



REGIONAL SEAS

***UNEP-Sponsored programme
for the
protection of oceans and coastal areas***

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PREFACE

Eighteen years ago the United Nations Conference on the Human Environment (Stockholm, 5-16 June 1972) adopted the Action Plan for the Human Environment, including the General Principles for Assessment and Control of Marine Pollution. In the light of the results of the Stockholm Conference, the United Nations General Assembly decided to establish the United Nations Environment Programme (UNEP) to "serve as a focal point for environmental action and co-ordination within the United Nations system" [General Assembly resolution 2997 (XXVII) of 15 December 1972]. The organizations of the United Nations system were invited "to adopt the measures that may be required to undertake concerted and co-ordinated programmes with regard to international environmental problems", and the "intergovernmental and non-governmental organizations that have an interest in the field of the environment" were also invited "to lend their full support and collaboration to the United Nations with a view to achieving the largest possible degree of co-operation and co-ordination". Subsequently, the Governing Council of UNEP chose "oceans" as one of the priority areas in which it would focus efforts to fulfill its catalytic and co-ordinating role.

The oceans and coastal areas programme, co-ordinated by the Oceans and Coastal Areas Programme Activity Centre (OCA/PAC) of UNEP and supported by intensive co-operation of fourteen international and intergovernmental organizations as well as of several hundred national institutions, consists of three closely linked elements dealing with:

- (a) the global marine environment;
- (b) the regional marine environment; and
- (c) the living marine resources.

Bearing in mind the considerable experience that has been accumulated in the protection and development of regional sea areas, the Governing Council of UNEP decided at its eighth session in May 1980 (decision 8/13 A) that the achievements and planned development of UNEP's Regional Seas Programme, as well as of comparable programmes sponsored by other bodies, should be reviewed by a government expert group. The Meeting of Government Experts on Regional Marine Programmes was convened by the Executive Director of UNEP in Nairobi, 18-21 January 1982, in co-operation with relevant international and intergovernmental organizations. Based on the documentation submitted to that meeting, the achievements and planned development of UNEP's Regional Seas Programme and other comparable programmes sponsored by other bodies were summarized in a document issued in 1982 by UNEP (UNEP, RSRS 1).

The present document reviews the development of the UNEP-sponsored programme for the protection of oceans and coastal areas since the 1982 review meeting and its planned future development in light of the relevant decisions of the Governing Council (UNEP, RSRS 17), and specifically of the Decision 15/1 of the 15th session of the UNEP Governing Council (Nairobi, 15-26 May 1989) which reconfirmed the "protection of ocean and coastal areas and resources" as one of UNEP's concentration areas and decided that special attention should be given to "control of pollution in regional seas and proper management of their coastal areas" within that concentration area.

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1. THE PROBLEM AND APPROACH TO ITS SOLUTION

1.1 Problems related to the marine environment have not altered greatly in the past two decades, but general perceptions of the main threats and corresponding solutions have markedly changed on the basis of knowledge accumulated during that period. Although there is still an interest in levels of contamination in the open ocean and in major oceanic processes, the danger of the open ocean becoming severely polluted is now considered to be less acute, and it is evident that existing problems, and the first effects of new ones, are most likely to arise in waters close to land (UNEP, RSRS 115; UNEP, a). Attention is therefore being concentrated on protecting the health of the coastal waters, especially in enclosed and semi-enclosed seas. The continued growth of human settlement along the coast, the increase in coastal recreation, the concentration of industrial development in coastal areas and the wealth of exploitable living marine resources in coastal waters, all justify the concern currently felt for the quality of the coastal marine environment and its resources.

1.2 The application of environmentally-sound management practices in coastal and maritime activities is now accepted as the key to safeguarding the marine environment. Only by this means can the unplanned or ill-planned land-use practices, the irrational exploitation of natural resources and the pollution to which they incidentally give rise be avoided. Emphasis on the concept of management reflects a critical change from earlier concern that the oceans had to be preserved unchanged. Management implies use: rational use. For example, when deciding on appropriate waste treatment and disposal practices, the waste receiving capacity of the sea is clearly recognized as an asset which may be used for certain types of waste (UNEP, RSRS 80).

1.3 The problems of the high seas and of large scale marine ecosystems may require more attention in the future, as evidenced, for instance, by concern for the impacts of driftnet fisheries, the growing number of large-scale biological perturbations, and the potential effects of increasing ultraviolet radiation on plankton.

2. GENERAL FRAMEWORK FOR ACTION

2.1 In the period until 1992 the oceans and coastal areas programme of UNEP is planned to concentrate on the following issues:

- (a) *Global marine problems*, which until now were mainly addressed through assessment of the sources, amounts, levels, effects and pathways of major marine contaminants, will receive more attention in the future. A globally co-ordinated marine pollution monitoring system is presently being elaborated, as a contribution to GEMS and Earthwatch, and it is hoped that some of its elements will soon be implemented on a pilot scale. The monitoring programmes operating in the framework of the various regional seas action plans will constitute an integral part of the planned global monitoring system. In addition, the launching of a programme on global monitoring of climate-related changes relevant to the marine and coastal environment is being negotiated with IOC and WMO.
- (b) The *Regional Seas Programme* will remain the centerpiece of the oceans programme. In all regional action plans greater emphasis will be placed on:
- integrated coastal zone management, as a general framework within which solutions for the coastal and marine environmental problems would have to be sought;
 - formulation, adoption and implementation of pollution control measures, commensurate with the severity of the problem and with the capabilities of the States to deal with it;
 - analysis of problems which may be associated with the expected impact of climatic change on marine and coastal ecosystems and on socio-economic structures and activities, as a contribution to the work of the WMO/UNEP Intergovernmental Panel on Climate Change (IPCC) and part of the World Climate Impact Studies Programme;

- direct assistance to Governments in defining and implementing policies and measures which may mitigate or eliminate problems caused by pollution and by the negative impact of climatic change;
- development and testing of procedures for environmental impact assessment, based on the general principles agreed by the Working Group of Experts on Environmental Law (Geneva, 1987), and their adoption for common use in the context of regional action plans and of Conventions supporting these action plans;
- training of policy-makers, environmental managers, scientists and technicians in subjects relevant to the protection of coastal and marine areas;
- strengthening the working relationships between governmental focal points, experts, technical institutions and other organizations located within the Regional Action Plan area. Through information networking activities, mutual assistance programmes and fellowships;
- raising the level of public awareness about the environmental problems facing the marine and coastal areas; and
- strengthening the linkages between the existing action plans through inter-regional activities, exchange of information and transfer of experience.

The consolidation of the existing regional action plans for Eastern Africa and the East Asian Seas and the adoption of the action plan for the South Asian Seas will be seen as first priority. The possible development of action plans for the Black Sea, the North-West Pacific and the South-West Atlantic, will be further explored.

- (c) In connection with *living marine resources*, the concentration will be on the promotion of measures for the protection of marine mammals in the framework of the existing global Plan of Action for the Conservation, Management and Utilization of Marine Mammals, for which UNEP serves as the secretariat. However, increasing attention will also be given to other marine living resources under large-scale threat from human activities.

3. REGIONAL SEAS PROGRAMME

3.1 General strategy

3.1.1 The Regional Seas Programme was initiated by UNEP in 1974 as a global programme implemented through regional components. Since then the Governing Council of UNEP has repeatedly endorsed a regional approach to the control of marine pollution and the management of marine and coastal resources and has requested the development of regional action plans.

3.1.2 The Regional Seas Programme at present includes ten regions and has over 120 coastal States and Territories participating in it. It is conceived as an action-oriented programme having concern not only for the consequences but also for the causes of environmental degradation and encompassing a comprehensive approach to combating environmental problems through the management of marine and coastal areas. Each regional action plan is formulated according to the needs of the region as perceived by the Governments concerned (UNEP, RSRs 15 and 53). It is designed to link assessment of the quality of the marine environment and the causes of its deterioration with activities for the management and development of the marine and coastal environment. The action plans promote the parallel development of regional legal agreements and of action-oriented programme activities.

3.1.3 The programme is under the overall co-ordination of the Oceans and Coastal Areas Programme Activity Centre (OCA/PAC) of UNEP but its success critically depends on the work of specialized organizations and centres dealing either with specific regions covered by the programme or with specific subjects common to most or all of the regions (UNEP, b).

3.1.4 The substantive aspect of any regional programme is outlined in an "action plan" which is formally adopted by an intergovernmental meeting of the Governments of a particular region before the programme enters an operational phase. In the preparatory phase leading to the adoption of the action plan, Governments are consulted through a series of meetings and missions about the scope and substance of an action plan suitable for their region. In addition, with the co-operation of appropriate global and regional organizations, reviews on the specific environmental problems of the region are prepared in order to assist the Governments in identifying the most urgent problems in the region and in corresponding priorities to be assigned to the various activities outlined in the action plan. UNEP co-ordinates directly, or in some regions indirectly through existing regional organizations, the preparations leading to the adoption of the action plan.

3.1.5 All action plans are structured in a similar way, although the specific activities for any region are dependent upon the needs and priorities of that region. An action plan usually includes the following components:

- (a) *Environmental assessment.* This concerns assessing and evaluating the causes of environmental problems as well as their magnitude and impact on the region. Emphasis is given to such activities as: baseline studies; research and monitoring of the sources, levels and effects of marine pollutants; ecosystem studies; studies of coastal and marine activities and social and economic factors that may influence, or may be influenced by, environmental degradation; and the survey of national environmental legislation. Environmental assessment is undertaken to assist national policy makers to improve the management of their natural resources in a more effective and sustainable manner and to provide information on the effectiveness of legal/administrative measures taken to improve the quality of the environment.
- (b) *Environmental management.* Each regional programme includes a wide range of activities in the field of environmental management. Examples of such activities are: co-operative regional projects on training in environmental impact assessment; management of coastal lagoons, estuaries and mangrove ecosystems; control of industrial, agricultural and domestic wastes; formulation of contingency plans for dealing with pollution emergencies.

- (c) *Environmental legislation.* An umbrella regional convention, elaborated by specific technical protocols, most often provides the legal framework for co-operative regional and national actions (UNEP, c). The legal commitment of Governments clearly expresses their political will to manage individually and jointly their common environmental problems.
- (d) *Institutional arrangements.* When adopting an action plan, Governments agree upon an organization to act as the permanent or interim secretariat of the action plan. Governments also are expected to decide upon the periodicity of intergovernmental meetings which are to be responsible for reviewing the progress of the agreed workplan and for approving new activities and the necessary budgetary support.
- (e) *Financial arrangements.* UNEP, together with selected United Nations and other organizations, provide "seed money" or catalytic financing in the early stages of regional programmes. However, as a programme develops, it is expected that the Governments of the region will progressively assume full financial responsibility. Government financing is usually channelled through special regional trust funds to which Governments make annual contributions. These funds are administered by the organization responsible for the secretariat functions of the action plan. In addition, Governments contribute by supporting their national institutions participating in the programme or by financing specific project activities.

3.1.6 It is essential to bear in mind that all components of a regional programme are interdependent. Assessment activities identify the problems that need priority attention in the region. Legal agreements are negotiated to strengthen co-operation among States in managing the identified problems. They also provide an important tool for national policy-makers to implement national control activities. Management activities, aimed at controlling existing environmental problems and preventing the development of new ones, are one of the means by which States fulfill their treaty obligations. Co-ordinated assessment activities then continue to assist Governments by providing scientific information by which to judge whether the legal agreements and management policies are effective.

3.1.7 The key to the success of any regional seas action plan is the political agreement of the Governments concerned and the execution of the programme primarily by national and other appropriate institutions from the region in close co-operation with the relevant components of the United Nations system, regional organizations and other appropriate organizations (UNEP, d). The successful implementation of any regional seas action plan also depends to a considerable degree on sound preparations which take into account the specific socio-economic and political situation in a given region, the priorities in environmental protection as defined by the Governments of the region, the recognized capabilities and needs of the national institutions which are participating in the action plan, and the results of past and ongoing activities.

3.1.8 Consultations with the Governments concerned, the United Nations system and other appropriate organizations are essential for the preparatory phase of a regional programme. As a result of such consultations the general strategy of developing a regional programme should be clarified, priority programme elements should be proposed, and the timing of, and responsibility for, substantive actions during the preparatory phase should be determined.

3.1.9 The procedures and activities followed in developing an action plan are instrumental in determining the Governments' and experts' long-term commitment to the implementation of the plan's activities and whether or not the action plan corresponds to the real priorities and needs of the region. Without a strong governmental commitment and a realistic programme, efforts to promote regional environmental co-operation will be short lived. Consequently, the process leading to the adoption of an action plan is crucial.

3.1.10 Some of the basic facts about the Regional Seas Programme are summarized below. Further details on specific components of the Programme are given in sections 3.2 - 3.14 of this document and in the bibliography indicated in these sections.

3.1.11 ***Mediterranean Action Plan.*** Geographic coverage: 18 States participating in the Action Plan (Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Spain, Syria, Tunisia, Turkey and Yugoslavia). Action plan adopted in 1975. Convention signed in 1976; entered into force in 1978. EEC is one of the participants in the Action Plan and is Party to the Convention. Secretariat: UNEP.

3.1.12 **Kuwait Action Plan.** Geographic coverage: 8 States participating in the Action Plan (Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates). Action plan adopted in 1978. Convention signed in 1978; entered into force in 1979. Secretariat: Regional Organization for the Protection of the Marine Environment (ROPME).

3.1.13 **West and Central African Action Plan.** Geographic coverage: 21 States participating in the Action Plan (Angola, Benin, Cameroon, Cape-Verde, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Namibia, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Togo and Zaire). Action plan adopted in 1981. Convention signed in 1981; entered into force in 1984. Secretariat: UNEP.

3.1.14 **Caribbean Action Plan.** Geographic coverage: 25 States participating in the Action Plan (Antigua and Barbuda, Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, St. Christopher and Nevis, St. Lucia, St. Vincent and Grenadines, Suriname, Trinidad and Tobago, United States of America and Venezuela) and the Caribbean territories of France, Netherlands and the United Kingdom. Action plan adopted in 1981. Convention signed in 1983; entered into force in 1986. EEC is one of the participants in the Action Plan and signed the Convention. Secretariat: UNEP.

3.1.15 **East Asian Seas Action Plan.** Geographic coverage: 5 States participating in the Action Plan (Indonesia, Malaysia, Philippines, Singapore and Thailand). Action plan adopted in 1981. Convention expected to be negotiated during 1991. Secretariat: UNEP.

3.1.16 **South-East Pacific Action Plan.** Geographic coverage: 5 States participating in the Action Plan (Chile, Colombia, Ecuador, Panama and Peru). Action plan adopted in 1981. Convention signed in 1981; entered into force in 1986. Secretariat: Permanent Commission of the South Pacific (CPPS).

3.1.17 **Red Sea and Gulf of Aden Action Plan.** Geographic coverage: 7 States participating in the Action Plan (Egypt, Jordan, Palestine, Saudi Arabia, Somalia, Sudan and Yemen). Action plan adopted in 1982. Convention signed in 1982; entered into force in 1985. Secretariat: Arab League Educational, Cultural and Scientific Organization (ALECSO).

3.1.18 **South Pacific Action Plan.** Geographic coverage: 16 States participating in the Action Plan (Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu and Western Samoa) and the South Pacific territories of France, United Kingdom and the United States of America. Action plan adopted in 1982. Convention signed in 1986 and entered into force on 18 August 1990. Secretariat: South Pacific Commission (SPC).

3.1.19 **Eastern African Action Plan.** Geographic coverage: 8 States participating in the Action Plan (Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia and United Republic of Tanzania) and the Eastern African territories of France. Action plan adopted in 1985. Convention signed in 1985. EEC is one of the participants in the Action Plan and signed the Convention. Secretariat: UNEP.

3.1.20 **South Asian Seas Action Plan.** Geographic coverage: 5 States participating in the Action Plan (Bangladesh, India, Maldives, Pakistan and Sri Lanka). Action plan and convention expected to be adopted in 1991. Secretariat: UNEP.

