

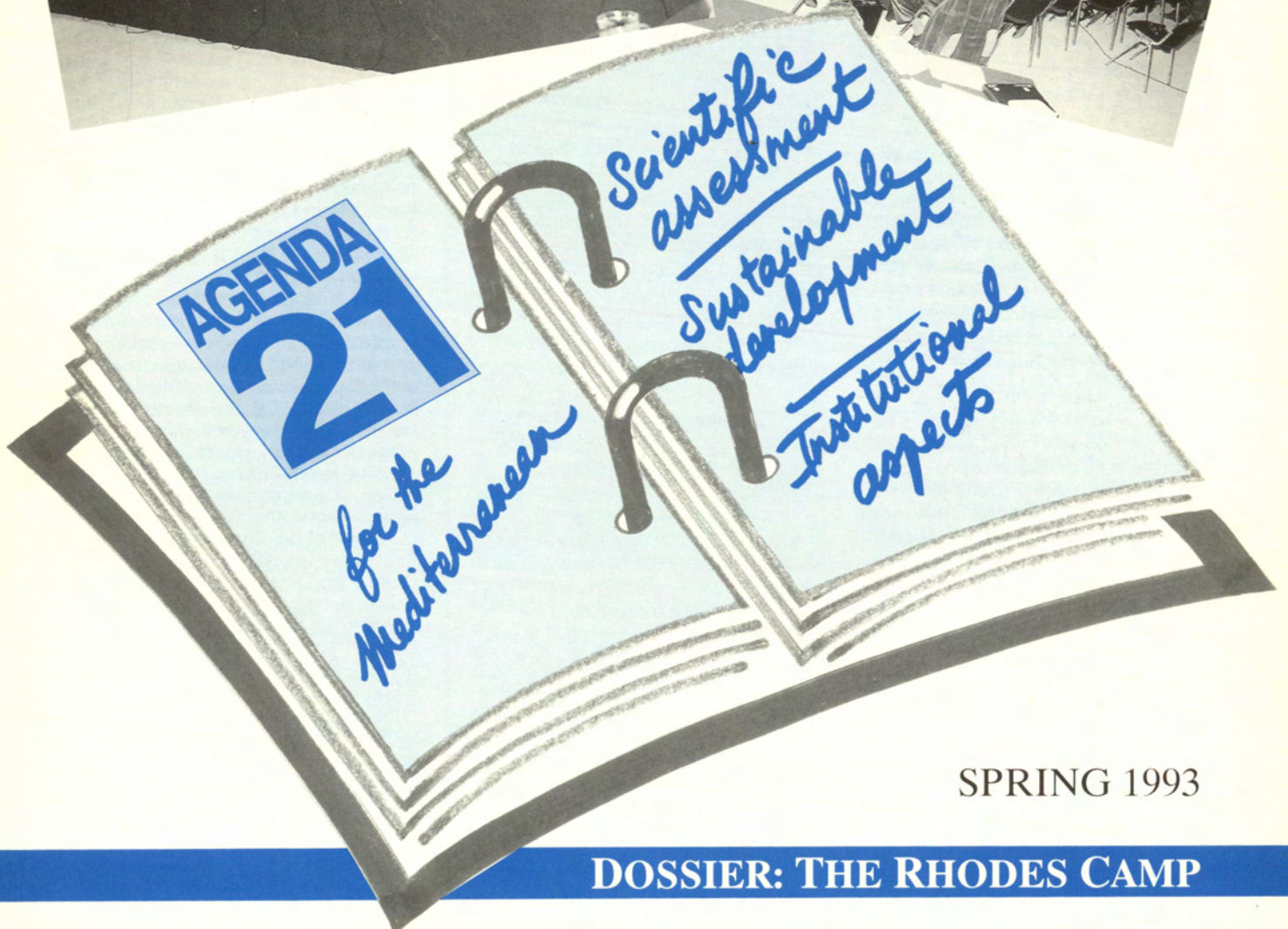


UNEP

# MED WAVES

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## THE MALTA INFORMAL MEETING



SPRING 1993

DOSSIER: THE RHODES CAMP





## THE SPIRIT OF THE MALTA MEETING

I would like to give the readers of this bulletin certain clarifications on the scope - and thus the limits - of an occurrence which is but the first step in a long process which will hold our attention in the next several years. The last issue of MEDWAVES was devoted to "The Mediterranean after Rio". In this one we give a first practical illustration with the report of the meeting on "Agenda 21 for the Mediterranean" convened in Malta, February 13 to 15.

This brainstorming session was integrated within a double framework: firstly the UNCED follow-up just started at world level with the setting-up and the organizational session of the Commission on sustainable development and secondly the continuation at Mediterranean level of the refocusing of the cooperative action which had already started a few years back on the basis of principles that would be adopted at Rio. In effect, in many respects, the pioneer work of the Mediterranean Action Plan had anticipated the "Rio Spirit" and I will note here some of the highlights: the Nicosia Charter signed in 1990 and confirmed in 1992 by the Cairo Declaration based on concrete solidarity among the Mediterranean States and the EEC to be integrated in MAP in order to introduce the environmental dimension in the development planning and management process; further the launching in 4 States of the first Coastal Areas Management Programmes (CAMPs) and the preparation of CAMPs in 5 other countries and finally the development of environment/development scenarios and climatic scenarios.

If we don't want to rest on our laurels but be totally faithful to the commitments undertaken at Rio, we must right now ask some simple but fundamental questions on the course to follow. Since Agenda 21 is the blueprint in all areas where environment and development meet, what can we and what must we do to make it operational in the Mediterranean? And since for the last 17 years the Barcelona Convention has been the indispensable framework for

Mediterranean cooperation, shouldn't we, in light of the Rio experience and the new geopolitical realities in the region, review the Convention and amend certain aspects of it to make it more effective?

It was precisely in order to reflect on these questions, to exchange ideas and draft solutions that more than 50 experts from all around the Mediterranean were convened at Malta. They debated the issues in full freedom and independence in an informal framework without any prejudice to decisions that will soon be called to take the Contracting Parties to the Barcelona Convention: the Joint Meeting of the Permanent Committees in May and the Eighth Ordinary Meeting at Antalya in October.

Obviously such issues cannot be exhaustively discussed in three days. Those that participated in the "Agenda 21 for the Mediterranean" meeting have first and foremost attempted, by taking advantage of the formidable impact created by the Earth Summit, to explore new areas of action, to think about the legal structure of MAP and the means to enlarge and reinforce its scientific component. Of the 22 recommendations adopted by the Malta meeting I will only mention the one that in my view summarizes best the thinking of the participants: "*Any attempt to give effect to the Rio Declaration Principles and the Agenda 21 for the Mediterranean should take into account the Barcelona Convention System.*"

*Moving from the concept of environmental protection and conservation to the concept of development requires the appropriate adaptation and upgrading of the existing institutional structure of the Barcelona Convention".* In other words, rather than interrupting the action or destroying the structures which, since 1976, have amply proved both their solidity and their validity, it was agreed to upgrade them in order to use them in the decisive phase which is opening up in Mediterranean cooperation.

**Professor Salvino Busuttill**  
*Coordinator, Mediterranean Action Plan*

***About fifty experts from governmental organizations, NGOs, the mass media and industry discussed the possibility of adapting the scientific and institutional framework of MAP to the strategy of sustainable development.***

The informal meeting held at Valletta, Feb. 11-13 was hosted and partially financed by the Foundation for International Studies (FIS). About 50 experts from all around the Mediterranean had the opportunity for three days to exchange views, experiences and suggestions which might help in a subsequent phase, if the Mediterranean countries decide to review and amend the scientific and institutional structure of MAP to adapt it to the after Rio reality.

