokes and ashes as a result from burning processes at the public garbage landfill site of coastal governates and open incineration sites.

Industry and Economy:

UP-POPs industrial sources inside the coastal zone and PCDD/Fs release estimates are given in Table 2 below.

Table 2: UP-POPs industrial sources in coastal zone and PCDD/Fs release estimates

Cat.	Source categories	Annual releases (g TEQ/a)				
		Air	Water	Land	Products	Residue
1	Waste incineration	593.107	0.000	0.000	0.000	33.4
2	Ferrous and non-ferrous metal production	44.153	0.000	0.000	0.000	0.0
3	Power generation and heating	249.499	0.000	0.000	0.000	0.0
4	Production of mineral products	17.390	0.000	0.000	0.000	0.3
5	Transportation	2.020	0.000	0.000	0.000	0.0
6	Uncontrolled combustion processes	465.646	0.000	5.807	0.000	270.5
7	Production of chemicals and consumer goods	0.000	0.000	0.000	2.999	0.0
8	Miscellaneous	0.000	0.000	0.000	0.000	0.2
9	Disposal/landfilling	0.000	1225.21	0.000	2.446	997.7
10	Identification of potential hot spots					
1-9	**Total**	**1371.8**	**1225.21**	**5.807**	**5.4**	**1302.2**

Table 3: PCDD/Fs release estimates for immediate actions in the coastal zone

Cat.	Source categories	Annual releases (g TEQ/a)				
		Air	Water	Land	Products	Residue
1	Waste incineration	124.182	0.000	0.000	0.000	7.6
2	Ferrous and non-ferrous metal production	120.028	0.000	0.000	0.000	43.1
3	Power generation and heating	0.055	0.000	0.000	0.000	0.0
4	Production of mineral products	1.434	0.000	0.000	0.000	0.3
5	Transportation	0.000	0.000	0.000	0.000	0.0
6	Uncontrolled combustion processes	0.000	0.000	0.000	0.000	0.0
7	Production of chemicals and consumer goods	0.000	0.000	0.000	3.011	0.0
8	Miscellaneous	0.000	0.000	0.000	0.000	0.0
9	Disposal/landfilling	0.000	0.000	0.000	0.000	0.0
10	Identification of potential hot spots					
1-9	**Total**	**245.7**	**0.0**	**0.0**	**3.011**	**51.7**

Environment and Health:

UP-POPs are serious environmental and public health problem but no official data about the environmental and public health problems is available. UP-POPs easily reach the marine environment

and marine organisms by air and water. Their concentrations may be low or high. No research has been conducted on the extent of their effects on people living at the coastal watershed areas.

Importance of tourism in the coastal region:

The coast of Yemen is more than 2000 km and has many islands along its coasts in the Red Sea and Arab Sea and its virgin coastal that has importance for tourism. Some sources of the dioxins and furans may have a negative impact for tourism

Public information and awareness:

Most of the population and decision makers are not aware about the UP-POPs. There are no action plans on public awareness and no activities concerning public information.

Annex 3: TERMS OF REFERENCE

Post title 1: Project Regional Coordinator (part-time)

Duty station: PERSGA regional office in Jeddah/Saudi Arabia

Brief Description:

The MSP will develop a regional strategy (RS) for the introduction of BAT & BEP in the industrial facilities listed in Part II and III of Annex C of the Stockholm Convention. The strategy will link measures of the introduction of BAT & BEP with the need for public participation, targeted capacity building, environment and human health monitoring measures. Socio-economic implications of the implemented BAT & BEP will also be integrated into the RS. Cooperation among PERSGA governmental entities and the private sector through their involvement in the activities as well as a resource mobilization scheme will make the RS approach more integrated and comprehensive. Such co-operation would also include undertaking some preliminary feasibility studies in selected sectors of the industry, the parameters of which will then be tested and confirmed through pilot case experiments.

The regional strategy will also include documenting all experiences gained and corrective measures taken during the implementation process. The intention is that the project will start with the four eligible countries (Egypt, Jordan, Sudan and Yemen) for GEF funded POPs projects. In future it will be extended to all PERSGA member countries such as Djibouti, Saudi Arabia and Somalia to be able to continue the effort as a one regional programme under the umbrella of PERSGA.

