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## MEDITERRANEAN ACTION PLAN

Joint Meeting of the Scientific and Technical  
Committee and the Socio-Economic Committee

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# ACTION PLAN FOR THE PROTECTION OF THE MARINE ENVIRONMENT AND THE SUSTAINABLE DEVELOPMENT OF THE COASTAL AREAS OF THE MEDITERRANEAN

(MAP PHASE II)

Proposal by the Secretariat

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UNEP  
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## TABLE OF CONTENTS

	Page
Objectives	1
Implementation	1
<b>I     <u>SUSTAINABLE DEVELOPMENT IN THE MEDITERRANEAN</u></b>	<b>2</b>
<b>1.     INTEGRATING ENVIRONMENT WITH DEVELOPMENT</b>	<b>2</b>
1.1   Economic development and the environment	2
1.2   Urban development and the environment	3
1.3   Sustainable management of natural resources	4
1.3.1   Water resources	4
1.3.2   Soil	5
1.3.3   Living Marine Resources	5
1.3.4   Forests	6
1.4   Integrated coastal zone management	6
<b>2.     CONSERVATION OF NATURE, LANDSCAPE AND SITES</b>	<b>7</b>
2.1   Collection of data and periodic assessment of the situation	8
2.2   Legislation	9
2.3   Planning and management	9
2.4   Capacity building, training and transfer of knowledge	10
<b>3.     ASSESSMENT, PREVENTION AND CONTROL OF           MARINE POLLUTION</b>	<b>11</b>
3.1   Assessment of pollution-related problems	11
3.2   Pollution prevention and control	13
3.2.1   Prevention and control of the pollution of the marine environment from land-based activities	13
3.2.2   Prevention of and response to the pollution of the marine environment from sea-based activities	15

3.2.3	Prevention and control of the pollution of the environment resulting from transboundary movements of hazardous wastes and their disposal	19
3.3	Supporting measures	20
4.	<b>INFORMATION</b>	20
II	<b><u>LEGAL FRAMEWORK</u></b>	21
III	<b><u>INSTITUTIONAL AND FINANCIAL ARRANGEMENTS</u></b>	23
1.	<b>INSTITUTIONAL ARRANGEMENTS</b>	23
2.	<b>FINANCIAL ARRANGEMENTS</b>	23

## Objectives

The Mediterranean Action Plan (MAP) is the instrument created by the Mediterranean coastal States and the European Union to protect the environment and define and implement a policy of sustainable development in the Mediterranean region, in line with the results of United Nations Conference on Environment and Development (UNCED).

The main aims of the plan are as follows:

- to ensure sustainable management of natural marine and land resources and to integrate the environment in economic development and land planning policies;
- to prevent pollution of the sea and of the coastal zones, to reduce and, as far as possible, eliminate all pollutant inputs, whether chronic or accidental; and
- to protect and enhance the sites and landscapes of ecological or cultural value.

To this end, the Mediterranean coastal States and the European Union adopted the Barcelona Convention and its related Protocols.

They also established specific objectives and defined the activities which would allow these objectives to be achieved.

## Implementation

The Mediterranean coastal States and the European Union bear full responsibility for the implementation of the Barcelona Convention and its Protocols; their responsibility is also to carry out the activities related to the implementation of the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II).

To achieve these tasks the Contracting Parties are supported by the Secretariat of the Barcelona Convention entrusted to UNEP and its Coordinating Unit and, under the Unit's supervision, by MAP's Regional Activity Centres (RACs).

The specific tasks entrusted to the Secretariat and the RACs in order to implement the activities of MAP Phase II, as well as the corresponding budgets, are decided upon by the meetings of the Contracting Parties to the Barcelona Convention.

The MAP Coordinating Unit ensures relations with the other regional seas programmes, the secretariats of the international conventions relevant to the region, the United Nations Commission on Sustainable Development and the international financial institutions related to environment and sustainable development in the Mediterranean.

The Contracting Parties to the Barcelona Convention will regularly involve the UN Specialized Agencies concerned with the formulation and implementation of MAP Phase II programme of activities.

The Contracting Parties will similarly associate non-governmental organisations to the MAP Phase II activities, particularly those involved in economic activities and those working on the protection of the environment.

In implementing sustainable development, priority will be given to strengthening institutional capacity and policy coordination at national and sub-national level, to the full implementation of the existing legal instruments such as the Barcelona Convention and its Protocols, to the introduction of economic instruments for integrated resource management, and to rigorous planning of coastal zones and management of natural resources.

## **I SUSTAINABLE DEVELOPMENT IN THE MEDITERRANEAN**

### **1. INTEGRATING ENVIRONMENT WITH DEVELOPMENT**

#### **1.1 Economic development and the environment**

In the Mediterranean basin, with limited and fragile natural resources, the recent socio-economic developments have given rise to considerable changes threatening its heritage. The population trends, which indicate that a population of 410 million in 1994 may rise to 550 million in 2025, as well as modern means of production and consumption, are playing a major role in these changes.

Intensification of agriculture is creating a major impact on water resources and soil. Since the '70s industrialisation has considerably developed, but the heavy and polluting industries even though in decline are often obsolete from a technological point of view and generate considerable pollution. Industry, which consumes vast amounts of water and, even more, of energy, is in competition for space with urbanisation and major transport infrastructure, particularly on the coast. Tourism, which brings in revenue, taking advantage of the attractive natural and historical heritage, is also competing for the coastline, putting more of it under concrete. A hundred million tourists from around the world visit the area today, and the expected figure for the year 2025 is between 170 and 340 million, while domestic tourism will also undergo a major growth. A great pressure is exerted on the water resources, while the overcrowding of natural and historic sites causes their destruction because of other land-use interests, thus reducing the capital income from tourism which is essential for a number of countries.