### **Official interventions**

The Maltese authorities in various capacities noted the interest of their country and government in the activities of MAP in the last 17 years and how they felt it was important to integrate them in the perspectives opened by the June 1992 Rio Summit. Mr. Stanley Zammit, Parliamentary Secretary for the Environment read a message from Mr. E. Fenech Adami, Prime Minister of Malta. In his inaugural address the Prime Minister referred to the CSCE meeting to be held in Malta in May 1993 to examine issues such as environment, demographic trends, economic developments and other areas of bilateral and multilateral cooperation between States members of the CSCE and Mediterranean non-members. He also mentioned two proposals put forward by Malta at international level. For his part, Mr. Salah Hafez, Chairman of the Egyptian Environmental Affairs Agency, extended on behalf of the Egyptian Minister and President of the Bureau of the Contracting Parties to the Barcelona Convention Mr. A. Ebeid a very special tribute to the Maltese authorities for hosting and sponsoring the meeting. He pointed out that the Meeting was initiated on a decision taken by the Bureau. Finally a message from Ms. E. Dowdeswell, Executive Director of UNEP, was also read in which she congratulated the Mediterranean experts on their initiative and expressed the conviction that the Contracting Parties would consider carefully the outcome of this meeting. However two further interventions by Maltese officials were also made during the closing session. Mr. Stanley



# AN INFORMAL MEETING ON «AGENDA 21 FOR THE MEDITERRANEAN»

WAS HELD IN MALTA FEB. 11-13, 1993

Zammit, Parliamentary Secretary for the Environment, referred to the practical implications of UNCED for his country, especially the creation in the near future of a "National Agenda 21 Directorate" which could set up and maintain links with an extended network of parties interested in sustainable development. On the other hand, Mr. Guido de Marco, Deputy Prime Minister and Minister of Foreign Affairs gave the closing address and expressed the view that serious thought should be given to creating a regional Mediterranean United Nations entity that "could be inspired and regulated, perhaps in its initial phases, from and through an expanded Barcelona Convention with terms of reference encompassing not only environment but social and economic interactions that will promote a process of sustainable development in the Mediterranean region".

### Three main themes

Discussions during the three-day meeting centered around three-reflexion axes: scientific assessment of the state of the Mediterranean environment, sustainable development and institutional aspects. The basis for the discussion on each was an informal working document prepared by the Coordinating Unit. In his opening speech, Mr. Salvino Busuttil, MAP Coordinator put the meeting in its historical background and pointed out that some of the principles adopted at Rio had for many years inspired the Mediterranean Action Plan and many of its practical applications: refocusing and implementation of Coastal Areas Management Programmes, Nicosia Charter, Blue Plan prospective studies and climatic scenarios. Mr. Busuttil made clear that this was not a governmental expert meeting, but that possibly such a meeting could be convened at a later time in accordance with article 16 of the Barcelona Convention if it were decided by the Contracting Parties to seek a revision of the Convention and/or its related Protocols. Moreover, he concluded "it might well be that rather than seek completely new institutional arrangements, the Contracting Parties might prefer to build on what had so far been achieved". The Coordinator of MAP having thus traced the main lines of both the framework and the spirit of the discussion, the brainstorming session was divided into three parts which led to 22 proposals contained in a report which will be examined by the

Mediterranean States in their future meetings in Athens (May) and Antalya (October).

### Scientific Assessment

The session on the scientific assessment of the state of the Mediterranean was chaired by Mr. Serge Antoine, France; the working document had been drafted by the Senior Marine Scientist of the Coordinating Unit Mr. L. Jetic. In his opening remarks, Mr. Serge Antoine made several points (reflected in the final proposals) and stressed the notion of "Mediterranean networks", the need for a clearer focus on research and

*precise and focused objectives but unfortunately they are too often an end in themselves instead of being a tool and scientific basis for environmental management".* During the general discussion, differing views as to the shift of attention from sea to land and as to the kind of changes and adjustments required in the present programme were expressed. However a consensus was reached on the need for a better use of the results of monitoring in the process of management and decision taking within sustainable development; special emphasis was given to sources and trends.

### Sustainable development

The Chairman of the session, Mr. M. Ennabi, Tunisia opened the discussion by referring to the developments leading to the UNCED Conference in Rio and the international response following that meeting. The informal working document was introduced by his author, Mr. E. Scicluna, Malta, who highlighted the many worrying trends regarding the degradation of resources due to pressures of development and indicated the alternative strategies available. Then, the experts from the four countries selected as country pilot projects for sustainable development within the framework of the Nicosia Charter programme (Albania, Egypt, Malta and Tunisia) made brief presentations. During the general discussion, the participants agreed on the need to identify the various actions within Agenda 21, so that appropriate measures be taken at regional level. Among these measures (some appearing as final proposals) one should include the following: the priority for the Contracting Parties to the Barcelona Convention to review carefully the complete text of Agenda 21 to identify those parts that can specifically be applied to the whole of the Mediterranean region; the need to provide for new arrangements to promote regional cooperation; a wider dissemination of Agenda 21 within the region to enable both the decision makers and the public opinion in the various countries to become fully conversant with its content and implications and finally the need for MAP to develop as soon as possible strategies of sustainable development on the basis of national strategies concerning the areas of common interest.

*"While the real impact of the Rio Agreements will be felt only gradually as policies by Governments begin to take root, the Mediterranean Action Plan should from now give all of us the opportunity to harmonize interaction between environment and development-creating the ideal setting for implementing the results of UNCED. The regional partnership that has promoted so successfully the cause of environment and development in the Mediterranean region could thus contribute to the global partnership that was delicately interwoven at UNCED".*

**Mr. E. Fenech Adami,**  
Prime Minister of Malta,  
opening speech at the meeting  
on "Agenda 21 for the  
Mediterranean"

assessment and well defined deadlines. He further emphasized the possibility that the Mediterranean might serve as a pilot area for the implementation of the Biodiversity Convention.

He also declared that, given the rather low levels of spending in the Southern Mediterranean Countries and the current disparities between North and South in funding of research/development, greater solidarity should be shown toward the South.

In introducing his informal working document, Mr. L. Jetic stressed that "all monitoring programmes should have





