

***The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)***

**Report on**

**The Regional Training Workshop on  
“Ecosystem-Based Management of Oceans and  
Coasts”**

**Held during 08-11 January 2012, at the PERSGA Centre for Emergency Mutual Aides for the Red Sea and Gulf of Aden (PERSGA- EMRSGA), Hurghadah, Arab Republic of Egypt**

**With the support of the United Nations Environment Programme (UNEP)**



**April 2012**

# CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY .....	3
I. Background .....	5
II. Workshop Objectives .....	5
III. Workshop Strategy and Approach .....	7
IV. Technical Resource Team and Participants .....	7
V. Proceedings of the Workshop .....	7
V.1 Opening and adoption of provisional agenda .....	7
V.2 Background presentations on EBM concept and methods.....	9
V.3 Coastal Marine Issues and Options for EBM.....	10
V.3.1 Regional Perspectives.....	10
V.3.2 Countries' Perspectives.....	11
V.4 Group work sessions.....	14
V.5 Discussions and Recommendations.....	15
 <u>List of Annexes</u>	
I. List of Participants .....	17
II. Provisional Agenda.....	21
III. Opening Statement .....	24
V. Concept paper for establishment of EBM process in PERSGA region.....	36

## EXECUTIVE SUMMARY

1. The regional training workshop on “Ecosystem Based Management (EBM) of Oceans and Coasts” was organized by The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA), with the support of the UN Environment Program (UNEP) and collaboration Regional Organization for Protection of Marine Environment (ROPME). The workshop was held during 08-11 January 2012 at PERSGA regional centre for marine Emergency Mutual Aids in the Red Sea and Gulf of Aden (PERSGA-EMARSGA) in Hurghadah, Egypt, and attended by 32 participants from PERSGA, ROPME and UNEP-ROWA countries including mid and high level planners, managers and practitioners.
2. The training workshop and the ensuing technical toolkit/products were instrumental to fulfill several objectives, including providing participants with theoretical background of the concept and application of Ecosystem-Based Management; to train them on the necessary tools and skills to develop and implement an ecosystem approach to the management of the coastal and marine environment in PERSGA and ROPME regions; to discuss setting up and design of demo project to foster implementation of ecosystem approach to management of coastal and marine resources in PERSGA and ROPME regions; this in addition to providing a regional platform to enhance exchange of experience and information between the two regions.
3. The program of the workshop included interactive training on EBM setting up and operation, with a combination of lectures and plenary discussions introducing core EBM principles, solutions and tools; and outlining how EBM can complement and further evolve existing national frameworks such as integrated coastal management.
4. The training included intense group-work sessions with virtual scenario- and planning exercises addressing national and regional issues and settings, and discussing approaches follow-up EBM activities, such as capacity building and demonstration projects. This was based on the UNEP’s new manual *‘Taking Steps Toward Marine & Coastal Ecosystem-Based Management–An Introductory Guide’*, complemented by other relevant resources and several case studies from the wider PERSGA and ROPME region and other parts of the world, which were presented by both of the training team and participants.
5. The first 3 days of the workshop program included Introduction of the EBM concept and the functional steps to make EBM operational, comprising the visioning, planning, and implementation phases, through a series of presentations and group work exercises, whereby also case studies at local, national and regional scales were examined and discussed, e.g. Bahrain pearling industry, East Mediterranean, implementation of PERSGA and ROPME Action Plans, and management of the Australian Great Barrier Reefs. The last day focused on discussing options for future interventions to facilitate adoption of EBM at in the PERSGA region and ROPME sea area, and options for PERSGA, ROPME and UNEP collaborations in this regard.
6. The strategy for the workshop consisted of several elements. First, the workshop consisted of two parts: a part including training sessions, involving both background presentations on the concept and practical group work to represent as wide a technical stakeholder community as possible, to practice steps for implementing EBM. The second part of workshop including options for future interventions to facilitate adoption of EBM at in the PERSGA region and ROPME sea area was also based on several background presentations on regional status and issues, followed by group work to identify and develop follow up activities that could provoke policy and institutional reform to adopt EBM and pave the way for its implementation in the region. Second, the workshop agenda sought to pursue

comprehensive as opposed to a narrow focus on a particular methodology. That is, the workshop design aimed to provide a comprehensive overview of EBM, as well as the major methods and tools to implement the approach to coastal and marine ecosystem assessment and management. Third, a subset of large marine ecosystems was considered, (including marine habitats e.g. coral reefs, mangroves, seagrasses, and fisheries), in the PERSGA, ROPME, together with environmental issues, current conservation status and response measures. Each of these subsets was taken as a case study by a working group to apply the EBM methods presented. Also, the sessions included opportunities for question/answer periods and one-on-one engagement with the technical resource team.

7. The diverse inputs from the wider region of the participating PERSGA, ROPME and UNEP-ROWA countries have provided varied materials for ample planning exercises in the workshop. This in addition to presenting rich background information on the region's specific issues and constraints, which offered a good basis for identifying virtual and implicit options for interventions to foster implementation of ecosystem approach in management of coastal and marine resources in PERSGA and ROPME regions.
8. The main follow-up activities recommended by the workshop include provision of EBM guidelines in Arabic, holding joint capacity building and coordinating workshops targeting various sectors utilizing coastal marine environment beside those involved in management, such as fisheries, maritime, coastal management, coastal engineering, municipalities, etc. in the framework of demonstration projects at local, national and regional scales.

## **I. BACKGROUND**

9. The World Summit on Sustainable Development (Johannesburg 2002) encouraged States to adopt the Ecosystem Approach by 2010. To date progress towards reaching this target has been somewhat limited. One of the constraints in implementing ecosystem-based management (EBM) in coastal and marine environments appears to be lack of practical guidance and demonstration on application of EBM principles. For example, how EBM can complement and build upon existing management approaches and mechanism. In order to facilitate EBM, there is an opportunity to strengthen the capacity of relevant agencies and organisations for taking steps towards operational marine and coastal ecosystem-based management - from strategic planning to on-site implementation.
10. In this regard, the Regional Organization for the Conservation of the Environment of the Red Sea and the Gulf of Aden (PERSGA) is joining effort with the United Nations Environment Program (UNEP) to strengthen the capacity for EMB and develop pilot activities to implement ecosystem approach in the Red Sea and Gulf of Aden region.
11. With the support of UNEP, PERSGA has organized a Regional Training Workshop on "Ecosystem-Based Management of Oceans and Coasts" during 8-11 January 2012 at the PERSGA regional center for Marine Emergency Mutual Aides in the Red Sea and Gulf of Aden (PERSGA-EMARSGA) in Hurghadah, Egypt.
12. The workshop targeted mid-level planners and decision-makers of relevant government ministries and agencies in the PERSGA countries (Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan, and Yemen). Encouragingly, the UNEP regional Office for West Asia (UNEP-ROWA), in collaboration with the Regional Organization for the Protection of Marine Environment (ROPME) has also arranged for participants from ROPME countries (Bahrain, I.R. Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates) to join the workshop, which will facilitate useful discussions and sharing knowledge and experience between participants of the two regions.

## **II. WORKSHOP OBJECTIVES**

13. The regional workshop and the ensuing technical report/products were instrumental to fulfill the following main objectives:
  - Provide participants with theoretical background of the concept and application of Ecosystem-Based Management.
  - Train participants on the necessary tools and skills to develop and implement an ecosystem approach to the management of the coastal and marine environment in PERSGA and ROPME regions;
  - Discuss setting up and design of demo project to foster implementation of ecosystem approach to management of coastal and marine resources in PERSGA and ROPME regions, and
  - Enhance exchange of experience and information between the two regions.
14. The Regional workshop proposes the following main outcomes to be achieved:
  - Enhanced practical understanding of marine and coastal ecosystem-based management (EBM) principles and approaches, including skills to select and collate key

information required for the development and implementation of EBM relevant for the coastal and marine environment of the Red Sea, Gulf of Aden and ROPME Sea Area;

- Enhanced skills for design and application of EBM approaches and tools for integrated marine environment and resource management at national and regional levels;
- Increased integration between national and regional institutions in the development and implementation of marine and coastal EBM projects and programme addressing the marine and coastal environment.
- Enhanced networking between PERSGA, ROPME and UNEP-ROWA regions in efforts addressing adoption of ecosystem approach in coastal and marine environment planning and management;
- In depth recommendations for designing and implementation of demo activities to mainstream ecosystem approach in regional/national management of coastal and marine environment in the Red Sea & Gulf of Aden and ROPME Sea Area.