3.2 Mediterranean Action Plan

3.2.1 During the past decade the pattern of co-operation between all Mediterranean coastal States has been firmly established and tested. The principle of a financially self-supporting programme under UNEP auspices has also been accepted, while increasingly close control over the programme is carried out by the Contracting Parties to the Barcelona Convention (RSC 10) through their elected Bureau of four members headed by a minister, that meets every six months. The action plan (UNEP, ao) is co-ordinated on a day-to-day basis by the Co-ordinating Unit for the Mediterranean Action Plan, established by UNEP in Geneva in 1980, and moved to Athens in 1982.

3.2.2 Two additional protocols were adopted in the framework of the Barcelona Convention: one in 1980 dealing with pollutants from land-based sources (RSC 2), the other in 1982 dealing with specially protected areas (RSC 9). The adoption of a protocol on pollution from exploration and exploitation of the continental shelf and the seabed is envisaged during 1991.

3.2.3 With the accession of Albania (1990), all Mediterranean States became parties to the Convention (RSC 10).

3.2.4 Recent years have been marked by a progressive expansion of the Action Plan to cover coastal area problems and develop co-operation in closely related subjects (e.g. seismic risk reduction in coastal areas; protection of historic sites in coastal areas; soil erosion mapping and measurements).

3.2.5 (a) In 1985 the Contracting Parties adopted the "Genoa Declaration" (UNEP, ap), with a set of ten well defined targets and goals to be achieved in the second decade of the action plan, including: establishment of port reception facilities; application of environmental impact assessment procedures; protection of endangered species and sites; measures to reduce industrial and domestic pollution; protection of coastal historic sites; establishment of sewage treatment plants in all coastal cities with more than 100,000 inhabitants and appropriate outfalls and/or appropriate treatment plants for all towns with more than 10,000 inhabitants; etc.

(b) Contracting Parties adopted common measures for the protection of the Mediterranean Sea against pollution from mercury (1987), cadmium (1984), organotin compounds (1989), used lubricating oils (1989), as well as for microbial pollution of bathing waters (1985) and shellfish growing areas (1987). Preparation of common measures for organophosphorus substances, persistent synthetic materials, radioactive substances, carcinogenic/mutagenic/teratogenic substances, and pathogenic organisms is in progress.

3.2.6 A refocusing of the programme on environmentally sound integrated planning and management of coastal zones, proposed by UNEP in 1987 (UNEP, aq), has been accepted (UNEP, ar) in order to give greater prominence to the management of coastal areas and, thus, integrate more closely the various components of the action plan, taking into due consideration their environmental dimension. Programmes on two coastal zone management projects (Bay of Izmir and Syrian coast) were finalized and signed by the respective governments, two programmes (Island of Rhodes and Kastela Bay) are being negotiated, and two (Fuka region and Sfax region) are in preparation.

3.2.7 The analysis of the past, present and possible future interaction between environmental quality and trends in economic development, carried out during the past decade through the exercise known as the Blue Plan, has shown (UNEP, as) the complementarity of goals of economic growth and environmental protection and that development itself will only be achieved through protection of the environment. Greatly increased North-South solidarity and South-South co-operation are fundamental for the protection of the sea and the basin as a whole. The scenarios developed through the exercise are now being studied by the States participating in the action plan and will be used, if found appropriate, in the formulation or adjustment of national development plans. As one of the final products of the Blue Plan exercise, the book "Futures for the Mediterranean Basin - The Blue Plan" was published in English and French (UNEP, as).

3.2.8 The pollution research and monitoring programme (MED POL), which is now almost 15-years old, is making a steady progress. The first phase of the programme (RSRS 23) was completed in 1981 and is followed by its second phase (RSRS 28), concentrating on work leading to proposals for pollution control measures. Comprehensive national monitoring programmes have been adopted by almost every country, data quality assurance programmes are instituted, monitoring networks cover most of the critical areas, research is intensified on subjects requiring clarification, and new marine research centres are helped to get off the ground in the South. Monitoring of airborne pollutants started in 1989.

3.2.9 The data collected through MED POL are used to assess the state of the Mediterranean Sea (MAP 28) on the problems related to a specific pollutant (MAP 18, 19, 20, 33, 34 and 39). The assessments are used in formulation of pollution control measures, several of them already adopted by the Contracting Parties (MAP 38).

3.2.10 The Priority Actions Programme, launched in mid-1980, continues to meet with general support due to its practical approach to problems identified as national priorities, such as rehabilitation of historic settlements (MAP 11 and 14); water resources development (MAP 12 and 13); aquaculture (MAP 15); soil protection (MAP 16); etc. A practical approach to environmental impact assessment was developed and tested on a number of case studies (see section 4.7 of this document). With the introduction of country pilot zone projects, the experience gained through sectoral activities is applied in an integrated way to solve the problems of the pilot zones, some of them covering the country's whole coastline (e.g. in Syria).

3.2.11 The Regional Oil Combating Centre (ROCC) in Malta, operating under IMO's technical supervision, became in 1989 the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), with responsibility including all harmful substances.

3.2.12 The Regional Activity Centre for Specially Protected Areas, established in Tunis at the beginning of 1986 and working with the assistance of IUCN, has completed the guidelines for establishment of protected areas and the list of sites requiring special protection (MAP 26). Due to the problems encountered with the legal status of the Centre, its activities are temporarily transferred to the Co-ordinating Unit in Athens.

3.2.13 Specific action plans have been formulated for the protection of the Mediterranean monk seals and marine turtles (UNEP at and au).

3.2.14 Concern over the possible implications of climate changes received special attention through the work of a Task Team of Mediterranean experts (see section 5, and specifically paragraphs 5.10, 5.13 and 5.14).

3.2.15 Guidelines for the study, protection, planning and management of 100 Mediterranean historic sites was finalized in co-operation with Unesco. An action plan for the protection and evaluation of these sites is planned to be formulated.

3.2.16 The quality and flow of information on the action plan was upgraded in order to develop greater public awareness about environmental issues and about the action plan specifically. "Medwaves" (RSM 16), the newsletter of the action plan, as well as the bulletins of the Regional Activity Centres and of ROCC were issued regularly in several languages. The results of the action plan were published in MAP Technical Reports series (RSM 21). Preparations are under way to consolidate all bulletins in one (Medwaves), to be issued by the Co-ordinating Unit. A photo exhibition was prepared and was shown in several Mediterranean countries. As from March 1990, MEDWAVES is being published in three languages (Arabic, English, French), and bulletins of Regional Activity Centres are not issued any more.

3.2.17 National programmes are increasing and additional funds may become available from the EEC (MEDSPA), the World Bank, and the European Investment Bank.

3.3 Caribbean Action Plan

3.3.1 The Action Plan for the Caribbean Environment Programme was adopted by an intergovernmental meeting in Montego Bay, 6-8 April 1981 (UNEP, RSRS 26). The meeting established the programme priorities based on analyses prepared for the meeting (UNEP, RSRS 14 and 36), a Trust Fund to support the activities envisaged by the Action Plan and designated UNEP as the Secretariat of the Action Plan.

3.3.2 The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean region, together with a protocol on co-operation in cases of maritime emergencies, was signed at a conference of plenipotentiaries in Cartagena, 21-24 March 1983 (UNEP, ai). The Convention is in force since 1986 (UNEP, c). Dominica, Guatemala and St. Vincent and the Grenadines most recently acceded to the Convention and deposited the instruments with the Government of Colombia. This brings the number of Contracting Parties to eighteen, and now includes: Antigua and Barbuda, Barbados, Colombia, Cuba, France, Grenada, Guatemala, Jamaica, Mexico, Netherlands, Panama, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, United Kingdom, United States of America and Venezuela.

3.3.3 A variety of projects have been initiated, and implemented with mixed success in the period 1982-1987 (UNEP, aj and RSRS 109): The joint First Meeting of the Contracting Parties to the Cartagena Convention and the Fourth Intergovernmental Meeting on the Action Plan (Guadeloupe, 26-28 October 1987) was a decisive

step in revitalizing the Action Plan after its slowdown towards the end of that period. The major decisions taken at the meeting were (UNEP, ak):

- (a) to concentrate the implementation of the Action Plan on activities of regional relevance addressing the common problems of the Caribbean region;
- (b) to re-evaluate the regional environmental problems and priorities;
- (c) to prepare an in-depth evaluation of the Action Plan's achievements and shortcomings;
- (d) to formulate a comprehensive long-term strategy for the future development of the Action Plan based on the re-evaluation of the region's environmental problems and priorities, and of the in-depth evaluation of the Action Plan;
- (e) to adopt a workplan for the biennium 1988-1989, consisting of 35 activities grouped in four major projects
 - co-ordination and common costs of the Action Plan;
 - environmental management of coastal areas and terrestrial ecosystems;
 - assessment and control of marine pollution; and
 - environmental training, education and public awareness;
- (f) to recognize the Cartagena Convention as the legal framework of the Action Plan, and the Action Plan as the operational instrument for the implementation of the Convention;
- (g) to extend the Protocol concerning Co-operation in Combating Oil Spills so that it covers also hazardous substances other than oil; and
- (h) to pursue the development of two additional protocols on:
 - specially protected areas and wildlife; and
 - control of pollution from land-based sources.

3.3.4 Since the Guadeloupe meeting of the Contracting Parties:

- (a) the re-evaluation of the regional environmental problems and priorities (UNEP, RSRS b) and the in-depth evaluation of the action plan's development, achievements and shortcomings (UNEP, RSRS 109) have been completed;
- (b) a proposal has been prepared for extension of the Protocol concerning Co-operation in Combating Oil Spills to cover also harmful substances other than oil; the proposal was considered for adoption by the Conference of Plenipotentiaries in Kingston, 15-18 January 1990, but its adoption was deferred to a later date;
- (c) the draft of a Protocol on Specially Protected Areas and Wildlife (SPAW) was prepared and reviewed by two meetings of experts (St. Croix, 24-26 October 1988; and Kingston, 19-23 June 1989) and was subsequently adopted at the Conference of Plenipotentiaries in Kingston (15-18 January 1990). The SPAW Protocol includes three annexes listing protected marine and coastal flora (Annex I), fauna (Annex II) and harvestable species (Annex III). The draft annexes were developed at an *Ad hoc* meeting of experts in Martinique, 5-8 November 1990, and will be submitted to the Conference of Plenipotentiaries for the adoption of the Annexes to the Protocol, planned to be held in Kingston, 29-30 April 1991;
- (d) limited progress was made on the development of a protocol on control of pollution from land-based sources. A background document on the development of the LBS Protocol has been prepared and is

to be circulated to governments at the IX meeting of the Monitoring Committee tentatively scheduled to be held in Kingston on 1-3 May 1991;

- (e) in co-operation with IOC preparations have been completed for the initiation of a regional programme for the assessment and control of marine pollution (CEPPOL); the programme was reviewed by an IOC/UNEP meeting of experts (San José, 24-30 August 1989) and was endorsed by the Fifth Intergovernmental Meeting and Second Meeting of the Contracting Parties in Kingston, 17-18 January 1990. CEPPOL activities commenced in July 1990; and
- (f) several new projects were initiated with active participation of a number of international, regional and national organizations (oil spill contingency planning; environmental management of bays, coastal zones and terrestrial ecosystems; marine pollution monitoring; development of methodologies for assessment of coastal water quality and for environmental impact assessment; training, education and public awareness for the management of marine and coastal resources; information exchange and database development) and they are in various stages of implementation.

3.3.5 A Conference of Plenipotentiaries was convened in Kingston, 15-18 January 1990 (UNEP, al) to deal with protocols referred to in (b) and (c) of the preceding paragraph.

3.3.6 The joint Second Meeting of Contracting Parties and the Fifth Intergovernmental Meeting on the Action Plan in Kingston, 17-18 January 1990, reviewed the progress in the implementation of the Action Plan since the Fourth Intergovernmental Meeting and First Meeting of the Contracting Parties, 1987 (UNEP, am), and adopted a strategy for the future development of the Action Plan as well as the workplan and budget for the biennium 1990-1991 (UNEP, an). The Caribbean Trust Fund was extended for two biennia (1990-1991 and 1992-1993), and the levels of voluntary contributions reached approximately US\$ 1 million per year.

3.3.7 The adopted Strategy provides the Action Plan with goals, principles and objectives for its long-term development. Also, for the implementation of the Action Plan over the period 1990-1995, five regional programmes have been outlined and mechanisms for implementation and co-ordination have been recognized. The six mutually reinforcing areas are:

- Overall Co-ordination and Common Costs;
- Assessment and Control of Marine Pollution (CEPPOL);
- Specially Protected Areas and Wildlife (SPA);
- Integrated Planning and Institutional Development for the Management of Marine and Coastal Resources (IPID);
- Information Systems for the Management of Marine and Coastal Resources (CEPNET); and
- Education, Training and Awareness for the Management of Marine and Coastal Resources (ETA).

3.3.8 The day-to-day co-ordination of the Action Plan is in the hands of the Regional Co-ordinating Unit (RCU) for the Action Plan, established by UNEP in Kingston in May 1987.

3.3.9 Information on the Action Plan projects and activities are disseminated through a quarterly newsletter, CEPNEWS, as well as through the CEP Technical Report Series.

3.3.10 The IOC/UNEP task team on the implication of climate change in the Wider Caribbean Region has produced a preliminary report and is working towards the finalization of the region's report.

3.4 South-East Pacific Action Plan

3.4.1 UNEP supports, since 1977, the development and implementation of the South-East Pacific action plan as a joint project with the Permanent Commission for the South Pacific (CPPS) and as the South-East Pacific component of the Regional Seas Programme.

3.4.2 The Conference of Plenipotentiaries in Lima (November, 1981), adopted the action plan (UNEP, RSRS 20), the regional Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific, and an agreement on Co-operation in combating pollution in cases of maritime emergency (UNEP, ah). A trust fund was set up to support the action plan, CPPS was designated as the secretariat of the action plan and the convention, and was entrusted with the management of the trust fund.

3.4.3 The Convention is in force since 1986. A protocol on control of land-based sources of pollution was added to the Convention in 1983 (UNEP, c).

3.4.4 The major activities of the action plan and their results are:

- a thorough survey of the land-based sources of the marine pollution was completed (UNEP, RSRS 20);
- national and regional contingency plans for maritime pollution emergencies were formulated and adopted;
- research and monitoring projects on sources, levels, effects and pathways of marine pollutants were consolidated in a regionally co-ordinated programme (CONPACSE) with about 40 national institutions participating in it; and
- individual and group training and technical assistance in various fields relevant to the Action Plan were provided to a large number of institutions and individuals in the region.

3.4.5 The achievements and future development of the action plan were reviewed by the Third Intergovernmental Meeting on the Action Plan in Bogota, July 1988 (CPPS, a), and the following policy decisions were taken at the meeting:

- to pursue the development of two additional protocols to the Convention (on specially protected areas and wildlife and on environmental impact assessment);
- to extend the first phase of the pollution monitoring programme (CONPACSE) and to formulate the second phase of the programme, which would include additional areas relevant to coastal zone management;
- to prepare guidelines for environmental impact assessment and to test their applicability through typical case studies; and
- to strengthen the institutional capabilities of the States relevant to the implementation of the action plan, the convention and its protocols.

3.4.6 The first meeting of the Contracting Parties in Paipa, Colombia, 19-23 September 1989 (CPPS, b) reconfirmed the decisions taken in Bogota and approved the workplan and budget for the period 1990-1992.

3.4.7 The protocols for the protection of the South-East Pacific against radioactive contamination and for the conservation and management of protected marine and coastal areas of the South-East Pacific were adopted in Paipa, Colombia, on 21 September 1989.

3.4.8 The future development of the Action Plan is envisaged along the ongoing initiatives, although with some important modifications. They include a stronger orientation of CONPACSE towards the formulation of pollution control measures, strengthening of environmental impact assessment with a protocol associated with the Convention, and a more intensive effort towards the protection of the region's biological resources, a Protocol on Specially Protected Areas and Species was adopted in Paipa on 21 September 1989, as well as the Protocol against Radioactive Pollution.

3.4.9 The support received by the Action Plan from some international and intergovernmental bodies (ECLAC, FAO, IOC, IMO, IAEA, CEPIS, IUCN, PAHO) was significant.