Thus, the concerns of sustainable development, highlighted by UNCED and resulting from the complex links between socio-economic development and the environment, must be fully clarified to allow a Mediterranean strategy as well as national strategies on sustainable development to be defined. The effort to integrate sustainable management of natural resources with stable economic development must be undertaken as a priority on a Mediterranean scale. To this end, at the regional level, priority will be given to:

- the development of a Mediterranean Environment and Development Observatory (MEDO) which will receive, process and analyse information collected through all components of MAP as well as from Contracting Parties and other organizations;
- research on, and systemic and prospective analysis of, development/environment interaction on different geographical scales in order to better understand the mechanisms of the Mediterranean system;
- formulation of sustainable development indicators for the main sectors of activity and environmental components, in accordance with those developed by the United Nations adapted to the Mediterranean context;

- exchange of experience on sustainable economic development; and
- formulation of practical recommendations to facilitate the integration of natural resource management and economic development in the preparation of national development policies.

At the national level, priority will be given to:

- establishment of structures - mainly interministerial - such as Commissions on Sustainable Development, aiming at associating all the institutions concerned to the formulation of sustainable development policies;
- formulation of national strategies of sustainable development including in particular the setting up of the relevant financial instruments; and
- formulation of sectoral policies, with priority given to energy, industry, transport, agriculture and tourism in order to integrate the environmental dimension.

## 1.2 Urban development and the environment

The Mediterranean urban population, 40% of which is concentrated on the coast, is expected to double by the year 2025, which will substantially increase coastal settlement.

The type of urban development resulting from this concentration is a fact of concern from an environmental point of view for two reasons:

- great pressure is exerted on the natural resources, landscapes and natural areas progressively being taken over or destroyed for urbanisation needs; and
- the environment created in these built-up areas is unsatisfactory because of the scale involved, the impact of transport, energy consumption, waste production, loss of space and natural landscapes and the increasing amount of infrastructure.

The consequences of these trends are worrying in terms of the durability of development:

- from the point of view of social life and public health, the deterioration of the urban environment and the quality of life is a negative factor; and
- from the economic point of view, built-up areas whose environment deteriorates are likely to become unattractive, particularly in the services field.

Within the framework of national action plans, strategies for sustainable urban development should be formulated in order to:

- create the institutional framework which will allow for the management of built-up areas at the appropriate territorial level;
- encourage the introduction of urban planning which would take into account environmental issues, based on analyses of the urban environment;

- encourage active urban policies on energy saving, non-polluting forms of transport, waste management, sustainable use of water and the creation of town amenities;
- introduce the corresponding financial instruments;
- develop institutional and professional capacity; and
- involve all the actors concerned.

At the regional level, cooperation activities will be carried out in order to:

- elaborate and disseminate appropriate methodologies;
- proceed to exchanges of experiences and practices;
- ensure the training of the actors concerned; and
- contribute to the mobilisation of international financial resources for the formulation and implementation of strategies for the urban environment.

### **1.3 Sustainable management of natural resources**

The management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations is vital for the Mediterranean basin. The complex interactions between the environmental components (water, forest, soil) and the socio-economic sectors (agriculture, industry, energy, tourism, transport) require the integration of environmental policies into development policies, tackling the issue in a systemic and prospective approach. Such activities will be developed at the national and regional level in the framework of the Mediterranean Commission on Sustainable Development to be established within MAP and will be implemented in collaboration with the relevant international organizations, especially FAO, and the support of the Secretariat and relevant RACs.

#### **1.3.1 Water resources**

The quality and supply of the scarce fresh water resources in the Mediterranean region are vital not only for human consumption but also for agriculture, industry, tourism and other economic components. The interaction of these components should be tackled through integrated plans of water resources management.

The main objective is the sustainable management and use of the water resources.

The activities will be:

- to assess, monitor and evaluate the qualitative and quantitative status of the water resources in each country, through inter alia appropriate and pertinent indicators;
- to prepare water resources master plans on a region by region basis and develop existing ones according to the generally acceptable principles of sustainable development and integrated approach especially in coastal areas and islands;

- to prepare or improve national legislation appropriate for the development and implementation of integrated water resources management and use; and
- to prepare guidelines, train personnel and exchange experience in the integrated development, management and use of water resources.

### **1.3.2 Soil**

Soil erosion and desertification constitute one of the most serious problems in the region. Agriculture and forestry are particularly affected by a decline in productivity which, in turn, aggravates the social problems in the region.

The main objective is the prevention of desertification by land conservation and reclamation.

The activities will be:

- to assess, monitor and evaluate the situation as regards soil degradation by using appropriate and pertinent indicators;
- to develop effective policies, strategies and programmes which will include mapping, monitoring and protection measures to prevent and combat soil loss and desertification; and
- to ensure the implementation, at a national level, of the above measures as well as relevant decisions taken at various international fora such as FAO, UNEP and IUCN giving special emphasis to the Convention to Combat Desertification.

### **1.3.3 Living Marine Resources**

Living marine resources in the Mediterranean are over-exploited and therefore immediate action is required at several levels (fishing community, government, fisheries organization) to stop present trends towards the degradation of resources and habitats.

The objective is the sustainable management of the living marine resources at a national and regional level.

The main activities will be:

- to improve the information base on the status of living marine resources and encourage research on the influence of environmental degradation and the impact of fishing activity. Such information is necessary for the development of appropriate management policies;
- to develop common resource management policies taking also into consideration the precautionary principle, to be applied in the region;
- to establish through the General Fisheries Council for the Mediterranean (GFCM) the legal framework for a cooperative approach to the protection and conservation of living marine resources outside territorial waters;



- to ensure the implementation of the Code of Conduct for Responsible Fishing developed by FAO, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas and the decisions taken at the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks; and
- to integrate fisheries in the Coastal Area Management Programmes (CAMPs).

