



Editorial

Dear Reader,

With issue No. 10 *Al Sambouk* hits double figures – definitely an opportunity for a party ! As you read about our latest plans and achievements be sure to remember we will be celebrating by sipping our Arabic coffee by the Red Sea, counting turtles or spotting the elusive dugong, such are the hardships of our life here.

One of your editors has been away from his desk for a couple of months enduring the UK summer and missing all that glorious Jeddah sunshine! Firmly shackled to the word processor again I am delighted to be able to report on further expansion in personnel and on successful meetings and workshops.

As mentioned in our last issue, PERSGA is currently going through a period of dramatic change. New Lead Specialists have arrived to support the Strategic Action Programme (SAP) together with the indispensable support staff. In particular we all offer a warm welcome to the following SAP lead specialists: Mr. Mohammed Younis (Marine Protected Areas), Dr. Ramzi Batayneh (Integrated Coastal Zone Management), Dr. Khalid Hariri (Living Marine Resources) and to four new support staff: Mr. Mohamed Satti, Mr. Nagmeldin Awad, Ms. Reem Al-Qawwas and Ms. Noha El-Maraghy.

Our increased office space now supports shiny new furniture and computer equipment. We are all ‘just a click away’ from email and internet support. This facility is already providing substantial economic benefits allowing us to determine equipment specifications and locate and contact local distributors swiftly and efficiently.

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A telephone system has been installed with several new lines along with the obligatory teething problems. It should soon be possible for you to actually reach the person you want to speak to, or to leave them a voice-mail message.

A full list of email addresses, new phone lines and extensions is given below.

We hope you enjoy issue number 10.

With our best wishes,

Dr. Dirar Nasr & Roderick Fleming (Editors)

Dr. Dirar Nasr



Dr. D. Nasr, PERSGA Coordinator

Dr. Nasr has migrated to Jeddah from the Faculty of Marine Science and Fisheries at the Red Sea University in Port Sudan, formerly the Institute of Oceanography. A zoology graduate from the University of Khartoum, Dr. Nasr wrote his Ph.D.

thesis in 1979 on the 'Biology of the pearl oyster *Pinctada margaritifera* on the Sudanese Red Sea coast'.

Pursuing an academic career at the Institute, Dr. Nasr was rapidly promoted to Senior Researcher. Four years later he was promoted to Associate Professor and then, after only 11 years, to Director. He has gathered a wide range of marine experience aboard four scientific cruises focussing particularly on the environmental aspects of the exploitation of the metalliferous sediments from the Atlantis II Deep. This 2000 m deep trench, an abyss in the middle of the Red Sea between Jeddah and Mohammed Qul on the Sudanese coast, hosts sediments rich in zinc, silver and copper.

He has been one of the leading lights in the development of PERSGA for the past 10 years. His association with the organisation can be traced back to 1976 when he was a member of the the Sudanese delegation at the Jeddah II Conference. He also took the important role of rapporteur for both the 1981 Legal and Environmental Experts Meeting and for the 1982 Conference of Plenipotentiaries when the *Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment* was signed. Dr. Nasr has been the PERSGA Coordinator since 1995. Married with five children, Dr. Nasr enjoys reading and painting in his spare time.

PERSGA Activities

Workshop in Hurghada

Ahmed Daoud

A workshop was held at the Holiday Inn Hotel in Hurghada from 11-15 September 1999, within the framework of joint projects between PERSGA and ALECSO. It was organised in cooperation with the EEAA and the Governorate of the Red Sea and titled: "Regional Training Workshop on Environmental Impact Assessment for Development Projects". The workshop was opened with a series of welcoming speeches. These were given by: His Excellency the Governor of the Red Sea Province - Saad Abu Raida, Dr. Al-Bahloul Al-Yaqubi (ALECSO),

Dr. Nizar Tawfiq (Secretary General, PERSGA), Dr. Ibrahim Abdul Jaleel (Executive Chairman, EEAA) and Dr. Mohamed Fawzi (Deputy Secretary General PERSGA, and Course Supervisor). The opening session was also attended by a number of businessmen and owners of tourist villages in Hurghada and Safaga. Nine participants from the PERSGA region participated in this course including representatives from Saudi Arabia, Egypt, Jordan, Yemen, Sudan, and Djibouti. Specialized lectures were presented from four regional experts.