### **III. WORKSHOP STRATEGY AND APPROACH**

15. The workshop included an interactive 4-day training program with a combination of lectures and plenary discussions introducing core EBM principles, solutions and tools; and outlining how EBM can complement and further evolve existing national frameworks such as Integrated Coastal Management (ICM) and other policy frameworks.
16. The workshop program incorporated group-work sessions with virtual scenario- and planning exercises addressing national and regional issues and settings; and discussion and formulation of follow-up activities as demonstration projects.
17. The workshop was facilitated by leading experts in relevant areas of expertise. The UNEP manual 'Taking Steps Toward Marine & Coastal Ecosystem-Based Management – An Introductory Guide' served as the main training resource for the workshop, complemented by other relevant resources. Material for group exercises were explored prior the workshop by workshop facilitators interacting with workshop participants (providing information on key issues, case studies, and regional data, and backgrounds of participants' speciality, experience and perspectives on the subject) for development of workshop scenario- and management planning exercises.
18. The strategy for the workshop consisted of several elements. First, the workshop consisted of two parts: a part including training sessions, involving both background presentations on the concept and practical group work to represent as wide a technical stakeholder community as possible, to practice steps for implementing EBM. The second part of workshop including options for future interventions to facilitate adoption of EBM at in the PERSGA region and ROPME sea area was also based on several background presentations on regional status and issues, followed by group work to identify and develop follow up activities that could provoke policy and institutional reform to adopt EBM and pave the way for its implementation in the region. Second, the workshop agenda sought to pursue comprehensive as opposed to a narrow focus on a particular methodology. That is, the workshop design aimed to provide a comprehensive overview of EBM, as well as the major methods and tools to implement the approach to coastal and marine ecosystem assessment and management. Third, a subset of large marine ecosystems was considered, (including marine habitats e.g. coral reefs, mangroves, seagrasses, and fisheries), in the PERSGA, ROPME, together with environmental issues, current conservation status and response measures. Each of these subsets was taken as a case study by a working group to apply the EBM methods presented. Also, the sessions included opportunities for question/answer periods and one-on-one engagement with the technical resource team.

#### **IV. TECHNICAL RESOURCE TEAM AND PARTICIPANTS (ANNEX I):**

19. There was a 7-person technical resource team to undertake the training. This team included three consultants, Prof. Richard Kenchington (Australian National Center for Ocean Resources and Security, Australia), Dr. Tundi Agardy (Forest Trends Marine Ecosystem Services Program, USA), Dr. Ameer Abdalla (IUCN consultant, Spain), in addition to Mr. Ole Vestergaard (Freshwater and Marine Ecosystem Branch, DEPI, UNEP), Dr. Ahmed Khalil (PERSGA), Dr. Fouad Abusamra (UNEP-ROWA), and Dr. Layla Al-Musawi (ROPME). Their inputs focused on various elements of the workshop program, including presentations on the EBM concept, methods and tools available, as well as international and regional perspectives, based upon a synthesis of guidelines, findings, regional issues and background framework and case studies on EBM; as well as moderating group work exercises, and the question and answer period that followed each presentation.
20. In addition, there were several national experts among the country delegates who offered valuable presentations and perspectives on the local context (see section – below). The workshop was attended by participants from 15 countries belonging to PERSGA, ROPME and UNEP-ROWA regions, including Djibouti, Jordan, Egypt, Saudi Arabia, Sudan, Yemen, Bahrain, Qatar, Kuwait, Oman, United Arab Emirates, Iraq, Palestine, Lebanon and Syria.

#### **V. PROCEEDINGS OF THE WORKSHOP**

##### **V.1 Opening and adoption of provisional agenda**

21. The Workshop was opened at 09:00 a.m. on Sunday, 08 January 2012 with a welcome note by Mr. Mohamed F. Genaina, director of PERSGA-EMARSGA. This was followed by opening addresses by representatives of PERSGA, UNEP and ROPME.
22. The PERSGA opening remarks was delivered by Dr. Ahmed Khalil, coordinator of PERSGA Living Marine Resources (LMR) Program, on behalf of Prof. Ziad Abu Ghararah, the PERSGA Secretary General (Annex III). In his opening statement, the PERSGA Secretary General welcomed the participants and valued the objectives of the workshop and efforts to facilitate the adoption of EBM of coastal and marine environment in the region. He indicated PERSGA mission and mandate towards this objective on the basis of Jeddah Convention and its attached Regional Action Plan and derived Protocols, which include several articles requiring PERSGA parties to manage their coastal and marine resources in sustainable manner, and support human and institutional capacities to achieve such goal. He also indicated that the 14<sup>th</sup> PERSGA Ministerial Council Meeting in March 2011 has issued its Resolution number 2011/03/24/14-1-1 requesting PERSGA to assist promoting capacities for EBM implementation and building partnerships with international agencies and efforts in this regard. He concluded his remarks by expressing PERSGA gratitude and thanks to the Marine and Coastal Ecosystems Branch, Division for Environmental Policy Implementation at UNEP for supporting the workshop, UNEP-ROWA for facilitating participation of experts from West Asia region, ROPME for cooperation and coordination with PERSGA, and finally all participants for their partaking in the workshop.
23. The opening session was also addressed by Dr. Fouad Abousamra (UNEP-ROWA), who also welcomed the participants and the Workshop goal and outlined the importance of EBM in general, and in the Region in particular, indicating the UNEP efforts in this connection. He also pointed out the importance of regional cooperation and regional seas as a platform for mainstreaming global goals and initiatives, appreciating cooperation of PERSGA and

ROPME in this regard. He expressed his thanks to PERSGA for excellent organization and hosting of the Workshop.

24. In her address to the opening remarks, Dr. Laila Al-Musawi (ROPME) welcomed the cooperation with PERSGA and UNEP ROWA. She indicated the mission of ROPME and importance of inter-regional exchange of expertise and views through such workshops and valued the workshop topic and objectives. She also expressed ROPME gratitude to UNEP ROWA for facilitating participation of experts from ROPME sea area, and PERSGA for organizing the workshop.
25. Following the opening addresses, the participants introduced themselves, providing brief backgrounds on marine and coastal issues in their respective countries and their perspectives to the workshop. The main points raised included:

- National coordination among sectors to regulate and manage use of marine environment and resources, such as tourism, environment protection and utilization of fisheries/ aquaculture is inadequate or lacking;
- Lack of updated data on status of marine resources, ecosystem, and fish stocks is one of the major obstacles for sustainable management of fisheries in the region;
- Regional cooperation and coordination in management of coastal and marine environment, implementation of regional and global agreements are generally weak
- There is an essential need to update legislation and promote the level of compliance with existing laws and regulations, and strengthen governance on coastal marine environment;
- Previous projects and interventions addressing coastal marine issues in the countries have been in general limited and sporadic. Although recent government initiatives are established or in progress in most countries, such efforts are still insufficient and need to be enhanced.
- Lack of tools and mechanisms for integrated management; although the integrated approach is acknowledged in several national and regional proposals and strategies, its implementation is hampered by lack of accommodating policies and gears.

26. By the end of the opening session, the initial design of the workshop agenda was discussed and approved. The detailed provisional agenda of the workshop is provided in Annex II of this workshop report. During the course of the training, several adjustments were made to this agenda in order to account for actual conditions and new information, including some specific interests that were expressed by the participants over the course of the training, which mainly suggested lessening of the lecturing time and allocating more time periods for group discussions. Sessions were held over the period 09:00 to 17:00 each day except for the last day when the program ended at 13:00.