3.4.10 The main objectives of the programme for the new phase of the Action Plan are the following:

- (a) improvement of the technical capacity of the regional institutions and/or laboratories, and improvement of the regional infrastructure deficiencies, including effective validation of pollutant measurement comprising: training; operative technical support; calibration and maintenance of analytical instruments; regular calibration exercises; technical support to prepare and calibrate internal reference materials in the regional laboratories; provide methodologies and reference materials and required forms; and follow-up on regional laboratories data quality;
- (b) establishment of a monitoring network on marine pollution caused by pesticides, pathogenic micro-organisms and nutrients in five priority geographic areas;
- (c) formulation of specific marine pollution control measures in the areas covered by CONPACSE and for the rest of the region if considered appropriate;
- (d) marine pollution assessment of priority areas covered by the programme;
- (e) formulation of a consolidated regional programme for marine and coastal areas environmental management in the South-East Pacific Region, based on the outputs of the proposed pilot study;
- (f) formulation and review of a draft programme for the preservation and protection of marine mammals in the South-East Pacific Region.

3.4.11 The next Intergovernmental and Contracting Parties meeting is going to be held in Chile, in late 1991.

3.5 Kuwait Action Plan

3.5.1 Until early 1982, UNEP acted as the Interim Secretariat of the Kuwait Action Plan and Convention (UNEP, RSRS 35; UNEP, e), and co-ordinated the activities carried out under the Action Plan.

3.5.2 Since early 1982, after the formal establishment of the Regional Organization for the Protection of the Marine Environment (ROPME) and of its Secretariat in Kuwait, the implementation of the action plan is co-ordinated by the Secretariat of ROPME, with assistance of UNEP.

3.5.3 In the past few years, UNEP's assistance to the action plan was mainly in

- (a) preparation of a report on the state of the marine environment in the area covered by the action plan (UNEP, RSRS 112);
- (b) implementation of a marine pollution monitoring and control programme;
- (c) development of a regional strategy for coastal zone management;
- (d) strengthening of national and regional capabilities for monitoring of the state of the marine environment, particularly in the areas of standard analytical techniques, intercalibration exercises, and quality assurance programmes;
- (e) supporting ROPME's programme for environmental public awareness; and
- (f) carrying out of an in-depth evaluation of the achievements and shortcomings of the Action Plan, and formulation of recommendations for its reorientation.

3.5.4 The evaluation (ROPME, a) was completed during 1988, and was adopted by the meeting of the ROPME Higher Review Committee (Kuwait, 1 November 1989) with the following goals and targets for the period 1989-1994:

- (a) preparation of a first comprehensive review on the state of the marine environment of the ROPME Sea Area to be completed by 1990;

- (b) reorientation of the cooperative regional monitoring programme to be completed by mid 1991;
- (c) carrying out simplified Environmental Impact Assessment for a number of development projects at selected key sites (2-4) in the ROPME Sea Area to be completed by the end of 1991;
- (d) development of legal guidelines and model national legislation pertinent to the fulfillment of the Kuwait Action Plan to be completed by the end of 1991;
- (e) development of two new protocols dealing with the designation of marine protected areas and the transport of hazardous materials in the KAP Sea Area to be completed by end of 1992;
- (f) development of guidelines for coastal zone management to be completed by the end of 1992;
- (g) development of technical guidelines to implement protocols and international agreements pertinent to the Kuwait Action Plan to be completed by end of 1993;
- (h) development of common emission standards for substances identified as representing a potential threat to human health or ecological balance in the marine environment to be completed by the end of 1994;
- (i) a preparation of a second comprehensive review on the state of the marine environment in the ROPME Sea Area to be completed by the end of 1994; and
- (j) development of specific elements of support measures, quality assurance, education and training, to be continued throughout.

3.5.5 Decision 15/26 of the UNEP Governing Council requested UNEP to provide assistance, in co-operation with IMO, to ROPME's plan of action for surveillance, ecological assessment and clearance of war-related pollution, objects and wrecks.

3.5.6 The Council of ROPME, at its Seventh Meeting (Kuwait, 21 February 1990) approved UNEP's proposals for co-operation with ROPME in the following areas (ROPME c and d):

- (a) follow-up of the impact of climatic changes and sea level rise on the Sea Area;
- (b) identification of international centres of excellence for specialized training;
- (c) application of remote sensing for resource mapping and coastal zone management;
- (d) carrying out case studies on industrial waste management;
- (e) application of environmental impact assessment to selected development activities; and
- (f) follow-up and supporting activities to ongoing programmes and future initiatives addressing special problems or emergency situations in the Sea Area;

3.5.7 As a follow-up of these approved areas of co-operation and of the decision of the Governing Council:

- (a) a joint UNEP/ROPME Task Team on implications of expected climate changes was established in May 1990. The report of the Task Team is expected to be finalized by early 1991;
- (b) assistance was provided in formulation of the draft regional strategy and guidelines for coastal zone management, including the application of environmental impact assessments (ROPME b);
- (c) a report was prepared, by the Technology and Environment Branch of UNEP, on the status of war-related pollution in the area covered by the action plan and its possible clearance;
- (d) preparations are being made, by the Global Resource Information Database of UNEP, for the application of remote sensing in resource mapping and coastal zone management in the action plan area; and

- (e) assistance was offered to the Secretariat of ROPME in the application of guidelines and methodology for environmental impact assessment developed by UNEP.

3.6 Eastern African Action Plan

3.6.1 After a detailed preparatory process (UNEP, RSRS 53), the Conference of Plenipotentiaries on the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi, 17-21 June 1985) adopted the:

- Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (UNEP, RSRS 61; UNEP, g);
- Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (UNEP, f);
- Protocol concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region (UNEP, f);
- Protocol concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region (UNEP, f); and
- four Conference resolutions, three of them dealing with programme implementation and with institutional and financial arrangements (UNEP, RSRS 61).

3.6.2 Six ratifications are needed for the Convention to enter into force. To date only Somalia, France, Seychelles and Kenya have ratified the Convention and its Protocols (UNEP, c).

3.6.3 Taking into account the main environmental problems of the region (UNEP, RSRS 12 and 41) and the decisions of the Conference of Plenipotentiaries, a programme document was prepared by UNEP, with the co-operation of international and regional organizations and the Governments of the region, describing the operational details of activities to be developed on the basis of priorities identified by the Conference. It contains the description of five projects:

- EAF/5: Protection and management of marine and coastal areas in the Eastern African Region (in co-operation with IUCN, Unesco, FAO and IOC)
- EAF/6: Monitoring, research and control of sources, levels and effects of pollutants in the Eastern African Region (in co-operation with FAO, IOC, Unesco, WHO and IAEA)
- EAF/7: Contingency planning for marine pollution emergencies in the Eastern African Region (in co-operation with IMO)
- EAF/10: Control of coastal erosion in the Eastern African Region (in co-operation with Unesco)
- EAF/11: Environmental impact assessment in the Eastern African Region (in co-operation with FAO, WHO and IOC).

3.6.4 In addition to the development of the programme document, UNEP as the Secretariat of the action plan accomplished or supported the following activities:

- (a) a national action plan for the protection, management and development of the marine and coastal environment of Somalia was prepared for and adopted by the Government of Somalia (UNEP, RSRS 84). Funding is being sought, through the UNEP Clearing-house and other mechanisms, to support the implementation of the action plan;
- (b) a report on the environmental effects of coral reef and coral sand extraction in Mauritius was prepared and approved by the Government of Mauritius (UNEP, RSRS 105);

- (c) an oil spill contingency plan for Mauritius was prepared, in co-operation with IMO, and approved by the Government of Mauritius (UNEP, RSRS 125);
- (d) a national action plan for the protection, management and development of the marine and coastal environment of Tanzania was prepared and adopted by the Government of Tanzania (UNEP, RSRS 106);
- (e) a coastal sensitivity atlas of Mauritius was prepared, in co-operation with IMO, for use in case of oil spill emergencies;
- (f) a report on the state of the marine environment of the Eastern African region was prepared by a Task Team set up by UNEP and supported by FAO (UNEP, RSRS 113);
- (g) a report assessing the potential impact of the expected climate changes on the coastal and marine ecosystems as well as on socio-economic structures and activities in the Eastern African region was prepared by another Task Team established by UNEP (in print);
- (h) assistance was provided twice to the Government of Somalia, in co-operation with IMO, FAO and IOC, to assess the potential environmental impact of maritime accidents and to advise the Government on remedial actions; and
- (i) training and fellowships were provided for a number of managers, experts and technicians from the Eastern African region in subjects related to the action plan.

3.6.5 A meeting of Eastern African experts was convened in Nairobi (1-3 November 1989), followed by an Intergovernmental Meeting on the Action Plan (Nairobi, 8-9 November 1989), which reviewed the progress of the action plan since it was adopted (UNEP, h), and approved the programme document, including a detailed workplan and budget for the biennium 1990-1991 (UNEP, i).

3.6.6 The EAF/6 project was launched through an IOC/FAO/WHO/IAEA/UNEP Workshop on Regional Aspects of Marine Pollution, held in Mauritius, 29 October - 9 November 1990. About 20 national institutions have been identified as potential participants in the project.

3.6.7 The launching of the project EAF/5 is planned for early 1991.

3.6.8 The next Bureau Meeting is planned to be convened in August 1991. The Second Intergovernmental Meeting on the Action Plan is planned to be convened in early 1992. The Intergovernmental meeting will be convened as the meeting of the Contracting Parties, if by that time two additional Parties accede to the Convention.

3.7 West and Central African Action Plan

3.7.1 At the adoption of the West and Central African action plan (UNEP, RSRS 27; UNEP, j) and Convention (UNEP, k), the Conference of Plenipotentiaries (Abidjan, March 1981) approved the implementation of the following nine projects, taking into account the major environmental problems of the region (UNEP, RSRS 37 and 46):

- WACAF/1 Institution and co-ordination of national contingency plans in the West and Central African region, in collaboration with IMO and UNIDO;
- WACAF/2 Assessment and control of pollution in the coastal and marine environment of the West and Central African region, in co-operation with FAO, IOC, WHO and IAEA;
- WACAF/3 Control of coastal erosion in West and Central Africa;
- WACAF/4 Development of environmental impact assessments for typical coastal sites and regional seminar to review the results;

- WACAF/5 Assistance to States in development of environmental legislation and its harmonization with the Abidjan Convention, in co-operation with FAO and IMO;
- WACAF/6 Preparation of a manual on training, research and control of coastal erosion as applied to West and Central Africa, in co-operation with Unesco;
- WACAF/7 Establishment of a regional documentation centre on coastal erosion in West and Central Africa;
- WACAF/8 Identification, establishment of specially protected areas in the West and Central African region, in co-operation with IUCN; and
- WACAF/9 Determination of the distribution and status of marine mammals in West and Central Africa, in co-operation with IUCN.

3.7.2 The Convention entered into force in 1984, but the lack of funds has been the main obstacle to the implementation of all agreed activities as originally envisaged. Nevertheless, considerable progress has been achieved in a number of these projects, notably:

- (a) WACAF/1: in co-operation with IMO, assistance has been provided to ten States of the region to develop national contingency plans for marine emergencies involving pollution; two of these contingency plans were formally adopted (Congo, Côte d'Ivoire);
- (b) WACAF/1: guidelines for the preparation of national contingency plans for industrial accidents and for industrial hazard analysis have been prepared in co-operation with UNIDO (UNEP, RSRS 54); information on the current state of preparation and intervention capability in case of major industrial accidents was collected during field missions to Liberia and Senegal; a regional industrial risk assessment has been carried out for the major industrial sectors in the five geographical zones which constitute the region;
- (c) WACAF/2: in co-operation with FAO, IOC, WHO and IAEA twenty-three research and university institutes and laboratories from ten countries were organized in a network of institutions for monitoring the quality of the marine environment; the first assessment of the state of marine and coastal waters in the West and Central African region was accomplished;
- (d) WACAF/3: coastal erosion, a problem faced by most West and Central African States, has been approached, in co-operation with Unesco and UN-DIESA, through a project which provided the region with basic scientific information about the causes and processes leading to coastal erosion, as well as about the technical measures which may mitigate the problem; a manual on training, research and control of coastal erosion as applied to the West and Central African region has been prepared (UNEP, RSRS a);
- (e) WACAF/5: in co-operation with FAO and IMO reports on the state of national legislation relevant to the protection of the marine environment have been prepared for Gabon and Ghana;
- (f) intensive individual and group training of technical and scientific personnel has been organized in several areas identified as priorities by the Action Plan; and
- (g) technical assistance (equipment, supplies and experts) was provided to national institutions participating in the projects carried out in the framework of the Action Plan.

3.7.3 Based on the evaluation of the achievements and shortcomings of the Action Plan (UNEP, RSRS 101; UNEP, l), the medium term programme (1989-1995) and the 1989-1990 workplan and budget were approved by the Second meeting of the Contracting Parties in Dakar, 25 January 1989 (UNEP, m), envisaging that:

- (a) efforts should be intensified through WACAF/1 towards the formulation of national contingency plans by all countries in the region and agreements should be reached on suitable arrangements for effective regional co-operation in case of maritime emergencies;
- (b) WACAF/2 should focus on the assessment of the state of pollution of coastal waters, lagoons, bays, estuaries and creeks by pollutants resulting from agricultural, domestic and industrial activities on land,

and should result in concrete pollution control measures for the consideration of the Third meeting of Contracting Parties in 1991;

- (c) the earlier initiated or planned projects related to coastal erosion control (WACAF/3, WACAF/6 and WACAF/7), on environmental impact assessment (WACAF/4), on establishment and management of specially protected areas (WACAF/8) and on protection of specially endangered species (WACAF/9), should be implemented within the context of an integrated coastal zone planning and management programme in order to reinforce the benefits from their results. Pilot zones will be selected in which all these projects, including WACAF/1 and 2, would be implemented;

3.7.4 As a follow-up to the decisions of the Second meeting of the Contracting Parties:

- (a) the first phase of WACAF/2 was completed and its second phase, concentrating on activities which will result in proposals for concrete pollution measures, started in late 1989; three workshops have been conducted since then. These are:
- Workshop on Assessment and Control of Pollution in the Coastal and Marine Environment of WACAF (Accra, Ghana, 3-7 September 1990);
 - Training Workshop on Oceanographic Factors affecting Transport of Pollutants in the Coastal and Marine Environment (Lagos, Nigeria, 24-28 September 1990); and
 - Training Workshop on Analysis of Organic Pollutants in Environmental Samples (Ibadan, Nigeria, 14-27 October 1990);
- (b) a regional workshop on coastal erosion was convened (Accra, Ghana, 28 March - 2 April 1990), in co-operation with the Organization of African Unity (OAU);
- (c) a pilot project on the control of coastal erosion, in co-operation with OAU, is being implemented in Bénin; the project will be used as a demonstration for the use of local resources and low-cost technologies;
- (d) the draft of a protocol on transboundary movement of hazardous wastes has been prepared as a possible supplement to the Basel and Abidjan conventions;
- (e) support was provided to the regional Seminar on Waste Management and Waste Disposal at Sea (Abidjan, Côte d'Ivoire, 28 May - 1 June 1990), convened by IMO and IOC;
- (f) a report on the state of the marine environment in the West and Central African region was completed, in co-operation with FAO and IOC (UNEP, RSRs 108);
- (g) a Task Team was established in mid 1989 to assess the potential impact of expected climate changes on the marine and coastal environment of the West and Central Africa and to recommend policies and measures for mitigation of that impact; the report of the Task Team is near completion.
- (h) additional protocols to the Abidjan convention, dealing with control of pollutants from land-based sources and with control of pollution by dumping of wastes, are planned to be drafted;
- (i) a national contingency plan for maritime emergencies involving pollution is planned to be developed for two additional countries, in co-operation with IMO;
- (j) assistance is planned to be provided, in co-operation with FAO and IMO, to analyze the state of national legislation relevant to the protection of the marine environment.

3.7.5 The early establishment of a Regional Co-ordinating Unit for the Action Plan is seen as an important step towards a more vigorous development of the Action Plan. It is planned to be established in 1991, first in Nairobi as a transitional measure lasting not more than 12 months before it is transferred to its permanent site in Abidjan.