#### **1.3.4 Forests**

The degradation of forests has been a matter of growing concern for the Mediterranean region. Overuse for grazing and wood fuel as well as fires and urbanization constitute the main causes of deforestation. In view of these problems, a Mediterranean Forest Action Programme in the framework of FAO was prepared which follows an integrated and multidisciplinary approach being essential with regard to both the general conceptual framework of the action programme and its application within each country.

The main objective is the sustainable management of forests and the combat of their degradation.

The activities of the programme will be:

- to undertake in each country a rapid assessment of the state of its forests, identify priorities and draw up short and medium term action plans;
- to draw up in every country Forest Directory Plans oriented to sustainable management and to the multi-purpose use of forests; and
- to enhance cooperation and exchange of information between countries.

#### **1.4 Integrated coastal zone management**

The management strategies for the Mediterranean coastal regions should ensure that the limited and fragile resources are harmoniously exploited through planning and regulations which would ensure the durability of activities and the quality of life of the coastal populations.

Integrated coastal zone management requires full knowledge of the links existing between coastal resources, their use and the mutual impact of development and environment.

The objectives of integrated coastal zone management are as follows:

- preservation of the biodiversity of coastal ecosystems;
- coastal planning to resolve the competition between urbanisation, industrialisation, tourism, transport, agriculture and aquaculture, and the preservation of land reserves for the future generations;
- controlled exploitation of coastal resources bearing in mind their carrying capacity;
- achievement of environmental and economic objectives at acceptable costs;

- control of pollution from all urban, industrial, tourist, agricultural and aquaculture sources, solid and liquid waste, and natural and technological risks;
- participation of the population and all forms people's organisations to stimulate their imagination and sense of civic responsibility in order to take up these new challenges; and
- the development of the institutional capacity and of human resources necessary to respond to these many interlinked and often conflicting objectives.

Integrated coastal zone management should gradually become the standard approach to tackle problems of Mediterranean coastal management.

To this end, at national and, where relevant, sub-national level, relevant legislation should be enacted and institutional capacity created or strengthened. Action plans aiming at having all coastal areas covered by integrated planning should be prepared.

This legislation should, at least, protect a large percentage of the coastal strip, avoid continued urbanisation of the coastline, establish rules for the identification of natural areas to be protected, and ensure compatible use of the coast.

*At regional level, cooperation activities will be organised in order to:*

- jointly elaborate the most adequate planning methodologies;
- provide training, exchange of information and transfer of knowledge; and
- promote and facilitate cooperation with international institutions likely to support this strategy.

## **2. CONSERVATION OF NATURE, LANDSCAPE AND SITES**

The Mediterranean, with its landscapes and its varied and unique natural heritage, with its millenary past made evident by the innumerable historic sites, represents for its inhabitants and for the millions of tourists who visit it every year a common heritage which deserves to be protected and conserved for the present and future generations. However, the negative impacts of uncontrolled urban, industrial and touristic development and the lack of appropriate environmental strategies are now becoming very evident. The massive occupation of the coastline and the discharge and the dumping of large amounts of solid and liquid wastes into the sea together with the over exploitation of natural resources, constitute a threat to the preservation of the ecological balance, to the survival of its species and to the conservation of several sites of high natural and historic value and of the exceptional Mediterranean landscapes.

In the Mediterranean, the examples of appropriate coastal management which keep into account the objective of protecting nature, landscape and historic sites are still very rare or geographically very limited. Such a lack of environmentally sound management strategies, under the pressure of a fast social and economic development, has in fact for too long favoured activities where the short-term economic advantages were assured but which created in the long-term negative effects on the conservation of the Mediterranean coasts. It is evident that this negative process can be reversed only if its consequences on the Mediterranean environment and its biological diversity are made fully known and if the

planning and development strategies of the various regions of the Mediterranean are formulated to include, as an integral part, the sustainable management of their natural and cultural heritage.

As a result, this component of the Mediterranean Action Plan aims at proposing to the Contracting Parties a programme of activities which will assist them to protect and sustainably manage the natural and cultural Mediterranean heritage, thus contributing to the sustainable development of the region.

The proposed activities keep into full account the results of UNCED in particular Agenda 21, the Convention on Biological Diversity, the action programme MED 21, the Barcelona Convention and the Protocol on Specially Protected Areas and the Biological Diversity of the Mediterranean.

The activities will be implemented by the Contracting Parties in coordination with, and with the assistance of, the MAP Secretariat and the competent Regional Activity Centres. The activities will be implemented, as appropriate, in cooperation and coordination with the relevant programmes of UNEP, the European Community, the World Bank, UNDP, UNESCO and its Man and the Biosphere Programme, international organisations such as IUCN, the secretariats of the Bonn Convention, the Bern Convention, the RAMSAR Convention, the World Heritage Convention, as well as NGOs and networks especially active in specific fields, in order to create an integrated and efficient synergism in the region and avoid duplication of work.

Four types of activities will be carried out in the framework of the implementation of the Protocol: collection of data and periodic assessment of the situation; legislation; planning and management; and capacity building, training and transfer of knowledge.

## **2.1 Collection of data and periodic assessment of the situation**

If the level of knowledge on the extent and the status of conservation of the historical and cultural heritage of the Mediterranean region can be considered satisfactory, the same cannot be stated as to the natural heritage whose knowledge is still very fragmentary. It is therefore important to carry out research to fill the existing gaps.

The main objective of the present programme is therefore the overall assessment of the status and the evolution of the biological diversity of the Mediterranean. It will include:

- at the regional level, the preparation of inventories of natural sites and of elements of biological diversity of common Mediterranean interest, and of lists of the threatened and/or endangered species of the region; and
- at the national level, the preparation of inventories of species and sites of special natural value as well as of areas with rare or fragile ecosystems which are reserves of biological diversity and which are important for the threatened and/or endangered species.