27. The opening session was followed by a short break and taking a group photo, prior to the next primary session of the Meeting.

## **V.2 Background presentations on EBM concept and methods**

28. An initial presentation, prepared by Ole Vestergaard & Ahmed Khalil and delivered by the latter, provided an Overview of the Workshop, outlining objectives, expected outcomes and approach (as indicated in paragraphs 13-14 above); also going

through the different components of the Agenda intended to address each of the workshop objectives. That is the design of the programme was mainly based on series of thematic presentations – with active discussions throughout by participants; participants' perspectives and experiences on EBM; and working group activities to familiarize participants in applying EBM to a number of situations, and designing of follow-up EBM demonstration activities in the region. The UNEP Manual "*Taking Steps toward Marine & Coastal Ecosystem-Based Management – An Introductory Guide*" (UNEP, 2011), represents the major reference document, in addition to other some material.

29. Two background presentations on EBM concept and core principles were provided by **Dr. Tundi Agardy**. The first presentation outlined the concept, definition and core principles of the EBM, which has spectrum that extends further than barely integrated sectoral management to comprehensive management of whole systems. **EBM is a management approach that goes beyond examining a single issue, species, or ecosystem function in isolation.** Instead, EBM recognizes marine and coastal ecosystems for what they are: a rich mix of elements that interact. **EBM does not replace coastal management tools such as ICZM, MSP, MPA or EAF, but builds on these management systems.** The core Principles of EBM include recognizing connections, applying an ecosystem services perspective, understanding and addressing cumulative impacts, managing for multiple objectives, and embracing change, learning, and adapting.
30. The second presentation by Tundi Agardy was related to the above EBM core principles, particularly the ecosystem services perspective. The presentation focused on "**Marine Ecosystem Services**", representing a wide range of services provided by marine ecosystem under the main categories of provisioning, regulatory, supporting and cultural Services. Recognizing real values of these services, EBM will consider accommodating different views without undermining ecosystem services.
31. The EBM methodology, implementation tools and constraints was demonstrated by three key presentations by **Dr. Tundi Agardy**, Dr. Fouad Abousamra and Prof. Richard Kenchington. In her presentation, Dr. Agardy outlined the main stages of EBM, visioning, planning and implementation & adaptation, pointing out purpose and objectives of these stages, and indicating that EBM can be applied at a variety of scales, including at the local or site level, at the national level, at the regional level, transboundary /bilateral, and across regional seas.
32. In his presentation entitled "An example of an EBM Process: ECAP in the Mediterranean", Dr. Abousamra demonstrated an EBM realization process in the Mediterranean region, counting visioning, planning and implementation phases. The case study presentation also revisited the principal notions of these phases: The Visioning phase involved building interest, expand participation, linking sectors, taking stock of existing management and issues and setting overarching goals. The Planning phase involved defining constraints to realizing the vision, Identifying and prioritizing objectives that overcome constraint, and selecting management strategies (ICM, EAF, MPA, etc.) and tools (assessment, mapping, education, EIA, etc.). The implementation phase involves applying management, monitor, evaluate, and adapt, then continue to communicate and educate, and securing sustainable financing. The presentation outlined findings of the initial integrated assessment to support the Ecosystem Approach, the ecological objective, operational objectives and indicators pertinent to each of the four ecoregions of the Mediterranean, as defined by the process.

33. Another key input on EBM implementation was provided by Prof. Richard Kenchington, who focused his presentation on "externalities and political will". The presentation condensed the aim of EBM in three main goals: Protecting biodiversity, through conservation and integrity of ocean ecosystems; ensuring sustainable use of components of biodiversity, through management of harvesting of natural resources; and achieving acceptable socio-economic progress, through managing conflict, enhancing well-being, and improving the quality of life. The presentation then outlined major tools and approach to achieve these goals, and to identify options and constraints to the EBM process, recommending working, where ever possible, through existing institutions; new institutions can take years before they are fully operational, while developing existing institutions through overarching policy and program framework has the advantages of strengthen personal roles, building trust and security. The presentation also discussed externalities and political in the contexts of environmental and economic pressures.

## **V.3 Coastal Marine Issues and Options for EBM**

### **V.3.1 Regional Perspectives**

34. Three key presentations focused on regional perspectives issues and options, cover PERSGA region, ROPME sea area and Great Barrier Reefs.

35. The presentation on "coastal marine issues in PERSGA region: PERSGA's mission and activities related to ecosystem approach" was provided by Dr. Ahmed Khalil. The presentation outlined the regional significance and value of the Red Sea and Gulf of Aden and their global merit. The Red Sea is one of the most important repositories of marine biodiversity in the world. The Gulf of Aden is an area of oceanic upwelling, resulting in high productivity of fish resources. Major issues addressed by regional efforts are related to marine pollution threats, overfishing, weak legislation, management and compliance, inadequate statistics and scientific knowledge, and degradation of habitat and biodiversity. The Regional Action Plan and the multilinked program components run by PERSGA (e.g. annual training, ICZM, biodiversity and MPAs network, living marine resources, LBA and marine pollution and Climate Change programs) provide a good foundation for a establishing a regional EBM process). There are also some integrated management regional initiatives and processes established by PERSGA such as the Strategic Action Program, ecosystem approach to fisheries, protected areas network, SOMER process, regional indicators for measuring progress in ICOM and the established regional protocols and approach.

36. The presentation on "ROPME mission, issues and activities related to EBM in ROPME sea area" was provided by Dr. Laila Al-Musawi. ROPME sea area is one of the busiest maritime route in the world and includes the most important oil choke point, the strait of Hormuz, through which around 17 million oil barrels per day are transported. The region is endowed with biodiversity and fishery resource. The regional approach for conservation was established through Kuwait Convention, attached protocols and Action Plan. Major issues includes risks of oil and chemical spill, coastal dredging and reclamation, habitat destruction and impacts from land based activities such as oil and gas industry and desalination. A number of established initiatives offer options for foundation of EBM process, including the RAP, regional protocols, the shared vision and concerns that were structured by ROPME and MEMAC activities and programmes.

37. In his presentation on "The Great Barrier Reef: An approach to EBM/EA", Prof. R. Kenchington provided a substantial case study on this extensive marine protected area, which is also a World Heritage Area, outlining lesson learned and experience collect over 30 years of multiple use management of the GBR. The MPA comprises about 2500 reefs and associated rich biodiversity. Major uses and impacts include fishing, tourism, nature based recreation and change in coastal land use. The presentation demonstrated how issues and concerns have evolved and transformed over the recent history from deterioration of national symbol, loss of inshore reefs, coral eating starfish, and understanding human impacts /development pressures during the 1960s, where no means for managing the reef were available, through facing complex issues and challenges of development plans for oil drilling, industrial fisheries, mass tourism, intensive agriculture, coastal development, limestone mining and port expansions. The core GBRMP Act was based on conservation of the reefs and Zoning and Regulation of use to protect the Reef while allowing reasonable use. He demonstrated also how a 25 years vision was developed, and the zoning plan was revised in 2004, based on lesson learned through implementation process.

### **V.3.2 Countries' Perspectives**

38. A number of presentations were provided by the participants focusing on coastal and marine environmental issues, national management efforts with emphasis on existing initiatives or integrated planning and management as basis to develop EBM processes.

39. The presentation on *ICZM and options for EBM in Egypt* provided an overview of coastal and marine issues in the country, which has a long coastline extending for about 3,200km, of the Red Sea coast is stretching for about 1800k. The biodiversity is high consisting for example at least 2000 fish and marine mammals species, more than 1100 species of algae, about 260 species of corals, 800 species of mollusks, 600 species of echinoderms, crustacean and many species of invertebrates. Major issues include habitat degradation, impacts and threats from land based activities, tourism, maritime activities, fisheries, and irrational change in land use. There are also major management gaps, such as overlap in legislation and responsibilities of different governmental agencies, inadequate cooperation and coordination between stakeholders, provided that around 16 government agencies and sectors are involved in of coastal marine resources management and uses; and limited participation, especially for regional/local actors in decision making, policy formulation and implementation. However, several efforts were done to address these issues and gaps, such as the amendment Law No 4\94 for the Environment and its executive regulation to law No 9\2009 to integrate the ICZM Protocol, the establishment of the National Committee for Integrated Coastal Zone Management, development of ICZM programme and plan and protected area network.