3.8 East Asian Seas Action Plan

3.8.1 The momentum generated in the initial phase of the action plan by the activities of the international and intergovernmental organizations, and by the considerable financial input from the resources of UNEP and of the co-operating agencies, has gradually decreased since the adoption of the Action Plan in 1981 (UNEP, RSRS, 24). The low level of the East Asian Seas Trust Fund, the exclusion of the international and intergovernmental organizations from the implementation of the action plan, the lack of adequate regional character in implemented projects, and the failure of most of the implemented projects to have real impact on the management of environmental problems in the region have been the major elements slowing down the progress in recent years (UNEP, RSRS 86).

3.8.2 Aside from some very successful projects, such as the one dealing with cleaning-up of urban rivers (EAS-18), most of others were considerably behind schedule and some of them failed to meet their objectives and resulted in sub-standard outputs. Although the oil pollution control in the East Asian Seas region seems to be among the most important environmental problems of the region (UNEP, RSRS 96), the efforts failed to combine the results of the numerous projects relevant to that subject into a meaningful and applicable product (UNEP, v and w).

3.8.3 The solutions to the problems were sought through several avenues:

- (a) in order to improve the level of involvement of the scientists and experts from the region in the assessment of the environmental problems of the region and in the implementation of the action plan, the Association of South East Asian Marine Scientists (ASEAMS) was initiated in 1986 with UNEP's support;
- (b) a long-term strategy (1987-1996) for the future development of the action plan was adopted in 1987 by the Sixth Meeting of the Co-ordinating Body on the Seas of East Asia (COBSEA) (UNEP, y) on the basis of a proposal made by UNEP (UNEP, y);
- (c) the reappraisal and revision of the Action Plan was decided in 1989 by the Eighth Meeting of COBSEA (UNEP, aa); and
- (d) a meeting of legal and technical experts was convened in Bangkok, 12-15 February 1990 (UNEP, ab) to explore the possibility of developing an agreement which could serve as the legal framework strengthening the action plan.

3.8.4 ASEAMS proved to be a viable body, playing an increasingly important role in the action plan by identifying and analyzing the environmental problems of the East Asian Seas region, and by assisting UNEP and COBSEA in the technical evaluation of the results obtained through the projects carried out in the framework of the action plan.

3.8.5 The long-term strategy emphasized the need to concentrate on the most important environmental problems requiring solutions through regional co-operation and identified pollution from petroleum hydrocarbons and the disposal of urban, industrial and agricultural wastes as the most imminent threats to the region. The main elements of the strategy were identified as:

- assessment of the land-based sources of pollution and the formulation of possible control measures;
- development and application of suitable environmental impact assessment procedures;
- initiation of a region-wide monitoring system; and
- development of management plans for the protection, rehabilitation and utilization of endangered coastal and marine living resources.

Since the adoption of the long-term strategy, good progress was achieved only in launching the assessment of land-based sources of pollution (EAS-21).

3.8.6 The meeting of legal and technical experts reviewed the drafts of a regional framework convention and of two protocols dealing with dumping and response to maritime emergencies, which may be associated with the convention. The meeting agreed on the amended versions of these drafts and recommended that they should be brought to the attention of the next session of COBSEA for eventual further action.

3.8.7 The reappraisal and revision of the action plan was carried out through consultations between these States, with assistance of high level consultants. The results of these consultations, as summarized in the consultants' report, highlight the views of the States on the past achievements and shortcomings of the action plan, and on the revision of the action plan adopted in 1981, including the revision of the present institutional, financial and management arrangements supporting the action plan. The report has been submitted to ASEAN Working Group on ASEAN Seas and Marine Environment for further action.

3.8.8 The fourth meeting of experts on the East Asian Seas Action Plan was held in Manila (3-6 December 1990) with the following objectives:

- (a) review the environmental problems of the region covered by the Action Plan and to advise the Executive Director on their possible solution or mitigation;
- (b) review the scientific aspects of the activities supported, or planned to be supported, by UNEP through, or as contributions to, the Action Plan;
- (c) discuss ways and means to strengthen the co-operation between the environmental experts of the region and to increase their contribution to the protection of the marine and coastal environment of the East Asian Seas region.

3.8.9 A regional report on the state of the marine environment was completed in co-operation with ASEAMS (RSRS, 126).

3.9 South Pacific Regional Environment Programme

3.9.1 UNEP has supported, since 1978, the development and implementation of the South Pacific Regional Environment Programme (SPREP) as a joint programme with the South Pacific Commission (SPC), the South Pacific Forum (whose secretariat was formerly called the South Pacific Bureau for Economic Co-operation - SPECT) and the Economic and Social Commission for Asia and the Pacific (ESCAP) and as part of the Regional Seas Programme.

3.9.2 The action plan of SPREP (UNEP, RSRS 29) was adopted in 1982, and in 1986 the Convention for the Protection of the Natural Resources and Environment of the South Pacific region, together with protocols dealing with dumping and pollution emergencies (UNEP, ac) was signed as the legal framework of the action plan. The Convention entered into force in 1990 (UNEP, c).

3.9.3 Another convention, the Convention on the Conservation of Nature in the South Pacific (IUCN, a), adopted in 1976 in Apia, also came into force in 1990 and is seen as part of SPREP.

3.9.4 SPREP operates under the overall authority of annual intergovernmental meetings attended by Governments and Administrations participating in the SPREP action plan and in the SPREP Convention. In 1990, the Intergovernmental Meeting decided that the Secretariat of SPREP, while hosted by SPC, should evolve into a fully autonomous body through which the many interested agencies, governments and organizations could co-ordinate and channel their environmental assistance to the region. SPC, the Forum, ESCAP and UNEP retain their advisory role to the programme and the intergovernmental meetings.

3.9.5 The Third Intergovernmental Meeting on the action plan for the South Pacific Regional Environment Programme (SPREP), convened in Noumea, 24-28 September 1990 (SPC, b), reviewed the status of the more than 140 projects submitted for implementation during the 1989-90 biennium. These had been incorporated into the following integrated programme elements: natural resource management; protected area and species conservation; coastal resource management and planning; monitoring and control of marine pollution; land and freshwater pollution prevention; environmental education and training; environmental information; environmental planning and administration; climatic change and sea level rise; pollution emergency response and planning;

and meetings, workshops, and training courses. The meeting also approved the 1991-1992 workplan covering more than 150 projects falling into the above categories and a new element for regional environmental technical assistance. It also endorsed an indicative budget for the biennium of over US\$6 million, and a major increase in the staffing of the SPREP Secretariat. Pledges of support have been received from many agencies and bilateral donors.

3.9.6 UNEP has always supported a wide range of activities through SPREP as part of the Regional Seas Programme. In recent years increasing support for SPREP has come from several other parts of UNEP for environmental education, environmental impact assessment, biological diversity, geographic information systems and environmental legislation. Starting in 1988 OCA/PAC's support is therefore mainly concentrating on:

- (a) pollution assessment (monitoring, research), formulation of pollution control measures, and assistance to the island States and Territories in the implementation of pollution control measures;
- (b) assessment of the impact of expected climatic change on the physical environment, ecosystems and socio-economic structures and activities of the Pacific Island States and Territories, identification of available response options and measures through comprehensive long-term development plans for these island States and Territories, and assistance to the relevant Governments and Administrations in the implementation of the development plans; and
- (c) limited general support to the Secretariat of SPREP and specific support for the implementation of (a) and (b) above.

3.9.7 Taking into account the experience and results of numerous UNEP-supported SPREP projects and activities related to marine pollution assessment and control, a Workshop on Development of a Marine Pollution and Control Programme for the South Pacific region was convened in Sydney, 16-20 January 1989 (SPC, c), to consider the consolidation of ongoing pollution research and monitoring projects of SPREP into a co-ordinated regional monitoring, research and control programme (SPREP-POL). Based on the recommendations of the meeting SPREP-POL is about to be initiated.

3.9.8 Recognizing that the impact of expected climatic changes may in the long-term become the most important environmental problem of the South Pacific islands, in early 1987 a Task Team was established to study the potential impact of these changes. The findings of the Task Team (RSRS, 128) were reviewed by the Intergovernmental Meeting on Climatic Change and Sea-Level Rise in the South Pacific in Majuro, 17-29 July 1989 (SPC, a). The meeting requested UNEP's immediate assistance for development of in-depth studies on the potential impact of expected climatic changes on the natural environment and the socio-economic structures and activities for seven Island States (Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Tokelau, Tuvalu and Western Samoa), including the identification of response options which may be suitable and available to avoid or mitigate the potential negative impact of the expected climatic changes. The preparation of the first studies have been initiated in late 1989. A regional report on the implications of expected climatic changes was finalized by the regional Task Team, and published by UNEP (RSRS, 128).

3.9.9 Driftnet fishing is becoming a serious problem for the South Pacific region and therefore UNEP provided support and co-sponsorship for a meeting organized by the Government of New Zealand and the South Pacific Forum in November 1989 to discuss the establishment of a regime for the management of albacore tuna which would ban driftnet fishing in the South Pacific. The meeting resulted in the adoption of a Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific.

3.9.10 In order to intensify and broaden the support of research and teaching institutions to SPREP and to ensure their full participation in scientific evaluation of the environmental problems, UNEP stimulated the establishment of the Association of South Pacific Environmental Institutions (ASPEI) as an advisory body to UNEP and SPREP. Through periodic consultative meetings of ASPEI member institutions and through their participation in various SPREP projects, ASPEI contributed considerably to the quality of work carried out in the framework of SPREP.

3.9.11 A regional report on the state of the marine environment was completed in co-operation with SPREP (RSRS, 127).

3.10 Red Sea and Gulf of Aden action plan

3.10.1 The progress in the implementation of the Action Plan adopted in 1982 (UNEP, RSRS 91) and the Convention signed in the same year (UNEP, o) was during the last few years rather slow, basically due to lack of funds.

3.10.2 Two programming sessions were held between the Secretariats of UNEP and of the Programme for the Environment of the Red Sea and Gulf of Aden (PERSGA), which technically co-ordinates the action plan (Jeddah, 25-26 June 1987; Nairobi, 25-26 April 1989), during which the following major potential areas of co-operation were identified:

- ecological surveys aiming at development of conservation strategies;
- assessment of the levels and effects of oil pollution; and
- strengthening the pollution research and monitoring capabilities of the region.

3.10.3 The areas identified for co-operation are falling within the overall programme adopted by the meeting of the Interim Council of PERSGA (Aqaba, September 1988).

3.10.4 In the framework of agreed co-operation:

- the development of a project in Yemen and Sudan on strengthening research and monitoring capabilities for marine pollution assessment was initiated in collaboration with IOC;
- a programme for the protection of the marine environment and coastal areas in Yemen is being developed through UNEP's Regional Office for West Asia;
- a regional conference on environment and development is being planned to be held in 1991;
- a regional report on the state of the marine environment is being finalized in co-operation with IOC;
- an inventory of equipment and expertise which may be available to control pollution in cases of maritime emergencies is planned to be prepared in co-operation with IMO; and
- the establishment of a Task Team to examine the potential impact of expected climatic changes on the region covered by PERSGA is envisaged.

3.10.5 As the result of a joint initiative with IMO (IMO, a), in 1987, a project proposal providing for the establishment in Djibouti of a sub-regional centre for stockpile of equipment and material for oil combating was prepared and submitted to various donor agencies and countries for funding. Consequently IMO negotiated a project with NORAD under which funds were secured for the implementation of the project.

3.10.6 The 1989 session of UNEP Governing Council (Decision 15/6) requested UNEP to prepare, in co-operation with IMO, an inventory of available equipment and expertise for combating, surveying and containing pollution, as well as for shore clean-up, in case of pollution by oil and other harmful substances, which could be made available for immediate response in any affected regional sea. The response to this request is sought through the Convention on Oil Pollution Preparedness and Response which is at present being negotiated through IMO's sponsorship.

3.10.7 UNEP co-organized with PERSGA, and with the involvement of IMO, a Meeting of Experts on Combating Marine Pollution in the Red Sea and Gulf of Aden (Alexandria, 22-24 November 1989) which, among other subjects, considered the possibility of establishing regional/subregional arrangements for co-operation in combating marine pollution (PERSGA, a).

3.10.8 Under a Memorandum of Agreement between UNEP and IOC, and in co-operation with PERSGA, the IOC will organize the finalization and follow-up of the project proposals on strengthening marine pollution monitoring capabilities in four countries (Egypt, Jordan, Sudan and Yemen) within the framework of the Red Sea and Gulf of Aden Action Plan, and will provide preparatory assistance to national institutions selected as

participants in these projects. These projects will aim at establishing a marine pollution monitoring network in that part of the region and at strengthening the associated national institutions.

3.10.8 UNEP supported and continues supporting PERSGA as the Red Sea component of the Regional Seas Programme.

3.11 South Asian Seas Action Plan

3.11.1 As a follow-up to the decision of UNEP Governing Council on the development of an action plan for the South Asian Seas region, two intergovernmental meetings [Bangkok, March 1984 (UNEP, ad) and December 1987 (UNEP, ae)] and one expert meeting [Bangkok, December 1986 (UNEP, af)] were convened by UNEP. These meetings

- reviewed the environmental problems of the region;
- reviewed and adopted the draft action plan;
- reviewed the possible legal, institutional and financial framework of the action plan; and
- recommended six priorities to be tackled through the action plan.

3.11.2 Two of the priority actions recommended by these meetings were initiated (SAS-3: Development of a system of protected areas - in co-operation with IUCN; and SAS-5: Development of contingency plans for maritime emergencies - in co-operation with IMO). The SAS-3 project is on-going, however well behind the original time-schedule. The SAS-5 project has been completed.

3.11.3 The third priority programme (SAS-7: Promotion of public awareness for South Asian countries in connection with the South Asian Regional Seas Programme) was launched in November 1990. The project is implemented in co-operation with the South Asian Co-operative Environment Programme (SACEP).

3.11.4 A regional report on the implications of possible climatic changes is being finalized by the experts of the region and in collaboration with IOC. As a special case, an in-depth analysis of the impact on the Maldives was prepared, which will most probably lead to a large scale UNEP-supported project expected to result in a comprehensive national development plan for the Maldives.

3.11.5 A regional report on the state of the marine environment was finalized by the experts of the region in collaboration with IOC, and published by UNEP (RSRS, 123).

3.11.6 The meeting of legal and technical experts [Bangkok, 5-9 February 1990 (UNEP, ag)] considered the proposed action plan for the South Asian Seas region and its legal and institutional framework, but did not achieve a consensus. The third Intergovernmental Meeting is planned to be convened in 1991 to discuss the further development of the proposed action plan.

3.11.7 SACEP is expected to be designated by the South Asian States to become the Secretariat of the action plan and the convention, once they are adopted. UNEP intends to support the action plan, as the South Asian component of the Regional Seas Programme.

3.12 South-West Atlantic

3.12.1 In early 1980, an initiative for the development of an Action Plan for the South-West Atlantic region (Argentina, Brazil and Uruguay) was taken by UNEP on the basis of Decision 8/13(c) of the eighth session of the Governing Council, requesting the inclusion of the South-West Atlantic region in the Regional Seas Programme.

3.12.2 Consultations with the three Governments concerned revealed that for the time being the development of the Action Plan has to be postponed and the representative of Brazil requested at the eleventh session of the Governing Council (1983) that the Action Plan should not be considered as an ongoing activity of UNEP.

3.12.3 The future development of the Action Plan in the framework of the Regional Seas Programme will depend on the eventual renewal of interest of the States to participate in it.

3.13 **North-West Pacific**

3.13.1 Several States have repeatedly expressed interest in the development of an action plan for the North West Pacific which may involve China, Japan, North Korea, South Korea and USSR.

3.13.2 The International Conference on the Sea of Japan (Niigata, 11-14 October 1988), organized by the East-West Center, was supported by UNEP (EWC, a). The Center and UNEP also participated in an International Conference on the Japan and Okhotsk Seas (Nakhodka, USSR, 17-22 September 1989) which strongly recommended the establishment of a regional seas programme in the North-West Pacific. Additional meetings may be supported in co-operation with the Center in order to examine further the environmental problems which may be addressed through the action plan.

3.13.3 Decision 15/1 of the fifteenth session of the Governing Council (1989) approved the development of an action plan for the North-West Pacific as part of the "supplementary programme" for the Regional Seas Programme in the biennium 1990-1991. Subject to the availability of funds, UNEP intends to approach formally the States indicated in paragraph 3.13.1 and explore their interest in initiating the development of an action plan for their region.