### Institutional aspects

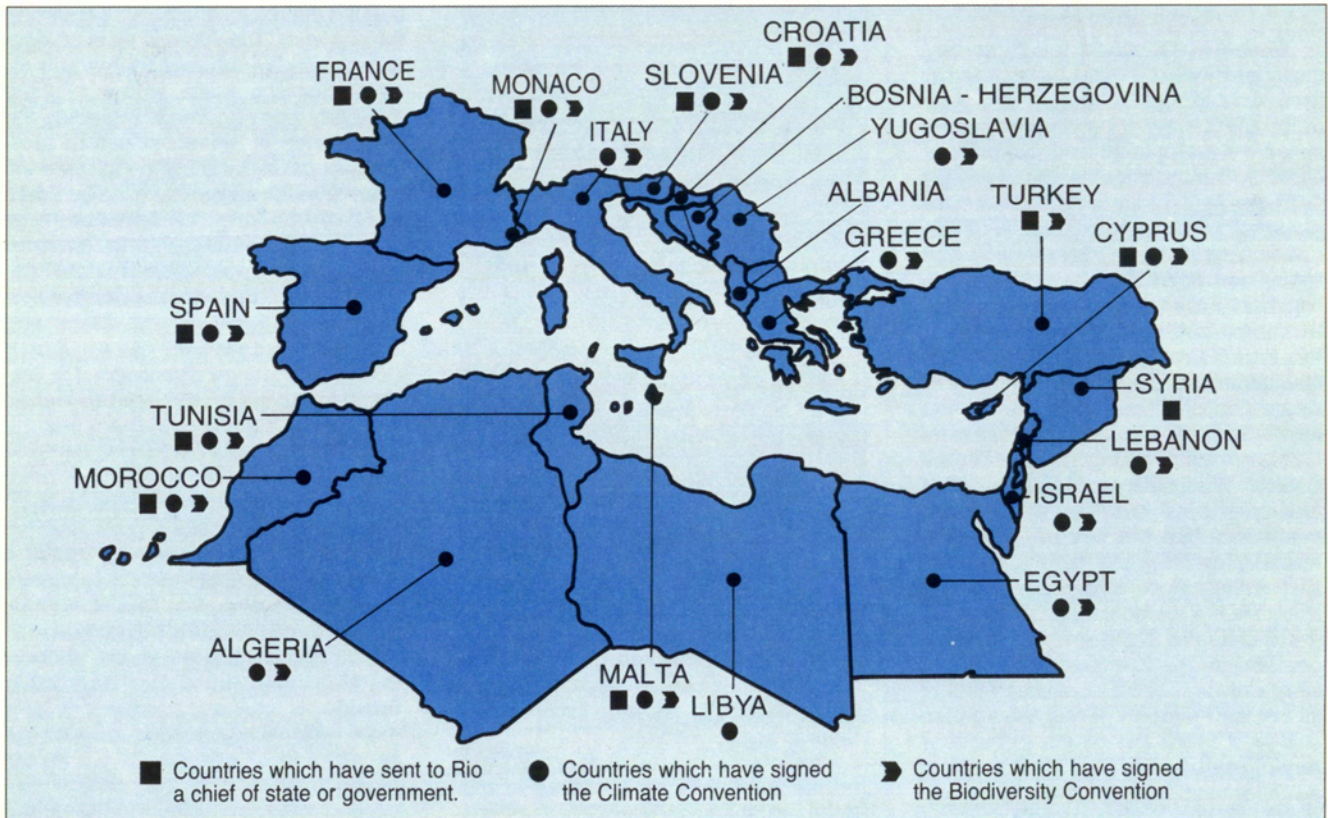
The chairman of the session, Mr. D. Attard, Malta opened the session by pointing out that the 1976 Barcelona Convention remains a model Convention and provides a viable legal framework for environmental protection and regional cooperation. The author of the informal working document Mr. E. Raftopoulos, Legal Consultant, MAP, Greece pointed out what he called "the legal deficit" of the Barcelona Convention system which consists of three essential aspects: lack of appropriate formalization and adequate prescription of the functions of the Bureau, the Committees and the Regional Centres; lack of a comprehensive legal strategy and lack of any institutional mechanism implementing this comprehensive legal strategy. During the general discussion, the need for a political will to apply Agenda 21 for the Mediterranean was emphasized. Views were

expressed to the effect that Mediterranean cooperation could develop more easily if there existed a certain "organic texture" of professional or quasi professional relations, such as among ports, cities, parks and reserves, universities etc. The launching of a "Mediterranean Authority", based on the Mediterranean Action Plan, or of a Legal Committee, or even of an "Arbitration Office" divided participants. Some felt that these might be useful principles on condition that the entities envisaged be independent without becoming "superstructures" and especially that they be the outcome of an in-depth consultation process among Mediterranean States. Others felt that the objective was not to create a new structure within MAP but to improve cooperation, especially in the fields of research, training and technical applications. In concluding the general debate, Mr. Raftopoulos sum-

marized the situation by pointing out that there were those favouring institutional innovation and those favouring slow adjustment and stated that much still remained to be done in order that the Barcelona Convention cover all the concerns expressed.

The future will show whether the Mediterranean Action Plan, through its decision-making bodies, will opt to formalize the process of developing an Agenda 21 for the Mediterranean. However it is certain that the Malta Meeting, through its proposals and the general climate in which it conducted its work, already accomplished part of the spade work by identifying the main lines of action and the orientation around which the Action Plan will have to adapt to the new Mediterranean realities. This was the spirit of the concluding remarks of the Coordinator who stated that the Malta meeting "had fully achieved what it set out to do".

## THE MEDITERRANEAN COUNTRIES AND RIO : A CORRECTION



In the last issue of Medwaves, in connection with the article «After Rio: The Planet and the Mediterranean» a map was published which rightly gave rise to criticisms and remarks, since on it did not appear certain States which came from the ex-Federative Socialist Republic of Yugoslavia and which at the Rio Conference (5-14 June 1992) had already been recognized by the United Nations for 13 days (22 May 1992). We apologize and in order to correct the omission and to dispel any doubt as to the editor's intentions MEDWAVES is now

printing a corrected version of the map of the Mediterranean coastal states taking into account the developments over the last year or so and without prejudice to the future status of these states vis-à-vis MAP. This map does not imply the expression of any opinion whatsoever on the part of UNEP concerning the legal status of any State, Territory, city or area, or of its authorities or concerning the delimitation of their frontiers or boundaries.





## THE COASTAL AREA MANAGEMENT PROGRAMME FOR THE ISLAND OF RHODES

### RHODES: THE SENSIBLE PROJECT

In 1988, we had presented the pilot project for Rhodes, (see *MED-WAVES* No. 13), as we did later for the projects concerning the Kastela Bay, the Bay of Izmir and the Syrian coast. At that point those were activities of the Split Centre within the framework of Priority Actions Programme, integrated in the re-orientation of that programme toward integrated planning and management of coastal areas. Five years have gone by. If we want to see the development of the Mediterranean Action Plan since then, we could do no better than to look at the development of those pilot projects which have since been renamed "Coastal Areas Management Programmes" (CAMPs) in which are now involved all MAP components: PAP, Blue Plan, MED POL, REMPEC, SPA in a multidisciplinary action in the field along with the active commitment of national and local officials and experts and under the overall supervision of the Athens Med Unit. The success of the programme is shown by the fact that countries from all round the Mediterranean are anxious to have CAMPs launched in them. That's why to the four initial CAMPs two more, one in Marsah-Matrouh (Egypt) and the other in Sfax (Tunisia) have been added while at the last intergovernmental Meeting in Cairo in 1991, three more countries applied and obtained one CAMP each: Albania, Algeria and Morocco. A similar process initiated by Israel, Malta, and Italy is in progress.

We have chosen to present first the CAMP for Rhodes partly because of its state of progress and the active commitment of all the Greek partners associated with it and partly because of its original character. In contrast to the other CAMPs where the problems are urgent (pollution, demographics, pressure on resources etc.), Rhodes is relatively spared: except for the areas near urban sewage disposal sites its waters are still not very polluted, its resources have withstood up to now the pressures of the tourist season, social imbalances are minimal and the projected impact of climatic changes might even favour its tourist future... To put it succinctly, the Rhodes CAMP gives an opportunity for study and reflexion without pressure. The funds allocated both by the Greek side and the MAP/UNEP side along with the European Investment Bank are adequate for the solutions envisaged. Of course time counts. The island's tourist development is reaching the critical point and if a "laissez faire" policy were followed, a brutal aggravation of pressures would ensue; this might lead to improvised half-measures to correct the situation.

We have tried to give a brief overview of the CAMP activities so far. The general philosophy of the programme is given on page 6 by Ibrahim Dharat, MAP official responsible for liaison with the various CAMPs; other aspects will be dealt with later, like the creation of a reserve in the "Valley of Butterflies", the project of a sewage treatment station, and the restoration of the historic centre of the city of Rhodes. Obviously the concerns about planning for the future of the island did not begin with CAMP. For many years, local island authorities felt that the rate of development might no longer be controlled. MAP can in this phase offer its experience, the technical competence that it can mobilize in the field and the external financial aid that it can attract.



Medwaves

### An interview with the Prefect of Rhodes «THERE IS ONLY ONE WAY TO BREAK OUT OF THE VICIOUS CIRCLE OF UNCONTROLLED DEVELOPMENT...»

