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ACTIONS  
PROGRAMME

*White paper*  
**COASTAL ZONE  
MANAGEMENT**  
*in the*  
**MEDITERRANEAN**

**Note:**

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*Here the North and the South, the East and the West meet.  
In other words, saying “Mediterranean” is saying everything, or almost: a vast  
and stratified world, a treasure trove, partly known and partly to be explored.  
The Mediterranean represents something to exploit, in an approach that stresses  
not only the aesthetic qualities, but also the value of the “memory”, of the  
“document” and always from a perspective of local protection and enhancement.*

*(Famoso, 1998)*

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## List of Acronyms

APAL	<i>Agence de Protection et d'Aménagement du Littoral</i> (Agency for the Protection and Management of the Coast)
BP/RAC	Blue Plan/Regional Activity Centre
BSEC	Black Sea Economic Co-operation
CAMP	Coastal Area Management Programme
CEMAT	Council of Ministers on Planning (the European Council)
CORINE	Co-ordination of the Information on the Environment
CPMR	Conference of Peripheral Maritime Regions
CZM	Coastal Zone Management
DDE	<i>Direction de l'Équipement</i> (Directorate for Public Services)
DIREN	<i>Direction de l'Environnement</i> (Directorate for the Environment)
EIA	Environmental Impact Assessment
EIB	European Investment Bank
ERS/RAC	Environment Remote Sensing/Regional Activity Centre
ESDP	European Spatial Development Perspective
EU	European Union
EEA	European Environment Agency
EuroMed	Euro-Mediterranean Partnership
GEF	Global Environment Facility
GIS	Geographic Information Systems
ICAM	Integrated Coastal Area Management
ICZM	Integrated Coastal Zone Management
IOC/FED	Indian Ocean Commission/Fund for European Development
MAP	Mediterranean Action Plan
MCSD	Mediterranean Commission on Sustainable Development
MEDU	Co-ordinating Unit for the Mediterranean Action Plan
METAP	Mediterranean Environmental Technical Assistance Programme
NGOs	Non-governmental Organisations
NIMBY	Not In My Back Yard
PACSICOM	Pan African Congress for Sustainable Integrated Coastal Management
PAHs	Polycyclic Aromatic Hydrocarbons
PAP/RAC	Priority Actions Programme/Regional Activity Centre
PCBs	Polychlorobiphenyles
POPs	Persistent Organic Pollutants
RAMOGE	Agreement between Italy, Monaco and France
SAP MED	Strategic Action Programme to Address Pollution from Land-based Activities in the Mediterranean Region
SEA	Strategic Environmental Assessment
SEACAM	Secretariat for East Africa Coastal Area Management
SMAP	Short and Medium-term Priority Environmental Action Programme
SMVM	<i>Schemas de Mise en Valeur de la Mer</i> (Plans for Sea Valuation)
SPA/RAC	Regional Activity Centre for Specially Protected Areas
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WB	World Bank



## MAJOR FINDINGS

### *Background*

This White Paper is the product of a thorough screening and analysis of a number of published studies, statements, workshop reports and manuals, most of them elaborated in the framework of the Mediterranean Action Plan (MAP). It is intended to stimulate a lively debate around issues and policy options aiming at the promotion of Integrated Coastal Area Management (ICAM) in the Mediterranean.

The document outlines the **need for a “proactive” policy** option, a **strategic vision** for the Mediterranean, and an **Action Plan** for Coastal Zone Management. In addition, it offers basic guidelines for proactive policy option implementation. In its conclusive part, certain key issues are highlighted and discussed for the reader’s consideration and feedback.

### *Pressures on the Mediterranean coastal zones*

Centuries of civilisation have developed an intensive and complex pattern of exchange and development attracting populations to coastal towns and spreading economic activities along the Mediterranean coastlines. The intensification of human activities on Mediterranean coasts generates waste that remains active for a long period of time. In the last few decades, the substances poured into the sea at particular sites have been distributed both on surface and deep levels, and considering the specific-to-the-

Mediterranean seawater renewal time (80 to 100 years), these substances are, to a certain extent, still present.

Today, long-term natural and human-induced changes in the hydrological cycle constitute a major problem for the Mediterranean region, especially in view of the significance of precipitation for many of the surrounding countries, the variation of which could be partially due to **climate change**. Human-induced effects increase greatly the existing problems deriving from **sea level rise**. The major causes of this phenomenon, include the reduction of river sediment supply, the destruction of natural shoreline defences (such as sand dunes and coastal ridges) against irrational coastal urban development, and the over-pumping of groundwater that may cause an increased subsidence, due to the lowering of piezometric surfaces of confined aquifers, as well as due to compaction phenomena.

**Coastal urbanisation** is representing the bulk of population growth and thus economic activity in this region with severe consequences. The general result is an apparent spatial dichotomy between strong, heavily populated coastal areas, characterised by high intensity of land use and consumption, and inevitably weaker, thinly populated inland areas with lower housing density and a less dynamic economy. Though at an embryonic stage, a spatial “re-equilibrium” phase aiming to balance urbanisation within the basin, has been successfully redirecting the spread of development from coastal urban centres to hinterland rural areas.

For most of the Mediterranean countries the development of **tourist activities** is a key element in coastal urbanisation (new areas or “re-conversion” sites), instigating

processes of local economic growth, as well as the restructuring of the local authorities shouldering difficult management tasks, which often exceed their capacities (such as facilities, services, municipal sewage and waste treatment, imbalance between seasons, etc.).

Coastal urbanisation is interrelated with biodiversity losses, stable increase of water demand, as well as of waste and pollution.

**Wetland losses** (3 million hectares in the Roman era to 200,000 hectares by 1994, representing a reduction of 93%) and environment degradation have imposed a serious threat to many aquatic species, especially water bird species inhabiting the Mediterranean coastline. **Water consumption** goes hand in hand with a spatial concentration of waste, resulting in the over-utilisation of groundwater resources, groundwater pollution and run-offs of wastewater into the sea. The increasing demand for water in coastal areas imposes the need for water transfer from upland areas, directly impacting upon entire river basins. **Pollution** is also highly concentrated in certain areas. Around 100 priority hot spots have been identified in 19 Mediterranean countries. Although this number does not account for all the polluted sites within the Mediterranean Basin, it nevertheless represents the major part of pollution loads for most of the domestic and industrial contaminants. As is the case with other world regions, **globalisation**, that is to say the standardisation of economic systems and social behaviour, threatens the cultural diversity and identities represented by local communities.

## *The need for regional and national coastal policies*

It is evident that the Mediterranean coastal areas face complex social, economic and environmental problems that demand particular attention. Their resolution depends upon long-term strategic action and on mobilisation at every administrative level.

In this region of the world, it became apparent early on that problems relating to the quality of the marine environment are linked to human activities, many of which are concentrated along the surrounding coastal areas; environmental protection was therefore timely steered towards the regulation of human activities on the coast. In this context **Integrated Coastal Area Management (ICAM)** has been widely recognised as a coherent framework in which to manage coastal areas effectively.

From an institutional perspective, the difficult task of the application of ICAM, is undertaken, throughout the world, at the **national level**, despite the fact that many problems might be regional or local in character. Responses vary on the basis of the particularities of the development stage, institutional context and environment/development issues. It has also become evident that there is more than one way to implement ICAM requirements. There are certain examples of comprehensive coastal management policies at the national level in the Mediterranean and a few applications. Nevertheless, the problems of coastal areas persist. National coastal policies in Mediterranean countries are typically more prescriptive than functional, relying as do upon traditional role dichotomies of government vs. governance. However, it is our contention, that a way forward can only

be paved by cautious procedures supplemented by participatory management, rather than outcome-oriented approaches.

With the advent of globalisation, national administrative systems, despite their fundamental regulatory role, are increasingly seeking partners at sub-national, local and often regional levels that can offer specific competitive advantages. At the local level, a variety of initiatives, such as the Coastal Area Management Programmes (CAMPs), have already been realised with varying outcomes, successes and failures. It is necessary that the **Mediterranean communities** upgrade in order for them to function as solid, co-operative and equally inventive participants within coastal management decision-making processes. Although many problems of coastal areas are highly localised, there are strong grounds for supporting a shared task.

By comparison to other world regions, the Mediterranean is probably the most advanced in terms of developing ICAM co-operation. This collaboration has been founded on the strong basis laid down by the Mediterranean Action Plan and recently in the context of other fora, especially the Euro-Mediterranean Partnership. In this sense, the **regional level** is very important in the Mediterranean and is likely to remain so in the future. A shared action requires a common framework, making the development of a united **vision** an urgent task for the region's future.

### ***Guidelines for action***

In the above general framework there is a role for everybody.