40. A presentation on EBM in **Bahrain** was offered by **Mr. Abdulqader Khamis**. He provided an overview of marine environment and its management in Bahrain, demonstrating a tangible case study of a project entitled "pearl pathway-testimony of an island economy". Increasing stresses on key marine and coastal habitats (e.g. coral reefs, sea-grass beds, mudflats, mangroves) and declining fisheries are major concern in Bahrain. Main drivers are the small geographical area available, the steady population growth and consumption habit. Pressures on marine environment include urbanization associate with reclamation and dredging, pollution (sewage & oil), and overfishing. Key lesson learned from experience and management efforts signified the value of the participatory and integrated approaches, the importance of addressing underlining drivers and local community involvement. The aim of Pearl

Pathway project is to conserve pearl oyster beds and the history of the pearling economy. The project was designed to target key sites (ecosystems/sub-ecosystems) for the pathway, including urban, seashore, and offshore sites. Several agencies participate in the project including lead and coordinating sectors, while many partners and stakeholders are involved in the implementation.

41. The presentation on environmental issues in the Sudanese Coast was offered by Dr. Mahgoub Hassan. The presentation provided an overview of the marine and coastal resources and their management status and legal framework, and sensitive areas along the Sudanese coastline, which extends for about 750 km, with emphasis on oil spill contingency planning and the marine protected areas. The National Interim Constitution (2005) adopted the federal system, which delegates some authorities of managing coastal marine environment and resources to the coastal state government, such as fisheries, tourism and protected areas management. The National Environment Protection Act (2001) is the comprehensive environmental law, which provides definitions and several clarifications regarding natural resources management, sources of pollution and pollutants and endorses the principle of the "Polluter Pays"; and the EIA as an obligation for new projects. Unplanned coastal development, pollution, illegal fishing and overfishing are the major concerns to marine environment in the Red Sea coast of Sudan. Integrated approach is essential for effective management, as confirmed by the current lack of coordination among concerned agencies and argument on state and federal authorities that will have impacts on management effectiveness. An ICZM groundwork assessment and inventory was developed in collaboration with PERSGA in 2003.
42. The presentation on EMB issues and perspectives in Djibouti was provided by Mr. Aden Elmi & Mr. Abdulqader Ahmed. The presentation outlined the status and issues of coastal marine environment and their management in Djibouti. Covering about 4700 square kilometers, the coastal zone represents 20% of the total country area. However, it is inhabited by around 85% of the 800,000 population, which concentrated in the coastal area. An scoping study for development of ICZM identified scarcity of freshwater, pollution by wastewater, threats from marine pollution through maritime incidences, urbanization pressure and degradation of mangrove and other key habitats as major issues for the coastal zone. A vulnerability assessment conducted also suggests that the coastal area is vulnerable to the risks of flash floods, inundation and saltwater intrusion into coastal aquifers as a result of sea level rise. An ICZM strategy was developed in collaboration with PERSGA, identifying improvement of water management, pollution control, protection of living marine resources, and control of urbanization and economic development in the coastal zone as major objectives. Two protected areas were also established. The Ministry of Housing, Environment and Physical Planning is implementing several GEF funded projects to build capacities and facilitate implementation of the ICZM, conservation plans, and adaptation to CC impacts in collaboration UNEP, other GEF agencies and PERSGA. The ICZM strategy, the habitats-specific conservation plans, MPAs management plans and the ongoing all-encompassing projects in the coastal area could provide a good basis for establishing coastal marine EBM process in the country.
43. The presentation on Iraq's coastal area environment change was offered by Dr. Nadia A. Al-Mudaffar. The presentation outlined the main issues facing Iraq's coastal area as the lack of strategic planning and vision, enforcement of environmental law, unresolved borders issues with neighboring countries, neglecting the environmental issues and lack of integrated environmental management. The presentation highlighted the severe degradation of the Arab marsh due to declining flow of

Euphrates and Tigris Rivers as a major problem, which appears to have effects on the marine environment at the northern parts of the Gulf.

44. The presentation by Dr. Manal Nader focused on Coastal Zone Management in Lebanon: A Step Towards a Sustainable Future. The presentation described general features of the coastal area in the country, outlining main problems, ICZM initiatives and their achievements. The coastline in Lebanon extends for 220. It is rich in bays, headlands and river deltas, as well as important archeological and cultural heritage sites. Two sites are considered as MPAs. Although the coastal area represents 8% of the total area of the country, it hosts 33% of the total built-up area 55% of the total population and 70% of the industrial zones of the country. The average density is 1549 persons/km<sup>2</sup> in the coastal area, while it reaches 364 persons /km<sup>2</sup> at national scale. The major issues are the legacy of the successive wars in the country, the lack of sound land use plans, the poorly defined national planning authorities hampered by overlapping and uncoordinated environmental management responsibilities, in addition to the outdated and inconsistent environmental legislation that is coupled with weak enforcement of laws. Sea filling with urban waste and habitats & dislodgment of coastal species are also main concerns. Major initiatives addressing CZM include two major CZM projects: Coastal Area Management Program-CAMP, and Management of East Mediterranean Coastlines-IMAC. The two initiatives have had significant achievements with regard to CZM studies, strategy development, planning and legislation, in addition to capacity building and training of national staff, which can provide a reasonable background for foundation of a national EBM process.
45. The presentation on "Activities for Protecting Coastal Areas in United Arab Emirates" was offered by Mr. Ashraf Al-Gergawi. The wide range activities carried out by Ministry of Environment and Water in the coastal area have focused mainly on protection of endangered marine animals (turtles, dugongs & seabirds), enhancing fisheries resources by restocking and releasing commercial fish species such as groupers and mullets and rabbit fish, rehabilitation of coastal area (including mangrove planting and coral culturing), establishment of marine protected areas, regular campaigns for cleaning coastal areas (including beaches, lagoons and underwater campaigns), and regular monitoring of red tide.
46. The presentation on coastal marine issues and efforts to establish ICZM in Saudi Arabia was offered by Mr. Ziad Daghistani. Saudi Arabia has extensive coasts along the Red Sea and the Arabian Gulf. Impacts and threats to coastal marine environment come mainly from intensive coastal development, pollution threats at coastal hotspots, and threats of industrial and maritime pollution. ICZM efforts and program were established by PME. Extensive assessments and habitat mapping were carried out during the mid eighties, which was updated by a recent surveys and habitat mapping in 2009-2010. So far, ICZM inventories and plans were developed for some coastal provinces including Jizan and Asir areas through a PME-CZM project, which focuses on developing ICZM inventories and plans for all coastal provinces in the KSA. EIA is obligatory for all coastal projects according to the Environment Act (2003), which also includes items addressing prevention of pollution and protection of marine environment. A special CZM Act was also developed, pending to final endorsement by the ministerial council. An interagency committee was established to be responsible for coordinating coastal management including assessment and endorsement of coastal projects.

## V.4 Group work sessions

47. In the group-work sessions, participants were divided into two subgroups, focusing on the two subsets of large marine ecosystem (including marine habitats e.g. coral reefs, mangroves, seagrasses, and fisheries), of PERSGA (Red Sea and Gulf of Aden) and ROPME Sea Area (Gulf area), along with their environmental issues, current conservation status and response measures. Each of these subsets was taken as a case study by a working group to apply the EBM methods presented; and later each subgroup work on its LME subset to explore options for future interventions to facilitate adoption of EBM and suggest demonstration projects as to follow-up activities to the workshop. Thus the group-work included, firstly practical exercise on virtual scenario- and planning exercises addressing national and regional issues and settings, which was arranged in a way that participants within each subgroup act as if representing as wide a technical stakeholder community as possible, to exercise steps for an EBM process, undergoing visioning, planning and implementation phases. Secondly, the group-work included designing approaches follow-up EBM activities, such as capacity building and demonstration projects.