**George Haralambopoulos, Prefect of the Dodecanese islands was kind enough to answer our questions on the significance of the Rhodes CAMP for the island.**

*Medwaves: Could you tell us about the significance at the local level of the cooperation launched by the Rhodes CAMP? Is it simply a one-time push forward or rather the perspective of a deeper and more systematic effort?*

G. Haralambopoulos: This of course would depend on all the actors involved in this cooperative action and their respective will. In my view, this form of cooperation between a UN agency, such as MAP/UNEP and the officials and experts in Rhodes is in many respects a positive development. Firstly it has already provided the context for an original combination of two types of knowledge: the very specialized learning of international experts in their fields of competence and that of local experts thoroughly familiar with the realities in the island. This combination should give the project under way two complementary and interconnected characteristics: strict scientific design and applicability in the field. Concerning local officials their collaboration with MAP/UNEP has guaranteed from the beginning a policy of wide support which I believe is indispensable for final success. And for local government, it was the occasion to enlarge their knowledge, to systematize it through new approaches tried at international level.

*Medwaves: Sustainable development has in very little time become a slogan used everywhere; it is going to lose its meaning if it isn't gradually translated into reality. On a practical level what does this concept represent for an island like Rhodes?*

G.H. Let us look at the island: it is apparent that the economy is based on tourism, a sector which depends directly on environmental quality, but which on the other hand has an impact on this quality, impact which is not always beneficial, to say the least. Uncontrolled tourist development can self-destruct by destroying that which attracts the tourists - the environment. There is only one way to break out of the vicious circle of uncontrolled development: to correct, predict, imagine and plan socio-economic development while respecting both the natural resources and the quality of life.

*Medwaves: Are there any weak points or gaps at the present stage of CAMP development?*

G.H. Of course there are. Firstly I believe that there should be a permanent office of MAP/UNEP at the prefecture level. The lack of it hinders the development of the programme both in terms of study/research and in the implementation of the programme. Local officials and experts have already acquired a solid background in MAP/UNEP approach and methodology, but at this point the means should be found in order to make the most of this experience both for this island and - why not? - for other islands of our prefecture. Then we lack technical infrastructure (computers for instance) which would provide access to the results of the studies. Let us take the Geographical Information System (GIS) which has provided very useful information on geography, economics and sociology. If there were the appropriate infrastructure these data would be accessible to the services, institutions, experts and to all interested parties.

*Medwaves: Do you consider the interest of the locals in the programme satisfactory at the local level?*

G.H. There is an ever greater awareness in terms of environmental problems, that's obvious. However rather than having a general awareness we would focus it on concrete, everyday problems so that it lead to concrete reflexion and consultation activities. A positive step in that direction was the conference organized by MAP/UNEP in Rhodes last December to present the CAMP to all the representatives of local authorities of the island. I believe that the public sector and the local administration must involve themselves in this effort. Seminars, training courses and similar activities focused on the environment must be organized in order to take advantage of the awareness developed and maintain the momentum gained.





## CONCRETE ACTION AS AN ILLUSTRATION OF SUSTAINABLE DEVELOPMENT

by IBRAHIM DHARAT

The integrated approach of environmental and development policies in dealing with the coastal area management was initiated within the Mediterranean region through the adoption of the Mediterranean Action Plan (MAP) in Barcelona eighteen years ago (1975) by the Mediterranean Coastal States and the European Economic Community (EEC). In fact, one of the four main components of MAP was totally devoted to the "Integrated planning of the development and management of the resources of the Mediterranean Basin". What do we mean by "Integrated Approach"? Quite simply, it is to develop an area in an integrated manner while at the same time protecting the environment if there is conflict among competing activities and scarcity of natural resources.

No region illustrates this competition among various sectors of activity better than the Mediterranean region. The growing demand for different development objectives in the Mediterranean coastal States, in particular the developing States, in terms of food, industrial goods, energy, housing and water, has resulted in the inevitable increase of conflicts in the use of the narrow Mediterranean coastal areas, dominated by steep and high mountains with their scarce resources; this in turn has placed enormous pressures on the Mediterranean environment. Keeping in mind that more than 80% of the pollution of the Mediterranean Sea originates in the surrounding coastal areas, conscious of the fact that regarding the Mediterranean, this narrow terrestrial administrative strip, is where the most serious threats exist, and taking into consideration that time was ripe for applying the various research studies to a more action oriented phase, the Contracting Parties to the Barcelona Convention decided in 1989 to reorient MAP towards environmentally sound integrated planning and management of the coastal areas, through what is now known as the "Coastal Areas Management Programme" (CAMP), within the framework of which the problems of development and environment interrelations could be studied in an integrated way. Four country pilot areas were selected for the first phase of this new sustainable development programme. The island of Rhodes was one of these four pilot areas selected in 1989 by the Mediterranean coastal States, with the long-term objectives of: a) preparing a development concept for the island, harmonized with the carrying capacity of the environment, with a view to meeting the needs of the present population, without compromising the needs of future generations. This approach was reconfirmed at the Rio Conference in the concept of Sustainable Development. b)

creating conditions for the establishment of a system of integrated planning and management of the island resources by: - establishing a monitoring programme of the environment on a permanent basis; - setting up a database of all necessary environment and development indicators; - providing training of local experts. The immediate objective of the project was to find, within the individual development/ environment activities, solutions to the most urgent existing environmental problems and conflicts that could be implemented immediately.



*Mr. Ibrahim Dharat, has worked since 1985 as a programme officer and economist at the Coordinating Unit in Athens. He studied economics and international relations in Libya and the United States. From 1964 to 1984, he served as a diplomat in the Ministry of Foreign Affairs of Libya, during which time he served two five-year terms at the Libyan mission to the United Nations in New York, working mostly on international economic cooperation issues.*

Therefore, the Rhodes CAMP Project was oriented towards the creation and promotion of the process of sustainable development through 14 individual activities ranging from legal and institutional components to resources planning and management of resources. The issues of water resources management, monitoring of the marine environment, tourist development, energy, soil erosion, forest fires, fisheries, industry and agriculture, and the protection of the Valley of Butterflies and the cypress trees were the main activities tackled by the project. Integrated planning tools and techniques were applied; training courses for national experts were organized.

The project, which is now in its third year and will run through the end of 1994, was expected to provide certain benefits for the island of Rhodes, including: improvement of the state of the ecosystems; the incorporation of environmental considerations into the planning and decision making process; - the upgrading of local problem-solving capabilities to deal with various development and environmental problems; - the transfer of knowledge, experience and technology to local and national institutions; the training of local experts; creating the conditions for responding to accidental and

emergency situations; creating the conditions for responding to the expected population growth - faster than in the rest of Greece - as a result of the development of tourism. Since one of the main objectives of the programme was to upgrade the national and local capabilities, the involvement of the decision makers and the national and local experts in the formulation and implementation of the programme was an essential component of the project which has been successful so far. The Greek Government, both at the national level, and at the local level, has been an active partner in this process. This was clearly illustrated during the Presentation Conference on "MAP in Rhodes: Programme for Development and Environment", which was organized by MAP in full cooperation with the Greek Government, in Rhodes December 14-15, 1992. The Conference was attended by high dignitaries, including the Prefect of the Dodecanese, the Mayor of Rhodes (elected as president), a representative of the Ministry for the Environment, representatives of the European Investment Bank (EIB) and CEDARE, as well as various local and national experts. The objective of the Conference was to introduce the Greek authorities to the following activities, within the Rhodes project, which have been completed or are at an advanced stage of implementation, with a view to stimulating thoughts and ideas with regard to the follow-up process: Development/Environment Scenarios, - Integrated Planning Study, Water Resources Master Plan, Implications of expected climatic changes. The Conference was the first of its kind to be organized within the CAMP exercise in the Mediterranean region. It will be followed by conferences on other CAMP projects. Due to the importance of the Rhodes CAMP as a clear manifestation of a sustainable development exercise, the European Investment Bank (EIB) through the "LIFE" programme of the World Bank and the EEC has agreed to finance some of the activities described in the Rhodes Project Agreement, signed in December 1990 by UNEP/MAP and Greece. After a long negotiation, the contract of financial assistance was signed by the Bank and MAP on 28 January 1993; the Greek government approved it on 22 February 1993. The contract stipulates that the Bank will provide a grant of 360,000 ECU to the project to be administered and coordinated by UNEP/MAP. The successful attraction of outside financial assistance and the trust placed in MAP have confirmed that the Mediterranean Action Plan, through its programme reorientation towards coastal areas management, was on the right track for a sustainable development exercise in the Mediterranean region.