### ***Regional and transnational levels***

The Mediterranean Action Plan Phase II, adopted in 1995, offers a flexible regional framework for the integrated application of a proactive policy option. Its application is under the responsibility of a whole system composed partly of a Co-ordinating Unit (MEDU) with its Regional Activity Centres (RACs), as well as a consultative Mediterranean Commission on Sustainable Development (MCS D). It is also comprised of the Contracting Parties (Mediterranean countries and the European Union) that are made up of a wide range of spatial development (land use, regional planning, urban planning) and sectoral planning authorities.

Within this framework, MEDU qualifies to lead in streamlining communication and in supporting co-operation among major international and supra-national agencies, and enabling the Mediterranean countries themselves to develop a common **strategic vision** and finally an **Action Plan**. The **MCS D** can assume a **mediating role** in facilitating communication and expanding awareness among the Contracting Parties, the MAP RACs, civil society and the private sector.

Co-operation between the different MAP RACs should be improved, particularly through synchronised implementation of national and/or local projects such as Coastal Area Management Programmes (CAMPs). This co-ordinating endeavour should specifically focus on the two "horizontal" and complementary RACs, namely the **Priority Actions Programme Regional Activity Centre (PAP/RAC)** and the **Blue Plan (BP/RAC)**, in addition to other appropriate thematic RACs. Transnational collaboration, of the type exemplified by RAMOGE

(Italy/Monaco/France), should be encouraged by MAP, which may use it as supplementary means to elaborate ICAM activities on a larger and ecologically coherent scale.

Better linkage and co-ordination between various regional level initiatives is essential. The Euro-Mediterranean Partnership (EuroMed) and the Mediterranean Environmental Technical Assistance Programme (METAP) for instance, can provide a substantial boost in stimulating and supporting national and local ICAM activities. The development of a European-wide coastal policy could substantiate the EuroMed Short and Medium-term Priority Environmental Action Programme (SMAP) Coastal Zone Management setting.

### *National and local levels*

As the national level is expected to maintain its strong role in Integrated Coastal Area Management across the Mediterranean, it is necessary to rapidly devise mechanisms for **upgrading its operational capacities**.

MAP should encourage Contracting Parties to establish facilitating networks for the **exchange of experiences** gained on Coastal Zone Management practices, in order for them to further develop national regulations and instruments. A further national opportunity for ICAM promotion within the framework of MAP Phase II, is the preparation or utilisation of pre-existing **national and local agendas on sustainable development** in the Mediterranean, deriving from the conclusions of the Rio process (Agenda 21), as well as from those made by the “Med 21” Conference on Sustainable Development.

**Planning** should be understood as a central element in the establishment of ICAM at both national and local levels. It should be approached as a dynamic and adaptive process of governance that involves strategic decisions linking ICAM with sustainable development.

### *Practising ICAM*

Given that ICAM requires non-traditional forms of analysis, planning and action and as in most places such behaviour is unfamiliar and frequently resisted, the introduction of an inclusive, participatory process that is firmly grounded on cultural identities and actual local problems, constitutes a major concern for the ICAM practitioner. In other words, MAP and PAP/RAC, in collaboration with central governments, should **focus more on the process rather than the tools**; in cases in which key experts are needed, these should be appointed on their merits as “generalists” rather than “sectoral” experts.

**Advisory and Executive Committees**, whatever the scale and the scope of an ICAM project, should not be considered as merely facultative but rather as prerequisite mechanisms for establishing an effective institutional link between local and national levels. PAP/RAC, under the supervision of its corresponding **National Focal Point**, can assist in the establishment and functioning of local authorised structures but can not replace them. As a general rule, it would be better to proceed slowly and cautiously, ensuring that the ownership programme materialises successfully.

A **local ICAM project co-ordinator** should be assigned the responsibility of ensuring that local structures work effectively and in accordance with ICAM

requirements. The co-ordinator's role should focus on building the local constituency for coastal management through outreach, direct contact with community members, and selecting local data for the preparation of a detailed profile of the coastal area under scrutiny.

### ***Ingredients for success***

Action is necessary at all spatial levels (regional, national, local) in the Mediterranean, and it must rely on the development of complementary spatial synergies. Regional actors must recognise that national level policy making and action are both absolutely essential for the forging of policies and the elaboration of action programmes to promote local level initiatives.

**National programmes themselves**, should also encourage local levels of government involvement in order for these to successfully be implemented. These interrelationships must be acknowledged and taken into account, if a programme's broad **ownership** is to be realised and productive regional/national/local partnerships forged.

**The profile of ideal leaders** can perhaps be sketched by reference to their abilities to identify and act timely on opportunities, to strive and succeed in forging co-operation amongst key agents, and to sustain the programme or project as a national priority. Mediation is a central task in managing coastal areas among differing ways of looking at the past, the present and the future. It is a process that involves all stakeholders, demanding their consistent participation throughout the various phases of action, in order for it to secure success.

To identify and focus on **key issues**, deciding where and when to address them, prove to be

among the most crucial decisions to be made. Success lies in forging **partnerships** among the different sectoral institutions and among user groups elaborating a "two-track" approach (i.e. linking the development of local governance to national policies and central government structures and procedures). Policies and actions must be interactive incorporating a range of methodologies and measures; however, it should be noted that any research and technical tool (such as Geographic Information Systems - GIS, Environmental Impact Assessment - EIA, inventories, monitoring, modelling, etc.) no matter how effective, is of little value if the institutional and societal context in which they are utilised can not internalise the insights they provide.

Technical and governance complexity requires the formation and nurturing of **multi-disciplinary teams**, whose members are prepared to think and act strategically, resolve conflicts, administer complicated projects and understand how coastal ecosystems function, working closely with coastal residents and showing a sensitivity to their needs. It is crucial to realistically match the project's scale and objectives with both local and national capacities, as well as the national institutions involved, and with the strength and commitment of the constituencies affected.

Early implementation of actions or "**practical exercises** in integrated coastal management" must be conceived as a key tool in the narrowing of the gap between planning and implementation during a plan's preparation, regardless of the plan's scope. **Adaptive management** means "learning by doing" when the implementation of the programme/project creates opportunities to test and improve the scientific basis for action.

### *Ten key questions for further discussion*

The purpose of this White Paper is to stimulate discussion and debate about the most appropriate approach for improving Integrated Coastal Area Management (ICAM) in the Mediterranean. This section outlines some of the key questions which should guide your feedback on the document:

1. Is it necessary to develop a shared long-term strategic vision for coastal management in the framework of MAP Phase II?
2. Could a new regional Coastal Management Charter encourage ICAM development at national and local levels?
3. Does the proposed proactive policy option at regional (MAP), national and local levels provide appropriate direction for improving coastal management in the Mediterranean?
4. What are the key proactive policy issues for coastal management to address at regional level?
5. Is the proposed policy approach, based on inclusive and facilitative coastal management at national and local levels, more appropriate than a regulatory or prescriptive approach?
6. Which institutional mechanisms are necessary at the national level to incorporate ICAM priorities in sectoral development policy?
7. How can public-private partnerships and meaningful public participation in ICAM be promoted?
8. How can awareness of coastal management issues and capacity for coastal management be built?
9. How can ICAM be funded? Is it to be realised through local, provincial and national Government budgets, or assistance from the private sector and external funding?
10. What mechanisms should be put in place for monitoring, evaluation, review and readjustment of coastal management policy and its implementation at national and local levels?

## **INTRODUCTION**

As part of its Work-Plan for 1998-1999, the Priority Actions Programme Regional Activity Centre (PAP/RAC) of the Mediterranean Action Plan (MAP) has commissioned the preparation of a “White Paper” on Coastal Zone Management in the Mediterranean. PAP/RAC has been involved in promoting the concept of Integrated Coastal Area Management (ICAM) in the Mediterranean countries for more than 15 years, and has been recognised as a pioneer and a leading institution in this field.

However, it has been acknowledged that there is a need to occasionally revise coastal management activities, especially in the area of policy issues. More specifically, even though extensive efforts have been made by a number of agents in the region, their results have not been quite satisfactory. This evaluation particularly refers to the policies tackling coastal development, which though correctly outlined, lead to an output which often fails to secure the targeted objectives.

The White Paper attempts to revise the processes and implementation of development policies in the Mediterranean countries, and to propose some solutions and strategic directives for MAP, PAP/RAC, and possibly other MAP research, as well as Regional Activity Centres, in an endeavour to harmonise their future activities with ICAM requirements. This paper can be best used as a reference document for stimulating debate within the framework of MAP activities: conferences, workshops, focal points meeting; MCSD meeting; SMAP correspondents meeting; etc. In this sense, it could be revised and gain a certain level of formal acceptance.