## V.5 Discussions and Recommendations

48. Following each of the above background presentations and regional/ national inputs, brief discussions were held focusing on the status; lessons learned from the various national and regional experiences and case studies demonstrated. Several remarks and points were raised, which were agreed to be considered in drawing final recommendations of the workshop on the last day.

49. In the final panel discussion session, the discussions were focused to draw recommendations on two main subjects, including:

- The way forward to future regional **EBM capacity building courses**, to incorporate lessons learnt and the experiences from this workshop. This involves specifically examining the limitations of the applied workshop format, and suggesting ways of improving it, including enhanced training agenda that augment capacity building and outcomes of future regional EBM workshops.
- The way forward, options and mechanism of implementing follow up activities to **mainstream EBM in the region**

50. With regards to future EBM training, and based on discussions on limitations and lesson learned, it has been suggested that a Workshop Package for next EBM training workshops to be undertaken should be based on:

- UNEP Marine and Coastal EBM Manual, **Taking Steps Toward Marine and Coastal EBM – An Introductory Guide (UNEP 2011)**, which should be translated into Arabic
- Workshop Agenda closely adheres to the Guide, its main topics and presented through case studies and working group exercise.
- Three modules in PPT format for the three EBM phases (including discussions of the 5 core principles of EBM)
- Accompanying notes (ideally in the relevant regional language) with the PPTs that cross reference to the relevant sections of the EBM Guide.
- Daily breakout exercise demonstrating and discussing each of the three phases of EBM and associated main elements.
- Associated reporting worksheets and handouts

- One key reference and PPT (to review prior to the workshop?) on each of the following tools Prioritization techniques, MPAs, ICZM, MSP, Cumulative and Strategic Impact Assessment etc.

51. With regards to regional demonstration activities/ initiatives to facilitate EBM implementation, several schemes were discussed and formulated ,which culminated into the following main proposals/ activities:

- Preparation of the Arabic version of the *UNEP EBM manual* indicated above
- Establish an initiative focusing on adoption of EBM in PERSGA region: undertake a regional intervention to establish an EBM process in PERSGA region involving institutional and multi-stakeholders induction, consultations, networking etc. in collaboration with UNEP. (draft concept paper is provided in Annex V)

# **Annexes**

## **Annex 1: List of Participants**

### **Regional Training Workshop on Ecosystem-Based Management of Oceans and Coasts Hurghadah, Egypt: 8-11 January 2012**

#### **List of Participants**

#### ***Country participants***

**1) Mr. Ziad Ahmed Abu-Yousef**

Public Awareness Officer  
ASEZA  
Jordan  
Tel 00962 797432777  
Fax 00962 32035802  
Email: [zyousef@aseza.jo](mailto:zyousef@aseza.jo)

**2) Mr. Saleem Yousif Al Nawaiseh**

Aqaba Marine Park / D.H  
ASEZA  
Jordan  
Tel 0096232035801  
Fax 0096232035802  
Email: [mpark@aqabamarinepark.jo](mailto:mpark@aqabamarinepark.jo)

**3) Mr. Aden Hassan Elmi**

Technical Advisor  
Ministry Of Environment  
Djibouti  
Tel 00253 354170  
Fax 00253 351618  
Email: [admadin2003@yahoo.fr](mailto:admadin2003@yahoo.fr)

**4) Mr. Abdoukader Ahmed Aouled**

Deputy Director  
Directorate of Environment  
Djibouti  
Tel 0025 3351020  
Email: [sahalamed1@yahoo.fr](mailto:sahalamed1@yahoo.fr)

**5) Ms. Maha Moawad Abdelreheem**

Environmental Researcher-ICZM  
Department  
EEAA  
Egypt  
Tel 002 25256452  
Fax 002 25256490  
Email: [maha471982@yahoo.com](mailto:maha471982@yahoo.com)

**6) Mr. Mohamed Said Abdelwarith**

Environmental Researcher  
EEAA  
Egypt  
Tel 002 25256452  
Fax 002 25256490  
Email: [sevejan010@yahoo.com](mailto:sevejan010@yahoo.com)

**7) Dr. Mahgoub Hassan Mohamad**

Environmental Expert  
Ministry of Environment, forestry and  
Physical Development  
Sudan  
Tel 002 49183784279  
Fax 00249183787617  
Email: [hmahgoub04@yahoo.com](mailto:hmahgoub04@yahoo.com)

**8) Dr. Babiker Abdalla Ibrahim**

Undersecretary  
Ministry of Environment, Forestry and  
Physical Development  
Tel 002 49183784279  
Fax 002 49183787617  
Email: [babiker1958@yahoo.com](mailto:babiker1958@yahoo.com)

**9) Mr. Abdullah Alsharabi**

Yemen  
Manager of Legal Affairs  
Environment Protection Agency  
Yemen  
Tel 00966 777192176  
Email: [abdullahsaleh21@yahoo.com](mailto:abdullahsaleh21@yahoo.com)

**10) Mr. Ahmed Ali Aied**

Director of Inspection and Control  
Environment Protection Agency  
Yemen  
Tel 00967 777379271  
Fax 00967 1207327  
Email: [ahmadaeed99@yahoo.com](mailto:ahmadaeed99@yahoo.com)

**11) Mr. Moteb Al Sadawi**  
EPA Chairman Office Secretary  
Environment Protection Agency  
Yemen  
Tel 00967 735522940  
Fax 00967 1207327  
Email: [metaab-@maktoob.com](mailto:metaab-@maktoob.com)

**12) Mr. Ziad Mohammed Daghistani**  
Director of Marine Resources  
Presidency of Meteorology and  
Environment  
Saudi Arabia  
Tel 00966 26536175  
Fax 00966 26517832  
Email: [ziadstani@yahoo.com](mailto:ziadstani@yahoo.com) or  
[ziadstani@hotmail.com](mailto:ziadstani@hotmail.com)

**13) Mr. Saleh Omar S. Maghrabi**  
Environment Protection Specialist  
Presidency of Meteorology and  
Environment  
Saudi Arabia  
Tel 00966 26536041  
Fax 00966 26517832  
Email: [salehmaghrabi@hotmail.com](mailto:salehmaghrabi@hotmail.com)

**14) Mr. Ashraf Kamel Abdul Nabi Al-Gergawi**  
Aquaculture Researcher  
Ministry of Environment & Water  
United Arab Emirates  
Tel 00971 67655881  
Fax 00971 67655581  
Email: [akalqergawi@moew.gov.ae](mailto:akalqergawi@moew.gov.ae)

**15) Dr. Mohammad Ibrahim Abudaya**  
Director  
Environment Quality Authority  
Palestine  
Tel 00970 082858104  
Email: [dr.m.abudaya@hotmail.com](mailto:dr.m.abudaya@hotmail.com)

**16) Ms. Nada Joumaa**  
Civil Engineer  
Ministry of State for Environment affairs  
Syria  
Tel 00963 955412806  
Email: [insereach@yahoo.com](mailto:insereach@yahoo.com)

**17) Mr. Abdulqader Khamis**  
Head of Marine Projects Assessment Unit  
Public Commission for the Protection of  
Marine Resources, Environment and  
Wildlife (PCMREW)  
Bahrain  
Tel 00973 17386571  
Fax 00973 17386556  
Email: [gaderk@pmew.gov.bh](mailto:gaderk@pmew.gov.bh)

**18) Mr. Bassam Al-Shuwaikh**  
Senior Marine Resources Specialist  
Public Commission for the Protection of  
Marine Resources, Environment and  
Wildlife (PCMREW)  
Bahrain  
Tel 00973 36088288  
Email: [bassam\\_sh11@yahoo.com](mailto:bassam_sh11@yahoo.com)