## THE FIRST TANGIBLE RESULTS OF THE RHODES CAMP

### The environment/development scenarios

It is the Blue Plan of Sophia Antipolis that is entrusted with the elaboration of the "development/environment scenarios" for the Island of Rhodes and in agreement with the general philosophy of CAMPs. It is a joint team that undertakes this task: Blue Plan experts and experts of the Department of Environmental Studies of the University of the Aegean, set up in 1984 by the Greek Government to transfer the various activities from the mainland to the islands and to promote an integrated development of the Aegean Sea. (The University of the Aegean is based on Lesbos but various departments operate out of the islands of Chios, Samos and Rhodes). The joint team includes planners, economists, transport specialists, energy specialists, experts in ecosystem management etc. Within the framework of Rhodes, as in all CAMPs, the Blue Plan aims at adapting to the area under study the prospective method used for the scenarios for the whole of the Mediterranean region. The results of the analysis of the Rhodes system have led to the identification of the essential parameters on which development scenarios are based: geopolitical situation, international environmental policies, EEC policies, Greek government policy. Three types of hypotheses are considered: trend hypotheses which are the continuation of the existing situation, the reactive hypotheses which correct the unacceptable processes under way and the pre-emptive anticipation hypotheses.

The elaboration of scenarios consisted in the systematic analysis of the development perspectives in Rhodes in connection with environmental issues. Tourism which dominates both the present and the future of the island is included in each one of the scenarios leading to different choices. It is apparent however that the Rhodes tourist industry will need a profound reconversion to adapt to the "new tourist products" in demand and to a new social and economic environment where holiday-makers will be older than in the past and spread their vacations over the whole year, or take them for shorter periods or even long week-ends. Since it is impossible within this brief overview to give details on each scenario, let us refer only to the issue of tourism. In the "economic efficiency" scenario, the development of tourism relies on building large units and the availability of external investment coming mostly from outside the island. It is the tour operators that determine choices and the image of the island. In the "social equity" scenario, small units are the main development mode resulting perhaps in low quality services. The main concern here is the maximization of local benefits from tourist development. In the "conservation of the environment" scenario any new expansion of the tourist sector is discouraged and the construction of new units banned within the saturated area. This is a selective type of tourism to benefit the environment. The scenario "efficiency-conservation" reflects the heavy dependence of tourism on the quality of the environment; the emphasis is placed on building infrastructure, upgrading existing units and developing "new tourist products" which respect the environment. Finally the "sustainable development" scenario combines in a balanced manner the various goals: efficiency-equity and conservation. It requires a new conception of social behaviour and structural modifi-

cation of the system "human activities/environment".

Each scenario submitted to the decision makers has specific consequences concerning mobilization of capital and human resources, use and management of environmental resources, organizational and administrative capabilities at the local level. It is obvious that the adoption of a strategy for the development of the island is the outcome of a democratic planning process with the active involvement of all actors on all levels. However two important issues are common to all options:

- a change in attitudes is necessary in a long term perspective of the relationship development/environment to maintain growth and prosperity in Rhodes;
- even if tourism offers strong possibilities for a continued growth in Rhodes, the question whether it will lead to maximization of local advantages will depend solely on the ability of the local society to mobilize its own resources.

### The integrated planning study

This study is an "umbrella" document which, apart from research and planning proposals, integrates the results of other activities performed within this CAMP. It is the first and major step towards the launching of the process of integrated planning and management of coastal resources in the island of Rhodes. It is carried out by a joint group of experts from the Priority Actions Programme of Split, Croatia and Greek experts from the Ministry for the Environment, the Dodecanese prefecture and the municipality of Rhodes. It is a practical planning and management tool for: a) quick identification of development and environmental issues b) definition of an outlook of the most feasible future development of the island on the basis of the assessment of the natural resources to sustain human intervention c) proposing spatial strategies for the development of the island along with appropriate management actions and d) proposing measures for taking immediate actions. It must be pointed out that most of the proposals will be made at the level of community associations or communities themselves.

Within the first phase of study preparation, the work of the joint team was oriented toward the identification of the basic issues in the changing context of the development and environment of the island. Although some phenomena were analyzed sectorially in the first place (population, economy, spatial structure, natural systems, environmental management etc.), a high degree of integration between them was achieved so that their mutual impacts and effects had been identified wherever possible. For some issues, trends were presented of a future development based on the present growth rates. The objective of this procedure was not to produce projections competing with the Blue Plan scenarios, but to point out at this early stage some problems that can be expected in the future.

In a nutshell, the major issues that should be taken into consideration when planning the future development of the island are:

- overdependence of the island on tourism. Apart from the obvious benefits of such a development, some problems start appearing, such as: a general lack of local labour force and migration processes; concentration of the population in the

northern triangle of the island and a relative decrease of population in many settlements of the island (especially in its southern part); dependence on investment, decisions made outside the island; rigidity of the island economy with regard to the changed market;

- emerging processes of environmental degradation. Although the general environmental situation cannot be defined as unfavourable, there are traces of disturbance through increased sea and water pollution, overbuilding in the northern part of the coast and generally uncontrolled construction of tourist establishments, often without a building permit and problems in historic settlements;

- inappropriate use of natural resources. In some parts of the island land-use conflicts have already appeared as a result of the search for space for economic and other human activities. Water resources have become an ever more limiting factor for development: first, they are unevenly distributed over the island, and second the increased demand due to the growth of tourist activities causes an accelerated rate of their use, as well as a number of associated environmental problems;

- fragmented institutional structure of environmental management. Although the management role of the central Government is highly pronounced, a lack is noted in the coordination among the various departments in charge of environmental management. In practice, the implementation of a physical planning system on the island is very weak and the system of inspection and environmental law enforcement not very effective.

Within its scope of activity, PAP has developed a number of tools and techniques of integrated coastal zone management, especially for the needs of the planning study. Three of these tools are important and will be used, within the CAMP framework, in a training programme for local experts:

- 1) Geographical Information System (GIS). Its use has become commonplace in many businesses, universities and governments for an amazingly wide range of applications. It is a system of hardware, software and procedures designed to support the collection, management, manipulation, analysis, modelling and display of spatially referenced data for solving complex planning and management problems.

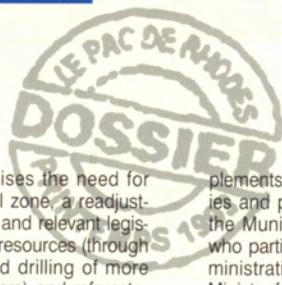
- 2) Environmental Impact Assessment (EIA) is a tool which enables the planners and the decision makers to take into account the possible environmental effects of the project in consideration. In the Rhodes CAMP, the EIA will be used in the decision making process on the construction of a waste water treatment plant for the city of Rhodes.

- 3) Carrying capacity Assessment for tourist activities (CCA); it must define new directions of tourist development. The assessment so far has covered the Faliraki - Lindos area, which has considerable tourist capacities.

### Study on implications of expected climate changes

The study was carried out through the Mediterranean Action Plan/UNEP and the Greek Ministry for the Environment. The objectives were to identify the possible implications of the expected climatic changes for the island, to determine the most vulnerable areas and ecosystems and finally to suggest policies and measures necessary in order to avoid the negative effects of such changes. The





joint team that was set up carried out the Study on the basis of the detailed climatic scenario for the Eastern Mediterranean and for Rhodes in particular which was constructed by the Climatic Research Unit of East Anglia University. It is expected that by the year 2050 there will be an annual temperature increase of between 0.9° C and 1.4° C and a sea level rise of between 20 and 30 cm.