## **PART I: THE ISSUES**



# 1. THE MEDITERRANEAN AND ITS COASTAL ZONE

## 1.1. Historical and geographical overview

The origin of the Mediterranean (*medius terrae*: middle of the lands) Sea is traced back 200 million years, formed from the paleogeographical planet ocean *Paleotethys*. Its long-term future is uncertain as it is steadily marches towards its destruction but it will only reach its destination in 20 million years! In this sense, it would be safe to argue that it has already come a long way and it still has a long course ahead, but also that there is both a need and a scope for slowing down that course, from a geological and a humanitarian point of view.

Since the commercial trade of ancient times, the wider Mediterranean Basin (including the Black Sea and the extension of the Atlantic Ocean facing the coasts of Morocco and southern Portugal) has constituted a productive area for the exchange of goods and services and communication amongst people, despite being divided by a series of sub-basins, its coastal geomorphology and by its many islands and peninsulas. Through its various and successive civilisations, its intensively exploited and densely populated coastal zone has developed a large network of infrastructures in order to facilitate these exchanges, such as route networks, ports functioning as nodal points on both sides of the basin, including several large rivers flowing into the sea.

The Mediterranean also constitutes a strategic intermediate link for commercial routes between other economic areas,

connecting the North (Europe) to the South (Africa) and to the East (Asia). The opening of these commercial routes, beginning with the first Arab expansion (11<sup>th</sup> century), had been beneficial for the Mediterranean ports throughout history, regardless of their location (East, South, North). This ring of ports embracing the Mediterranean was formed after the early Middle Ages and although there have been changes in their relative ranking, they have not been substantially altered to the present day.

The shorelines embracing the Mediterranean are thus rich in historically rich places, amongst which the links have gradually become complex symbioses. This symbiotic multiplicity does not imply that the Mediterranean can be reduced to a single geographical unit, but invokes instead the “image of a mosaic where one has to start from the centre, from the Mediterranean, in order to construct the image of each country-fragment of the puzzle” (Bonaverò and Dansero, 1998). In this construction, urban areas (ports/coastal cities) represent a potential network which could link local action to globalisation and international trends.

## 1.2. State of the environment / environmental problems

### 1.2.1. Nature

The Mediterranean is an enclosed sea, in which plate tectonic processes remain active, especially in its eastern part and which can be characterised by extremely complex morphology. These characteristics, added to its unique hydrological and climatic nature, constitute the Mediterranean, globally, a prototype subject of study and a very useful testing area for a variety of research.

The Mediterranean is a deep basin, with an average depth of around 1,500 m, composed of rather distinctive sub-basins separated into two main parts, its western and eastern, which communicate through the Sicilian Channel. The total length of the Mediterranean coastline is approximately 46,000 km, of which 19,000 km represent island coastlines. Fifty four percent of the Mediterranean coastline is rocky, while the rest is comprised of low sedimentary shores.

With reference to general water circulation, one can distinguish the “Atlantic waters” on the surface, which move from the west towards the east with an increasing salinity because of high evaporation. When winter temperatures drop, they are forced to seek a new equilibrium, going down to 200 metres, where they trigger off the intermediate circulation becoming the “intermediate eastern waters”. The deep or abyssal north-south circulation, which is little known, is characterised by heavy and cold waters called “bottom or winter waters”, which are formed in winter in the Ligurian Sea and the Adriatic. They are rich in nutrient organic substances, which are deposited on the seabed and no longer circulate due to insufficient vertical connection (with the exception of seasonal up-wellings) between the three horizontal types of circulation.

From recent studies on long-term series of data, it has been confirmed that the deepest waters in the Western Mediterranean tend to get warmer and saltier, probably because of climatic change, which may in the long-term result in a rise in aridity, at least in the southern part of the Western basin. The hydrological assessment of the Mediterranean shows that all substances poured into the sea in the last few decades at specific points are distributed both on the surface and deep down, and given the

replacement time in the Mediterranean (80 to 100 years), they remain partially present.

Compared to other seas or oceans, primary productivity in the central parts of the eastern and the western Mediterranean, as well as in many coastal areas away from the beneficial influence of major rivers or urban areas, is rather low. Within their annual evolution, interactions between groups of organisms and their response to natural changes are specific to each Mediterranean sub-basin or physical sub-system, as we mentioned before. In general terms, the character of Mediterranean marine life can be summed up by reference to its low biomass and high diversity alone. This diversity has also been observed at the community level: compared with the Atlantic, the Mediterranean marine communities are rich in species with smaller individuals and a shorter life cycle.

Much like in the case of other seas, the relationship between species diversity and ecosystems remains poorly understood. In the context of increasing human pressure, the question arises as to how far the integrity of ecosystems can be sustained, in spite of the drastic decrease, sometimes bordering on extinction, for certain Mediterranean Sea species.

The main data on the Mediterranean are shown in Table 1.

### ***1.2.2. Water and soil***

Freshwater is essential not only to the maintenance of human life, but also to the development and functioning of modern industry and agriculture. In the Mediterranean, the renewable component (precipitation minus evapotranspiration) of freshwater resources, which flow through aquifers, streams and lakes, is unequally distributed around the basin, between

countries (72% are located in the North, 23% in the East, and 5% in the South) and consequently amongst populations.

Natural freshwater input is obtained from rainfall typified by two main seasons: a weak spring season, and a strong autumn season, separated by a hot and dry summer season. Rainfall is commonly heavy but of short duration, leading to catastrophic floods. Rainfall percolates through soil and permeable rocks, supplying rivers, lakes and subterranean aquifers.

The rather disrupted geomorphology of the Mediterranean Basin, especially in its

northern, south-eastern and eastern parts, enables a relatively rapid riverine offspring into the sea that carries with it many urban and industrial wastes, as well as eroded soil from wastelands, croplands, and urban development (see Map 1). The geomorphological discontinuation additionally accounts for the small size of subterranean water bodies and river basins in the Mediterranean. With the exception of several major river basins (Nile, Po, Rhone, Ceyhan, Drini, Neretva, Buna, Ebro, Tevere, etc.), almost 60% of the land area of the Mediterranean Basin is occupied by small river valleys. In certain

*Table 1: Main data on the Mediterranean*

<b>Features</b>	<b>Unit</b>	<b>Data</b>
Sea surface	million km <sup>2</sup> /million sq miles	2.5/0.965
East-west extent	miles/km	2.500/4.000
North-south extent	miles/km	500/800
Average water depth	km/yd	1.5/1,640
Water depth, Strait of Gibraltar	meters/feet	97/320
Water depth, Bosphorus	meters/feet	70/200
Coastline total length	thousand km	45.0
Coastline island length	thousand km	17.7
MEDITERRAEAN coastal region, surface	million km <sup>2</sup> /million sq m	1.5/0, 579
Countries (*)	No.	21
Autonomous territory	No.	1 (**)
Urbanisation	% of the coastline	65
Coastal population, total Mediterranean, 1980	million inhabitants	84.5
Coastal population, total Mediterranean, 2000	million inhabitants	123.7
Coastal population, total Mediterranean, 1980/2000 increase	%	46
Population pressure, 2000 (residents and tourists)	thousands per km of coastline	5,700 to 6,600
Population pressure, 2025 (residents and tourists)	thousands per km of coastline	11,000 to 12,200
Power plants: existing/planned/total – Mediterranean	No.	112/43/155
Power plants: existing/planned/total – northern side	No.	60/4/64
Power plants: existing/planned/total – southern side	No.	52/39/91
* Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, Federation of Yugoslavia (Serbia and Montenegro)		
** Gaza Cis-Jordan entity		

Source: Vallega, 1999

delta areas, land and water are closely related through the formation of coastal lagoons and pond systems.

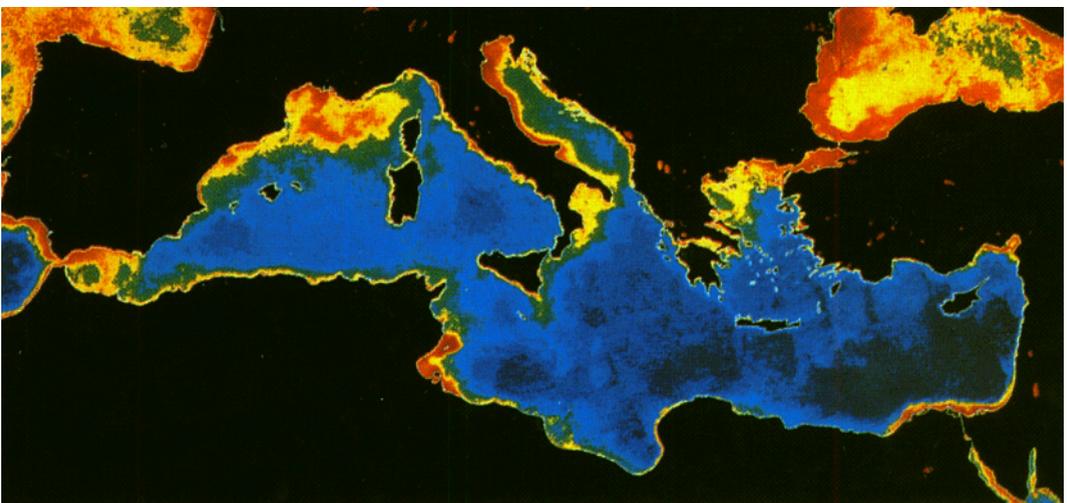
Furthermore, it seems that over the last 40 years, water inputs into the Mediterranean Sea have dramatically decreased, due to damming and irrigation. As a direct consequence, it is estimated that the total sediment load to the Mediterranean Sea may have been reduced by 70%, while simultaneously, deforestation has played a major role in the modification of the hydrological regime, both by facilitating soil erosion and by introducing irregularities within the natural run-off system. Today, long-term natural and human-induced changes in the hydrological cycle constitute a key problem for the Mediterranean region, especially in view of the critical issue of precipitation, for many of the surrounding countries, the variation of which could partly derive from climate change.