3.14 **Black Sea**

3.14.1 The interest in the development of an Action Plan for the Black Sea was explored in 1987 by UNEP through direct approach to the relevant States (Bulgaria, Romania, Turkey and USSR). While some of these States expressed interest in the development of the Action Plan in the framework of the Regional Seas Programme, others preferred the development of a programme for the protection of the Black Sea through direct multilateral agreement between the interested States, without involvement of the UN system.

3.14.2 Decision 15/1 of the fifteenth session of the Governing Council (1989) approved the development of the Action Plan as part of the "supplementary programme" for the Regional Seas Programme in the biennium 1990-1991. As a follow-up to that decision, and to the initiative taken by some Black Sea countries at the 1989 meeting of the IOC Executive Council, UNEP formally approached the four coastal states of the Black Sea in June 1990 with the suggestion to convene a meeting of national experts and focal points which would examine the possible steps towards the development of an action plan for their region. Three of the four countries have responded positively and the reply of the fourth is awaited. Assuming rapid consensus among the countries of the region, and subject to the availability of funds, work on the development of the Action Plan should begin in 1991.

3.14.3 As a contribution to the eventual development of the action plan, in co-operation with FAO and with the involvement of experts from the countries bordering the Black Sea, an overview on the state of the marine environment was prepared and published in 1990 (UNEP, RSRS 124).

3.14.4 The establishment of a Task Team to assess the implications of expected climatic changes on the coastal and marine environment of the Black Sea is in progress.

4. GLOBAL ASSESSMENT OF THE STATE OF THE MARINE ENVIRONMENT

4.0.1 The 1972 Stockholm Conference defined Earthwatch (the global environmental assessment programme) as one of the three basic components of the Action Plan for the Human Environment. The Governing Council of UNEP subsequently defined Earthwatch as a "dynamic process of integrated environmental assessment by which relevant environmental issues are identified and necessary data are gathered and evaluated to provide a basis of information and understanding for effective environmental management". The Global Environmental Monitoring System (GEMS) is one of the four components of Earthwatch and the "assessment of the state of ocean pollution and its impact on marine ecosystems" was adopted as GEMS' task by the Governing Council of UNEP. The implementation of GEMS is seen by UNEP as a joint undertaking of the relevant United Nations bodies with UNEP serving as focal point for its co-ordination.

4.0.2 Following the recommendations of the Stockholm Conference, and in particular the numerous decisions of the UNEP Governing Council, the monitoring and assessment of the quality of the marine environment has been organized. It is co-ordinated, on the level of UNEP, by the Oceans and Coastal Areas Programme Activity Centre in co-operation with a number of co-operating agencies and supporting organizations, and is carried out with active participation of a large number of national institutions, scientists and technicians.

4.1 Integrated global ocean monitoring

4.1.1 In the past, several attempts (through GESAMP and other mechanisms) to develop a framework for integrated global ocean monitoring system were unsuccessful due to logistical, methodological and financial problems.

4.2.1 However, since the first international symposium on "Integrated Global Ocean Monitoring" (IGOM-I), Tallin, USSR, 2-10 October 1983, there has been a renewed interest in convening a second IGOM Symposium. The Soviet Union has offered to host the Symposium. UNEP, IOC, WMO and IAEA have agreed to co-sponsor the Symposium (IGOM-II).

4.1.3 The IGOM-II Symposium is planned to take place in Leningrad, 15-20 April 1991. The main objectives of the symposium are:

- to review the knowledge learned over the last decade regarding threats to the marine environment in connection with increasing anthropogenic stress;
- to analyze the changes in the perceptions about the marine environment and its predictions;
- to present and discuss successes, failures and experiences gained in the field of international, regional and large-scale national monitoring programmes;
- to identify previous or existing marine environmental monitoring programmes which has proven to be effective and could be used to provide guidance for the design of future monitoring programmes;
- to advise on the elements for an integrated global ocean monitoring programmes;
- to recommend the most appropriate mechanism or mechanisms and structures needed to implement and co-ordinate the implementation of such an integrated global ocean monitoring programme in 1990's and beyond, and examine whether any of the existing mechanisms can meet these requirements.

4.1.4 An international Organizing Committee has been established for IGOM-II, and convened its first meeting in Moscow on 15 October 1990, where the provisional programme of the Symposium was prepared.

4.1.5 In the meantime, OCA/PAC prepared a comprehensive "Review of Global, Regional and Large-Scale National Marine Monitoring Programmes", which is now available in a draft form. The review is largely based

on submissions from organizations, institutions and other bodies co-sponsoring or implementing these programmes. It provides information on past, ongoing and planned marine environment monitoring programmes, which might be helpful in launching or development of any co-ordinated monitoring activities.

4.2 "Mussel watch"

4.2.1 Programmes based on monitoring of contaminants in biological matrices have been successfully tested on national and regional levels and appear at present as the only type of monitoring which may be applied meaningfully on a global scale. Several marine organisms, especially bivalves, have been found useful as indicators and integrators of certain marine contaminants because of their ability to bioconcentrate most pollutants, their worldwide distribution and abundance, and their sedentary (stationary) lifestyle.

4.2.2 Taking into account the advantages offered by the marine bivalves, in co-operation with IOC, the "International Mussel Watch" experiment was launched in 1987, with initial goal to assess on a global scale the levels of chlorinated pesticides and PCBs in oceans, using bivalves as sentinel organisms. The specific task in the present phase of the experiment is to generate data allowing for assessment of the increased level of these contaminants in the coastal tropical and southern hemispheric marine environment.

4.2.3 The preparatory phase of the "International Mussel Watch" (development of suitable methods for sampling and sample preservation, analytical procedures, quality control of data, data management, etc.) for monitoring the shift in levels of chlorinated hydrocarbons in sentinel marine organisms due to changing agricultural and public health practices was successfully accomplished.

4.2.4 The operational phase of the programme is envisaged to start soon. The network of laboratories participating in the Regional Seas Programme and in GIPME are planned to be the institutional backbone of the "Mussel Watch".

4.2.5 A Memorandum of Agreement has been signed between UNEP and IOC, according to which IOC will co-ordinate the implementation of the first operational phase of the "Global Sentinel Organisms Monitoring System - Mussel Watch" during 1990-1992.

4.2.6 It is envisaged that, depending on the results of the first phase, the programme may be broadened to monitoring other contaminants for which bivalves are suitable indicators.

4.3 Global Investigation of Pollution in the Marine Environment (GIPME)

4.3.1 The programme of GIPME, originated in 1974, gradually evolved into one of the IOC's major programmes. Throughout the years, there have been numerous contacts and co-operative ventures between GIPME and the marine pollution monitoring and research components of the Regional Seas Programme.

4.3.2 At present UNEP is co-sponsor of three expert groups developed in the framework of GIPME:

- Group of Experts on Methods, Standards and Intercalibration (GEMSI);
- Group of Experts on Effects of Pollutants (GEEP), co-sponsored also by IMO; and
- Group of Experts on Standards and Reference Materials (GESREM), co-sponsored also by IAEA.

4.3.3 All three expert groups play an active and important role for the Regional Seas Programme in development and testing of reference methods, in preparation of reference materials, in quality control of the monitoring data, in organization of intercalibration exercises, as well as in training associated with the application of reference methods (see section 4.5 of this document).

4.3.4 During the last few years, the Governing Council of UNEP and the IOC Assembly repeatedly suggested to formalize these contacts by turning GIPME into a joint IOC/UNEP programme and to offer GIPME as a contribution to GEMS/Earthwatch system.

4.3.5 The negotiations between the Secretariats of IOC and UNEP(OCA/PAC) on the modalities of co-operation in the framework of GIPME resulted in a joint proposal which was considered by the twenty-third Session of the IOC Executive Council (Paris, 7-14 March 1990). On the basis of that proposal, Resolution EC-XXIII.2 was adopted by the Council, calling for the establishment of a joint IOC-UNEP Intergovernmental Panel for GIPME. Similar decision is expected to be adopted by the sixteenth Session of UNEP's Governing Council.

4.3.6 The joint IOC-UNEP sponsorship of GIPME will ensure the maximum co-ordination of the marine pollution programmes of IOC and UNEP and the rational utilization of resources for an accelerated implementation of the marine pollution related programmes of the two Organizations. A good example of this co-ordination is the recent launching of joint UNEP/IOC programme to assess and control marine pollution in the region covered by the Regional Seas Action Plan for the Wider Caribbean (CEPPOL).

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4.4 Monitoring of climate related changes

4.4.1 In view of the recognized need for a comprehensive and well co-ordinated long-term global monitoring programme to observe the changes in phenomena related or which may be related to climate changes, IOC, WMO and UNEP expressed interest in launching such a programme, which would take into account and full advantage of ongoing international, regional and national programmes in this area such as the World Ocean Circulation Experiment (WOCE), Tropical Oceans and Global Atmosphere (TOGA), Global Ocean Flux Study (GOFS), Integrated Global Ocean Service System (IGOSS), Global Sea Level Observing System (GLOSS), etc.

4.4.2 It was agreed that the IOC acts as the co-ordinator of the joint programme, and UNEP agreed to provide adequate funds for the preparatory work leading to the formulation and adoption of the programme.

4.4.3 In co-operation between IOC, WMO and UNEP, a draft proposal "Masterplan" for a "Long-Term Global Monitoring System of Coastal and Near-Shore Phenomena related to Global Climate Changes" was developed. The proposed monitoring system includes near-shore observations of physical and biological parameters, and is expected to provide data on global changes with special reference to those associated with or attributable to the impacts of possible climatic changes.

4.4.4 The draft proposal will be reviewed and finalized at an expert group meeting to be held in Paris, 10-14 December 1990.

4.5 Regional Seas monitoring programmes

4.5.1 Each of the action plans adopted in the framework of the Regional Seas Programme (see section 3 of this document) has an environmental assessment programme. These programmes reflect the problems and priorities as perceived by the experts and States participating in the individual action plans and are designed:

- to analyze the sources, amounts, pathways, levels, trends and effects of marine pollutants;
- to build up consistent time-series of data relevant to the assessment of the state of the marine environment; and
- to provide the scientific/technical information needed for the formulation, adoption and implementation of pollution control measures.

4.5.2 The regional monitoring programmes are carried out by closely co-ordinated networks of national institutions and experts of the States participating in the relevant action plans. At present about 250 national institutions and more than 1000 experts actively participate in the monitoring programmes of the ten action plans of the Regional Seas Programme. The full and meaningful participation of institutions and experts from developing countries is facilitated by intensive training of local personnel and considerable technical assistance (equipment, material, etc.) provided to the institutions participating in the programme.

4.5.3 The overall general co-ordination of the Regional Seas monitoring programme is provided by the Oceans and Coastal Areas Programme Activity Centre although the co-ordination of its implementation on a day-to-day basis is ensured by the specialized agencies of the UN system or other bodies.

4.5.4 In order to ensure the global comparability of data generated through the regional monitoring programmes in different geographic areas by a large number of scientists and technicians, the monitoring is based on common methodology which is mandatory for all participants. It consists of:

- Use of "reference methods". In co-operation with IOC, FAO, WHO, WMO and under the technical co-ordination of IAEA Monaco Laboratory a set of more than 50 Reference Methods for Marine Pollution Studies was developed. The methods are prepared either as guidelines on subjects such as design of monitoring and sampling strategies, or as precise description of procedures to be used in sampling, sample treatment and analysis, and data processing.
- Use of "reference materials". In order to ensure the proper use of Reference Methods and to provide a reliable ground for intercalibration exercises and quality control of data, "reference materials" (i.e. standards, certified reference materials, intercomparison samples and research materials) have been prepared and made available to the users of Reference Methods.
- Intercalibration exercises and quality control of data. The participants in the monitoring programmes are frequently attending workshops where sampling and analytical techniques are tested and compared by "hands-on" approach. The institutions generating the data are responsible for the initial quality control of data. Further control is exercised by intercalibration centres (such as the IAEA Monaco Laboratory) and by data repository centres (see next paragraph).

4.5.5 No attempt was made by UNEP to develop a central data bank for data generated through UNEP-sponsored marine programmes. Data collection, their verification (quality control) and storage were entrusted to organizational units and bodies co-ordinating the pollution research and monitoring programmes carried out in the framework of the Regional Seas Programme. In preparing the various analyses, reviews and assessments the data of these units and bodies was primarily used, supplemented by data from data banks operated by other international or national organizations.

4.5.6 On the basis of research and monitoring carried out in the framework of the Regional Seas Programme, and taking into account data available from other sources, a large number of region-, site-, and contaminant-specific assessments were prepared in close co-operation with specialized UN and non-UN organizations. The latest set of the region-specific assessments, covering also geographic areas not included in the Regional Seas Programme, were prepared by regional Task Teams of scientists under OCA/PAC's overall co-ordination.

4.5.7 The regional reports on the state of the marine environment were all structures following the structure of the second global report on the state of the marine environment prepared by GESAMP and published by UNEP (UNEP, RSRS No. 115) and were an important source of information used in the global report. Eight such regional reports have been published as UNEP Regional Seas Reports and Studies (UNEP, RSRS No. 108, 112, 113, 123, 124, 126, 127, 129, 132).

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4.6 GESAMP

4.6.1 A leading role in the assessment of global marine pollution problems involving the interest of the United Nations system is played by GESAMP, the IMO/FAO/Unesco/WMO/WHO/IAEA/United Nations/UNEP sponsored Joint Group of Experts on the Scientific Aspects of Marine Pollution. Established in 1969, it serves:

- to provide advice relating to the scientific aspects of marine pollution to its sponsors, to IOC, to other organizations of the United Nations system and to the States Members of the United Nations; and
- to prepare periodic reviews of the state of the marine environment as regards marine pollution and to identify problem areas requiring special attention.

4.6.2 During its existence a large number of reports have been prepared by GESAMP on a variety of topics such as hazard evaluation of harmful substances carried by ships, problems associated with coastal area development, oil in the marine environment, biological monitoring, criteria and models for selection of waste disposal sites, interchange of pollutants between the atmosphere and the sea, principles for developing coastal water quality criteria, pollution from exploration and exploitation of the sea-bed, implications of energy development from oceans, review of potentially harmful substances, impact of thermal discharges into the ocean, assessment of waste receiving capacity of the oceans, land-sea boundary flux of contaminants, long-term consequences of low-level marine contamination, etc.

4.6.3 The first global report on the state of the marine environment ("Health of the oceans") was prepared under the auspices of GESAMP and was completed in late 1981. The second global report on the same subject was issued in January 1990. This report has been widely accepted as the authoritative reference on the subject.

4.6.4 Many of the GESAMP's reports are of high direct relevance to UNEP-sponsored regional seas conventions, in particular to protocols on control of land-based sources of pollution. They have been prepared either on direct request of the contracting parties or on UNEP's request as background documents necessary for the meetings of the contracting parties.

4.6.5 The work of GESAMP in the forthcoming period will be concentrating on the evaluation of the hazards of harmful substances carried by ships, hazard assessment of selected potentially harmful substances (carcinogens, mutagens, teratogens, organochlorine compounds, used lubricating oils, oil spill dispersants), impacts of anthropogenically mobilized sediments, environmental impacts of coastal aquaculture, development of a comprehensive framework for the assessment and regulation of waste disposal into the oceans, and global change and the sea/air exchange of chemicals. In addition, a concise statement on the state of the marine environment is planned to be issued annually by GESAMP.

4.6.6 The work of the GESAMP is accomplished through working groups with participation of a large number of experts selected by the organizations sponsoring GESAMP. Until now more than 750 experts participated in the work of GESAMP's thirty-two working groups. The co-ordination of GESAMP is provided by a joint secretariat of the sponsoring organizations. UNEP is sponsoring all of the presently active nine GESAMP working groups and sub-groups.

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4.7 Environmental impact assessment

4.7.1 Within several of the Regional Seas action plans requests have been made to UNEP to develop methodological technical guidelines and principles for environmental impact assessment (EIA) which may be suitable for application in the context of these action plans.