The course included field visits to tourist villages in Hurghada to learn the practical procedures that are taken during EIA. Course participants briefed the attendees on their experience of the efforts taking place in the field of EIA in their home countries.

At the conclusion His Excellency the Governor of the Red Sea Province presented certificates to participants. He expressed his pleasure on the success of the course and requested that similar ones be organised in the Red Sea Province in the future.



His Excellency presents certificates after the Hurghada Workshop

A Memorandum of Understanding

Ahmed Daoud

A *Memorandum of Understanding* (M.of U.) was signed at MEPA Headquarters on Monday 24th May 1999 between UNEP and each of the following organisations: ROPME, CAMRE, and PERSGA. The M.of U. addresses the exchange of information regarding monitoring and public awareness, the avoidance of duplication and repetition of activities, and the achievement of integration between the activities of



His Highness Prince Abdullah, His Excellency Dr. Al Awadi and Dr. Tawfiq on their way to sign the Memorandum of Understanding

ROWA and the organisations mentioned above. The M.of U. encourages all parties to take part in a continuous, transparent exchange of information with international organizations, NGOs, and relevant national institutions.

UNEP will co-ordinate with all the parties independently and provide the expertise and the resources to implement programmes. UNEP will also provide technical and administrative assistance to the Secretariats of CAMRE, ROPME and PERSGA. UNEP will help organise meetings for common programmes and will communicate with relevant regional and subregional organizations with the aim of integrating their resources so that programmes are implemented according to priority.

The following dignitaries signed the M.of U.:

- His Highness Prince Abdullah Al-Saud (Chairman of the Executive office of CAMRE - as a witness)
- His Excellency Klaus Töpfer (Executive Director of UNEP)
- His Excellency Dr. Abdulrahman Al-Awadi (Executive Secretary, ROPME)
- Dr. Nizar Tawfiq (Secretary General, PERSGA)
- Dr. Abdulrahman Al-Suhaibany (Assistant Secretary General for Economic Affairs in the Arab League)

His Excellency Klaus Töpfer signs the Memorandum of Understanding



CEDARE Meeting

The Centre for Environment and Development for the Arab Region and Europe (CEDARE) will host a workshop on Marine and Coastal Zone Resources Management at the Chamber of Commerce in Jeddah on 1-3 November 1999. The workshop is designed to make progress towards the adoption of common strategies based on experience gained by the different countries of the CEDARE region. Keynote speeches will be delivered by Dr. Ali El Beltagy (CEDARE), Dr. Ibrahim Alam (Environment Protection Association, Jeddah) and Dr. Sayed El Kholy (King Abdul Aziz University, Jeddah). Integrated management of the region's marine and coastal resources is the long-term goal.

Progress towards a new Protocol on Biodiversity and Specially Protected Areas

In October 1998, at their tenth Council Meeting, the Regional Organisation for the Protection of the Marine Environment (ROPME) decided to develop a legal instrument on 'Biological Diversity and the Establishment of Specially Protected Areas. It was agreed that the text of the legal instrument would be prepared in cooperation with the European Union, the Gulf Cooperation Council Secretariat and PERSGA with assistance from the Secretariats of biodiversity related treaties. PERSGA will collaborate in this process and may adapt the text in the preparation of a similar protocol for the Red Sea and Gulf of Aden.

Some preliminary thoughts and ideas have been prepared by the editor (Roderick Fleming) while on his 'working vacation' in the UK, written as part of a Master of Law thesis for the University of Wales at Aberystwyth.

UNEP Evaluation Mission

Professor Mohammed El-Raey from the University of Alexandria in Egypt has been selected to perform an evaluation of the joint PERSGA/UNEP project titled: "The Red Sea Regional Framework Plan". This project was carried out from 1995 to 1998 as part of capacity building in PERSGA and the countries in the region and to promote regional coordination of two GEF funded national projects.

The two national projects comprised the World Bank's "Egyptian Red Sea Coastal and Marine Resource Management Project" and UNDP's "Protection of Marine Ecosystems of the Red Sea Coast of Yemen". The regional approach to protection and management of the Red Sea environment helps to forge effective links between states with mutual interests and amplifies the benefits that are gained from national projects to the region as a whole. In this context PERSGA convened regional workshops on Environmental Impact Assessment (1996, Jeddah), Management of Marine Protected Areas (1996, Sharm el-Shekh), Surveys and Monitoring (1997, Hodeidah), and took part in numerous technical coordination meetings. *Al Sambouk* was conceived to disseminate information throughout the region.