### ***1.2.3. Climate change and sea level rise***

As it is the case with other world regions, potential climate-change-deduced impacts in

the basin include: drought; floods; changes in soil erosion and desertification; storms; coastal erosion; changes in sea water temperature and salinity; sea level rise; and biodiversity reduction. These effects will probably exacerbate the pre-existing problems within different Mediterranean countries. While climate changes are still essentially measured against variations in temperature and in precipitation, in Coastal Zone Management, it is the diagnosis of sea level rise that constitutes the most severe climate change impact since it is anticipated to directly affect coastal zones.

In the Mediterranean, while sea level fluctuations in historical times seem to be largely determined by local tectonics effects, climate change may have represented an additional factor particularly affecting the most important natural wetlands and coastal lowlands in different coastal areas. The study of these “high-risk” areas, as well as of other Mediterranean tracts, shows that human-induced effects maximise the problems linked to sea level rise, via the following damaging activities:



***Map 1: An overview of the Mediterranean basin and coastline (Source: Jeftic et al., 1992)***

- A reduction of river sediment supply;
- The destruction of natural shoreline defences, such as sand dunes and coastal ridges, for coastal urban development relating to commercial or tourist activities; and
- The excessive pumping of groundwater, which may increase subsidence due to the lowering of piezometric surfaces of confined aquifers, as well as to compaction phenomena.

From a scenario built on recent research data gathered from the Mediterranean, the rise in sea level by the year 2100 is estimated to be within a range of 12 to 30 cm.

#### ***1.2.4. The state of the coastal environment***

With reference to the state of the coastal environment, the main determining factors are:

- The relationship between the input of wastes and the flushing rate of the coastal seas (regardless of their scale) and of the Mediterranean as a whole;
- The stratification of the sea, by water density, which both impedes downward flux of pollutants and creates areas of accumulation in deep sediments; and
- Human population size, land-use and waste-generating activities.

Taking into account these factors, and from the analysis of disparate sets of data selected on a regional basis, it is very difficult to depict an overall picture of the actual marine pollution levels within the Mediterranean Basin. Although data on environmental and pollution parameters is still rather scarce to account for the case of deep waters, their state is considered to be generally good. However, certain contaminants, such as lead and cadmium,

have been found in significant concentrations within the deep canyons bordering the continental shelf. Given that the residence time of waters at this depth is certainly much longer than that of the upper waters, there is a real risk of long-term pollutant accumulation. Another evidence of accumulation, spreading from the continental shelf to deep marine canyons, is documented by the presence of poorly degradable solid wastes or debris: approximately 100 pieces/km<sup>2</sup> (mainly plastic bags and bottles) are found on the continental shelf at less than 200 m depth, their density reaching 700 to 4,000 pieces/km<sup>2</sup> between 200 and 1,000 m depth, with maximal values being registered in deep marine canyons.

As we have already analysed, there are many underlined differences (such as meteorology, geomorphology, water masses circulation, ecology, etc.) between the western and eastern basin. Finally, the environmental characteristics of the surface water in the western basin do not significantly influence those of the surface water in the eastern basin, and *vice-versa*. To put it simply, the marine pollution problems in the two basins are, to a large extent, independent.

The same is true for the Adriatic Sea vis-à-vis the central Mediterranean, or again the Aegean vis-à-vis the Levantine Sea. Drawing an example, Ebro and Rhone discharges into the western basin are impacting substantially upon the state of the marine environment in the western basin, but they seem to have no traceable effect on the rest of the Mediterranean.

In coastal areas, the presence of pollution “hot spots”, as identified by the Mediterranean states and the Mediterranean Action Plan (MAP), located generally in semi-enclosed gulfs and bays

near important harbours, big cities and industrial areas, constitutes probably the major problem of the Mediterranean Sea. Following the Strategic Action Programme to Address Pollution from Land-based Activities in the Mediterranean Region (SAP MED), the main pollutants or impacts of concern are: municipal sewage (including micro-organisms), urban solid waste, and air pollution; Persistent Organic Pollutants (POPs), including pesticides, PCBs and PAHs, heavy metals, oils, radioactive substances, nutrients and suspended matter, in addition to physical alterations and habitat destruction.

All harmful substances and thus impacts stem from urbanisation and industrial development. These substances have been used to evaluate the priority hot spots or “coastal areas where the coastal marine environment is subject to pollution from one or more points or diffused land-sources which potentially affect human health in a significant manner, ecosystems, biodiversity, sustainability or economy” (UNEP/MAP, 1999).

Overall, 101 priority hot spots have been identified within 19 Mediterranean countries. Although these areas do not represent all the polluted sites within the Mediterranean Basin, they nevertheless constitute the bulk of the pollution loads for most of the domestic or industrial contaminants.

Despite the fact that coastal erosion has been considered a severe problem for many of Mediterranean countries, it has been poorly evaluated. With particular reference to European countries, owing to the achievement of two specific projects (CORINE Coastal Erosion, and LACOST), it is estimated that 25% of the Italian Adriatic coast and 7,4% of the Aegean Sea show evolutionary trends of

erosion, while about 50% of the total coastline of the Euro-Mediterranean area is characterised by stability.

Land occupation and sea pollution negatively affect the distribution, plethora and survival of their related flora and fauna, and of their ecosystems. In heavily disturbed or polluted areas, benthic communities, such as *Echinodermata*, *Crustacea* and other species, disappear to a great extent, while a small number of *Polychaeta* species accounts for 70-90% of the total plethora. Among the first species to disappear under severely harsh conditions, are benthic animals with large body size, whose bioturbating activities are vital for benthic ecosystems. When organic enrichment exceeds the potential for re-mineralisation by benthic organisms, anoxic zones are formed and the seabed is covered by bacterial mats. Although this type of ecosystem change may be redeemable, there are damaging consequences in cases in which the affected seabed is a critical habitat and nursery, such as the seagrass beds.

One of the major manifestations of environmental degradation is habitat loss for certain endangered species, imposed by antagonistic human activities. As an example, 1,500 km of coastline in the Euro-Mediterranean area is considered to be artificial, with harbours and ports contributing the major part (1,250 km). Wetland loss (3 million hectares in the Roman era to 200,000 hectares by 1994, i.e. a reduction of 93%) and degradation have also been identified as a serious threat to many aquatic species, especially water bird species nesting along the Mediterranean coastline.

The introduction of new organisms, in the form of exotic species or highly cultivated strains may be threatening to a given

ecosystem. Generally speaking, it is estimated that about 80% of species introduced into the Mediterranean (naturally, through the Suez Canal or the Strait of Gibraltar, or accidentally from ship ballast, and other cases) do not affect indigenous communities. However, certain species do cause a harmful impact, including an immediate ecological at the community level, through changes in inter-specific competition and predation, and/or changes in the environment's nature itself via the influence of certain organisms and the possible genetic degradation of indigenous stock.

### ***1.2.5. Culture and heritage***

The Mediterranean cultural heritage, both in its tangible (monuments, historical settlements, archaeological sites, etc.), and linguistic cultural expressions (languages, literature, traditions, customs, etc.), constitutes a valuable resource for the Mediterranean region. Almost everywhere in the region, the stratification of the many distinctive and intricate pasts represents a lived everyday experience. It goes without saying that it is not merely the monuments or historical sites, whose concentration is exceptionally high, but also certain other "assets", which are equally significant: from the era of Ancient Greek colonies to those of the Etruscan centres, the Roman, Celtic and Muslim towns, the variety of landscape configuration, settlement systems and communication networks.

On this fertile ground, cultural diversity on the local scale has developed over time to reach the present point when the Mediterranean coastal areas and small islands form an extraordinary and polysynthetic web of cultural units, endowed with their own particular histories, religions, traditions, land use, socio-cultural patterns, as well as their own perception of

the world (*Zeitgeist*) and human welfare. As elsewhere in the world, globalisation, i.e. standardisation of economic systems, urban settlements and social behaviour, threatens cultural identities represented by local communities.