Such inventories and lists will be prepared according to common criteria jointly established by the Contracting Parties, will be kept regularly updated and used as the basis for conservation and planning programmes, using the best available techniques.

## 2.2 Legislation

Legislation related to the protection of the natural and cultural heritage is at present insufficient in many Mediterranean countries and it is therefore necessary to adopt modern and adequate legislation in order to support the formulation of conservation policies. It is also equally necessary that the legal provisions are effectively implemented.

The main objectives of the present programme are therefore the formulation by the Contracting Parties of adequate legal systems to adopt effective measures for the protection of the natural and cultural heritage as well as the establishment of national control mechanisms which would follow up the implementation of the adopted protection measures.

The following activities will be implemented:

- the creation of protected areas to ensure legal protection to the sites of special interest in view of their natural and/or cultural value. Special attention will be given in the Mediterranean to the habitats of threatened species, to the insular environments and to the archaeological remains including underwater ports, structures and wrecks;
- the granting of a legal protection status to the threatened and/or endangered species identified in the above mentioned lists. The monk seal and the different species of Mediterranean marine turtles and cetaceans deserve, in this matter, a special attention; and
- the establishment of a list of "Specially Protected Areas of Mediterranean Importance" (SPAMI).

## 2.3 Planning and management

In addition to the legal protection of the sites, it is essential for such sites to be the object of a management system which, while granting the preservation of their natural and/or cultural values, would promote the social aspects, in particular those related to education, sensibilisation, research and recreation.

In the planning process of the protected areas, the role that such areas could play in the development of the areas economically depressed, for example through the promotion of ecologically compatible tourism and tourism in cultural sites, should also be taken into account.

It will also be necessary to identify the processes and the factors which have or are likely to have adverse effects on the conservation of the biological diversity and at the same time to carry out monitoring and periodic assessment of the conservation status of the sites and the species possessing a special status.

Forms of active management are equally necessary for the conservation of most species.

The following activities will therefore be implemented:

- the formulation and the adoption of national strategies to ensure the conservation of the biological diversity, the cultural heritage and their integration in the development and planning policies;

- the formulation and the adoption, at the regional and national level, of specific action plans for the conservation and the management of sites, habitats, ecosystems and threatened and/or endangered species and also the implementation of the already adopted action plans;
- the effective management of the protected sites, in particular through the elaboration, the adoption and the implementation of specific management plans;
- the establishment of tools for land policy enabling the durability of the protection of the sites worth to be protected;
- the preparation of educational programmes and the launching of initiatives for the sensibilisation of the public and its encouragement to actively participate in the conservation and the management of species and protected sites; and
- the establishment of a Mediterranean diploma, attributed in the course of Ordinary Meetings of the Contracting Parties, for a "Specially Protected Area of Mediterranean Importance" (SPAMI) which distinguished itself for the implementation of specific and concrete activities in the field of management and conservation of the Mediterranean natural heritage.

#### **2.4 Capacity building, training and transfer of knowledge**

The protection and the management of the natural and cultural heritage need specific competences and adequate financial and technical resources. In the Mediterranean region, there are at present large differences as to the availability of such competences and technologies. The improvement of the national capabilities in these fields represents for the developing countries an important aspect for strengthening the inter-Mediterranean cooperation for the protection of the natural and cultural heritage, and for a better participation in regional programmes. The main objective of the present programme is the improvement of the institutional capabilities of the Mediterranean countries in the field of conservation and management of the natural resources and of the cultural heritage.

This objective will be reached through:

- technical cooperation and transfer of knowledge between the Contracting Parties and other actors;
- the establishment of networks which will improve the exchange of experience between Mediterranean experts, especially in the field of protected areas and sites;
- the preparation of training programmes in scientific, technical and managerial fields for the personnel involved in the formulation and implementation of the conservation measures and management; and
- assistance to countries in the formulation of projects eligible to be financed by the international financial donors.

### **3. ASSESSMENT, PREVENTION AND CONTROL OF MARINE POLLUTION**

In line with the concepts and recommendations of UNCED and in particular Agenda 21, this component of MAP provides the basis for actions related to assessment, prevention and control of marine pollution from land-based and sea-based activities, in the process of achieving sustainable development.

During the last twenty years, individual Mediterranean countries and the Mediterranean region as a whole, made considerable progress in the protection of the Mediterranean marine environment against pollution, particularly through the Mediterranean Action Plan. Despite such progress, the coastal region of the Mediterranean is under considerable stress by 130 million inhabitants and 100 million tourists and pollution (microbiological contamination, nutrients, halogenated hydrocarbons, oil, heavy metals, litter) from various sources (rivers, industry, tourism, urban, transport, etc.) which has deleterious effects on human health, marine life and quality of sea food and causes undesirable phenomena such as eutrophication and algal blooms. Such problems require coordinated actions of assessment, prevention and control of pollution.

In the Mediterranean Sea the risks of maritime related accidents causing or likely to cause massive pollution by oil or by other hazardous substances continues to be high. The Mediterranean Sea is and will remain a major route for transporting oil, gas and other hazardous substances, and the permanent presence of risk imposes on coastal States the constant need for efforts in preventing, organizing and preparing response to accidental marine pollution. This permanent effort has to be made at national, subregional and regional levels.

The concept of the inseparable nature of socio-economic development and environmental protection, with sustainable development as the ultimate goal, is of particular relevance to this component.

The main objective of this component is reduction and control of the pollution of the Mediterranean Sea from land-based and sea-based activities. In order to meet this objective, a programme of specific activities will be developed which should contribute considerably to the implementation of the Barcelona Convention and its related Protocols.