Duties and Responsibilities:

1. Responsible for the overall management and co-ordination of project activities as per project document.
2. Mobilize project inputs in accordance with UNIDO/GEF procedures.
3. Oversee finalization of Terms of Reference for project staff, consultants and subcontracts.
4. Prepare and revise project work plans and financial plans as required from time to time.
5. Assure dissemination of project reports and assure that ad hoc queries from concerned stakeholders are addressed.
6. Liaise with governments of the participating countries, UNIDO, PERSGA focal points and all project partners including donor bodies and NGOs to ensure effective co-ordination of all project activities and mobilization of financial resources.
7. Oversee and ensure timely submission of quarterly financial reports, progress reports, workshops/meeting reports and annual project reports.
8. Plan meetings of the Project Management Committee, inception workshop, stakeholder workshops as well as endorsement workshop.

Qualification:

1. Post-graduate degree in environmental sciences, economics, management or related field with at least 10 years professional experience in coastal zone management and / or POPs related work.
2. Ability to effectively co-ordinate regional programmes, technologically and managerially.
3. Demonstrated ability to effectively interact with a large number of experts.
4. Experience and knowledge of project implementation at the PERSGA region.
5. Fluency in English and Arabic language and excellent written and oral communications.

Post title 2: International Assistant Project Coordinator

Duty station: PERSGA regional office in Jeddah/Saudi Arabia

Brief Description:

The MSP will develop a regional strategy (RS) for the introduction of BAT & BEP in the industrial facilities listed in Part II and III of Annex C of the Stockholm Convention. The strategy will link measures of the introduction of BAT & BEP with the need for public participation, targeted capacity building, environment and human health monitoring measures. Socio-economic implications of the

implemented BAT & BEP will also be integrated into the RS. Cooperation among PERSGA governmental entities and the private sector through their involvement in the activities as well as a resource mobilization scheme will make the RS approach more integrated and comprehensive. Such co-operation would also include undertaking some preliminary feasibility studies in selected sectors of the industry, the parameters of which will then be tested and confirmed through pilot case experiments.

The regional strategy will also include documenting all experiences gained and corrective measures taken during the implementation process. The intention is that the project will start with the four eligible countries (Egypt, Jordan, Sudan and Yemen) for GEF funded POPs projects. In future it will be extended to all PERSGA member countries such as Djibouti, Saudi Arabia and Somalia to be able to continue the effort as a one regional programme under the umbrella of PERSGA.

Duties and Responsibilities:

1. Assist the project regional coordinator on the POPs technical and scientific issues related to coastal zone management and clarify the possible impact of POPs on marine life.
2. Mobilize international partnerships for conservation activities for PERSGA network of national institutions to include POPs concerns and provide facilitation role to initiate cross-cutting and joint activities between them.
3. Introduce inputs from international specialized POPs NGOs and POPs concerned funding foundations to the project work plans and financial plans to widen the scope of the communities from purely local focus to linkages with global issues as required from time to time.
4. Associate the PERSGA network with global forums and help the coordinator and national technicians produce technical and scientific papers and encourage international interactions.
5. Attend as a resource person the meetings of the Project Management Committee, inception workshop, stakeholder workshops as well as endorsement workshop.

Qualification:

1. Post-graduate degree in environmental sciences, economics, management or related field with at least 15 years professional experience in sustainable chemicals management in coastal zone management and / or POPs related work.
2. Ability to effectively co-ordinate a large, technologically and managerially complex programme.
3. Demonstrated ability to effectively interact with a large number of affected stakeholders and the international NGOs community.
4. Experience in matters related to the Stockholm Convention and the implementation of different types of GEF projects.
5. Fluency in English language and excellent written and oral communications.

Post title 3: National Project Manager (one for each country)

Duty station: Cairo, Egypt; Amman, Jordan, Port Sudan, Sudan; and Sana'a, Yemen

Brief Description:

The MSP will develop a regional strategy (RS) for the introduction of BAT & BEP in the industrial facilities listed in Part II and III of Annex C of the Stockholm Convention. The strategy will link measures of the introduction of BAT & BEP with the need for public participation, targeted capacity building, environment and human health monitoring measures. Socio-economic implications of the implemented BAT & BEP will also be integrated into the RS. Cooperation among PERSGA governmental entities and the private sector through their involvement in the activities as well as a resource mobilization scheme will make the RS approach more integrated and comprehensive. Such co-operation would also include undertaking some preliminary feasibility studies in selected sectors of the industry, the parameters of which will then be tested and confirmed through pilot case experiments.