On the other hand, as it has been historically the case, the economic gap between the European Union countries and other regions around the Mediterranean Basin (especially from the southern to the north-western regions) has caused vast migrations that favour the cultural diversity of certain urban communities, especially in the Mediterranean European countries. One of the most visible monuments of cultural heritage are the manmade landscapes, which were traditionally structured around the three main Mediterranean components, encompassing the sea, the coast, and the mountains.

Regretfully, in the past fifty years, intensive population and settlement growth within the Mediterranean has been accelerated, reaching previously inconceivable levels, while it continues to expand, especially on the southern shores. In general terms, the landscape resources most threatened represent precisely those that have generated the area's fame and tourism. An extreme illustration of settlement concentration is offered by the case of the Principality of Monaco at the beginning of the 1960's, which had been radically transformed from a beautiful landscape characterised by 19<sup>th</sup> century villas with gardens of citrus and olive groves into a concrete, densely developed territory. In this example and in many others, nostalgia for the past is not so much evoked by the transformation of settlement sites and human activities per se, but rather by the apparent impact of misguided management policies to primarily adapt coastal resources to the demands of visitors from distant centres.

## **2. THE MEDITERRANEAN COASTAL AREAS AT THE DAWN OF THE 21<sup>st</sup> CENTURY**

### *2.1. Pressures and trends*

In 1997, the population of the Mediterranean coastal states was approximately 450 million. The Blue Plan forecasts that population will exceed the 520 million in the year 2025.

Population is increasingly occupying the coastal zone (today more than 30% of the total), exacerbating “littoralisation” phenomena. Given that only 40% of the total length of the Mediterranean coasts can be deemed “useful” for human activities and settlements, littoralisation phenomena have been consistently intensifying in terms of demographic and socio-economic processes.

#### *2.1.1. Urbanisation*

In the past, the major urban centres proliferated around primal coastal settlements and ports; their development was typified by spatial concentration. In recent decades, with the advent of rising incomes, the modernisation of transportation (mainly road infrastructure) and tourism, there is evidence of an increasing sprawling urbanisation attitude being superimposed upon the coastline, which further attracts population and economic activities.

Coastal urbanisation is thus representing the bulk of population growth and of economic activity in the Mediterranean region with the following significant consequences:

- This sprawling coastal urbanisation trend implies that vast coastal spaces

previously open or used for agriculture are inevitably reduced, generating land-use antagonisms, amongst various economic agents, which is especially consolidated in urban areas that are under the sway of radical transformations. The general outcome is a spatial imbalance in the development between prosperous coastal areas, heavily populated and characterised by high levels of land use and consumption, and those inevitably weaker inland areas with a lower housing density and a less dynamic economy.

- Domestic water consumption is increasing, especially due to steady urbanisation growth, reaching its maximum rates in southern and eastern countries. Moreover, population growth in areas suffering from water scarcity can exacerbate the crisis. In certain water-scarce countries, the high demands for irrigation and water consumption are accompanied by a striking increase of domestic consumption demand, which itself is resulting from rising living standards. Increasing water consumption is also registered in the tourist sector, which places a heavy demand on water resources in high seasons coinciding with peaks in irrigation.
- The geographic distribution of water consumption is similar to that of the territorial concentration of waste, resulting in problems of groundwater pollution and run-offs of wastewater into the sea. In urban areas, these impacts have been accentuated due to the impermeabilisation of substantial areas, blocking rain water from permeating the soil and filling natural subterranean water systems, as well as by speeding run-offs into rivers (with occasional resultant flooding) and into the sea.

- Sewage run-off does not necessarily impact badly on a sea such as the Mediterranean, which is too poor in nutrients to benefit sea life. The problem arises when there is too much of it in too small an area, as is the case around the major Mediterranean urban centres. To provide an overall picture, it is estimated that 48% of the largest coastal cities (from 100,000 to more than 1 million inhabitants) have no sewage treatment systems, 10% possess a primary treatment one, 38% a secondary one, and only 4% a tertiary treatment system handling sewage before it is discharged into the marine environment.
- Urbanisation is also linked to ever increasing levels of air and noise pollution. The principal effects of sulphur oxides, lead, nitrogen oxides, carbon dioxide and monoxide, volatile organics, molecular mercury, methane, etc. on the atmosphere are those associated with the so-called “greenhouse” effect and those producing smog, more specifically, in certain places under particular atmospheric conditions, especially those prevailing over big urban/industrial areas. The volatile organic compounds and nitrogen oxides are modified photochemically by solar radiation to produce certain photochemical oxidants, which interacting with dust particles and water vapour, produce the oppressive “smog” or smoke-fog.

In the distant past, the Mediterranean was characterised by small-scale booming periods of intensive urban growth; in general terms, there had been a balance between urban growth and rural development. However, in recent decades, it seems that Mediterranean urbanisation

has entered a phase of rapid expansion, reaching a state of “hyper-development”, typified by high population densities, environment degradation and decline of the quality of life, with activities concentrating in a few large urban centres and in coastal areas. This generates imbalances in terms of economic opportunities and growth at national and regional levels, reflected in widespread migratory phenomena, as well as in a further imbalance between the coastal urban centres and their adjacent hinterland. This leads, in certain coastal zones, to an over-utilisation of resources and their abandonment in others, with the latter phenomena entailing significant economic, social and environmental consequences. A spatial “re-equilibrium” phase of the Mediterranean, which is apparent around the Basin, could lead to a spread of the trend for development from coastal urban centres to hinterland rural areas.

### **2.1.2. Tourism**

Other areas of intensive development are represented by the majority of tourist areas on the shores of the Mediterranean, as well as of those characterised by a mix of industry and tourism, typically found along the whole northern belt, where competition between the various coastal activities is especially strong. The Mediterranean is the world's prime tourist region with an estimated 170 million arrivals in the mid-1990s. Out of these 170 million, about 24% originate in Mediterranean countries (according to 1993 statistics). These concentration rates are maximised on the coast; they are heavily seasonal and dominant in the north-western Mediterranean, although this increase occurs more rapidly in other regions.

In the Mediterranean region today, as in many other parts of the world, tourism is an irreplaceable sector of development. It is estimated that more than six million people are employed directly or indirectly in the tourist and leisure industry or in the culture sector. The development of tourist activities in most of the Mediterranean countries is a key element in coastal urbanisation (new settings or “re-conversion” sites), both triggering processes of local economic growth and constituting a heavy burden on local authorities who are faced with the difficult challenges of managing every conceivable aspect (facilities, services, municipal sewage and waste treatment, imbalance between seasons, etc.).

In this respect, mass tourism exacerbates many of the pre-existing problems in urban areas, such as the occupation of land surfaces, water resource consumption as well as pollution and waste, leading to habitat loss for many wildlife species occupying the Mediterranean sea and land; the abandonment of traditional activities such as fishing and agriculture and sometimes the deterioration of cultural values. This particular development has come to represent a real danger for most popular coastal areas as well as for most of the islands in which the vegetation has been gradually transformed from either a natural or productive element (agricultural landscape) to merely an aesthetic element with a predominantly decorative function.

One of the Mediterranean forms of tourism is the nautical one. In 1997, it was estimated that more than one million holiday boats of various sizes were moored or registered in the Mediterranean ports. Depending on their size and utilisation, these boats can represent a significant pollution source, both inside ports

(antifouling painting, used water, litter), and in coastal waters.

Owing much to its tremendous historical, cultural and physical differentiation, the Mediterranean today offers an astonishing mosaic of tourist attractions, fulfilling each and every segment of an increasingly complex and diversified market demand. However, the global tourist network that spans the Mediterranean relies upon a kind of universalisation or even subsumption of the particularities of places, regions, and local cultures. It is thus of utmost importance to maintain traditional local tourist systems by integrating them as much as possible within the local socio-economic system.

In the above context, the Mediterranean Commission on Sustainable Development (MCSD) has formulated certain recommendations and proposals for action, aiming to secure the sustainable development of tourism (see Box 1). MCSD Recommendations on the Sustainable Management of Coastal Regions are contained in Appendix II of this document.

## ***2.2. Scenarios relating to and the need for Coastal Zone Management***

A major report titled “Futures for the Mediterranean Basin: the Blue Plan” was published in 1989. It presents a set of Basin-wide replicable “scenarios” on possible population and urbanisation prospects, until 2025, examining five economic sectors (agriculture, industry, energy, tourism and transport), as well as their interactions with natural resources and the environment (soil, forests, water, coastal regions and the sea).