4.7.2 Experience, accumulated since 1977, revealed that the sophisticated, time-consuming and expensive procedures used in the States with well developed economies and which had at their disposal data and expertise needed for such procedures, are not suitable for most of the developing countries which constitute the predominant constituency of the Regional Seas Programme. Therefore, in co-operation with the Priority Actions Programme Regional Activity Centre and the Co-ordinating Unit of the Mediterranean Action Plan a simplified approach to EIA was formulated (UNEP, RSRS 122).

4.7.3 The approach is neither totally new nor comprehensive: it is limited to a narrowly defined practical and easily applicable methodology which could be used to assess or predict the environmental consequences of projects or activities proposed for a given site. Since the approach utilizes analogies it is not applicable to projects that are unique in size or scope. It does not cover some equally important considerations related to planning of sustainable development, such as environmental accounting, cost-benefit analysis of environmental protection measures, comparative analysis of available alternatives, risk assessment and management, physical planning, etc. These considerations have been left aside on purpose, not because their importance is not recognized, but because their mandatory association with the approach to the environmental impact assessment recommended in the context of the Regional Seas Programme may distract from the central goal: prediction of the environmental consequences of a planned activity, based on

- simple and easily understandable goals and principles;
- methodology which can be essentially handled by national expertise available in most developing countries;
- information either already available or deducible from analogous situations; and on
- public participation.

4.7.4 The advocated approach has developed gradually and was tested on concrete case studies organized by the Priority Actions Programme Regional Activity Centre and the Co-ordinating Unit of the Mediterranean Action Plan, in co-operation with the relevant national authorities in Cyprus and Egypt. It will be tested on further case studies in the Mediterranean, South-East Pacific, Caribbean and African regions, and will be revised on the basis of experience gained through these additional case studies.

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5. CLIMATE IMPACT STUDIES

5.1 The environmental problems associated with the potential impact of expected climate changes may prove to be among the major environmental problems facing the marine environment and adjacent coastal areas in the near future. Therefore, the Oceans and Coastal Areas Programme Activity Centre (OCA/PAC) of UNEP launched, co-ordinated and financially supported a number of activities designed to assess the potential impact of climate changes and to assist Governments in the identification and implementation of suitable policy options and response measures which may mitigate the negative consequences of the impact.

Regional approach

5.2 Since 1987 to date, Task Teams on Implications of Climate Change have been established for nine regions covered by the UNEP Regional Seas Programme (Mediterranean, Wider Caribbean, South Pacific, East Asian Seas, South Asian Seas, South-East Pacific, West and Central Africa, Eastern Africa, and the Kuwait Action Plan Regions) with the initial objective to prepare regional overviews and case studies on the possible impact of expected climate changes on the coastal and marine ecological systems, as well as on the socio-economic structures and activities of their respective region. The establishment of task teams for the Black Sea and for the Red Sea regions is under consideration.

5.3 The Task Teams are established and work under the overall co-ordination and guidance of the Oceans and Coastal Areas Programme Activity Centre of UNEP. Several Task Teams enjoy the support of IOC and other international organizations and non-governmental organizations. Each Task Team operates under the direct guidance and supervision of a Task Team Co-ordinator appointed by the Oceans and Coastal Areas Programme Activity Centre. The members of the Task Teams are appointed by the Oceans and Coastal Areas Programme Activity Centre on the recommendation of the Task Team Co-ordinators. In selection of the Task Team members the need for adequate geographic representation and for expertise relevant to the work of the Task Teams is taken into account. UNEP's financial support to the Task Teams is provided through the Oceans and Coastal Areas Programme Activity Centre.

5.4 The long-term objectives of the Task Teams are:

- to assess the potential impact of climatic changes on the coastal and marine environment as well as on socio-economic structures and activities; and
- to assist Governments in the identification and implementation of suitable policy options and response measures which may mitigate the negative consequences of the impact.

5.5 The short-term objectives of the Task Teams are:

- to analyze the possible impact of expected climatic changes on the coastal and marine ecological system, as well as on the socio-economic structures and activities; and
- to prepare overviews and selected case studies relevant to specific regions.

5.6 The subjects intended to be analyzed and described in the regional overviews include:

- the possible effects of the sea level changes on the coastal ecosystems (deltas, estuaries, wetlands, coastal plains, coral reefs, mangroves, lagoons, etc.);
- the possible effects of temperature elevations on the terrestrial and aquatic ecosystems, including the possible effects on economically important species;
- the possible effects of climatic, physiographic and ecological changes on the socio-economic structures and activities; and
- areas or systems which appear to be most vulnerable to the expected impact.

5.7 The overviews are expected to be based on:

- the best available existing knowledge and insight into the problems relevant to the subject of the overview;
- assumptions accepted at the UNEP/ICSU/WMO International Conference in Villach, 9-15 October 1985, i.e. increased temperature of 1.5-4.5° C and sea level rise of 20-140 cm before the end of the 21st century (for the purpose of these overviews temperature elevation of 1.5° C and sea level rise of 20 cm by the year 2025 were accepted, with the understanding that these estimates may have to be revised on the basis of new scientific evidence); and
- several detailed site-specific or subject-specific case studies, which would constitute the substantive annexes of the overviews.

5.8 The overviews are intended to cover the marine environment and adjacent coastal areas influenced by or influencing the marine environment of the following regions:

- (a) **Mediterranean Task Team:** 18 States covered by the Mediterranean Action Plan of UNEP's Regional Seas Programme (Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Spain, Syria, Tunisia, Turkey and Yugoslavia).
- (b) **Caribbean Task Team:** 25 States covered by the Caribbean Action Plan of UNEP's Regional Seas Programme (Antigua and Barbuda, Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, St. Christopher and Nevis, St. Lucia, St. Vincent and Grenadines, Suriname, Trinidad and Tobago, United States of America and Venezuela) and the Caribbean territories of France, Netherlands and the United Kingdom.
- (c) **South-East Pacific Task Team:** 5 States covered by the South East Pacific Action Plan of UNEP's Regional Seas Programme (Chile, Colombia, Ecuador, Panama and Peru).
- (d) **South Pacific Task Team:** 14 Island States covered by the South Pacific Action Plan of UNEP's Regional Seas Programme (Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu and Western Samoa) and the South Pacific territories of France, New Zealand, United Kingdom and the United States of America.
- (e) **East Asian Seas Task Team:** 5 States covered by the East Asian Seas Action Plan of UNEP's Regional Seas Programme (Indonesia, Malaysia, Philippines, Singapore and Thailand).
- (f) **South Asian Seas Task Team:** 5 States negotiating the South Asian Seas Action plan of UNEP's Regional Seas Programme (Bangladesh, India, Maldives, Pakistan and Sri Lanka).
- (g) **West and Central African Task Team:** 21 States covered by the West and Central African Action Plan of UNEP's Regional Seas Programme (Angola, Benin, Cameroon, Cape-Verde, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Namibia, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Togo and Zaire).
- (h) **Eastern African Task Team:** 8 States covered by the Eastern African Action Plan of UNEP's Regional Seas Programme (Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia and United Republic of Tanzania) and the Eastern African territories of France.
- (i) **Kuwait Action Plan Task Team:** 8 States covered by the Kuwait Action Plan of UNEP's Regional Seas Programme (Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates).
- (j) **Black Sea Task Team:** 4 States which may participate in the Black Sea Action Plan of UNEP's Regional Seas Programme (Bulgaria, Romania, Turkey and USSR).
- (k) **Red Sea Task Team:** 7 States covered by the Red Sea and Gulf of Aden Action Plan (Egypt, Jordan, Palestine, Saudi Arabia, Somalia, Sudan and Yemen).

5.9 The regional overviews and case studies are being presented to the intergovernmental meetings convened in the framework of the relevant Regional Seas Action Plans in order to draw the countries' attention to the problems associated with expected climate change and to prompt their involvement in the development of policy options and response measures suitable for their region and countries. The site-specific case studies are planned to be presented to national seminars in the interested countries.

5.10 The regional overviews prepared by the Mediterranean and South Pacific Task Teams are completed and published (UNEP, RSRS 103; RSRS, 128). The overviews of the Caribbean, West and Central African and Eastern African Task Teams are at an advanced draft stage and are expected to be completed and published early 1991. The Mediterranean, South Pacific, Caribbean and East Asian Seas overviews or their drafts have been already considered by intergovernmental meetings convened under the relevant Regional Seas action plans.

5.11 A special intergovernmental meeting was convened in Majuro, Marshall Islands, 17-20 July 1989 (SPC, a) for the island States and territories of the South Pacific to consider their policy options, suitable response measures and additional site-specific case studies to be developed (See paragraph 3.9.8 of this document).

5.12 A detailed case study on the Maldives was prepared with assistance of the South Pacific and the Mediterranean Task Teams (UNEP, RSRS 104) and will probably lead to a large-scale country project (See paragraph 3.11.4 of this document).

5.13 Several site-specific case studies were prepared by the Mediterranean Task Team. Those for the deltas of Nile (UNEP, p), Po (UNEP, q) and Ebro (UNEP, r) were presented at national seminars organized in 1988 and 1989. The organization of seminars for presentation of studies on Thermaikos Gulf (UNEP, s), Lake Ichkeul (UNEP, t) and delta of Rhone (UNEP, u) is in progress. The study of the impact of climate changes on Rhodes has been initiated, and studies for other Mediterranean islands are planned. The analysis of the climate impact is included in the coastal zone management pilot projects carried out in the framework of the Mediterranean Action Plan in Syria, Turkey and Yugoslavia. The preliminary assessment of the potential impact of the climate change on the construction of a coastal road in Egypt has been completed.

5.14 The development of climate scenarios for the Mediterranean region is in progress, in co-operation with the Climate Research Unit of the University of East Anglia. The scenarios are being completed in 1990 and are planned to be used in connection with the revision of the Mediterranean regional study.

5.15 On request of Bangladesh, a study including scenarios, options and costs of response by Bangladesh to the potential climate change is planned to be prepared as a special case study of the South Asian Seas Task Team.

5.16 Once the initial objective of the Task Teams (impact studies) is achieved, they concentrate on providing assistance to national authorities in defining and implementing specific policy options and suitable response measures.

Global approach

5.17 On a global scale:

- (a) a review on the interaction of the oceans and greenhouse gases and atmospheric aerosols was completed and published in 1988 (UNEP, RSRS 94);
- (b) a bibliography on effects of climate change and related topics was prepared by the Mediterranean Task Team (MAP, 29); and
- (c) preparations have been made for the establishment of two Task Teams to assess the potential impact of climate changes on coral reefs and mangroves.

5.18 Recognizing the lack of a comprehensive programme for monitoring of climate related changes relevant to the marine and coastal environment, UNEP jointly with IOC and WMO undertook the development

of a programme for a long-term global monitoring system for coastal and near-shore zone observations, including physical and biological parameters and providing data on global changes with special reference to those associated or attributable to the impacts of expected climate changes. The draft of the programme, which is planned to be reviewed at an expert group meeting (Paris, 10-14 December 1990) is expected to:

- (a) analyze the existing and planned observation networks in the framework of programmes such as Earthwatch, GEMS, WWW, GIPME, IGOS, GLOSS, TOGA, WOCE, JGOFS, IGBP, Man and Biosphere, and others, and identify their components and activities which may be relevant to the draft proposal;
- (b) identify parameters or phenomena which may be included into the long-term monitoring system, taking into account that the system should benefit from existing or planned programmes referred to above, without duplicating the activities carried out under these programmes. In selection of parameters and phenomena the need for reliable long-term observations which may be used in conjunction with models or associated with satellite observations and long-term historic records should be of paramount importance;
- (c) assess the state of art for the techniques and methods which may be used in connection with the parameters and phenomena identified as suitable for the monitoring system;
- (d) identify the desirable data quality control procedures and data management needs of the monitoring system, with indication of possible data repository system(s);
- (e) identify sites which may be suitable for monitoring of proposed parameters and phenomena, as well as the basic elements of the monitoring strategy (frequency, intensity, etc.); and
- (f) indicate the time schedule for the implementation of the monitoring system, possibly in a step-wise manner, taking into account existing techniques, priority needs and global distribution of observations and required infrastructure.

5.19 The participation of developing countries in the work of the WMO/UNEP Intergovernmental Panel on Climate Change (IPCC) is essential and therefore the Oceans and Coastal Areas Programme Activity Centre sponsored the participation of 19 scientists, experts, managers and decision-makers from these countries in two workshops on adaptive options and policy implications of sea level rise and other coastal impacts of global climate change (Miami, 27 November - 1 December 1989; Perth, 18-23 February 1990), organized in the framework of IPCC.

5.20 A joint meeting of the co-ordinators of the regional Task Teams on Implications of Climate Change was convened in Singapore (12-16 November 1990), with the main objectives being to assess the main findings of the Task Teams and to prepare a joint statement; to review the Task Teams' experience in bringing their findings to the attention of the relevant national authorities and international bodies; and to discuss the future work which may be undertaken by the Task Teams.

5.21 In order to increase public awareness about the potential consequences of the expected climate changes popular booklets have been prepared (ASPEI; UNEP, n) and distributed in thousands of copies to the general public and schools.

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6. PROTECTION AND MANAGEMENT OF MARINE LIVING RESOURCES

6.0 The biological component of the seas is still relatively poorly understood and thus difficult to protect and manage. However the rapid development of new technologies ranging from remote sensing to the molecular live is creating new practical possibilities for the assessment, monitoring and management of living marine resources.

6.1 Recognizing the wider role and mandate of FAO, UNEP has in the past restricted its activities in this area to:

- protection of species and specially protected areas in the context of the regional seas programmes;
- groups of organisms or ecosystems which are commercially not exploited by fisheries operations, such as coral reefs; and
- marine mammals in general.

6.2 However, with the growing concern about the broader environmental impacts of fisheries activities such as aquaculture and driftnet fishing and the need to consider living marine resources in integrated coastal zone management, there is increasing collaboration with FAO on subjects of common interest.

6.3 UNEP is expecting to join with IOC and FAO in supporting the activities of the Ocean Science and Living Resources (OSLR) programme. It is necessary to review the theoretical and practical problems behind biological monitoring in the seas, and to identify parameters that can give some measure of what is happening to marine living resources, particularly in coastal areas, as human impacts increase. This should lead to the initiation of pilot global and regional monitoring programmes and databases or critical coastal habitats and resources, such as coral reefs and mangroves. An expert meeting on coral reef assessment and monitoring is planned for 1991 to develop an international consensus on standard methods.

6.4 A global survey of coral reefs was prepared in co-operation with IUCN, and a number of national surveys were sponsored aiming at development of measures for protection of corals and coral reefs from destruction.

6.5 There is evidence of effects of human activities on large-scale marine ecosystems that could have a significant effect on commercial fisheries and on other cases of coastal areas and semi-enclosed seas. Such problems can only be addressed on a regional basis, and the management of such large marine ecosystems may need to be considered in the framework of the regional seas programmes. The capacity of developing countries in particular to deal with such problems must be strengthened.

6.6 Most of UNEP's efforts related to the protection of marine living resources have concentrated on the Global Plan of Action for the Conservation, Management and Utilization of Marine Mammals (MMAP). The Plan was developed between 1978 and 1983 jointly by UNEP and FAO, in collaboration with other inter-governmental and non-governmental bodies concerned with marine mammal issues, particularly the International Whaling Commission (IWC) and the World Conservation Union (IUCN). In October 1983, the FAO Committee on Fisheries (COFI) endorsed the principles of the plan, and in May 1984 the UNEP Governing Council followed suit. The IWC endorsed the cetacean component of the Plan at its annual meeting in June 1984 and in November of that year the General Assembly of the IUCN endorsed the promotion of the Plan as a matter of high priority. This series of formal endorsements officially launched the implementation of the plan.

6.7 The basic objective of the Plan is to promote the effective implementation of a policy for conservation, management and utilization of marine mammals which would be widely acceptable to governments and the public. The Plan is built around five concentration areas, namely policy formulation, regulatory and protective measures, improvement of scientific knowledge, improvement of law and its application and enhancement of public understanding. Thirty-eight priority actions were recommended as necessary to implement the Plan under these areas. An Annex contained a brief description of over one hundred projects that were designed to take action to the practical level.