Regarding water balance, the temperature rise will increase evapotranspiration and decrease total runoff and infiltration. There will be lower aquifer levels and sea water will further intrude into the alluvial plains. Another consequence of the anticipated temperature increase will be the lengthening of the tourist season, but also a greater vulnerability to forest fires (which have been especially destructive in the last few years). On the densely populated NW coast and the northern tip of Rhodes where the capital is, the impacts on the existing infrastructure built near the shoreline are expected to be very significant.

In its proposals and recommendations, the team

on climatic changes emphasises the need for careful planning on the coastal zone, a readjustment of the building standards and relevant legislation, exploration of new water resources (through construction of new dams and drilling of more boreholes into the karstic aquifers) and reforestation of the burned and eroded sections of the island.

#### Water Resources Mater Plan

The actual state of water resources on the island has become critical and difficult to manage, especially in the most populated northern area. The long term objective of the water resources master plan is the protection of these resources, rational management and use, through an integrated presentation of all characteristics of the water resources and the definition of optimal exploitation in accordance with present and future demands. The Split Centre heads the project and acts as coordinator of the programme. It plans and im-

plements the various activities, and reviews studies and plans. The Dodecanese prefecture and the Municipality of Rhodes provide the experts who participate actively in the project and the administrative and technical support. The Greek Ministry for Environment acts in an overall supervisory and coordinatory role and entrusts the Institute for Geological and Mineral Exploitation (IGME) with the implementation of the hydrogeological study, in close cooperation with the local authorities and the Ministry of Agriculture. All these activities were presented to the Greek authorities, that is over 200 persons representing for the most part the local authorities on the island, at a conference convened in Rhodes last December. In this way, all interested parties are kept informed of the development of the various studies and can become conversant with the problems and the various options that gradually emerge for their solution and ensure rational development for the island.

#### CHRONOLOGY OF THE RHODES CAMP

1987 UNEP's Executive Director at the Fifth Ordinary Meeting of the Contracting Parties in Athens defines and proposes the refocusing of the Mediterranean Action Plan on integrated planning and management of coastal areas. The Greek government suggests that the island of Rhodes be taken as a pilot area for Greece.

1988 The Split Centre (RAC/PAP) launches the 4 pilot projects by country (Rhodes, Kastela, Izmir, Syrian coast). Preparatory activities for Rhodes: report on the site, consultation meetings to define the programme, missions on water resources management and the cultural heritage of the island etc.

1989 Mission on the project of the water treatment station and the submarine outfall. Meetings on renewable energy sources. At the 6th Ordinary Meeting of the Contracting Parties in Athens the refocusing is confirmed and the pilot projects become the Coastal Areas Management Programmes (CAMPs).

1990 Several meetings on marine pollution monitoring and the impact of possible climate changes on Rhodes. In November, official signing of the MAP/UNEP - Greek government agreement on the Rhodes CAMP: detailed programme of activities, workplan, budget, cost sharing between partners. The financial contribution of the European Investment Bank is anticipated.

1991 Launching of the study of integrated planning (PAP/Split) and the environment/development scenarios (Blue Plan/Sophia Antipolis). Joint teams of MAP/UNEP and Greek experts (both national and local) are set up for all activities. At the 7th Ordinary Meeting in Cairo, the countries involved in CAMPs are invited to make "a practical demonstration for the protection of the Mediterranean".

1992 Consultation with EIB in Brussels concerning its contribution to CAMP. Meeting entrusted with reviewing the study of integrated planning. A further meeting on climatic change. On 14 and 15 December conference to present to the Greek authorities the activities concluded or those at an advanced stage of development.



- Area: 1398 km<sup>2</sup>
- Length of coast: 220 km
- Arable land: 16%
- Pasture land: 47%
- Urban areas: 8%
- Forests: 25%

- Inhabitants: 110,000
- Tourists: 850,000 (1990), or 10% of arrivals and 20% of overnight stays for tourists on a national level

- Employment:
  - Primary sector: 11%
  - Secondary sector: 25%
  - Tertiary sector: 64%



## MAP ACTIVITIES

### PREPARATIONS FOR MED-POL - PHASE III:

#### *Evaluation of the Israeli Monitoring Programme*

With MED POL-Phase II ending in 1995, the Mediterranean Coordinating Unit must prepare and propose to the Scientific and Technical Committee the programme of Phase III. Before such a proposal can be made, it is necessary to review and evaluate MED POL-Phase II and its achievements. A meeting was already held at Haifa, Israel, Dec. 21 and 22, 1992. In it took part, Mr. L. Jetic and Mr. G.P. Gabrielides from MAP and from the Israeli side, 9 experts, among them Mr. E. Adler, MED POL National Coordinator and Mr. Y. Cohen, General Director of the Institute of Oceanographic and Limnological Research (IOLR). A similar consultation meeting for Croatia will take place in 1993 to review the national monitoring programme of Croatia. Participants in the Haifa meeting carefully reviewed the activities carried out in Israel since the mid 70s, quality control and the validation and processing of data. It was concluded that the Israeli programme needed two additional activities: a full, one-time study of all river mouth sediments and long-term monitoring of marine life in the open sea and on beaches in order to quantify the phenomenon in an effort to find ways to prevent or reduce the nuisance.

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#### MEETING OF THE WORKING GROUP ON BIOMONITORING IN THE MEDITERRANEAN AND THE BLACK SEA (FAO/UNEP/Euro-Mediterranean Centre on marine contamination hazards)

*Valletta, Malta,  
10-11 Nov. 1992*

This was a meeting organized jointly by FAO, UNEP and the Euro-Mediterranean Centre on Marine contamination hazards of the Council of Europe, as a follow-up to a first meet-

ing FAO/UNEP/IOC also held in Malta in September 1991. The ultimate aim of the working group is to introduce biomonitoring in parallel with chemical monitoring, by formulating a programme to be implemented on a pilot scale.

In the first phase a small core of institutions within the Mediterranean region would use a selected number of biomonitoring techniques corresponding to priority contaminants already determined in the chemical monitoring. In the long term, the pilot programme would lead to a fully operational Mediterranean-wide biomonitoring programme using the achievements of the pilot exercise.

The meeting reviewed selection criteria for appropriate bio-markers to be used in the pilot programme, specific stress indices, test species and methodology. On the basis of information provided by the Working Group members a list of potential participating laboratories was established; the biomonitoring techniques recommended by the meeting were those already in use or being developed.

The main conclusions of the meeting were that there is an urgent need to initiate biological effects monitoring in the Mediterranean, that the number of potential laboratories is still too small, that the relevant capacity of other laboratories should be developed and finally that the pilot exercise could start towards the end of 1993. (The report of the Meeting was published by MAP/UNEP in December 1992).

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#### A MEMORANDUM OF UNDERSTANDING WAS SIGNED BETWEEN CEDARE AND MAP

With a view to initiating regular cooperation between the Centre for Environment and Development for the Arab Region and Europe (CEDARE) located in Cairo, Egypt and MAP, a first consultation meeting was held in Cairo, Nov. 11, 1992 on the occasion of the meeting of the Bureau of the Contracting Parties. A second consultation meeting was held in

Rhodes, Dec. 15, 1992 on the occasion of the conference for the presentation of the Rhodes CAMP Project. It was agreed by the Chief Technical Adviser of CEDARE, Mr. K. Sabet, the Coordinator of MAP Mr. S. Busuttill and Mr. I. Dharat, MAP Senior Programme Officer that cooperation would encompass several areas of marine and coastal resources management. CEDARE will provide technical assistance for the two CAMPs in Fuka-Matrouh (Egypt) and Sfax (Tunisia). MAP and CEDARE will jointly support capacity building in remote sensing using the facilities provided by the Centre for Remote Sensing (CTM) of Scanzano, Italy. Furthermore, CEDARE with the support of MAP will set up a Training Centre for the preparation of national environmental master plans. Courses would be organized for nationals from the Mediterranean region, with MAP providing technical expertise and any other necessary input.