In his capacity as evaluator, Professor El-Raey will visit the relevant organisations in Djibouti, Sudan and Yemen, as well as the PERSGA Secretariat in Jeddah.

Update on the SAP Recent Developments

SAP Task Force Meeting

The First Task Force meeting since the SAP was formally set in motion following the Signing Ceremony in December 1998, will take place in Jeddah on 6-7 November 1999. The Task Force includes representatives of the PERSGA Secretariat, the Member States, the GEF Implementing Agencies (UNDP, UNEP, World Bank) and the Islamic Development Bank. The Government of Eritrea has been invited to send a representative to work as a partner in the SAP process.

The Task Force is the body primarily responsible for the preparation, initiation and supervision of the SAP. It developed and reviewed the preliminary stages, work plans, and country reports and has led the programme to its current stage of development.

At the meeting the Task Force Members will be brought up-to-date on SAP implementation and on other activities being undertaken by

PERSGA. Progress towards the ratification of major regional and international conventions and protocols is included on the agenda for discussion.

Training Course for SAP Lead Specialists

Professionals highly experienced in the technical aspects of their particular field may not necessarily have well-developed management skills. A specialist training course in project planning and management is therefore being prepared for the SAP Lead Specialists. It will include instruction in project design, implementation, monitoring and the use of new management tools such as Microsoft Project software.

A regional environmental component will be presented at the same time to familiarise the Lead Specialists with concerns in their partners' areas of expertise.

The course will last up to ten working days and will involve both Lead Specialists and National Programme Coordinators. It will take place at PERSGA headquarters in Jeddah.

Recent Developments in the Train-Sea-Coast Programme in Port Sudan

Mohammed Younis

As discussed in issue number 8 of *Al Sambouk*, the TRAIN-SEA-COAST (TSC) programme has established a Course Development Unit (CDU) at the Red Sea University in Port Sudan, generously funded by the Global Environment Facility (GEF). The CDU is currently preparing a new course on *Management of Marine Protected Areas*. As part of the course development process, the CDU met with three experts, Dr. William Gladstone (Marine Protected Areas Expert), Mr. Desmond Keating (Pedagogic Expert) and Mr. Mohammed Younis (SAP Marine Protected Areas, Lead Specialist), to facilitate their work. Valuable discussions on course structure and content took place in Port Sudan. In order to gain live experience of marine protected area management in progress, a trip to the Ras Mohammed National Park at Sharm el-Sheikh in Egypt followed. The practical training received at Sharm el-Sheikh has proven to be invaluable in course preparation.

Mr. Mohammed Younis will continue to support the TSC course development unit with their

preparation of this new module which may be finished by the end of the first quarter of next year. When complete, the TSC unit in Port Sudan will provide training for students both from Sudan and from other countries in the region.

Recruitment of Assistant Editors, and a Library and Information Specialist

The call goes out for general editorial assistance and a librarian for the PERSGA offices.

Assistance in the editing department is required on an as-needs basis. This is not a permanent or a temporary position. PERSGA wishes to build up a supply of contacts that can assist with the routine editing of reports and documents to assist the editor when his workload becomes intolerable. Anyone with a strong command of the English language (native speakers preferred but not required), and experience in the technical editing of manuscripts who would like some part-time work, should contact the editors. Access to email will be essential for anyone outside the Jeddah area. (Contact should be directed to: roderick.fleming@persga.org).

A Library and Information Specialist will be hired to provide short-term technical assistance for the development of PERSGA's library and document centre. This new appointee will be expected to assist with library planning, preparing a catalogue, a computerised database and a 'User's Guidebook' for the staff.

The new recruit will probably hold a Bachelor's degree in Library and Information Science or have equivalent industry experience and will be able to read and write in both Arabic and English.

Persons interested in this position requiring further information should address their enquiries to Dr. Dirar Nasr at PERSGA.

Overview of Procurement under the SAP

Reem Al-Qawwas (Procurement Assistant)

Funding for the Strategic Action Programme (SAP), currently implemented by PERSGA, is provided from the Global Environment Facility (GEF) via its three implementing agencies, UNDP, UNEP, and the World Bank. Part of the SAP budget is assigned to fund procurement activities, which involve the purchase of goods and services for the two SAP components -

Navigation Risk Assessment, and Integrated Coastal Zone Management. Procurement is tightly regulated and follows specific procedures laid down by the funding organizations. An annual procurement plan is submitted to these organizations for approval.