**19) Dr. Nadia A. Abdulmuttaleb Al-Mudaffar**  
Head of Research & Development  
Department  
Marine Science Centre, University of  
Basrah  
Iraq  
Tel 00964 7800253516  
Email: [nadia.fawzi.nf@gmail.com](mailto:nadia.fawzi.nf@gmail.com)

**20) Mr. Hassan Hamza**  
Site Manager  
Tyre Coast Natural Reserve  
Lebanon  
Tel 00961 3876837  
Fax 00961 7351341  
Email: [eng.hasanhamza97@hotmail.com](mailto:eng.hasanhamza97@hotmail.com)

**21) Dr. Manal Nader**  
Director  
Institute of the Environment, University of  
Balamand  
Lebanon  
Tel 00961 6930257  
Fax 00961 6930257  
Email: [manal.nader@balamand.edu.lb](mailto:manal.nader@balamand.edu.lb)

**22) Ms. Eiman KH M. Mohammad**  
Expert, Environment Public Authority  
Kuwait  
Tel 00965 97393840  
Email: [eimanmoh@hotmail.com](mailto:eimanmoh@hotmail.com)

**23) Mr. Khaled Saleh Alrasheed**

Deputy Director of EPD, E.P  
Presidency of Meteorology and  
Environment (PME)  
Saudi Arabia  
Tel 00966 38576260  
Fax 0966 38576752  
Email: [kalrasheed@gmail.com](mailto:kalrasheed@gmail.com)

**24) Mr. Sayed Mohamed Sayed Madian**

Director of Hurghada Branch  
Egyptian Environmental Affairs Agency  
Egypt  
Tel 002 0653542660  
Fax 002 0653555262  
Email: [sayedmadian@gmail.com](mailto:sayedmadian@gmail.com)

**25) Mr. Taha Mohamed El Erian**

General Manager Shore Protector-  
Hurghada  
Egypt  
Tel 002 0663329431  
Fax 002 0653503031  
Email: [ID/ e.taha-shore.protection@yahoo.com](mailto:ID/e.taha-shore.protection@yahoo.com)

**26) Mr. Tamer Kamal El-Dien Farghal**

Assistant manager  
Red Sea Protectorates  
Egyptian Environmental Affairs Agency  
Egypt  
Tel 002 0653447724  
Fax 002 0653445981  
Email: [k\\_el\\_tamer@hotmail.com](mailto:k_el_tamer@hotmail.com)

**Workshop Coordination & Resource Team****27) Dr. Ahmed Khalil**

Coordinator Living Marine Resources  
Programme  
The Regional Organization for the  
Conservation of the  
Environment of the Red Sea and Gulf of  
Aden (PERSGA)  
Saudi Arabia  
Tel 00966 26573224  
Fax 00966 26521901  
Email: [ahmed-khalil@persga.org](mailto:ahmed-khalil@persga.org)

**28) Eng. Islam Taha Mohamed**

Coordinator, Information Technology Unit  
The Regional Organization for the  
Conservation of the  
Environment of the Red Sea and Gulf of  
Aden (PERSGA)  
Saudi Arabia  
Tel 00966 26573224  
Fax 00966 26521901  
Email: [islam@persga.org](mailto:islam@persga.org)

**29) Mr. Ole Vestergaard**

Programme Officer  
DEPI Freshwater and marine Ecosystems  
Branch  
United Nations Environment Programme  
(UNEP)  
Tel 00254 207624729  
Fax 00254 207624816  
Email: [ole.vestergaard@unep.org](mailto:ole.vestergaard@unep.org)

**30) Dr. Fouad Abusamra**

Ecosystem Management Regional  
Coordinator  
United Nations Environment Programme-  
Regional Office for West Asia (UNEP-  
ROWA)  
Bahrain  
Tel 00973 17812783  
Fax 00973 17825111  
Email: [fouad.abousamra@unep.org](mailto:fouad.abousamra@unep.org)

**31) Ms. Awatif Ahmed Ali**

Admin Assistant  
United Nations Environment Programme-  
Regional  
Office for West Asia (UNEP- ROWA)  
Bahrain  
Tel 00973 17812777  
Fax 00973 17825110  
Email: [awatif.buchiri@unep.org](mailto:awatif.buchiri@unep.org)

**32) Dr. Layla Al-Musawi**

Scientific Consultant  
Regional Organization for Protection of  
Marine  
Environment (ROPME)  
Tel 00965 25312140  
Fax 00965 25324172  
Email: [laylaq8@yahoo.com](mailto:laylaq8@yahoo.com)

**33) Dr. Ameer Abdulla**

Consultant  
UNEP, IUCN  
Spain  
Tel 0034 654980909  
Email: [ameer.abdulla@gmail.com](mailto:ameer.abdulla@gmail.com)

**34) Prof. Richard Kenchington**

Australian National Center for Ocean  
Resources and Security  
University of  
Australia  
Tel 0061 262515597  
Email:  
[richard.kenchington@netspeed.com.au](mailto:richard.kenchington@netspeed.com.au)

**35) Dr. Marianne Tundi Agardy**

Director  
Forest Trends Marine Ecosystem Services  
Program  
USA  
Tel 001 2405059105  
Email [tundiagardy@earthlink.net](mailto:tundiagardy@earthlink.net)

**EMERSGA Support**

**36) Rear Admiral. Mohamed Farid Genina**

Director PERSGA-EMARSGA  
Hurghadah  
Egypt  
Tel 002 0653544159  
Fax 002 0653544174  
Email: [mohamed.genina@persga.org](mailto:mohamed.genina@persga.org)

**37) Mr. Kahlan Abu Ghanem**

Deputy Director PERSGA/EMARSGA  
Hurghadah  
Egypt  
002 0653544159  
002 0653544174  
[kahlan@persga.org](mailto:kahlan@persga.org)

**38) Ms. Dina Mohamed Essam**

Egypt  
Secretary  
PERSGA/EMARSGA  
002 0653544159  
002 0653544174  
[emarsga@persga.org](mailto:emarsga@persga.org)

**39) Ms. Dina Gamal**

Librarian  
PERSGA/EMARSGA  
Egypt  
Tel 002 0653544159  
Fax 002 0653544174  
Email: [emarsga@persga.org](mailto:emarsga@persga.org)

## Annex II Provisional Agenda

### Regional Training Workshop on Ecosystem-Based Management of Oceans and Coasts, 8-11 January 2012, PERSGA-EMRSGA Centre, Hurghada, Arab Republic of Egypt

#### PROVISIONAL AGENDA

Day 1	Topic: INTRODUCING EBM	Resource person, notes
08:30-9:00	<b>Registration</b>	
9:00-9.45	<b>Opening session</b> <ul style="list-style-type: none"> <li>• Address by PERSGA_EMARSGA</li> <li>• Address by PERSGA</li> <li>• Address by UNEP</li> <li>• Introduction of participants</li> </ul>	
9:45-10:45	<b>Setting the scene – Why EBM?</b> <ul style="list-style-type: none"> <li>• Key marine &amp; coastal environmental issues in PERSGA region: PERSGA experience and options for EBM</li> <li>• Key marine &amp; coastal environmental issues in ROPME Sea Area: ROPME experience and options for EBM</li> </ul>	Ahmed Khalil (PERSGA) Layla Syid Isa (ROPME)
10:45-11	<b>Setting the scene – Why EBM?</b> <ul style="list-style-type: none"> <li>• Workshop scope, objectives and expected outcomes</li> </ul>	Training Team
11-11:30	Break	
11.30-13	<ul style="list-style-type: none"> <li>• Participants experiences, perspectives and expectations of EBM to resolve marine &amp; coastal issues – What are the key challenges and opportunities?</li> </ul>	Participants (5-10 min presentations)
13-14	Lunch	
14-16	<b>Overview of EBM:</b> <ul style="list-style-type: none"> <li>• Visioning</li> <li>• Planning</li> <li>• Implementation</li> </ul> <b>Core EBM Principles:</b> <ol style="list-style-type: none"> <li>1. Ecosystem connections – ecological and people</li> <li>2. Ecosystem service perspective</li> <li>3. Cumulative effects</li> <li>4. Managing multiple objectives – cross-sectoral integration</li> <li>5. Learning and adapting</li> </ol>	Tundi Agardy
16-16:30	Break	
16:30-17:15	<b>Perspectives on practical implementation of EBM:</b> <ul style="list-style-type: none"> <li>• Different paths to EBM</li> <li>• How can EBM build on existing management and regulatory frameworks (like ICZM)?</li> <li>• Cost and benefits of EBM?</li> <li>• People-centric, participation and equity aspects</li> <li>• Create settings for sectors to come together</li> </ul>	Training team
17:15-18	<b>Plenary discussion - practical implementation of</b>	Training team,