Training would focus on producing feasibility studies for environmentally sound development projects at both regional and national levels and on drafting sustainable development country level master plans.

Finally it was agreed that MAP and CEDARE would develop joint projects in the field of water quality and that CEDARE would be included in the list of NGOs attending MAP meetings as an observer; at the same time, MAP would be invited to attend technical meetings organized by CEDARE. All these points were included in a memorandum of understanding signed on Feb. 12, 1993 in Malta, on the occasion of the Meeting on Agenda 21 for the Mediterranean, by S. Busuttill and M. Nour, Executive Director of CEDARE. It was also stipulated that CEDARE would cooperate with the Blue Plan Centre at Sophia Antipolis in the development of the "Mediterranean Environment Observatory" and in establishing closer relations with the Arab countries, in particular in the initiation of "observatories" at national level, in order to promote observation and evaluation of the environment in the Arab Mediterranean countries.



## MAP PUBLICATIONS

MAP Technical Reports Series:

### ***Applicability of remote sensing for survey of water quality parameters in the Mediterranean***

This is the final report of the research project carried out between 1990 and 1992 with the support of UNESCO through IOC, within the framework of MED POL-Phase II of MAP. There is a very detailed description of remote sensing (concept of operation, principal sensor types, operational platforms) and possible applications in the marine environment, especially in the Mediterranean. There are recommendations for the application of these techniques to monitor the various types of pollution.

*(MAP Technical Reports Series, No. 67, 142 pages. English only)*

### ***Evaluation of the training workshops on the statistical treatment and interpretation of marine community data***

In 1987, the Inter-Agency Advisory Committee for the MED POL decided to recommend the organization of training courses to help Mediterranean scientists analyze statistically and interpret their data relevant to marine community structures (mainly benthos and plankton). Five training courses (two at the regional and three at the national level) were organized under FAO/IOC/UNEP auspices. This report describes the content of the training workshops and the evaluation which followed on the basis of an anonymous questionnaire filled out by all 108 participating Mediterranean scientists at the end of the workshops.

*(MAP Technical Reports Series, No. 68, 221 pages. English only)*

### ***Proceedings of the FAO/UNEP/IOC Workshop on the biological effects of pollutants on marine organisms***

This FAO/UNEP/IOC workshop was organized jointly with the Euro-Mediterranean Centre on Marine Contamination Hazards of the Council of Europe in Malta, Sept. 10-14, 1991 within the framework of MED POL-Phase II. The report, edited by G.P. Gabrielides, FAO Senior Fishery Officer at the Coordinating Unit for MAP, contains the

two introductory interventions and 17 of the 19 papers presented. Discussion centered on the applicability of various techniques concerning biological effects to routine field studies, their significance and the interpretation for the assessment of marine pollution risks.

*(MAP Technical Reports Series, No. 69, 287 pages. English only)*

### ***Organohalogen compounds in the marine environment: a review***

This is a report of an expert meeting convened in Monaco in October 1988 at the MEL/IAEA laboratory to compile information on distribution, possible impacts and analysis protocols for the evaluation of contamination by several compounds in the organohalogenated group, especially those not normally included in monitoring programmes. Edited by James Readman and Sabine Lutz of MEL/IAEA, Monaco on the basis of documents adopted at the meeting.

*(MAP Technical Reports Series, No. 70, 49 pages. English only)*

## BOOKS - MAGAZINES

### ***Workshop on water resources - development and management in Mediterranean countries***

This is a book published jointly by the Centre international de hautes études agronomiques méditerranéennes (CIHEAM), Paris and the Institut Agronomique Méditerranéen de Bari, Italy (IAM-B). It contains the papers presented by the participants in the workshop held in Adana, Turkey, Sept. 3-9, 1992. It provides useful information to the planners and managers of water resources, to irrigation engineers and other specialists in the Mediterranean. Participants came from most Mediterranean countries, (and included J. Margeta, scientific coordinator PAP/RAC Split), from FAO, the World Bank. It is a panorama of problems connected with water resources in the region.

*(CIHEAM/IAM-B, 344 pages. In English and French. Preface by M. Lasram, general secretary of CIHEAM)*

### ***Europa 92: Rilancio del Mediterraneo e realtà italiana.***

These are the proceedings of the international seminar held in Genoa, Sept. 14 and 15 1991, by the International Soroptimist Association of Italy under the sponsorship of the EEC, UNEP and various government and local Italian institutions. Twenty three personalities from various fields participated in three round tables to discuss the issues of environment and development in the Mediterranean by focusing on the role of Italy within the EEC and its relations with its neighbouring Mediterranean countries. Representatives from France, Greece, former Yugoslavia, Monaco and Israel made presentations on the state of the environment in their respective countries.

*(Mursia Publications, Soroptimist internazionale d'Italia, 206 pages, Milan 1992. In Italian. Two papers in French)*

***Diethnis prostaia tou perivallontos*** ("International Protection of the environment"). Written by Giorgos Samiotis and Grigoris Tsaldas, this book (vol. I) concerns international policies and environmental law.

The main issues are: Internationalization of the problem of environmental pollution, ecological movements, the democratization of current international relations and environmental law with specific laws by category.

*(In Greek, Papazisis publishing, Athens, 348 pages)*

### ***Le Convenzioni internazionali sulla protezione del Mediterraneo contro l'inquinamento marino***

("The international conventions on the protection of the Mediterranean from marine pollution"). Umberto Leanza of the Tor Vergata University in Rome is the editor of the proceedings of a seminar of the same title held at Anacapri, June 24 and 25, 1991. Aldo Manos, ex-Coordinator of MAP, Evangelos Raftopoulos and Maguellone Déjeant-Pons have written the papers on the Barcelona Convention and MAP. The seminar was organized by the Italian Society "Mediterranean Civilization".

*(In Italian, English and French, Editoriale Scientifica, Napoli 1992, 291 pages)*



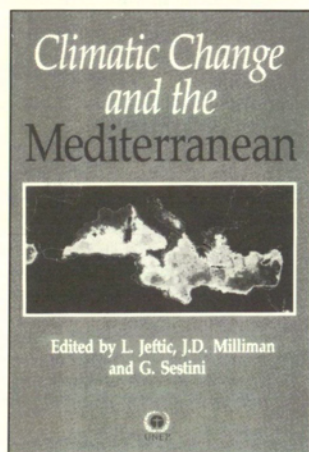
## TWO MAJOR NEW TITLES ON CLIMATIC CHANGE PUBLISHED IN CONJUNCTION WITH UNEP

### • UNEP file on *Climatic Change*:

Published by the Information Unit on Climate change (IUCC) set up in Geneva by UNEP with the support of the Governments of Switzerland and Luxemburg, as well as the Canton of Geneva, this file contains 241 fact sheets grouped in three series: the Causes of Climate Change, the Impacts of Climate Change and the International Response to Climate Change. Written by an expert, each fact sheet addresses an issue concerning the complex and multidisciplinary problem of climate change in a clear, incisive but not simplistic manner. Policy and decision makers, teachers and students among others will find the most up-to-date information on the most urgent questions. In effect, these fact sheets are updated regularly and organized according to an index system that allows IUCC the flexibility to replace dated sheets and to add new ones. A great deal of the research and the results of international meetings have been published, but mostly in highly specialized reports that are seldom available to the non-specialist. In a manageable form, the UNEP file on Climatic Change brings together essential information and gives answers to questions such as: More conflicts among nations? Is climatic modelling reliable? What would be the cost to reduce net emissions of greenhouse gases etc.