Under the '1999 Procurement Plan', the purchase of goods and services for the Navigation Risk Assessment and Integrated Coastal Zone Management components will be carried out according to the World Bank (namely the International Bank for Reconstruction and Development and International Development Association) Procurement Guidelines. This will involve the purchase of Geographic Information System applications and equipment for Djibouti, north-west and north-east Somalia, Sudan and Yemen sub-offices and will be done through international bidding.

In addition, consultants will be contracted according to the World Bank 'Guidelines of Selection and Employment of Consultants' to:

- Conduct a hydrographic survey;
- Conduct training workshops on Ports State Control, Vessel Traffic Systems and GIS;
- Conduct seminars on the results of the Hydrographic survey & Vessel Traffic System;
- Translate relevant International Conventions and publish them.

Constitution of a Procurement Advisory Committee at PERSGA

A Procurement Advisory Committee has been constituted as follows:

Dr. Dirar Nasr, PERSGA Co-ordinator, as committee chairman; Ms. Reem Al-Qawwas, Procurement Assistant, as committee secretary, and the following as committee members: Mr. Ahmed Daoud, PERSGA Finance & Administrative Officer, Dr. Ramzi Batayneh, Lead Specialist ICZM, Mr. Roderick Fleming, Editor & Information Specialist.

The purpose of the Advisory Committee is to ensure that procurement is cost-effective, efficient and transparent, that it provides the best value for money and is compliant with the existing financial regulatory framework. The Committee reviews and evaluates proposals

submitted by the Procurement and Finance Specialist and makes written advice and recommendations to the Secretary General for approval.

Purchase of Goods

As a first step towards initiating and implementing the Strategic Action Programme, PERSGA/SAP has purchased several items for its regional and sub-offices including office equipment, supplies, furniture and vehicles.

Awards of Contracts

The following tenders were sought and contracts awarded by PERSGA during the period August to October 1999:

SPSNet, Jeddah: - Installation of Internet and email services (15 August 1999).

MCR, Jeddah: - Development of an integrated, computerized Financial Management System (25 September 1999).

Arthur Andersen & Co., Jeddah: - Auditing PERSGA's accounts (2 October 1999).

A Brief Overview of the SAP

Nagmeldin Awad

The Strategic Action Programme (SAP) is a project initiated by PERSGA with the support of the Global Environment Facility (GEF), its three implementing agencies (UNDP, UNEP and the World Bank), in addition to the Islamic Development Bank and other potential international agencies and donor organizations. The primary objective of the project, as that of PERSGA, is the conservation of the environment of the Red Sea and Gulf of Aden. The SAP focuses mainly on the preventive and curative measures required to maintain the rich and diverse coastal and marine resources of the region.

The project life cycle can be divided into the following phases:

1. Preparation of the Project Document:

Initiated in 1995, the development of the SAP was coordinated by PERSGA with the support of the GEF & the member countries of the region. It involved the preparation of country reports from each of the PERSGA Member States as well as some supplementary activities carried out to

collect information from areas previously not studied.

2. Project mobilization

- i. Staff recruitment and office installation from November 1998, including the purchase of new office equipment, furniture and supplies.
- ii. Commencement of project operations following the signing ceremony in December 1998.

3. Assessment & Evaluation:

An assessment and evaluation of the activities implemented will be carried out to see how far the project has contributed to the achievement of the specified target objectives. A comparison of the activities actually accomplished with the planned targets will take place so that corrective measures can be initiated as necessary.

I would like to extend my appreciation and gratitude to all at PERSGA for the hospitality and warm welcome we met upon arrival in Jeddah and during the short period that we have spent working here. Under the wise and efficient guidance of the Secretary General, the dedicated and committed staff of PERSGA have made every possible effort to facilitate our work and to make our life pleasant.

Dugongs in the Red Sea and Gulf of Aden

Dirar Nasr

The sirenians (sea-cows) are a group of marine mammals including the manatees (Trichechidae) and the dugongs (Dugongidae). The only sea-cow occurring in the Red Sea and Gulf of Aden region is the dugong, *Dugong dugon*. It is a quiet, harmless animal found in sheltered, isolated, shallow bays and lagoons with seagrass beds on which it feeds.