The main points of the conclusions reached for the different scenarios are briefly mentioned below (Glass, 1997):

- A reference tendency scenario T1, basically reflecting the extension of the current situation as described before.
- A first scenario less favourable than the reference one, called aggravated tendency T2, reflecting the slow growth of the world economy and affecting practically all sectors: in such a case, enormous development problems for the countries to the south and east would be derived from the stagnation of the countries to the north of the Basin. There would be little funding for environmental protection resulting in late and insufficient individual measures within a framework of poorly-applied regulations with delays at every level. Population and urban growth would attain their maximum level, with towns suffering from poorly-run services and serious sanitary conditions. In such a scenario, it is probable, if not certain, that social or geopolitical disruption will emerge well before the year 2025, as certain present events indicate, in addition to a policy and behaviour reorientation, i.e. alternative scenarios would be necessary.
- A second scenario, called moderate tendency T3, reflecting an economic recovery at a global level in the 90's (which is confirmed today) and better co-ordination between the superpowers, i.e. the United States, Europe and Japan (which still remains to be seen). In the

### **Box 1**

#### ***Recommendations and Proposals for Action on Tourism formulated by the Mediterranean Commission on Sustainable Development***

- Acquire the criteria needed to evaluate the environmental impact of tourist programmes and large scale projects;
- Carry out evaluations of destination sites' carrying capacity and taking steps necessary for ensuring that the offer be limited to the carrying capacities thus defined;
- Strengthen or establish legislative tools, regulations and property management leading to controlling tourist urbanisation and protecting the most precious natural sites. Among other things this means:
  - providing coastal zones subjected to strong tourist developmental pressure with plans for development and land management that take environmental questions into account;
  - avoiding generalised urbanisation too close to coasts, and the building of roads parallel and close to coastlines, that promote this kind of urbanisation and generate traffic that alters the quality of the destination areas;
  - identifying the most remarkable coastal sites (such as wetlands, sand dunes, etc.) and implementing measures that ensure their protection, e.g. creating natural reserves or land agencies for procurement wherever possible.
- Implement programmes enabling the rehabilitation of mature destination areas favouring the environment; and
- Implement mechanisms enabling (whenever possible) a financial contribution from the tourist sector for protecting and managing natural and cultural sites.

countries to the south and east of the Mediterranean Basin, the overall gain in production would be sustained by reduced population growth (total and urban) leading to perceptible improvements in the countries' social and economic welfare. Despite the fact that the legislative and financial means, as well as the technical tools for environmental protection would be more easily available, paradoxically, this scenario proved to be the most threatening for the environment because of the increased level of activity in all economic sectors and the delay in the application of measures, which will aim reactively to fight pollution rather than to proactively prevent it. In this type of development lacking environmental concern, pressure on the coastal zone would be particularly severe as the majority of activities would be concentrated there, triggering serious conflicts of use. Serious economic breakdown and irredeemable ecological damage could result from this situation.

The above extreme trend scenarios demonstrate development problems, especially for the countries to the south and east of the Mediterranean Basin, in an internationally antagonistic climate. Both result in unstable situations, characterised either by the increasingly deteriorating socio-economic conditions in a certain number of countries, thus encouraging geopolitical instability in the Mediterranean Basin, or by accelerating degradation of the environment and of natural resources.

To shake off these tendencies, it is obvious that international co-operation is necessary, especially a more effective intra-Mediterranean collaboration, in a more balanced, multicultural world, in order to

facilitate a wiser sharing of knowledge and experience as well as market organisation. This will to co-operate is the main characteristic of the alternative scenarios, one based on strong north-south collaboration (alternative reference scenario 1) where the European Union plays a distinctly clear steering role (EuroMed could be considered as a first step in this direction), the other accompanied by sub-regional south-south co-operation, between groups of countries, such as the wider Maghreb (alternative scenario with aggregation A2). In addition to international co-operation, north-south and/or south-south, the alternative scenarios are also distinguished by a completely different approach to environmental problems, such as the internalisation of protection costs and decision-making, less centralisation but better activity synchronisation, as well as greater involvement of local communities in decision-making and management, etc.

Although depending upon the choice and range of hypotheses, and thus upon the uncertainties inherent in any prospective exercise, these scenarios do provide significant information on major development issues and risks faced by the environment and the populations themselves, and consequently the sustainable development of the Mediterranean. The key to the success of such scenarios can be found in stronger Mediterranean co-operation and integrated management of the environment and development processes rather than in the rates of growth alone.

Coastal zone management constituting a political response in the direction of sustainable coastal development, has recognised that a sectoral management approach, focusing on individual resources

(such as fisheries) or activities (such as transport) cannot be functional. A new coastal management approach is needed, acknowledging that the coastal zone is a whole system and that different human uses of coastal resources are interdependent. To manage the Mediterranean coastal zone in such a holistic way and within a regional framework through the development of national and local policies, integration needs to proceed simultaneously at a number of levels, i.e. geographically, across time-zones, sectors and disciplines. Additionally, political and institutional integration, as well as that of sectoral policies, management approaches, education and of the research activities, must all be investigated.

An essential part of coastal management is decision-making, as this dimension determines whether the performance of protection measures is indeed improving or supporting the rational growth of coastal zones, and if that is the case, it should identify the additional measures that should be taken, and how they should be implemented. Given that a great deal of day-to day coastal management procedures (resource management, land-use planning, land development, coastal and drainage engineering, local economic development, environmental assessment, housing and service delivery, tourism promotion, etc.) is undertaken at the local government level, local involvement has become a crucial issue. Fear from decision makers of NIMBY (Not In My Back Yard) behaviour is no longer justified: many world-wide examples demonstrate that local agents or “stakeholders” are prepared to accept non-optimal situations providing they have been substantially involved in the decision-making process in a timely way.

The paradigm currently used in Mediterranean countries, characterised by top-down coastal management agenda-setting, by outcome-oriented policy formulation with little scope for meaningful community participation, as well as by reliance on command-and-control enforcement techniques, fails to optimise the potential for achieving a sustainable collaboration between stakeholders (including scientists and administrative agents). We contend that a way forward can only be paved by process-oriented rather than outcome-oriented, and participatory management approaches.

With reference to participatory approaches, it should be noted that it is not sufficient to apply them in a way in which stakeholders are only given the impression of participation in decision-making. Stakeholders have to be genuinely listened to, not just confronted with a participatory tool. This implies that for each local case, it has to be delineated which conditions need to be fulfilled, in order for communities to develop and function as solid, co-operative and inventive partners in the decision-making processes of coastal management.

Another key issue in coastal zone management is the role of market forces (particularly evident in sectors as energy, water, transport, tourism, etc.). To put it more specifically, “Is the market mechanism really appropriate in coastal areas given that adequate functioning requires the absence of common property resources?” (EMAPS, 1998). A partial answer to this question would perhaps be that there are already examples of market mechanisms in the Mediterranean serving coastal zone management, such as certain taxes, subsidies, green investments and the so-called compensation system (related to the expansion of an industrial or port

areas). Now that the importance of nature and natural resources has been increasingly recognised, the concept of compensation for industry or harbours will gradually become widely acceptable.

Finally, before applying any management instruments (and there are many today!), and regardless of the location and scale under consideration, the seemingly simple question that must necessarily be raised is: What do we have in mind when we are speaking of a well-managed coastal zone? What do we see when closing our eyes and visualising a resilient coast with happy people? In short, what is our visual referent of the future for this specific region and/or area?

It is likely that each person, group or economic sector will come up with their own, different vision for the coastal zone, but without this necessarily constituting a problem. The elaboration of individual diagnostic exercises, scenarios and plans is essential for the identification of common interests and the forging of potential alliances between groups of competitive agendas. The clearer the subsequent goal and objectives will be, the more easily the appropriate path can be identified.

## **PART II: MANAGEMENT AND ACTION**



### **3. REGIONAL INITIATIVES IN COASTAL ZONE MANAGEMENT**

The Mediterranean benefited early on from a growing dissatisfaction with its environmental degradation. This led to the establishment of regional level co-operation arrangements and to the elaboration of programmes targeted to monitor, assess and improve the state of the marine environment. Most of these activities were initiated in the context of the Barcelona Convention (1975), and were instigated by UNEP's Mediterranean Action Plan (MAP). Today, 21 countries constitute the Contracting Parties to the Convention, which is complemented by several facultative Protocols.

In the Mediterranean, it also became evident relatively early on, that problems relating to the quality of the marine environment are intertwined with human activities, many of which are concentrated along the surrounding coastal areas. For this reason, environmental protection has been directed towards development regulation activities and the environmental management of the coast.