(For further information please contact:

**Information Unit on Climate Change (IUCC), UNEP, Palais des Nations, CH -1211 Geneva 10, Switzerland, tel. 0041-22-789-4062/65, Fax: 0041-22-789-4073)**



### CLIMATIC CHANGE AND THE MEDITERRANEAN:

The output of the task teams on climatic change has been regularly followed by MEDWAVES (see especially Nos. 14, 22 and 25); this is an essential MAP activity

in the framework of studies established by PAC/OZC UNEP, Nairobi for nine maritime regions in the world. This book commercially published in the United Kingdom with UNEP's support brings together in one volume all these studies along with maps, figures and illustrating diagrams, bibliographical references and an index. There is an opening overview by the three editors: L. Jettic, Senior Marine Scientist, MAP, J.D. Milliman, Marine Scientist at Woods Hole Oceanographic Institution, Massachusetts (USA) and G. Sestini, Applied Earth Science Consultant and UNEP Advisor, London/Florence. In total 18 specialists have contributed to this volume of detailed overview of climatic changes in the Mediterranean. Each article is preceded by an abstract and followed by a bibliography. After the overview, the predictive camera focuses on particularly vulnerable sites like the deltas of large Mediterranean rivers and other coastal lowland areas and shows the complex interactions between climatic change, impact on the environment and the economic, social and political upheavals that may ensue.

**(Edward Arnold, Hodder and Stoughton Publishers, Mill Road, Dunton Green, Sevenoaks, Kent TN13 2YA, UK, Tel: 0732450111, Fax: 0732461321. Published in conjunction with UNEP, in English, except for the chapter on the Golfe du Lion in French, 673 pages, 1993)**

### Mr. L. Jettic,

Senior Marine Scientist at the MAP Coordinating Unit in Athens and co-editor of the book "Climatic changes and the Mediterranean" gave a brief interview to MEDWAVES on the political significance of this new book.

*Q. - Mr. Jettic this book on climatic changes is a remarkable synthesis of all the work carried out by the Mediterranean task teams in the framework of UNEP; it makes a contribution which will certainly be appreciated by the specialists. It includes measures and recommendations, particularly in the field of research, but does not propose a regional strategy for coping with the impacts of climatic change. Does this mean that your task ends with scientific assessments and predictions?*

A. - The book covers the activities of the Mediterranean Task Team from 1987 to 1989. The initial objective of the Task Team was to prepare regional overviews and site specific case studies on the

possible impact of expected climate change on the coastal and marine ecological systems, as well as on the socio-economic structures and activities on the region.

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

Consequently, the objective of the Task Team did not include the proposal for a regional strategy to cope with the impacts of climatic change although some of the messages in the book are quite clear, for instance that possible implications of climatic changes should be covered in the framework of the integrated coastal area management programmes.

As a follow-up to the work performed in 1987-1989 the second generation of case studies (Island of Rhodes, Maltese islands, Cres/Losinj Islands, Kastela Bay and Syrian Coast) was prepared in the 1990-1992 period. These studies went further to suggest policies and measures. The objectives of these studies were to identify and assess the possible implications of expected climate change on the terrestrial, aquatic and marine ecosystems, population, land-and sea-use practices, and other human activities; to determine areas or systems which appear to be most vulnerable to the expected climate change; and to suggest policies and measures which may mitigate or avoid the negative effects of the expected impact, or adapt to them, through planning and management of coastal areas and resources; using the currently available data and the best possible extrapolations from these data.

*Q. - At the 1990 Singapore meeting of all the regional task teams, you observed that the national and local authorities concerned have not shown an interest to match the seriousness of the climatic changes involved. Has the situation changed since Singapore, can you help the decision-makers to take into account the factor of climatic change, and how?*



A. - The six case studies contained in the book (deltas of rivers Ebro, Nile, Po and Rhone, Thermaikos Gulf and Ichkeul/Bizerte lakes) were meant to be presented at national seminars. Three of them (Ebro, Nile and Po) were presented but it seems that there has been no interest from national authorities in follow-up actions. For two studies (Rhone delta and Thermaikos Gulf) national authorities did not show interest in having them presented, discussed and amended, if necessary.

From the second generation of case studies the one on the Island of Rhodes was presented to national and local authorities in December 1992 and hopefully the other four studies will be presented as well. There is a good indication that national authorities are more interested now and that such presentations and preparations of follow-up actions will take place in the near future.

*Q. - The reluctance of decision makers could be partly due to the uncertainties that still affect the forecasting of the climatic change and of its implications. What do you say to decision makers when they tell you that they cannot adopt policies which commit a region or a country for years at considerable cost on the basis of a hypothesis that is still vague?*

A. - According to a broad scientific consensus, increasing atmospheric concentrations of greenhouse gases resulting from human activities are expected to lead to changes in climate. These changes may have started already and their continuation may now be inevitable. The rise in global temperature and mean sea level is expected to be among the major consequences of future climate change. The basic conclusion of the studies carried out to date in the Mediterranean is that the impacts of non-climatic factors (e.g. population increases, present development plans) on the natural environment and the societies in the study areas will, during the next several decades, most probably far exceed the direct impacts of greenhouse warming. Nevertheless, changes in climate conditions may contribute significantly to the continuous increase of society's vulnerability vis-a-vis adverse environmental conditions and impair its sustainable development. Accordingly, the most important message to the decision-makers is that the problems of the implications of climatic changes should be dealt with as part of the integrated coastal areas management programmes. Therefore, at present there are no proposals for particular strategies and policies which would commit a region or a country for years at considerable cost.



**ELIZABETH DOWDESWELL,**  
New executive Director of UNEP

Elizabeth Dowdeswell is UNEP's third Executive Director. She is a Canadian elected last December by the UN General Assembly for a four-year term. She succeeds the two previous Executive Directors: Maurice Strong who served from 1972 to 1975 and who most recently served as Secretary-General of the Rio Conference and Mr. Mostafa K. Tolba who for 17 years, between 1975 and 1992 left his imprint on UNEP at a time when at world level environmental problems became a major source of concern and the will was expressed to take up the challenge to solve them at global level.



At the time of her election, Mrs. Dowdeswell was serving as the Assistant Deputy Minister at Environment Canada and head of the Atmospheric Environmental Service; she has extensive experience in the fields of climatic change, particularly as Canada's principal delegate to the Intergovernmental panel on Climate Change (IPCC) and as a participant in the negotiations leading to the framework Convention on Climate Change, adopted last June in Rio by UNCED.

Her early career included several posts in the fields of environment, human rights and education. She has spared no effort in promoting sustainable development and has taken part in several activities organized in both industrialized and developing countries. She holds a Master's Degree in Behavioural Sciences. The Mediterranean Action Plan wishes Mrs. Dowdeswell every success in the difficult task she faces at a time when UNEP must see to it that the commitments undertaken at Rio by the international community are translated into facts.

### MAP CALENDAR

Joint Meeting of the Scientific and Technical Committee and the Socio-economic Committee	3-7 May Athens Greece
Consultation Meeting on the fungicides pilot survey	27-29 May Ioannina Greece
Consultation on microbiological quality of marine recreational waters	9-12 June Athens Greece
Training Workshop on the monitoring of chemical contaminants using marine organisms	22-26 June Athens Greece
Summer School on biogeochemical processes, environment/development interactions and futures for the Mediterranean Basin	30 August-17 September Nice France

**ATTENTION:**  
There are new telephone and telefax numbers at the Athens Coordinating Unit

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If you would like to propose an article on a subject related to marine science, please address it to: Gérard Pierat. Editor **MEDWAVES**, Co-ordinating Unit of the Mediterranean Action Plan 48, Vas. Konstantinou Ave., 116 35 Athens Greece. Tel. (00301) 725 3190-5 Fax. (00301) 725 3197 Telex 222 611 MEDU-GR.