Dugong distribution in the Red Sea is not continuous; populations are found in isolated channels and bays. They are rare but occasionally reported from the Gulf of Aqaba, scarce in the Gulf of Suez, reported regularly but are not common in the Sudanese Red Sea, and are very rare along the Eritrean coast. In Saudi Arabia the distribution of dugongs is

concentrated in three locations: the Wejhh Bank, the Al-Lith area, and the Gizan area.

Fishermen interviewed during March/April 1994 at Suez, Hurghada, Al-Wejhh, Rabigh, Tuwwal, Jeddah, Al-Lith, Gizan, Farasan, Hodaidah and Aden have generally confirmed this distribution. Their reports also support the opinion of many research workers that dugongs prefer undisturbed, isolated areas with abundant seagrass beds. Moreover, several of the fishermen suggested that dugongs move from one place to another according to food availability, in the same way as camels. Some regular daily movement between feeding grounds and deeper waters has been reported and it is suspected that photoperiod or tidal changes are the triggers for this activity. Aerial surveys indicate that dugongs migrate though conclusive evidence of extensive or regular migrations is not available.

Optimal dugong habitat has the following characteristics: sea water of 2 - 8 fathoms; shelter from rough winds and heavy waves; an abundant food supply, and water temperature between 21° and 38°C. With the exception of the Gulf of Suez, the temperature of the Red Sea falls within this optimal range. It is well known that dugongs are herbivores feeding on seagrasses and therefore the distribution and abundance of suitable seagrass habitat may be the most important factor determining dugong distribution and abundance.

Seagrass beds tend to occur on soft-bottom substrates in the lower intertidal and shallow sublittoral. Such soft-bottom substrates are restricted in the northern Red Sea by the extensive fringing reefs that drop-off steeply into deep water. Thus the northern seagrass beds are restricted to the shallow, soft-bottom areas of sharms or to intertidal and submarine wadi outwash-plains. By contrast, in the southern Red Sea the continental shelf is both wider and shallower and the sedimentary substrates which favour the development of extensive seagrass communities are more abundant.

The distribution of dugongs matches very well with the availability of seagrass beds; they tend to occur in isolated pockets of suitable habitat in the north and to be more continuous in the south where the inshore environment is more sedimentary.

At present dugongs are not deliberately targeted by fishermen from Egypt, Saudi Arabia or Yemen. If however they are accidentally caught in nets, their meat is eaten. This also occurs in Sudan, Eritrea and Djibouti where it is said that 'the meat is so tasty it cannot be differentiated from cow's meat'.

In Egypt dugong skin has been used in the manufacture of shoes. In Sudan dugongs have, in the past, been hunted from small boats. While the flesh was consumed, the tough skin was also utilized, being used to cover the shields of some of the local Beja tribesmen. When the skins become dry, they are as hard as stone.

Coastal Planning and Development: The Search for a Balanced Approach

Dr. Ramzi Batayneh

Introduction:

Coastal zones worldwide have experienced intense development due to their rich and diversified resources. The nature and scale of the multiple uses made of the coastal zone and the sea are driven by several factors: economic, political, social and environmental.

The consequences arising from these multiple uses are complex. Should the activities be compatible, such as ports, industry and navigation, no serious tension might be expected to arise. However tourism and fisheries can be negatively affected by the aforementioned, as they require high environmental quality that might be degraded by these alternative activities. Tourism, in particular is highly dependent on the quality of the environment and is the activity most affected by unplanned, multiple uses of the sea. Tourism may even prejudice its own future if the extent of development compromises the quality of the environment or degrades the social life of the people.

The interactions among the services and resources provided by the sea have put pressure on natural ecosystems, posing threats to future productivity.

The coastal planning system, which designates the nature and scale of the multiple resource uses, has the prime responsibility for organising these relationships. It is the ability to integrate

environmental aspects into the planning and development process and to resolve issues between compatible and incompatible uses that characterizes a coastal planning system as 'competent'.

Coastal zone

Although there is no formal agreement, most definitions of the coastal zone consider it as the interface between land and sea. The extent to which it extends towards the sea or the land differs from country to country. According to the United Nations Conference on Human Settlement 60% of the population of the world now lives within 60 km of the coast. This is largely because the coastal zone is very rich in terms of its resources and services. The oceans provide food, supporting 80% of the world's fisheries, and coral reefs play a major role in protecting coastal areas from flooding by regulating current flow.