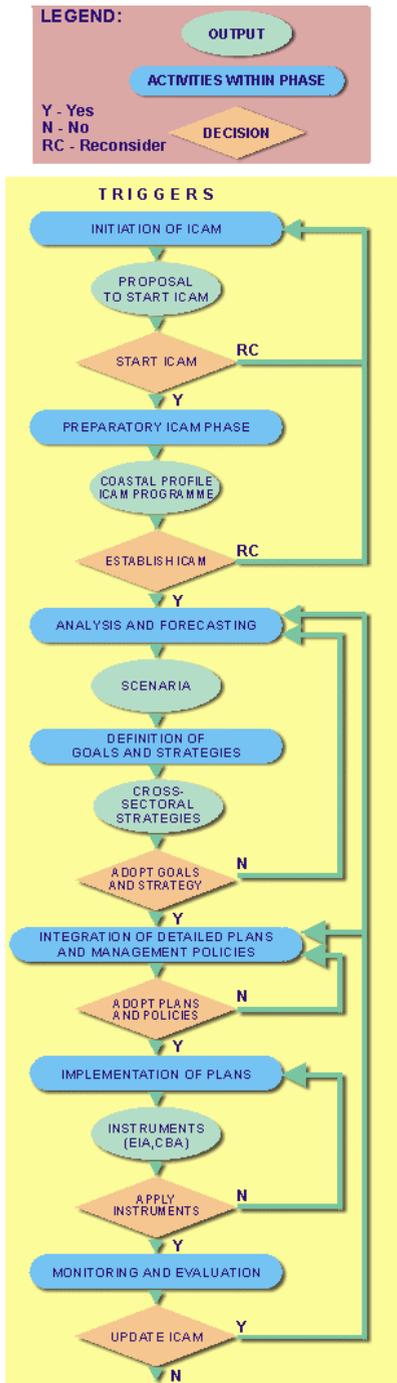
The Barcelona Convention excerpt on Coastal Zones is given in Appendix III of this document.

#### **3.1 Mediterranean Action Plan**

MAP was the first Regional Seas programme of the United Nations Environment Programme (UNEP) established within the framework of the Barcelona Convention (1975). Integrated Coastal Area Management (ICAM) concerns within MAP are reflected both in its activities and organisational structure.

ICAM constitutes a significant action terrain for MAP. Although its initial emphasis on regional co-operation was placed on sea pollution prevention, it soon became evident that pollution problems in the Mediterranean should be considered in relation to human activities in coastal areas. However, despite identifying fairly early on that there was a need to adopt a broader view on environmental protection, it was only after the first decade of MAP's existence, and specifically after the revision of the Convention (1995), that coastal areas secured proper attention in terms of mobilisation and budget allocation:

- The long-term Mediterranean Scenarios demonstrated the severity of coastal issues, focusing mainly on the concentration of population and activities in coastal areas, as well as upon associated conflicts over the use of land and resources. These laid the foundation for the adoption of a long-term view on development patterns and environmental protection in Mediterranean coastal areas (see section 2.2. of the Scenarios).
- Guidelines for the Integrated Management of Coastal and Marine Areas were prepared to support initiatives at the local level towards implementing broad-range programmes for coastal zones. These zoomed in on the ICAM process more adequately. A Flowchart for Integrated Management of Coastal and Marine Areas (ICAM) process is given in Figure 1.
- Special reports and position papers were developed on specific topics and methods, i.e. urbanisation, scenarios, implementation capacity, aquaculture, soil erosion, to name but a few to provide:



**Figure 1: PAP Flowchart for Integrated Management of Coastal and Marine Areas (ICAM) process (Source: UNEP, 1995)**

- policy inputs in terms of diagnostics; and
- technical support in terms of the introduction of innovative tools.

Training courses on these issues are also currently offered.

- Pilot, local level projects (such as CAMPs) were prepared to test the viability of the ICAM concept and to illustrate the approach's validity in the context of the Mediterranean and particular states.
- A report titled "The State of the Marine and Coastal Environment in the Mediterranean Region" was elaborated with particular reference to coastal areas, highlighting the need to manage these properly.
- A Workshop on Policies for Sustainable Development of Coastal Areas in the Mediterranean was organised in Santorini, in 1995. Integrated Coastal Area Management was set in the context of sustainable development strategies.

MAP's own special contribution to the Integrated Management of Coastal Areas was its establishment of the MAP Coastal Area Management Programme (MAP CAMP), in 1989. CAMP has been oriented towards the successful completion of practical coastal management projects in selected Mediterranean countries.

The key CAMP objectives are the following:

- To develop strategies and procedures for achieving sustainable development, environmental protection and the rational utilisation of coastal and marine resources, as these constitute integral parts of the process of sustainable development;

- To identify, adapt and test methodologies, tools and practices of sustainable coastal management;
- To contribute towards the upgrading of the national/local institutional and human capacities involved; and
- To secure its wider application, at national and regional levels, and create the necessary preconditions for follow-up activities.

CAMP's long-term agenda includes the following:

- The resolution of priority environment-development problems at the *local level*;
- The formulation and implementation of relevant national policies and strategies by the proposition of methodologies and procedures at the *national level*;
- The dissemination and exchange of experience contributing to the formulation and implementation of policies and strategies at the *regional level*; and
- The consolidation of co-operation, and sharing of experiences, methodologies, procedures and results with other world regions at the *international level*.

Between 1989 and 1998, two CAMP cycles were completed, with projects conducted in Albania (the Albanian Coast), Croatia (Kastela Bay), Greece (the Island of Rhodes), Syria (the Syrian Coast), Tunisia (the city of Sfax) and Turkey (Izmir Bay). Recently, the CAMP project in Fuka, Egypt and a project in Israel were also completed. The third cycle of the Programme started in 1997 with the preparation of local projects in Algeria, Lebanon, Malta, Morocco and Slovenia. In 1995, the revision of the Barcelona Convention, and the adoption of MAP Phase II, including the Priority Fields of

Action for the period 1996-2005, strongly supported the continuation of the Programme.

To assist the Mediterranean Action Plan in the consolidation of a strategy towards sustainable development in the region, a special consultative body, the Mediterranean Commission on Sustainable Development (MCSDD), was selected. MCSDD is innovative in terms of offering a regional level sustainable development structure, and due to its composition and role, being as it is a democratically representative and consultative body to the Contracting Parties to the Barcelona Convention. The MCSDD has focused, among other issues, on the sustainable management of coastal zones, addressing specific aspects of strategy and of political decision making, recommending that countries:

- Improve institutional mechanisms;
- Strengthen and enforce regulatory instruments;
- Provide access to information and raise awareness;
- Establish incentives;
- Develop pilot projects for demonstration; and
- Boost public participation.

Amongst its specific recommendations it is important to underline the need to:

- Report regularly on the state of the environment;
- Develop new forms of partnership;
- Consolidate co-operation;
- Expand the role of lower level administrations in coastal zone management;
- Elaborate regional guidelines for implementing national level regulations;
- Prepare management plans for coastal areas that are either of particular environmental interest or subject to pressures for development; and

- Elaborate good practice guidelines.

The above recommendations are particularly useful, aiming as do to sensitise and educate Contracting Parties and other regional actors on crucial ICAM aspects, placing particular emphasis on implementation issues and upon the mobilisation of the various partners involved in the performance of ICAM objectives. These are just recommendations to the Contracting Parties and it should be noted that there is still a great deal to be gained from developing follow-up mechanisms to track their implementation.

Though characterised by a relatively more specific focus, the SAP MED (Strategic Action Programme to Address Pollution from Land-based Activities in the Mediterranean Region), nevertheless provides a broad framework and a timetable for setting in motion mechanisms and measures that will secure the protection of the marine environment, and will therefore contribute effectively to ICAM development. The overall goal of this new project funded by the Global Environment Facility (GEF) under the aegis of MAP, is to improve the quality of the marine environment in the Mediterranean region by enhancing the shared management of land pollution via the consolidation of international co-operation in the management of land-based pollution, with transboundary and regional significance. The objectives of the SAP MED are to facilitate the implementation of the MAP Land-based Sources and Activities Protocol, and to help maintain and where needed, to restore the productive capacity and biodiversity of the marine environment, safeguarding human health, whilst promoting the conservation and sustainable use of living marine resources.

### **3.2 Euro-Mediterranean Partnership**

The Euro-Mediterranean Partnership was established in Barcelona (1995) as a joint endeavour by 27 parties on both sides of the Mediterranean: the 15 Member States of the European Union and Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Syria, Tunisia, Turkey and the Palestinian Authority (Libya has observer status). The overall Partnership's agenda is to guarantee peace, stability and prosperity in the Region through enhanced and regular dialogue, free trade and co-operation. As we have already mentioned, it represents a first step towards the Blue Plan's "Alternative Reference Scenario 1".