- 6.8 The Plan is intended to stimulate, guide, assist and, where necessary, co-ordinate activities of existing organizations giving emphasis to international actions, while recognizing the importance of national actions.
- 6.9 Several projects were sponsored by UNEP, some of them in co-operation with IUCN, in addition to activities by organizations such as FAO, IWC and WWF which can be considered as being carried out within the general framework of the Plan. An action plan for the protection of the Mediterranean monk seal was formulated (Athens, January 1988) and later endorsed by the Contracting Parties to the Barcelona Convention.
- 6.10 However, as it was felt that the Plan was not making the anticipated progress, an in-depth evaluation to assess the achievements and shortcomings of the implementation of the plan, and to make recommendations on its future orientation, was carried out by UNEP in 1988. The evaluation found that progress in implementing the Action Plan had not been satisfactory: there had been a limited adherence to it and many of the recommendations had yet to be carried out or had been only tackled in a partial manner.
- 6.11 In order to revitalize the Action Plan, the principal organizations concerned with marine mammals were invited to join in a Planning and Co-ordinating Committee (PCC) as envisaged in the Action Plan, and the first meeting of the Committee was held in late 1988. The future orientation for the Action Plan, as endorsed by the meeting of PCC, is reflected below. UNEP agreed to provide a full-time Secretary to the Action Plan, and to support the main recommendations of the PCC.
- 6.12 The principles and strategy that should guide the future orientation of the Action Plan are:
- (a) identification of attainable goals and aggressive pursuit of their achievement;
 - (b) concentration on critical elements in conservation and management of marine mammals requiring urgent attention and on issues requiring international co-operation;
 - (c) enlisting of active support from a broad spectrum of participants: international, intergovernmental, non-governmental, regional and national institutions and organizations (including Government structures and research establishments), individual scientists, and the public at large;
 - (d) increasing, by skillful publicity campaigns, the public awareness about the problems of marine mammals and using it as pressure for acting on Governments; and
 - (e) improvement of existing institutional and financial arrangements needed for effective co-ordination and implementation of the Action Plan.
- 6.13 Following that meeting and based on the recommendations of the PCC, UNEP initiated activities to strengthen the MMAP Secretariat and to revitalize the Action Plan so that in future it better served the purpose for which it was originally intended. On 1 February 1989, responding to the recommendation of the PCC, the Executive Director of UNEP assigned the Secretary of the MMAP full time responsibility for the Action Plan. Unfortunately, the MMAP Secretary resigned in May 1989 and the post has remained vacant since, despite extensive efforts to fill it. Consequently, through 1990 the duties of Secretary of the MMAP have been undertaken on a half-time basis by an OCA/PAC Programme Officer. There is little question that the absence of a full-time Secretary during 1989-1990 has hampered progress in implementing many aspects of the MMAP.
- 6.14 In January 1990 the Second Meeting of the PCC was convened in Geneva. At that meeting the view was expressed that the Action Plan was too cumbersome and in need of reexamination leading to extensive revision. However, the meeting felt that the first priority was the effective implementation of priority activities under the Action Plan. Consequently it was decided to delay the review meeting and to reconsider the requirements for and timing of, the meeting at the third PCC meeting to be held at Greenpeace International Headquarters, Amsterdam, 14-17 January 1991.
- 6.15 The Second PCC meeting approved a draft Memorandum of Understanding (MOU) formalizing participation in the PCC and this was subsequently circulated for signature to members.
- 6.16 The same PCC meeting agreed on the convening of the first meeting of the SAC. The principal task of the SAC is to provide scientific advice on matters referred to it by the PCC or the Secretariat, on the status

of marine mammals, the state of scientific knowledge related to the MMAP, major gaps in this knowledge, and actions needed to improve it in areas critical for attainment of the goals of the MMAP.

6.17 In 1990, UNEP was identified as one of the lead agencies together with the United Nations Office for Ocean Affairs and the Law of the Sea (OALOS), to implement the United Nations General Assembly resolution GA 44/225 on Large-scale pelagic driftnet fishing and its impacts on the living marine resources of the world's oceans and seas. In response to this resolution and within the framework of the MMAP, UNEP has undertaken the following activities:

- (a) UNEP co-funded with FAO the preparation of the joint FAO/UNEP report on the global extent and probable impacts of driftnets on non-target species;
- (b) UNEP provided major support for the IWC Conference on the Mortality of Cetaceans in Passive Fishing Nets and Traps (La Jolla, California, 20-23 October 1990). The meeting brought together leading experts from all over the world for an up-to-date review of this problem;
- (c) In co-operation with FAO, and OALOS, UNEP supported a workshop on international legal arrangements for the management and conservation of high seas living resources and ecosystems in conjunction with the Large-scale marine ecosystems conference (Monaco, 1-6 October 1990). The meeting examined the need for improved legal arrangements for controlling driftnets and other threats to high seas living resources; and
- (d) UNEP is planning to co-operate with FAO in the preparation of identification sheets (in FAO standard format) of those marine mammal species most frequently fished or taken as incidental catch in fisheries.

6.18 As recommended by the second PCC meeting, an *Ad Hoc* Working Group on International Legal Arrangements for Marine Mammals was convened in co-operation with CMS, IFAW, Greenpeace, FAO and UNEP in Bonn 15-16 October 1990. The primary task of the meeting was to address the question of whether new international legislation should be developed, and if so, the nature of that legislation. The report of the meeting will be submitted to the third PCC meeting.

6.19 Management plans are presently being developed for the manatee in the Caribbean under the supervision and co-ordination of CAR/RCU. The project is expected to be completed in December 1991. Work is also going ahead on the development of a regional action plan for marine mammals in the South-East Pacific.

6.20 A number of technical reports have been published or are in press during 1991 under the new Marine Mammals Technical Report Series.

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ICES/IOC/UNEP: Review of contaminants in marine mammals. Marine Mammal Technical Report No.3. (in press)

7. INTER-REGIONAL CO-OPERATION

7.01 Recognizing the inherent difficulties in designing and implementing a truly global integrated programme covering all the major problems of oceans and coastal areas, UNEP decided to approach these problems mainly on a regional basis. However, from the very beginning the regional activities were designed in such a way that they could fit into and contribute to a globally co-ordinated programme. This was particularly true for the activities which require a common methodological basis in order to obtain data which would be comparable on a global level. The monitoring of the sources and levels of marine pollution is a typical example of such activities. The negotiation of the eight Regional Seas conventions and protocols is another example of activities which required close global co-ordination in order to avoid codification of conflicting interests for parties adhering to several Regional Seas conventions and protocols, as well as to global conventions, such as the Law of the Sea Convention, the London Dumping Convention and the Convention for International Trade in Endangered Species.

7.02 Several mechanisms and approaches were used to enhance the co-operation between regional activities and to ensure the harmonious development of the UNEP-sponsored oceans and coastal areas programme. The key role was played by OCA/PAC which acted as a "watchdog" to avoid development of conflicting interests and as an agent to "enforce" the common methodological approach to problems which did require such an approach. Another frequently used tool was the convening of inter-regional meetings of experts and government officials on subjects which could benefit from exchange of information, data and experience between various regions.

7.03 Aside from the global type of inter-regional co-operation, as exemplified by the:

- IMO/UNEP Meeting on Regional Arrangements for Co-operation in Combating Major Incidents of Marine Pollution (London, 29 April - 3 May 1985);
- Unesco(MAB)/UNCTAD/UNEP Interoceanic Workshop on Sustainable Development and Environmental Management of Small Islands (Humacao, 3-7 November 1986);
- joint meeting of the regional Task Teams on the State of the Marine Environment (Geneva, 14-18 December 1987);
- joint meetings of the regional Task Teams on Climate Impact Studies (Split, 3-8 October 1988; Singapore, 12-16 November 1990); and
- participation of members of the regional Task Teams on Climate Impact Studies (see section 5) in the two workshops of the IPCC WG.III Coastal Zone Management Sub-group on Adaptive Options and Policy Implications of Sea-Level Rise and other Impacts of Global Climate Change (Miami, 27 November - 1 December 1989; Australia, February 1990);
- Inter-regional Workshop on the environmental impact assessment procedure (Cairo, 19-23 November 1989).

Inter-regional co-operation on a geographically more restricted basis was particularly intensive between Regional Seas action plans relevant to Africa, Pacific, Indian Ocean, and Latin America and Caribbean. Details of this co-operation are described in sections 7.1 - 7.4 of this document.

7.1 Africa

7.1.1 The first African Ministerial Conference on the Environment (AMCEN), Cairo, 16-18 December 1985, adopted the Cairo Programme for African Co-operation and established, *inter alia*, the "Committee on Seas" with the general terms of reference to facilitate the "implementation of the UNEP Regional Seas Programme for West and Central Africa and Eastern Africa, and the African components of the Mediterranean and the Red Sea and Gulf of Aden Programmes".

7.1.2 The Committee is composed of African experts proposed by the governing bodies of the four Regional Seas action plans and of experts selected by the Committee itself. OCA/PAC was designated as the Secretariat of the Committee.

7.1.3 The following terms of reference of the Committee were approved by the third session of the African Ministerial Conference on the Environment (Nairobi, 4-6 June 1987):

- (a) To assist the Bureau of the Conference in carrying out its functions with respect to the protection and development of the African marine and coastal environment, and in particular:
- to elaborate a long-term plan for the Committee's programme of activities, and periodically review and update its workplan and timetable;
 - to promote the harmonization of environmental legislation related to the protection of the marine environment in African countries;
 - to promote the training of African experts in the fields of coastal planning and marine sciences; and
 - to propose to the Bureau of the Conference a draft budget for the Committee reflecting its programme of work.
- (b) To support the implementation of UNEP's Regional Seas action plans relating to West and Central Africa, Eastern Africa and the African components of the action plans for the Mediterranean and the Red Sea and the Gulf of Aden and to strengthen the co-operation between African States, institutions and experts participating in these action plans. Specifically:
- to promote the ratification of international and regional conventions related to the protection and development of the African marine environment;
 - to organize seminars on technical and scientific subjects, as well as training programmes, related to the protection and development of the African marine and coastal environment; and
 - to facilitate the exchange of experience, information and data between African countries and amongst Regional Seas Programmes relevant to Africa.

7.1.4 The same Ministerial Conference adopted the long-term workplan of the Committee, consisting of the following 12 targets envisaged to be achieved during the African Decade for the Protection of the Marine and Coastal Environment (1991-2000):

- (a) ratification of all regional and international agreements relevant to protection of the marine and coastal environment in Africa;
- (b) enact national legislations which would ensure the implementation of such agreements;
- (c) implementation of Regional and National Action Plans for the protection of the marine and coastal environment;
- (d) establishment of reception facilities for dirty ballast waters and other oily residues received from tankers and ships in ports of the region;
- (e) establishment as a matter of priority of appropriate sewage outfalls and/or appropriate treatment for all coastal settlements with more than 5.000 inhabitants;
- (f) applying integrated coastal zone management approach and environmental impact assessment as important tools to ensure proper development activities;
- (g) improvement of the safety of maritime navigation and substantial reduction of the risk of transportation or dumping of dangerous toxic substances likely to affect the coastal areas or induce marine pollution;

- (h) protection of the endangered marine species, and habitats (e.g. coral reefs and mangroves);
- (i) achievement of substantial reduction in industrial pollution and disposal of solid waste;
- (j) identification and protection of coastal and historic sites of common interest;
- (k) adoption and implementation of effective measures to prevent and combat coastal erosion;
- (l) creating awareness among the populations of the urgent need to prevent environmental degradation and for the preservation of the health of the coastal and marine environment.

7.1.5 During the meetings of the Committee (Algiers, 25-27 May 1987; Cairo, 20-22 December 1988; Dakar, 6-7 March 1990) the ways and means of inter-regional co-operation were considered and activities relevant to all four African Regional Seas action plans were planned. Improvement in exchange of information, data and expertise is of particular concern to the Committee.

7.1.6 Recognizing the large degree of similarity between the problems which may face the States of Eastern, West and Central Africa in connection with the potential impact of expected climatic changes, close co-operation is maintained between the two regional Task Teams dealing with this subject. A joint meeting of the Task Teams was organized (Nairobi, 18-21 December 1989), with participation of experts from the Mediterranean Task Team.

Bibliography

- UNEP: Report of the first meeting of the Committee on Seas (Algiers, 25-27 May 1987).
- UNEP: Report of the third session of the African Ministerial Conference on the Environment (Nairobi, 4-6 June 1987).
- UNEP: Report of the second meeting of the Committee on Seas (Cairo, 20-22 December 1988).
- UNEP: Report of the third meeting of the Committee on Seas (Dakar, 6-7 March 1990).
- UNEP: Report of the Joint Meeting of the Task Teams on Implications of Climatic Changes in the Eastern African and West and Central African Regions (Nairobi, 18-21 December 1989). UNEP(OCA)/WG.6/3.

7.2 Pacific

7.2.1 The co-operation between the three action plans supported in the framework of the Regional Seas Programme (South-East Pacific, East Asian Seas and South Pacific) was mainly through the organization of inter-regional symposia at the occasion of the Conferences of the Pacific Science Association. The symposia are attended by active participants in the action plans and by the members of the Secretariats of these action plans. The symposium in Seoul in 1987 was also attended by scientists from the North-West Pacific where a new action plan is under consideration. The agendas of the symposia are restricted to a few (2-4) items and the last session of the symposium is devoted to a round table discussion on possible future directions for co-operative Pacific programmes.

7.2.2 The main themes of the last symposium (Viña del Mar, August 1989) were:

- pollution monitoring and control;
- economics of environmental protection; and
- regional co-operation on policy and planning for sea-level rise and climatic change.

7.2.3 The recommendations of the last symposium included:

- formation of inter-regional task teams to study the potential impacts of climatic change and sea-level rise on coral reefs and mangroves;
- preparation of a report on the "Health of the Pacific Ocean" for the next inter-regional symposium (see paragraph 7.2.4) and its presentation to the 1992 global conference on Environment and Development;
- preparation of a methodology by which individual countries could assess their contribution to the global greenhouse gas budget;
- increased participation of the Pacific States in the work of IPCC; and
- consideration of experience gained in the Pacific region with environmental impact assessment procedures, specifically with the socio-economic aspects of the assessments and with the evaluation of the assessment procedures.

The recommendations are planned to be followed up in consultation and in co-operation with the Secretariats of the relevant action plans.

7.2.4 The next inter-regional Pacific symposium is planned to be organized in conjunction with the XVII Congress of the Pacific Science Association (Hawaii, May 1991) with "environment and development" as the leading theme. The symposium may be considered as a regional input into the preparatory activities of the 1992 global conference on the same theme.

7.2.5 The symposia organized in the framework of the meetings of the Pacific Science Association were not the only aspects of inter-regional Pacific co-operation.

- (a) On request of the Intergovernmental meeting on the SPREP action plan, convened in Noumea, 27 June - 1 July 1988, contacts were established with the East Asian Seas action plan to develop a joint programme for management of marine turtles.
- (b) A joint intercalibration/analytical workshop was organized, in co-operation with IOC, for scientists and technicians participating in the South Pacific and East Asian Seas action plans (Port Moresby, February 1988).
- (c) The Intergovernmental meeting on climatic change and sea-level rise in the South Pacific (see paragraph 5.11) was also attended by experts and government representatives of Eastern African (Mauritius), South Asian Seas (Maldives) and Caribbean (Jamaica) island States.

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7.3 Indian Ocean

7.3.1 The management and conservation problems of renewable marine resources in the Indian Ocean region were surveyed, in co-operation with IUCN. The survey resulted in an overview of these problems covering the whole Indian Ocean and in five reviews covering the geographic areas of the five Regional Seas action plans on the rim of the Indian Ocean.

7.3.2 A scientific meeting of the International Whaling Commission (IWC) was co-sponsored by UNEP (Seychelles, 24-28 February 1987) to consider the status of the Indian Ocean as a Whale Sanctuary. The meeting was supported by UNEP in the framework of the Marine Mammals action plan (see paragraph 6.9).

7.3.3 In order to facilitate the co-operation between marine scientists and experts a directory of marine environmental centres relevant to the Indian Ocean and Antarctic region was prepared, in co-operation with FAO.

7.3.4 Since 1985, UNEP supported the efforts of the States bordering the Indian Ocean to organize an inter-regional co-operation on marine affairs in that region. The efforts led to the establishment of the Indian Ocean Marine Affairs Co-operation (IOMAC) programme consisting of the following elements: marine science and ocean services; marine technology and training; living resources; non-living resources; maritime transport; communications; management; and protection of the marine environment.