Coastal Planning and Management Traditions

Diverse coastal planning and management traditions have evolved in different countries. As stated previously, some of these approaches are driven totally by economic factors, with market forces directing the process of development. Other approaches incorporate environmental issues. The literature indicates that sectoral planning of coastal resources is widely adopted. According to this approach, each sector plans and develops the coastal area aiming at maximising its own economic benefits without co-ordination with other sectors, and generally ignoring environmental issues. This sectoral planning approach is inadequate and inappropriate due to the lack of compatibility between the different activities making use of the available resources.

Evolution of Coastal Zone Management

Approaches to coastal zone management (CZM) have evolved through three historical stages. The first stage, started in the 1970's, is characterised by the concerns of the developed countries over the quality of their coast. During this decade the United States introduced the Coastal Zone Management Act of 1972. In the second stage, during the 1980's, the concept of CZM was advocated in both the developed and developing countries with donor organizations playing a major role in the promotion of CZM through assistance programmes. The third stage, from the

1990's, has been characterised by the *adoption* of coastal management programmes in different countries, from 142 in 1993 to reach more than 180 in 1997.

Tools For Conflict resolution

Conflicts in coastal resources development arise from the importance of coastal areas to the conflicting demands of various economic activities. The experiences of several states indicate that conflicts are caused by improper planning and lack of environmental measures. Several different tools can be used to avoid and to minimise conflicts resulting from the development of natural resources. Some of these tools can be used during the planning stage, and others at the management stage. The ones most frequently used at the planning stage are: institutional and legislative frameworks; land use plans; permit review processes; and public participation. At the management stage the following tools are recognised: monitoring programmes; economic measures such as "the polluter pays principle" and user fees.

In identifying suitable management tools for a coastal area, it is necessary to consider the socio-economic aspects of the country. If too much emphasis is put on environmental tools, while ignoring the social benefits that should accrue from proper management of the coastal area, then management efforts may not succeed.

Integrated Coastal Zone Management (ICZM)

A fresh approach to coastal resource development is required. Such an approach, in the language of Agenda 21, should be "...*integrated in content and precautionary and anticipatory in ambit*". Though the concept of ICZM has been advocated as the proper approach to the dilemma of coastal development since the late 1980s, Agenda 21 represents a shift to a new way of thinking by governments concerning resource management.

There are currently several popular definitions for ICZM which all carry common threads. These include recognition of the *limitations* of previous traditions of coastal development, and of the need to *institutionalise* the coastal management process so that a synergy between organisational and regulatory processes is secured.

Putting ICZM into Operation

Understanding the nature of the problems of the coastal zone and of the constraints which prevent a proper solution to them, is basic to the creation of an integrated process. The obstacles for proper development are usually related to the institutional, organisational, political, economic and social traditions of the countries.

Successful coastal zone management programmes have the following characteristics:

1. They set priorities for addressing the challenges to the coastal management;
2. They involve all the stakeholders in the analysis, formulation and implementation of the programme;
3. They base their work on knowledge of the ecosystem and on the needs of the community;
4. They provide an umbrella for equitable decision-making.

Regarding the mechanisms needed to put the concept of ICZM into operation, different methods have been suggested by different authors. Some have suggested integrating coastal management into the regional planning system, whereas others have advocated the integration of coastal development into national development plans.

Further, we believe that *international and regional arrangements* for addressing the dilemma of coastal development offer valuable support from which individual states can learn lessons. For example, the UNEP Regional Seas Programme is one initiative for the collective management of coastal and marine resources.

The material for this article has been drawn from the author's thesis titled: '*ICZM in the Northern Red Sea*'. Future issues of *Al Sambouk* will discuss the role of the SAP in developing coastal zone management plans in the region.

A Regional Representative System of Marine Protected Areas: Framework for the Red Sea and Gulf of Aden.

Mohammed Younis

Introduction

Executed by the Regional Organization for the Conservation of the Red Sea and Gulf of Aden (PERSGA), the Strategic Action Programme (SAP) is to shoulder the responsibility for addressing the issues of biodiversity conservation and the sustainable development of marine resources in the region. One of the tools to be used to achieve these goals is the development and implementation of a Regional Network of Marine Protected Areas (MPAs). Within this network, examples will be drawn from all the local ecosystems, habitats, and species communities to ensure full representation of the biogeographic sub-units in the region.

Objectives

- Establish the MPA Working Group (WG).
- Strengthen human capacities in MPA management and planning.
- Develop a Regional Master Plan.
- Develop site-specific plans.
- Implement the network of regional MPAs.