#### **3.1 Assessment of pollution-related problems**

Assessment of the pollution related problems is one of the basic prerequisites for the development of a rational approach towards the sustainable development of the Mediterranean region. Such an assessment started in the Mediterranean several decades ago and in MAP, through MED POL, since its establishment in 1975. Assessment is seen as a means to reduce present uncertainties for facing management decisions and to secure links between inputs, concentrations and effects of pollutants.

The results gathered through this component of MAP were presented at numerous scientific meetings and were published in a large number of scientific papers and the MAP Technical Reports Series. Data generated through such activities have been used as a basis for the analysis of the present state of the marine and coastal environment in the Mediterranean and for determining trends in pollution levels. Through this component of MAP, a Mediterranean network of over 150 institutions participating in research and monitoring of marine pollution was established many of which were assisted in the building of their capacity.

Through such work the Mediterranean scientific community has been mobilised to study pollution-related problems and, as a consequence, knowledge on the understanding of pollution-related processes has been considerably improved and the know-how of participating Mediterranean research centres in monitoring of pollution and studying the pollution-related problems was significantly enhanced.

The results from research and monitoring activities have been used as a basis for the preparation of assessment documents which were presented to the Contracting Parties, legal instruments and common measures for pollution control. Even though a lot of information was accumulated on the main pollutants, their sources, and basic pathways and fate in the environment, gaps in knowledge still exist, among them being the lack of quantitative data on pollution sources, the inadequate geographical coverage in the South, the poor information on environmental fate of pollutants and the missing links between levels and the effects on biological communities.

The objectives of this component are:

- the periodic assessment of the levels and trends in the load of pollutants reaching the Mediterranean Sea from land-based and sea-based sources. This will provide basic information for managerial decisions and investment activities;
- the assessment of the levels, trends and effects of pollutants in the marine environment. Such assessment will be the basis for the implementation of pollution-related protocols;
- the assessment of the risks of pollutants for marine life, fisheries and human health in coastal waters, estuaries and open waters. Such assessment will provide necessary information for the preparation of the pollution control measures and standards;
- the assessment of the state of the treatment and disposal of liquid and solid waste in the Mediterranean coastal region. Such assessment will provide necessary information for managerial actions and construction/engineering activities; and
- the assessment of the extent to which the Mediterranean marine environment is affected by marine pollution from ships and is at risk from a major marine accident.

The activities to be carried out in order to achieve the stated objectives are:

#### Regional level

- to collect information on the levels and trends of loads of pollutants reaching the Mediterranean Sea;
- to complete the existing network of national programmes for monitoring of pollution, based on adequate observation and monitoring techniques and incorporating mandatory data quality assurance programmes. This activity should have the highest priority;
- to collect information on the state of the treatment and disposal of liquid and solid wastes in the Mediterranean coastal region and to present such information to the Contracting Parties;

- to collect information on the effects of pollution including that coming from ships on the marine environment; and
- to provide the Contracting Parties, and other interested groups and individuals, with information about the general and specific pollution-related problems and potential short- and long-term threats to the Mediterranean region.

#### National level

- to establish/improve the national monitoring programmes through assistance for capacity building of national authorities and individual laboratories, design of programmes, provision of instruments, chemicals, individual and group training and data quality assurance programmes.

### **3.2 Pollution prevention and control**

#### **3.2.1 Prevention and control of the pollution of the marine environment from land-based activities**

Marine pollution from land-based sources and activities has long been recognised as a major problem in the ocean environment. Land-based sources contribute about 77 per cent to the pollution load of the marine environment and represent the major imminent threat to the marine ecosystems, to people using contaminated marine food or bathing in contaminated waters, and to economic activities dependent on clean and healthy marine environment.

One of the responses of the Mediterranean countries to the growing problems of marine pollution was the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (LBS Protocol), which was adopted in 1980 and came into force in 1983. In the framework of the implementation of the LBS Protocol, by the end of 1994 thirteen Mediterranean common measures for the control of LBS of pollution were adopted by the Contracting Parties. As a measure for further strengthening of the protocol, the marine pollution monitoring and research programme (MED POL) carried out in the framework of the Mediterranean Action Plan, is gradually refocusing on problems of direct relevance to the control of pollution from land-based sources.

Although it is difficult to assess the influence of the Mediterranean Action Plan, including the Barcelona Convention and its protocols dealing with the control of pollution from land-based sources, on the environmental policies and practices of the Mediterranean countries, there is direct and indirect evidence that a large number of concrete actions were taken by many countries in conformity with the requirements and provisions of the Convention and the LBS protocol.

The objectives of this component are:

- the protection of the Mediterranean marine environment from the pollution from LBS activities. This objective will be met through the specific activities arising from the provisions of the LBS Protocol and common measures for the control of pollution; and
- the formulation and adoption of a regional action plan for the reduction of the pollution from land-based sources which will include quantitative objectives and a calendar of implementation. Such plan should be based on the following principles: integrated coastal zone and watershed management; precautionary principle; polluter-pays



principle; anticipatory rather than a reactive approach; environmental impact assessment; environmental accounting, economic instruments (user fees, specific taxes, pricing policies and practices) and voluntary agreements (covenants).

The activities to be carried out in order to achieve the stated objectives:

Regional level

- to develop proposals for concrete pollution prevention and control measures, required by the Barcelona Convention and its protocols;
- to develop technical guidelines for the implementation of adopted measures and to assist developing countries in the implementation and enforcement of control measures;
- to monitor, on a continuous basis, the implementation and the effectiveness of the implementation of pollution prevention and control measures adopted or recommended by the Contracting Parties and to inform the Contracting Parties of the results of such monitoring; and
- to identify problems experienced by the Contracting Parties in the implementation of the measures and formulate proposals which may assist to overcome those problems.