	<b>EBM:</b> <ul style="list-style-type: none"> <li>Challenges and opportunities of EBM</li> </ul>	participants
<b>Day 2</b>	<b>Ecosystem values and managing multiple objectives</b>	<b>Resource person, notes</b>
9-9:15	Recap Day 1 and overview of Day 2	Training Team
9:15-11	<b>Planning Phase – Assess the ecosystem</b> <ul style="list-style-type: none"> <li>Ecosystem services and their valuation</li> </ul>	Tundi Agardy
11-11:30	Break	
11:30-13	<b>Planning Phase – Managing for multiple objectives</b> <ul style="list-style-type: none"> <li>Strategic Environmental Assessment</li> <li>Constraint &amp; opportunity analysis</li> </ul>	Richard Kenchington
13-14	Lunch	
14-17:30	<b>Managing trade-offs</b> <ul style="list-style-type: none"> <li>Introduction to SEAWEB's <i>Trade-Off</i> game</li> <li>Three groups play one session of <i>Trade-Off</i> game</li> </ul>	Group exercise
17-17:15	Break	
17:15-18	<b>Plenary discussion:</b> What is the 'ideal' vision or scenario for a given marine environment and its users? What are specific constraints to achieve that vision? How to overcome constraints? How to deal with trade-offs among sectors? How to quantify trade-offs?	Training Team
<b>Day 3</b>	<b>Assess ecosystem &amp; human impacts - Set objectives &amp; indicators</b>	<b>Resource person, notes</b>
9-9:15	Recap Day 2 & intro Day 3	Training Team
9:15-10:00	<b>Visioning Phase:</b> <ul style="list-style-type: none"> <li>Identify target geographic area and key concerns</li> <li>Develop a common understanding of the ecosystem</li> <li>Take stock of existing management practices</li> <li>Set overarching goals</li> </ul>	Tundi Agardy
10:00-11	<b>Planning Phase – Assess the ecosystem</b> <ul style="list-style-type: none"> <li>Integrated ecosystem assessment and how they inform EBM planning and implementation</li> </ul>	Ameer Abdulla
11-11:30	Break	
11:30-13	<b>Planning Phase – Assess the ecosystem</b> <ul style="list-style-type: none"> <li>Understanding cumulative human impacts</li> <li>Environmental Impact Assessment</li> </ul>	Ameer Abdulla
13-14	Lunch	
14-15	<b>Planning Phase:</b> <ul style="list-style-type: none"> <li>Identify measurable objectives</li> <li>Prioritize threats, evaluate management options, and examine trade-offs</li> <li>Evaluate governance options and multi-sectoral frameworks</li> </ul>	Richard Kenchington
15-15:30	<b>Plenary discussion:</b> How to define and agree on measurable management objectives and performance indicators across sectors?	Training team
15:30-16	Break	

16-17	<b>Implementation Phase:</b> <ul style="list-style-type: none"> <li>• Establish baseline for Monitoring &amp; Evaluation <ul style="list-style-type: none"> <li>- Ecological status</li> <li>- Socio-economic status</li> </ul> </li> <li>• Monitor, evaluate, and adapt</li> </ul>	Ameer Abdulla
17-18	<b>Implementation Phase:</b> <ul style="list-style-type: none"> <li>• Communicate and educate</li> <li>• Secure sustainable financing for EBM implementation</li> </ul>	Tundi Agardy
<b>Day 4</b>	<b>Design of EBM demonstration projects, synthesis and next steps</b>	<b>Resource person, notes</b>
9-9:30	<b>Recap Day 3 &amp; intro Day 4:</b> what would be useful national/regional demonstration projects to develop future EBM?	
9:30-11	<b>Management strategies – overview of concepts and how they fit together</b> <ul style="list-style-type: none"> <li>• ICZM, marine &amp; coastal spatial planning and zoning, integrated watershed management , ecosystem approach to fisheries (EAF), area-based management and marine protected areas</li> </ul>	Training team
11-11:30	Break	
11:30-13	<b>Group work: Design an EBM demonstration projects, considering:</b> <ul style="list-style-type: none"> <li>• Key issue, overarching goal, ecosystem status, context, stakeholders, time frame?</li> <li>• Cross-sectoral engagement – key trade-offs addressed?</li> <li>• Information gaps - assessment / monitoring needs?</li> <li>• Management objective and strategy?</li> <li>• Capacity building needs?</li> <li>• Sources of financial support?</li> <li>• Other considerations?</li> </ul>	Group exercise
13-14	Lunch	
14-15	<b>Plenary report back and discussion on demonstration concepts / project designs</b>	Plenary
15-16	<b>Plenary discussion</b> <ul style="list-style-type: none"> <li>• Synthesis of key workshop findings / learning</li> <li>• Recommendation on steps for EBM in PERSGA and ROPME</li> <li>• Identified gaps, capacity building needs</li> <li>• Follow-up</li> </ul>	Training team
16-16:30	<b>Close</b>	

## **Annex III: Opening Address**



### **PERSGA Opening Address on the “Regional Workshop on Ecosystem-Based Management of Oceans and Coasts”**

**PERSGA-EMARSGA, Hurgadah, 08-11 January 2011**

*(Delivered by Dr. Ahmed Khalil on behalf of HE Prof. Ziad Abu Ghararah, PERSGA Secretary General)*

Dear Representatives of UNEP, UNEP-ROWA and ROPME

Distinguished Delegates, Ladies and Gentlemen,

A very good morning!

I am delighted to have this opportunity to be here today to participate in this workshop on Ecosystem-Based Management of Oceans and Coasts.

On behalf of PERSGA Secretary General, Prof. Ziad Abu Ghararah, I would like to welcome you all to this important workshop, which brings together the UNEP, PERSGA and ROPME, with the aim of joining our efforts addressing our shared objectives of building capacities and exchange information and expertise in implementation of ecosystem based approach to management of our coastal and marine resources.

Ladies and Gentlemen,

There is a growing awareness, backed by scientific studies, recognizing the need for adopting ecosystem based management for our coasts and oceans. Further to its clear benefits as of ensuring sustainable utilization of living resources and conservation of habitats and biodiversity, the ecosystem approach is now seen as vital for building ecosystem resilience all for adaptation to the impacts of climate change. This has caught the attention of several initiatives, which highlight ecosystem approach as the appropriate alternative to correct the ecological imbalance that threaten and devastate and many parts of the world’s ecosystem.

PERSGA runs multi-linked program activities addressing conservation and sustainable management of marine resources in the Red Sea and Gulf of Aden region. These activities in the whole aim at supporting the adoption of ecosystem approach in the region. The previous work included various efforts tackling of assessments of key habitats and species status and sources of impacts from sea-based land-based activities. On the basis of these, Regional Action Plans (RAPs) for the Conservation of key habitats and species, action programs for control of land-based pollution, contingency plans, MPAs network and LMR management guidelines were developed. The major objectives of the action plans and programs are to protect from ecosystem degradation, and to ensure restoration of the degraded areas and sustainable use of the resource in the region.

Furthermore, in order to facilitate implementation of the Action Plans and Programs developed, PERSGA undertakes several interventions, which mainly include capacity building, and support of executing demo projects for sustainable management. In this regard PERSGA in collaboration with UNEP has undertaken several joint activities in the past including joined assessments, training workshops and projects of various themes and scopes.