Regional Networking Mechanisms

In addition to their country-based activities National Specialists and the WG will provide guidance and advice on issues pertaining to MPAs, especially regarding capacity building, the development of management plans and the involvement of governments in the region with this component.

Regional Training and Exchange Programmes

Following identification of 'human resources development needs' and priorities for institutional and legislative capacity building, the design of a programme of training and visits for managers and planners of MPAs will take place. Study tours, regional training courses and overseas professional training will be organized in conjunction with the component's implementation programme.

Regional System Master Plan

A regional plan is to be developed incorporating characteristics such as, representativeness, complementarity and cost effectiveness. Naturalness, biogeographic, ecological, economic, social and scientific importance, international or regional significance and feasibility are the criteria that will be used in selecting MPAs. The World Conservation Union (IUCN) protected area management categories may be applied with adaptations to suit the regional socio-economic conditions.

Site-Specific Master Plans

Thirteen declared and proposed MPAs are currently recognized in the region. The MPA WG is to undertake identification of further critical sites or gaps for potential inclusion in the regional MPA system. For each of the MPAs a site-specific plan incorporating a comprehensive management strategy will be developed. Standardized regional guidelines will be adapted to suit the local conditions of the site.

Implementation Arrangement

The MPA component of the SAP has a broad-spectrum nature and is complementary to and interrelated with the other SAP components. Activities such as surveys, regional workshops, educational programmes and research initiatives have to be carried out jointly. The incorporation of MPA locations in Integrated Coastal Zone Management plans is of particular importance.

Can Accountants be Green?

Book Review by Mohamed Satti

In his book *'Green Reporting: Accountancy and the Challenge of the Nineties'* (published by Pitman 1996), Professor David Owen of Manchester Polytechnic, U.K., speaks about the demands on business and the accounting profession to conform to new company legislation for the protection of the environment and its natural resources.

If we look at the idea of wealth before the industrial revolution in Europe, it is clear that the source of wealth was 'nature itself'. Economists spoke of 'wealth' as the field, and the harvest was the 'income' produced from that wealth.

Some of the profit had to be ploughed back into the field in order to support future crops. In an industrial society, 'wealth' is equivalent to manufactured goods created by industrial action. Goods are produced to satisfy human needs and desires and 'wealth' is measured by GNP (Gross National Product).

Accounting is concerned with capital maintenance and many of the accounting rules seek to ensure this, for example - dividends may only be paid out of profit. If this were not done, the capital of the company could be distributed and the future profits would be reduced. For this reason accountants measure the value of capital at the beginning of the financial year and seek to ensure that it is maintained.

However accountants work in an area of business that has hardly been touched by environmental issues because the data accountants work with, namely prices, does not capture environmental information. The assets being maintained do not include the 'natural or environmental' assets because they are not measured in money and therefore are not the responsibility of the firm. Thus the 'natural capital' can be eroded and reduce the wealth of future generations.

Just as some scientists and technologists argue about how serious the environmental crisis is, so too in the business world there is a debate on how radical a solution is needed to account for environmental issues in the business model. The fact that natural resources do not have a price, are finite, and do not fit into traditional economic models may be regarded as just another example of a market imperfection. One solution is to improve the business model using economic incentive measures, for example applying taxes to those who pollute, or by selling pollution licences - as the licence fee increases so does the deterrent to cause pollution.

Lawyers talk about the directors of a limited company as being stewards for the shareholders. It is possible to extend this concept to include stewardship towards society wherein a company has a responsibility to care and maintain not only what the company owns but also the environmental assets it has an effect upon. Companies need to conduct an audit to find out what they own/control, and then to check one year later that these assets have not been eroded. This does not have to be by valuation in financial

terms - it could be by description. However, this information needs to become a regular part of company reporting. It could be provided either as a separate account or as part of regular financial reporting.

Governments have now compelled companies to review operations with regard to their impact on the environment and passed legislation to that effect. International accounting standards were set in the late nineties to meet environmental issues and auditors are now requested to check not only the compliance of the company with depreciation policies but also to check compliance with the standards set for protecting the environment.

Let it not be said of accountants, in relation to their regard for the environment, as Oscar Wilde once did: "*They know the price of everything and the value of nothing*".

NOTICE

The Coral Reef Workshop advertised in the last issue of *Al Sambouk* will now take place in February 2000.

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