National level

- to formulate and implement national action plan, as an activity of highest priority, to prevent and combat pollution from land-based sources and activities. Such plans should include:
  - the setting up or the strengthening of a public administration specialised in the prevention and fight against pollution and the provision of adequate funds for its funding;
  - the creation or strengthening of bodies of environmental inspectors having specific training and administrative authority;
  - the creation or the strengthening of economic instruments deriving from the "polluter pays" principle;
  - establishment of voluntary agreements (covenants) for the reduction and control of pollution;
  - the calendar for the full implementation of the common measures against pollution adopted by the Contracting Parties, as well as the relevant points of the Genoa Declaration; and
  - provision for mandatory country reporting on the implementation of national action plans, including the monitoring of compliance; and
  - to develop and implement national compliance monitoring programmes, carried out by participating national collaborating institutions.

### **3.2.2 Prevention of and response to the pollution of the marine environment from sea-based activities**

This component of MAP aims at proposing strategies and activities which will support and supplement national efforts to promote the prevention of, the preparedness for and response to the pollution of the marine environment from sea-based activities.

#### **(a) Prevention of the pollution of the marine environment from ships**

Among the world oceans, the traffic density of merchant vessels in the Mediterranean is particularly important. About 30% of international sea-borne trade volume originates from or is directed to the 300 Mediterranean ports, or passes through the Mediterranean Sea.

Marine pollution from ships is, to a considerable extent, due to inadequate implementation and insufficient enforcement of international standards. In the course of routine operations, ships may discharge into the sea, a wide variety of substances such as oily wastes, noxious liquid substances, sewage and garbage. The discharge into the sea of such substances is a significant source of pollution of the marine environment. High standards of ship design, maintenance and operation as well as the availability of port reception facilities will largely reduce pollution to acceptable levels.

Following the Genoa Declaration (1985) which included among priority targets to be achieved, the establishment of port reception facilities for dirty ballast waters and other oily residues, an Action Plan concerning the provision of adequate port reception facilities within the Mediterranean region was adopted in Cairo in December 1991.

The objectives of this component are:

- the prevention of the pollution of the Mediterranean marine environment from ships by providing incentives and encouragement for the adoption, effective implementation and the enforcement of the international conventions for the prevention of the pollution of the marine environment from ships; and
- the establishment, where necessary, of port reception facilities for the collection of liquid and solid wastes generated from ships (oily and chemical residues, sewage and garbage).

The following activities to be carried out in order to achieve the stated objectives will be implemented with the assistance of the Competent Regional Activity Centre and the cooperation of the International Maritime Organization:

#### **Regional level**

- to implement the Action Plan concerning the provision of adequate port reception facilities within the Mediterranean region (adopted in Cairo in December 1991);
- to promote regional cooperation in the field of Port State Control;
- to promote regional cooperation in monitoring marine pollution from ships, especially that from the illegal discharges enforcing the provisions of MARPOL 73/78 more rigorously; and

- to develop technical guidelines for the establishment and operation of shore reception facilities for wastes generated by maritime transport related activities.

#### National level

- to assist in the design and implementation of project related to the establishment and operation of port reception facilities; and
- to assist Contracting Parties which face difficulties in ratifying, implementing and enforcing the relevant international conventions.

#### (b) Preparedness for, response to and cooperation in cases of accidental marine pollution

In the Mediterranean Sea the risks of an incident likely to cause a massive pollution by oil or by other hazardous substances continues to be high. The Mediterranean Sea is a major route for transporting oil and gas from the Middle East and North Africa to Europe and North America (20% of oil carried world-wide by ships), and the region counts about 58 major oil loading and unloading ports.

Most of the countries are not in a position to rely solely on their own resources when dealing with a major marine pollution accident. Regional cooperation and mutual assistance are therefore indispensable. The pooling of resources and expertise will provide a cost effective way of combating spills. In order to be quick and effective, both cooperation and assistance have to be planned and organized.

In 1976 the Mediterranean countries adopted a Protocol regarding Cooperation in Combating Oil Pollution and other Harmful Substances in the Mediterranean Sea which provide the legal and institutional framework for actions of regional cooperation in combating accidental marine pollution and decided to set up a Regional Centre with a view to assisting them in implementing the Protocol. The Regional Centre (REMPEC) is administered by the International Maritime Organization.

Since 1976, activities were undertaken which have helped to develop the individual and collective capabilities of the Coastal States of the Mediterranean to combat accidental marine pollution by oil and hazardous substances.

The objectives of this component are:

- the development of national, bilateral and/or subregional systems for preparedness for and response to accidental marine pollution by oil and other hazardous substances, including organisational structure, contingency plans, trained personnel and appropriate pollution response means; and
- the organisation of cooperation among Contracting Parties in preparing for and responding to accidental marine pollution in case of emergency.

The activities to be carried out in order to achieve the stated objectives are:

#### Regional level

- to develop and maintain a regional information system including computerized tools for assisting in marine pollution response;

- to adopt measures for facilitating cooperation among countries in order to respond to accidents causing or likely to cause pollution of the sea by oil and other harmful substances;
- to prepare guidelines, manuals, documents and reference publications relevant to preparedness for and response to accidental marine pollution; and
- to facilitate and coordinate international cooperation and mutual assistance and to provide, in case of emergency, advisory assistance upon request.

#### Subregional level

- to develop subregional operational agreements for combating major marine pollution accidents, affecting or likely to affect the territorial sea, coasts and related interests of neighbouring countries.

#### National level

- to develop national capabilities, including the training of personnel, for response to accidental marine pollution; and
- to assist in the design and implementation of pilot demonstration projects.

#### (c) Prevention of the pollution of the marine environment by dumping from ships and aircraft

Pollution of the marine environment by dumping of wastes or other matter from ships and aircraft, if not controlled, poses an environmental danger in the Mediterranean Sea.