The regional strategy will also include documenting all experiences gained and corrective measures taken during the implementation process. The intention is that the project will start with the four eligible countries (Egypt, Jordan, Sudan and Yemen) for GEF funded POPs projects. In future it will

be extended to all PERSGA member countries such as Djibouti, Saudi Arabia and Somalia to be able to continue the effort as a one regional programme under the umbrella of PERSGA.

Duties and Responsibilities:

1. Oversee the day-to-day operations of the project and be responsible for its effective implementation and ensure adherence to the approved work plan.
2. Assure effective coordination between and among the governments of the participating countries, UNIDO, NGOs and other project partners.
3. Assist in the identification of experts and/or tasks teams and establishment of national coordination offices and coordinators.
4. Supervise the activities of the established regional teams for (1) stakeholder analysis, public participation, socio-economic and capacity building, (2) industry and economic development, and (3) environment and health aspects.
5. Organize meetings of the Project National Steering Committee, stakeholder workshops, inception as well as endorsement workshops and prepare reports of the meetings for distribution to all stakeholders.
6. Ensure that the requisite level of monitoring and evaluation of project results is undertaken and properly disseminated.

Qualification:

1. Post-graduate degree in chemistry, chemical engineering, environmental sciences, management or related field with at least 10 years professional experience in coastal zone management and / or POPs related work.
2. Knowledge of the POPs situation in the PERSGA region, in general and in the participating countries (Egypt, Jordan, Sudan and Yemen) in particular.
3. Experience in matters related to the Stockholm Convention and the preparation of GEF projects.
4. Experience and knowledge of project implementation at the PERSGA region.
5. Fluency in English and Arabic languages.

Post title 4: Chief Technical Advisor (part-time)

Duration: 3.0 w/m over a period of 2 years

Brief Description:

The MSP will develop a regional strategy (RS) for the introduction of BAT & BEP in the industrial facilities listed in Part II and III of Annex C of the Stockholm Convention. The strategy will link measures of the introduction of BAT & BEP with the need for public participation, targeted capacity building, environment and human health monitoring measures. Socio-economic implications of the implemented BAT & BEP will also be integrated into the RS. Cooperation among PERSGA governmental entities and the private sector through their involvement in the activities as well as a resource mobilization scheme will make the RS approach more integrated and comprehensive. Such co-operation would also include undertaking some preliminary feasibility studies in selected sectors of the industry, the parameters of which will then be tested and confirmed through pilot case experiments.

The regional strategy will also include documenting all experiences gained and corrective measures taken during the implementation process. The intention is that the project will start with the four eligible countries (Egypt, Jordan, Sudan and Yemen) for GEF funded POPs projects. In future it will be extended to all PERSGA member countries such as Djibouti, Saudi Arabia and Somalia to be able to continue the effort as a one regional programme under the umbrella of PERSGA.

Duties and Responsibilities:

1. Assist in the establishment of the Project Management Committee and participate in the inception meeting of the project.

2. Supervise the activities of the established regional teams for improvement of survey tools, data collection and monitoring; stakeholder analysis at national level to adapt POPs matter in existing PERSGA guidelines, assessment of the needs of stakeholders on capacity development and improvement; and development of specialized research and monitoring system where PERSGA has already existing monitoring network and sampling points for pollutants in place to be extended to include POPs issues.
3. Ensure that the requisite level of monitoring and evaluation of project results is undertaken and properly disseminated.
4. Provide advice on harmonization with other MEAs and protocols and help in advocating funds mobilization effort.

Qualification:

1. Post-graduate degree in chemistry, chemical engineering, environmental sciences, management or related field with at least 10 years professional experience in coastal zone management and / or POPs related work.
2. Knowledge of the POPs situation in the PERSGA region, in general and in the participating countries (Egypt, Jordan, Sudan and Yemen) in particular.
3. Experience in matters related to the Stockholm Convention and the preparation of GEF projects.
4. Experience and knowledge of project implementation at the PERSGA region.
5. Fluency in English and Arabic languages.