7.3.5 With the growing number of bilateral and multilateral activities concerning the environment in the Indian Ocean region, UNEP is discussing with other agencies the need for improved mechanisms for co-ordination to ensure the most effective use of the limited resources available to the region.

7.3.6 In September 1990, the Second Conference on Economic, Scientific and Technical Co-operation in the Indian Ocean in the context of the New Ocean Regime (IOMAC-II) was convened in Arusha, Tanzania to adopt a plan of action. Links of co-operation between UNEP's Regional Seas Programmes and IOMAC activities within their draft action plan were identified, and methodology of co-operation discussed.

7.3.7 In close co-operation with the Secretariat of IOMAC, UNEP intends to co-sponsor, in 1991, an IOMAC workshop which will consider specific environmental issues which may be subject to inter-regional co-operation, such as:

- exchange of information, data and expertise available in the five Regional Seas action plans bordering the Indian Ocean;
- protection of marine mammals and mangroves; and
- formulation of response options and measures relevant to potential impact of expected climatic changes.

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IOMAC: Report of the Second Conference on Economic, Scientific and Technical Co-operation in Marine Affairs in the Indian Ocean (Arusha, Tanzania, 3-7 September 1990).

7.4 Latin America and Caribbean

7.4.1 The general framework for co-operation of Latin American and Caribbean States is provided at present by the Regional System for Co-operation on Environmental matters, adopted at the seventh Intergovernmental ministerial meeting on the environment in Latin America and the Caribbean (Port of Spain, 22-23 October 1990). It consists of five regional and sub-regional programmes of common interest (development planning and environment; development of environmental laws and institutional frameworks; environmental education; protection and conservation of cultural and natural heritage and of protected areas; management of tropical and sub-tropical forest ecosystems in Central America and Mexico); of two Regional Seas action plans (action plan for the Caribbean Environment Programme; action plan for the South-East Pacific); and of an environmental training network.

7.4.2 The System of Co-operation has evolved into an Action Plan for the Environment in Latin America and the Caribbean. The Action Plan is under the authority of periodic ministerial meetings of the Latin American and Caribbean States and it is co-ordinated on a day-to-day basis by UNEP's Regional Office for Latin America and the Caribbean (ROLAC).

7.4.3 The two Regional Seas action plans are considered as part of the wider Action Plan for the Environment in Latin America and the Caribbean although they will remain under the direct authority of the meetings of the Contracting Parties to the Cartagena and Lima Conventions.

7.4.4 The co-operation of the two Regional Seas action plans with the other components of the wider Latin American and Caribbean System of Co-operation is envisaged to produce the following outputs:

- avoid duplication of institutional and personnel resources by making maximum use of horizontal regional co-operation;
- incorporate the sustainable development concept in all programmes and projects;
- strengthen the consultation and information exchange process between intergovernmental organizations, agencies and programmes of the United Nations system, bilateral and multilateral funding agencies, and non-governmental organizations to prevent duplication and to take advantage of complementarity in project activities;
- reinforce regional horizontal co-operation to buttress regional capabilities, and substantively increase the region's self-support in priority environmental matters; and
- strengthen national institutions and encourage their active involvement in the formulation and implementation of environmental protection and improvement policies.

7.4.5 In addition to co-operation of the two Regional Seas action plans with the other components of the wider Latin American and Caribbean action plan, through ROLAC, direct co-operation between the two Regional Seas action plans will continue on all subjects of mutual interest, specifically on

- pollution research, monitoring and control;
- environmental impact assessment;
- coastal zone management; and
- development of methodologies related to the above fields of co-operation.

Such co-operation will be achieved through exchange of data and information between the secretariats of the two action plans, consultative meetings between the two secretariats in order to plan joint activities, joint meetings of experts convened under the action plans, exchange of experts, etc.

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8. INFORMATION EXCHANGE

8.1 The result of activities sponsored by UNEP's oceans and coastal areas programme are published and widely disseminated free of charge to Government focal points, international, intergovernmental and non-governmental organizations, as well as to interested individuals. They include:

- (a) reports of all intergovernmental and expert meetings convened by UNEP published in OCA meetings series; occasionally also the reports of expert meetings convened on UNEP's behalf of other bodies are published by UNEP;
- (b) interim reports on the progress of individual projects or action plans published in OCA meetings series;
- (c) UNEP Regional Seas Reports and Studies based on technical reports and studies resulting from various OCA/PAC co-ordinated projects (129 issues since 1982, approximately 80 pages per issue, all in English, many in French, some in Spanish and Arabic);
- (d) Regional Seas Directories and Bibliographies (33 issues since 1976; approximately 120 pages per issue); and
- (e) Reference Methods for Marine Pollution Studies (51 issues since 1983; approximately 20 pages per issue; all in English, most in French and some in Spanish); most reference methods were finalized and published by IAEA on the basis of a co-operative arrangement with UNEP, FAO, IOC, WHO and WMO.

8.2 The following publications and publicity materials addressed to general public are also part of the OCA/PAC publishing programme:

- (a) Quarterly Newsletter "The Siren" Issued in English, French and Spanish (45 issues of about 36 pages each since 1978); publication has been irregular in 1989-90 but should be back on schedule in 1991;
- (b) "The Pilot" issued in English as the joint UNEP/IUCN newsletter of the Marine Mammals Action Plan (4 issues of about 16 pages each since 1984);
- (c) popular booklets for general public dealing with specific environmental problems or activities sponsored by UNEP (14 issues since 1981; approximately 36 pages per issue; all in English, some in French, Spanish and other languages);
- (d) posters devoted to major topics, events or achievements relevant to the oceans programme (13 multi-coloured posters since 1976);
- (e) stickers devoted to major topics or events relevant to the oceans programme (5 multi-coloured stickers since 1977);
- (f) films devoted to major environmental problems or activities sponsored by UNEP (10 films since 1976, all produced by independent producers with little "seed" money from UNEP or no money at all from UNEP);
- (f) "Save the Seas" agenda (printed in 7.000 copies, annually since 1977); and
- (h) special issues of *Ambio* as a joint publication of the Swedish Academy of Sciences and UNEP, devoted to particular Regional Seas action plans or environmental problems (six issues since 1976; approximately 150 pages per issue; published in English, one issue published also in French).

8.3 The Co-ordinating Units of the Mediterranean and the Caribbean action plans have a similar publishing programme to the one described in paragraphs 8.1 and 8.2.

Bibliography

UNEP: Catalogue of Publications (Oceans and Coastal Areas) No. 6. UNEP, 1990.

9. WORKING RELATIONSHIP BETWEEN UNEP AND THE CO-OPERATING AGENCIES AND SUPPORTING ORGANIZATIONS

9.1 UNEP is not a specialized or funding agency but part of the United Nations Secretariat with a mandate to "serve as a focal point for environmental action and co-ordination within the United Nations System" (General Assembly resolution 2997 (XXVII) of 15 December 1972). The same resolution invited the United Nations system "to adopt measures that may be required to undertake concerted and co-ordinated programmes with regard to international environmental problems", and the "intergovernmental and non-governmental organizations that have an interest in the field of the environment" ... "to lend their full support and collaboration to the United Nations with a view to achieving the largest possible degree of co-operation and co-ordination".

9.2 Consequently, UNEP seeks co-operation with the bodies of the United Nations System (co-operating agencies), as well as with governmental, intergovernmental and non-governmental organizations (supporting organizations) to develop and implement with them joint projects and programmes using the resources of the Environment Fund and of special Trust Funds managed by UNEP to catalyze their implementation.

9.3 The sole legislative authority for UNEP's involvement in and support to joint projects with agencies/organizations are the decisions of UNEP's Governing Council and in the case of the Regional Seas Programme, the decisions, recommendations and resolutions of intergovernmental meetings convened in the framework of that Programme.

9.4 OCA/PAC is and will remain the central organizational unit of UNEP which co-ordinates all ocean and coastal areas related activities supported or sponsored by UNEP.

9.5 UNEP supports the establishment of Regional Co-ordinating Units (RCU), such as the Co-ordinating Unit for the Mediterranean action plan in Athens and for the Caribbean action plan in Kingston, to co-ordinate the day-to-day implementation of specific regional action plans under OCA/PAC's general supervision and guidance. RCUs are established by decisions of Governments participating in the action plans, subject to their readiness to provide the requisite funding for the operation of RCUs from the relevant Regional Seas Trust Fund.

9.6 OCA/PAC and RCUs maintain direct relationship with the appropriate organizations and agencies on all substantive activities relative to the programmes for which they are responsible.

9.7 The basis for co-operation with co-operating agencies and supporting organizations will be projects and activities of mutual interest in which UNEP and the agencies/organizations will be involved as full partners, each with a clearly defined role and responsibility. There will be no projects in which UNEP plays merely the role of the funding agency. UNEP expects that in each of the joint projects there will be a counterpart contribution (in cash, kind or services) from the co-operating agencies/supporting organizations.

9.8 The substance and modalities of co-operation on joint projects and programmes between UNEP and the agencies/organizations, as well as the mutual financial obligations resulting from such co-operation, are normally contained in standard project documents, memoranda of understanding or letters of agreement signed by UNEP and the relevant agencies/organizations. Memoranda of Understanding and letters of agreement are the less frequently used instruments defining co-operative arrangements between UNEP and the agencies/organizations. Several agencies/organizations may co-operate with UNEP in the framework of a single project. In such cases, UNEP prefers to deal with the project through the agency/organization which has the major role in the project ("lead agency"), expecting that agency to co-ordinate the project activities implemented by the other partners.

9.9 The project documents will continue to be prepared through direct negotiations between OCA/PAC or the RCUs, as appropriate (see paragraph 9.4), and the co-operating agencies/organizations. Once a draft of the project document has been agreed between OCA/PAC or the RCUs and the relevant agencies/organizations, OCA/PAC will submit the draft to UNEP's Project Screening Committee for further consideration and approval.

9.10 The project documents should be prepared using the provisions of the UNEP Manual on the Design and Approval of Projects (1989 edition).

- 9.11 The project document becomes operational only after all parties have duly signed it or after they have officially informed each other that they have signed it. The agencies/organizations should not enter into any financial commitment on behalf of UNEP which is not based on a signed project document, memorandum of understanding or letter of agreement, or on specific written authorization from the Environment Fund of UNEP.
- 9.12 The management and substantive reports expected to be submitted by the co-operating agencies/organizations on the basis of the project documents should continue to be addressed to OCA/PAC or RCUs with a copy to the Environment Fund of UNEP. The financial reports on the projects should be submitted to the Chief, UNEP Fund Programme Management Branch, with copies to OCA/PAC or RCUs, as appropriate.
- 9.13 The budget of UNEP's ocean and coastal areas programme in the biennium 1990-1991 will be approximately US\$ 8 million, apart from resources of the Regional Seas Trust Funds. Subject to the availability of additional supplementary funds for other activities (see annex to Governing Council Decision 15/1) this amount may be increased. The budget in the biennium 1992-1993 is expected to increase substantially and will pose a larger burden on OCA/PAC in co-ordinating, monitoring and administering of ongoing projects and those which may be initiated in the future.
- 9.14 The ensuing paragraphs summarize the problems encountered in the past in the management of joint projects with agencies/organizations and are brought to their attention in order to facilitate co-operation on the implementation of these projects.
- 9.15 The joint projects will continue to be implemented under the general substantive supervision of OCA/PAC or RCUs, as appropriate. Therefore, all correspondence on project implementation, including on revision of workplan and budget, should be addressed to OCA/PAC or RCUs, which in turn will take the necessary initiative for revision of project documents, as appropriate.
- 9.16 Project revisions can not be processed by the Environment Fund unless satisfactory management, substantive and financial reports are received from the agencies/organizations in the format prescribed in the Manual (see paragraph 9.10). The reporting format of these reports and timing of their submission are specified in each of the project documents.
- 9.17 Management reports should contain sufficient details enabling proper monitoring of the project's progress by OCA/PAC or RCUs. They should include, for example, details on meetings (agenda, list of participants and resource personnel, analysis of the meetings), information on the status of surveys and reports being prepared under the project, on the purchase of equipment, etc. Drafts or final versions of substantive reports should be attached to the management reports.
- 9.18 Delayed or postponed activities which are not brought to UNEP's attention in time, may entail "loss" of funds for the oceans programme, thereby reducing the impact of the programme and the expected results. The financial rules governing the Environment Fund do not allow unobligated funds to be rephased from one biennium to the next. Unspent balances or unobligated funds under Trust Fund component can be rephased between biennia but otherwise all the financial rules applicable to the Environment Fund also apply to the financial management of Trust Funds. Unless formal authorization has been received from the Environment Fund, the agencies/organizations can not expect that resources allocated from the Environment Fund to a project can be automatically rephased from one biennium to the following biennium.
- 9.19 Unobligated funds are those for which there are no obligating documents to earmark the funds. Project documents and their revisions are not regarded as obligating documents by themselves. Obligating documents are, for instance, signed experts' and consultants' contracts, signed letters of agreement, MODs, purchase orders, subcontracts with organizations, companies or individuals, travel authorizations, PT8s, etc. These documents can be re-obligated between biennia, if required, and carry with them the earmarked funds, provided UNEP is so advised. Unpaid commitments such as settlement of travel claims, final invoices, repatriation of experts, etc. which may be obligated in one year and settled only the next, should be reflected under the appropriate year as unliquidated obligations and should continue to be reflected as such on the financial statements until settled, i.e. they should not appear on financial statements as expenditures incurred the year they were settled if different from the year they were obligated. If the agencies/organizations do not follow these guidelines, the unliquidated obligations may be cancelled at the end of a biennium and the amount

"lost". When the obligation is settled in the next biennium, it must be paid from the new biennium's budget allocations, thus "costing" the oceans programme twice.

9.20 Financial statements should be submitted to UNEP quarterly unless otherwise stated in the project document. Furthermore, not later than 15 February each year, a yearly financial statement covering the previous year should be submitted to allow UNEP to close the accounts of that year. The supporting organizations are required to submit the yearly financial statements certified by a recognized firm of public accountants (for Governments by Government auditors). The format for these statements is given in the Manual and a copy is attached to project documents. It is very important for ease of reference to indicate in the statements the budget sublines as given in the project document and/or its latest revision, and to use the same terminology as used in these documents to avoid any misunderstanding.

9.21 Cash advances are paid by UNEP to agencies/organizations only upon written request by the agencies/organizations in connection with the start of a project and, later, in conjunction with the submission of the financial statements. The agencies estimate their cash requirements on the appropriate form as given in the Manual and the project document.

9.22 Costs may in some cases be difficult to estimate and therefore a certain margin and freedom is given to the co-operating agencies to incur minor over-expenditures and to reallocate funds between budget sublines. These reallocations and over-expenditures can not exceed 20% on individual sublines. It is, however, mandatory that OCA/PAC endorses any new item of expenditure, especially when the expenditure is a major one or affecting the substantive parts of a project. Failing to do so, the agencies/organizations risk not being reimbursed for the expense incurred. If UNEP agrees to changes in substantive or financial parts of the project, as suggested by the agencies/organizations, the amendments will be reflected in the following revision of the project. The freedom for reallocation of funds between budget sublines does not apply to supporting organizations, unless prior authorization is received from UNEP.

9.23 A considerable number of project documents remain unclosed long after all project activities were terminated due to delays in submission of terminal management reports, the final financial statements, and the requisite substantive reports envisaged by the Manual. The accumulation of such projects poses serious fund management problems for UNEP and therefore agencies/organizations which fail to provide the reports needed for closing of completed projects, within the time frame prescribed by the Manual and indicated in the project document itself, will be considered as not complying with their contractual obligations towards UNEP.

9.24 UNEP has a central unit for receipt/dispatch of all telexes and facsimile and another for mail. For ease of reference, filing and general administration, supporting organizations and co-operating agencies are urged to indicate clearly the project number on all correspondence with UNEP related to specific projects (e.g. FP/5102-86-02). This procedure would ensure that all communication is easily identifiable, less likely to get lost and assist new personnel.

9.25 In case of doubts about the correct procedures to be followed for troublefree substantive and financial management of projects, the agencies and organizations are encouraged to seek from OCA/PAC additional information on these procedures.

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