PERSGA has cooperated with UNEP and ROPME to organize the present joint workshop on EBM, which will certainly improve knowledge of the workshop participants, and assist them providing

the best possible approaches and tools that can be applied for EBM implementation in PERSGA and ROPME areas and other countries of the region, considering their particular biological characteristics, ecological limits, and conservation issues.

Finally, I would like to thank our EMARSGA staff for the excellent organization and hospitality, and the UNEP for supporting this workshop and continuous cooperation with PERSGA in implementing our Annual Capacity Building and Training Program. I hope that this workshop will establish for continuing cooperation between PERSGA, UNEP and ROPME in the future.

Thanks are also extended to you all for your coming and participation in the workshop.

////////////////////////////////////

## **Annex IV: Concept paper for establishment of EBM process in PERSGA region**

### **Concept Paper**

#### **Initiation of regional mechanism for the establishment of Ecosystem Based Management (EBM) process in PERSGA region**

Note: draft was prepared by Dr. Fouad Abousamra (UNEP-ROWA). The concept paper is currently under review and editing by PERSGA and UNEP-ROWA

#### **1- Introduction**

Ecosystem services are the benefits that people obtain from ecosystems. The Millennium Ecosystem Assessment analyzed 24 ecosystem services, and found that 15 were being degraded or used unsustainably. The decline in services affects the world's disadvantaged people most strongly, impedes sustainable development globally and, in developing countries, and represents a considerable barrier to achieving the UN's Millennium Development Goals of reducing poverty and hunger.

The Millennium Ecosystem Assessment grouped ecosystem services into four categories:

- provisioning services, such as the supply of food and water;
- regulating services, which help to stabilize ecosystem processes such as climate and water storage and purification;
- supporting services, including soil formation and nutrient cycling; and
- cultural services, such as recreational, spiritual, religious and other non material benefits.

Many of these services have been degraded over the past 50 years. These include services as varied as water supply, waste treatment, fisheries, natural hazard protection, regulation of air quality, regulation of regional and local climate, prevention of erosion, spiritual fulfillment, and aesthetic enjoyment.

Fisheries are in a particularly critical state at a global scale. They are being exploited well beyond sustainable levels while demand continues to grow. At least one quarter of important commercial fish stocks are overharvested. Fisheries involve two important paradigms: conservation and fisheries management. While conservation deals with fisheries and their environment, fisheries management focuses on achieving sustainable exploitation of the resources for the benefit of human well-being.

The Ecosystem Based Management (EBM) finds its foundation in the interdependence between ecosystem health and human well-being. In this context, it is widely accepted that, as an example, conventional fishery management has proven to be of limited performance, while better understanding and practice of Ecosystem Based Management (EBM) is increasing.

The traditional approaches to environmental management according to sectors (e.g., forestry, agriculture) or biomes (geographically and climatically linked natural communities) have a number of shortcomings. For example, ecosystem concerns are considered as separate from development concerns. This ignores the interdependence of ecosystem services and human needs, and does not acknowledge the diverse effects on various social groups of declining ecosystem services. The general failure of this sectorial approach meant that a radical shift in thinking about environmental management is needed. A more holistic view of the links between

ecosystem service delivery and human needs – an *ecosystem approach* – may be the last and best hope for living sustainably on the threatened planet.

Experiences indicate that there is no single way to implement the ecosystem approach, as it depends on local, provincial, national, regional or global conditions. Indeed, there are many ways in which ecosystem approaches may be used as the framework for delivering the objectives in practice. The application of the Ecosystem Approach is a long process that would continuously develop and adjust itself on a time scale of several years before it reaches its final stage.

This conceptual approach to ecosystem management might be new to many governments and stakeholders. It would require explanation of the underlying rationale and the concept of ecosystem services, the ecosystem approach and drivers of change. It would require as well new technical and institutional approaches to environmental management at all levels. Moreover, it would require new understanding, new knowledge and ways to organize it, and new methods of applying the Ecosystem Management concept to the management of action on-the-ground. The proposed steps for implementation of ecosystem approach are neither prescriptive nor exhaustive, and are subject to change as further input and initial results feed back into the process.

## 2- Objective

This paper aims at paving the road for the Application of Ecosystem Approach for the Management of Shared Ecosystem of the Red Sea and Gulf of Aden

## 3- Proposed activities

Phase	Activity
Phase I ( 3 months)	-Organization of Regional multi stakeholders workshop on EBM -Identification of stakeholders, individuals, organizations and agencies. -Identify societal goals, interests and objectives. ANNEX (i) exhibit a preliminary Agenda for the workshop
Phase II (9 months)	-Preparation of region wide assessment of state-of-the-art in the management of Red Sea and Gulf of Aden ecosystem -Organization of multistakeholders meetings to apply ecosystem approach elements decided in Phase (I). (at regional level/ Member state levels) Annex (ii) exhibit a preliminary work plan for Phase (II).
Phase III Open	-Application of ecosystem approach -Implementation of operational strategy, follow up and monitoring. -Develop the institutional reform if need be

## 4-Expected Outcomes/Outputs

- a. Building capacity of national stakeholders in EBM for management of ecosystem.
- b. Identify barriers, difficulties in the implementation of ecosystem approach

- c. Adaptation of UNEP concept of ecosystem approach; develop regional concept and approach for the Red Sea and Gulf of Aden region
- d. Provoke institutional changes in management of environment.
- e. Paving the road for national replication of ecosystem approach
- f. Promote a regional replication of application of ecosystem approach in other regions.

**5- Estimated budget (main items, phase I and II only):**

Activity/ item	Description	Cost (\$)	Funding source
Regional Multi-stakeholder workshops and meetings	Regional capacity building workshops; Follow up regional meetings (2) Regional coordination Regional assessments and planning	100k	PERSGA/ UNEP/ other partners/donors*
National communications, institutional reforms and capacity building, revision of legislation, strategies and plans Local demo activities	National (in 6 countries, 2-3 meetings per country) National assessments and planning Awareness/ follow up activities Coordination, procedural support of institutional reforms	150k	PERSGA/ Country (kind contribution)/ others
Consultancy (international)	Technical backstopping for the assessment , and capacity building	30k	PERSGA/ UNEP/ other partners & donors*
Publication and outreach material	EBM guidelines, outreach material in English, Arabic & French	15k	PERSGA
Others	Expendable, networking and communication	5k	PERSGA
<b>Total</b>		<b>300k</b>	

ANNEX(i)  
Preliminary Agenda of the Multistakeholders workshop Phase (I)

- a. Introduction UNEP strategy on EBM
  - i. Introduction
  - ii. Ecosystem services
  - iii. Management tool
- b. Ecosystem Approach
  - i. Definition according to UNEP
  - ii. Major elements
    - vision, Initiation and Preparation. Identify Ideal state of fisheries and its ecosystem.
    - strategic objectives: Policy formulation and objectives to be achieved. Efforts and resources to raise awareness and build capacity.
    - ecoregions, Identification and prioritization of issues
    - operational objectives, Priority Actions, indicators and performance measures
    - indicators, limits, benchmarks and targets
    - Formulation of Management Plans
    - Monitoring, & evaluation and adaptive management
    - monitoring and research; specification of indicators and reference points.
  - iii. Road map
- c. Case study in application of ecosystem approach
- d. Application of ecosystem approach for the management of Red Sea and Gulf of Aden
- e. Preparedness of PERSGA Secretariat for the application of ecosystem approach

ANNEX (ii)

Preliminary work plan for Phase (II)

Multistakeholders kick off workshop

Preliminary agenda

- i. State-of-the-art of The Red Sea and Gulf of Aden management
- ii. Finalization of the regional work plan and work plans for the different member countries
- iii. Finalization of time table for implementation
- iv. Identification of implementation interdisciplinary team

ANNEX(iii)

Preliminary work plan for Phase (III)

Application of Ecosystem Approach

- a. Follow up with multi stakeholders meetings every three months to facilitate the implementation of the elements of the project.
- b. Wrap up meeting.