The objective of this programme is:

- the prevention and abatement of pollution of the Mediterranean Sea Area caused by dumping from ships and aircraft. This objective will be met through the specific activities arising from the provisions of the Protocol for the Prevention of the Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft. \*

The activities to be carried out in order to achieve the stated objective are:

#### Regional level

- to collect information on issuance of permits and dumping activities and to present consolidated reports to the Contracting Parties;
- to prepare technical guidelines regarding the disposal methodology and regarding monitoring of disposal sites; and
- to assess the implementation of this Protocol, and to consider the efficiency of the measures adopted and the need of any other measures.

#### National level

- to assist the Contracting Parties to take, individually or through bilateral or multilateral cooperation, all appropriate measures to prevent and abate pollution of the Mediterranean Sea, as specified in the Dumping Protocol;
  - to adhere strictly to the adopted procedure on issuance of permits and submission of national annual reports on dumping permits and activities; and
  - to develop and implement monitoring programmes of established dumping sites.
- (d) Prevention and control of the pollution of the marine environment resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil

The activities related to the exploration and exploitation of the continental shelf and the sea bed and its subsoil are an important potential source of pollution for the Mediterranean. In particular, exploration, rig construction, drilling mud, water discharge, operational oil discharges, loading and accidents represent a realistic threat to the Mediterranean marine environment.

The objective of this component is:

- the protection of the Mediterranean marine environment from all forms of pollution resulting from offshore activities. This objective will be met through specific activities arising from the provisions of the Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Sub-soil.

The activities to be carried out in order to achieve the stated objective are:

#### Regional level

- to promote cooperation among Contracting Parties, with the assistance of competent regional or international organizations, to formulate and implement programmes of assistance to developing countries including training of personnel and acquisition of appropriate equipment; and
- to formulate and adopt common standards for the disposal of oil and oily mixtures and for the use and disposal of drilling fluids and drill cuttings.

#### National level

- to monitor the effects of the activities on the environment through the creation of national monitoring programmes; and
- to organize research studies and programmes enabling the carrying out of the activities with minimum risk of pollution.

### **3.2.3 Prevention and control of the pollution of the environment resulting from transboundary movements of hazardous wastes and their disposal**

Transboundary movements of hazardous wastes have become for the Mediterranean, a crossroad between three continents and countries at different levels of industrial and socio-economic development, a serious potential threat especially for the developing countries of the Region.

Of the approximately 400 million tons of hazardous wastes produced, it is known that only a small part is disposed through hazardous wastes disposal technology. The rest is moved through States and regions in search for a disposal site on land or at sea. Such a situation is therefore posing a growing threat for the Mediterranean.

The objective of this component is:

- the protection of the Mediterranean environment against pollution which could be caused by transboundary movements and disposal of hazardous wastes. This objective will be met through the specific activities arising from the provisions of the draft Protocol on the Prevention of Pollution of the Mediterranean Sea resulting from the Transboundary Movements of Hazardous Wastes and their Disposal, as well as from the Basel Convention.

The activities to be carried out in order to achieve the stated objectives are:

#### Regional level

- to develop appropriate guidelines for the evaluation of the damage, as well as rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement, and disposal of hazardous wastes; and
- to develop new clean production methods for reducing and eliminating hazardous wastes.

#### National level

- to assist the Contracting Parties to reduce to a minimum, and where possible eliminate the generation and transboundary movements of hazardous wastes in the Mediterranean;
- to assist the Contracting Parties to take appropriate legal, administrative and other measures within the area under their jurisdiction in order to prohibit the export and transit of hazardous wastes to developing countries; and
- to develop programmes for financial and technical assistance to developing countries for the implementation of the Hazardous Wastes Protocol.

### 3.3 Supporting measures

The assessment, prevention and control of marine pollution in the Mediterranean can not be achieved without a strong national institutional basis supported with adequate financial resources, equipment and experts. While the situation in developed countries of the Mediterranean region seems adequate to deal with the implementation of this component, the capacity of the developing countries will need further strengthening.

The objective of this component is:

- the building of institutional capabilities of the Contracting Parties for the assessment and control of marine pollution.

The activities to be carried out in order to achieve the stated objectives are:

- to provide advice on legal, technical and fiscal policies, strategies, and practices which may contribute to the implementation of the pollution control measures and targets adopted by the Contracting Parties;
- to prepare guidelines, manuals, documents and reference publications relevant to the implementation of this component;
- to facilitate the exchange of information and access to and transfer of relevant technologies; and
- to organize individual and group training (e.g., seminars, workshops) of national experts (administrators, technicians, scientists) in all subjects relevant to this component.

## 4. INFORMATION

Public information is a dimension essential to the policy of sustainable development and environmental protection.

The objectives of this component are:

- the provision of the necessary information on the environmental state of the Mediterranean and the measures taken to improve it, to the general public;
- the enhancement of environmental awareness of the population, and the creation of a common culture on the environmental problems of the Mediterranean; and
- the facilitation of public access to the activities for the protection and the management of the environment.

The activities to be carried out in order to achieve the stated objectives are:

- to implement coordinated information campaigns and special activities on environmental protection, directed towards managers and decision-makers, as well as children, students, teachers and tourists;

- to launch educational programmes aiming at informing the public and the youth in particular, of the existence/designation and the value of specially protected areas and species, and of the importance of public participation in their conservation and management;
- to continue and expand publication and distribution of brochures, leaflets, posters, reports, newsletters and other information material as well as contacts with the media;
- to initiate selected activities in developing countries to enable them to take advantage of existing information on the environmental problems of the region and of the relevant NGOs interests and activities, so that these countries, in turn, will be able to develop and implement information and public participation policies of their own;
- to ensure, through the Coordinating Unit and the Regional Activity Centres, that all relevant NGOs and IGOs have appropriate access to information concerning MAP, and actively participate in MAP activities as appropriately; and
- to publish the Report on the State of the Mediterranean Environment at regular intervals.

## II LEGAL FRAMEWORK

While the development of the international environmental law accelerated in a rapid way since the Stockholm Conference of 1972, UNCED placed an emphasis on the increasingly evolving international environmental law in the direction of sustainable development, giving special attention to the delicate balance between environmental and developmental concerns.

Agenda 21 of UNCED emphasized the importance of the full utilization of law as an instrument to achieve a balance among environment, development and socio-economic considerations and contribute to the process of monitoring compliance.

In the meantime, the Contracting Parties to the Barcelona Convention (1976) have developed during the twenty years of their cooperation a set of important and far reaching legal instruments with a view to foster their cooperation in the form of the following legal instruments:

- Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona, 1976);
- Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona, 1976);
- Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in cases of Emergency (Barcelona, 1976);
- Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (Athens, 1980);
- Protocol concerning Mediterranean Specially Protected Areas (Geneva, 1982); and



- Protocol for the Protection of the Mediterranean Sea against pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Madrid, 1994).

At the legal framework level, MAP Phase II will be implemented under the following conditions:

In conformity with the Barcelona Convention, efforts should be enhanced with a view to finalize and adopt a protocol on the prevention of pollution of the Mediterranean Sea resulting from the transboundary movements of hazardous wastes and their disposal, and to prepare appropriate procedures for the determination of liability and compensation for damage resulting from pollution of the marine environment.

It is of a paramount importance that the Mediterranean countries, in particular *developing Mediterranean countries* should be supported in their efforts to develop and upgrade their environmental regulations related to the protection of the environment and sustainable development and to be fully involved in the regional and international negotiations dealing with the protection of the environment and sustainable development and be assisted in achieving the early entry into force and effective implementation of regional and relevant international environmental agreements.

Developing Mediterranean countries should also be provided with technical assistance in their attempts to enhance their national legislative capabilities in the field of environmental protection and sustainable development with a view to avoiding duplication and enhance effectiveness.

The full, effective and prompt implementation of the regionally binding instruments agreed upon by the Contracting Parties is a prerequisite for future cooperation and partnership of the Mediterranean countries in their efforts to protect their environment and develop their region in a sustainable manner.

Linkage between international law, regional instruments and national law should be pursued. *Permitting measures and the development of a system of inspectorate and jurisdictional capacity building*, in the field of environmental law on the national levels, will contribute largely to the effective implementation of the regional and national laws and agreements, related to environmental protection and sustainable development in the Mediterranean region.

A periodic review and assessment should be undertaken by Mediterranean countries with a view to evaluate and promote the efficacy of their regional law and regulations and to promote the integration of environment and sustainable development policies through effective national laws and regional agreements.

### III INSTITUTIONAL AND FINANCIAL ARRANGEMENTS

#### 1. INSTITUTIONAL ARRANGEMENTS

At the institutional level, the Mediterranean Action Plan will be implemented under the following conditions:

- the Contracting Parties to the Barcelona Convention will exercise the functions set by the Convention in the framework of their Ordinary and Extraordinary meetings. They will approve the activities and budget of MAP. They will appoint a Bureau to which they delegate part of their responsibilities;
- a MAP Coordinating Unit is established as part of the United Nations Environment Programme. The Unit will prepare the meetings of the Contracting Parties and of the bureau, and will be responsible for the follow up of the decisions taken. The Unit will maintain relations and coordinate its activities with the international and non-governmental organisations. The Unit will regularly report on its activities and those of the Regional Activity Centres;
- the Regional Activity Centres are established by the Protocols or by the meeting of the Contracting Parties at the proposal of a Party which provides the necessary means and facilities for its operation. They are responsible for carrying out specific activities agreed upon by the Contracting Parties under the general guidance and supervision of the Coordinating Unit for the Mediterranean Action Plan of UNEP;
- a Mediterranean Commission on Sustainable Development will be established. The Commission will assess the scientific, economic and social questions related to the implementation of sustainable development, it will follow up the implementation of MAP and of the activities organised in the region for sustainable development. It will advise on the programme of activities and make necessary recommendations to the Contracting Parties. The Coordinating Unit will act as Secretariat to the Commission;
- *ad hoc* scientific and technical advisory working groups may be established by the Contracting Parties to follow up the implementation of the Protocols or of specific programmes;
- each Contracting Party, within its national administration, will appoint a focal point responsible for the follow-up and coordination of MAP Phase II activities, at a national level, which will also ensure the dissemination of information. Focal points may also be appointed to follow up implementation of a Protocol or the activities of a Regional Activity Centre; and
- the Contracting Parties will ensure the participation of the local authorities in MAP activities.

#### 2. FINANCIAL ARRANGEMENTS

The financial arrangements governing the implementation of MAP Phase II are established within the budgetary and institutional framework and the working methods of the Governing Council of the United Nations Environment Programme.

The Trust Fund is established within the framework of the United Nations Environment Programme to ensure the effective coordination and funding of the Mediterranean Action Plan.

The financial rules of the Fund of the United Nations Environment Programme will apply to this Trust Fund as far as the accounts and audit are concerned.

The Coordinating Unit for the Mediterranean Action Plan will, under the authority of the Executive Director of the United Nations Environment Programme, prepare budget estimates to be adopted by the Contracting Parties. This budget is financed by contributions from the Contracting Parties, voluntary contributions from governments, supporting organisations and non-governmental sources, as well as counterpart contributions.

The contributions of the Contracting Parties will be assessed on the basis of a mutually agreed scale which will take into account the UN scale of assessment.