The environment has been recognised as one of the fields demanding an intensified co-operation effort, and as an irreplaceable dimension for the achievement of sustainable development in the Mediterranean. The general objectives of the Environment Programme within the framework of the Euro-Mediterranean Partnership are to:

- Assist in altering the trend of environmental degradation in the region;
- Contribute to the sustainable development of the region, the protection of the Mediterranean environment and the improvement of the quality of life;
- Integrate environmental concerns into sectoral policies;
- Strengthen its coherence and secure synergies with existing multilateral programmes and legal bodies (i.e. MAP, the Barcelona Convention, METAP);
- Contribute to the creation of new employment opportunities; and
- Highlight the relationship between trade and the environment.

The European Commission was appointed by the Barcelona Declaration to co-ordinate the elaboration of a Short and Medium-term Priority Environmental Action Programme (SMAP), which was adopted by the Ministerial Euro-Mediterranean Conference, held in Helsinki, in 1997. Five priority fields of action have been identified for SMAP:

- Integrated Water Management;
- Waste Management;
- Hot Spots Action (pollution control and biodiversity conservation);
- Integrated Coastal Area Management; and
- Combating Desertification.

In the direction of Integrated Coastal Area Management, the following constitute action priorities:

- Preparation and implementation of national or demonstration plans, data bases, as well as legislative and technical measures to promote ICAM;
- Preparation of capacity studies;
- Promotion of sustainable tourism development;
- Elaboration and implementation of plans aiming at the conservation and management of Mediterranean biodiversity;
- Development and implementation of national and sub-regional plans to combat accidental ship oil spills;
- Identification of appropriate methodologies, promotion of national and local initiatives, and the development of integrated pilot projects to protect coastal zones from erosion and degradation;
- Development and implementation of integrated environmental management plans and sustainable development programmes for Mediterranean island;

- Elaboration of Good Practice Guidelines for ICAM, referring to the body of pre-existing work; and
- Providing support to national and local authorities to devise proactive and reactive strategies for the prevention and combating of pollution and litter within marine and land-based sources and activities.

Although Integrated Coastal Area Management has been identified as one of the five priority action areas in SMAP, regrettably, very little progress has been made, due to a general problem of “inertia” in the EuroMed system. In addition, there is a lack of clear guidance as to the eligibility and character of SMAP interventions (pilot projects *versus* structural interventions). Problems also stem from the combination of a weak information access structures and a reliance on bottom-up (local to national level) initiatives in international co-operation projects.

### 3.3. METAP

The Mediterranean Environmental Technical Assistance Programme (METAP) was launched in 1990 by the World Bank (WB) and the European Investment Bank (EIB) in partnership with the European Union (EU) and the United Nations Development Programme (UNDP). METAP’s mission is to generate funds assisting Mediterranean countries, particularly those on the southern and eastern rim of the sea, to devise policies, programmes and investment projects that effectively tackle the obstacles to achieving sustainable development in the region. Influenced to a great extent by UNEP/MAP work, METAP has provided funding

totalling approximately US\$ 5.4 million for the implementation of 18 ICAM projects in 10 Mediterranean countries<sup>1</sup>.

In the Environmental Programme for the Mediterranean, the degradation of coastal areas is considered a key issue while the improvement of planning has been recommended as a possible solution. Despite this fact, these operations have been very limited in range, mostly carried out in terms of investment project preparation and capacity enhancement in traditional spheres (waste, water, etc.).

METAP has acknowledged the need for ICAM in the Mediterranean Basin. At the regional level, activities related to ICAM have already been planned. These include management capacity building, the preparation of river basin plans and coastal area management strategies, the use of economic instruments, improvements in infrastructure, as well as investment in plan preparation. Although METAP interventions are not regional in character, they do involve a number of local interventions within a region. The focus of these actions has been limited in scope and ineffective in terms of clarifying investment actions (usually infrastructure-driven). Although such projects might be located in the Mediterranean coastal zone, they constitute implementation measures at the tail end of an Integrated Coastal Area Management endeavour.

Between 1996 and 1997, an evaluation of coastal management initiatives in the

Mediterranean region was prepared by the World Bank in association with PAP/RAC, providing recommendations for future implementation of coastal management projects in the region, the majority of which stress the role of the national and local levels in Integrated Coastal Area Management. The major role of regional level interventions is sought in the context of supporting national/local level activities.

### ***3.4. EU Demonstration Programme for Integrated Coastal Area Management***

In 1996, the European Union initiated a demonstration programme aiming to identify the appropriate remedial measures to be taken against the deterioration of European coastal zones. The programme had the following objectives:

- To provide concrete technical information on the factors and mechanisms, which either encourage or discourage sustainable management of coastal zones;
- To stimulate a broad debate and the exchange of information among the various actors involved in the planning, management or use of European coastal zones. The debate was intended to lead to a consensus regarding the appropriate measures necessary at the European and other levels of competence in order to enhance ICAM in Europe; and
- To test co-operation models against ICAM requirements.

Thirty-five Coastal Zone Management projects were selected by the Commission for this demonstration programme, twelve of which were located in the Mediterranean. Each of these projects has analysed the

<sup>1</sup> METAP Integrated Coastal Area Management initiatives include projects in Albania, Algeria (Tlemcen and El-Kala), Croatia (Cres-Losinj Archipelago), Cyprus (Akamas Peninsula), Israel (Haifa Bay), Lebanon, Morocco (Al Hoceima National Park), Tunisia (Hammamet Gulf) and Turkey (Belek beach).

operation of Integrated Coastal Area Management co-operation procedures, as well as their constraints and efficiency. These were seen in terms of their description and analysis of the environment, and of environmental management infrastructures, development programmes and plans, the analysis of origins of problems, the effects of existing and planned measures, the evaluation of management options, the formulation of strategic management visions and implementation as an integral process of Integrated Coastal Area Management. Overall, the projects represented a wide diversity of the ecological, economic and social features of the European coastal zones. Six thematic studies complemented the bottom-up (project-by-project) experience on legislative systems, information, participation, planning, technological solutions and Community policy impacts. The geographical distribution and range of problems encountered in the zones under study provided a good foundation in the quest of a common policy for European coastal zones.

The major conclusions, equally applicable to the many different Mediterranean coastal areas, include the following:

- ICAM is a process which:
  - is based on a better understanding of the nature of interactions in the coastal zones;
  - requires appropriate, reliable and timely information;
  - should be issue-driven;
  - should have a strategic dimension;
  - has a focus on understanding and knowledge diffusion;
  - improves communications between coastal managers, scientists, etc.;
  - should be exclusively based on co-operation;

- develops mechanisms for vertical communication and co-operation;
- seeks co-operation and co-ordination across territorial levels;
- secures the involvement of key stakeholders (actors) and the public.
- Legal definitions of the coastal zone should not only reflect the particularities of context but should be also flexible enough to reflect the complex-dynamic nature of the coastal zone;
- Harmonisation between policies and regulatory systems is essential in order to promote integrated management; and
- Sustaining the process of ICAM by building up public support is another essential task.

In the Mediterranean, there had been a modest number of projects (12 out of 35) given the European-wide significance and the specific “coastal character” (concentration of development and intensity of conflicts) of Mediterranean coastal regions, probably reflecting the difficulties faced by these areas in accessing information and mobilising resources for European activities. A related causal factor could be that the focus and the basic precondition for eligibility (on the basis of the EU’s guidelines), as well as the basis for final assessment of results achieved by Demonstration projects was “concerted action”, a condition which favours northern European societies with a long tradition in bottom-up management, public participation in decision-making, etc. In general, national coastal policies in Mediterranean countries are typically more prescriptive than functional.

A small number of projects, such as the Wadden Sea, focused on regional co-operation, but on a limited geographical scale. A larger number involved regional

networking of local level interventions. Hence, from that perspective, there is no regional level value in terms of Integrated Coastal Area Management, save the gaining of valuable experience from several projects within the Demonstration Programme and that obtained from the consultation process, following the presentation of the programme results at the national level. This was presented in support of the need for a regional level action on the part of the European Union (i.e. a Directive) as was the original mandate of the European Council.

Recently, the Commission submitted a “Recommendation on Integrated Coastal Area Management” to the Council of Ministers and the European Parliament. This was a loose and general set of guidelines, urging the Member States to adopt a type of Integrated Coastal Area Management that should be holistic, long-term, adaptive, sensitive to local particularities, and whose working process should be realistic and participatory, involving all administrative bodies and employing a variety of methodologies.

### **3.5. Other initiatives**

In a broader sense, several other initiatives might be of interest within the regional context, dealing with the Integrated Coastal Area Management of certain Mediterranean areas:

- At the European Union level, there is an effort to establish spatial planning that can be manifested in the European Spatial Development Perspective (ESDP) - as this endeavour constitutes a guiding tool for investments, other interventions and policies. European corridors and other types of priority

intervention areas (urban areas, mountain regions, coastal zones and islands, etc.) have also been identified in the ESDP. This territorial approach could serve to place an additional emphasis on coastal zones and thus further press the Commission to elaborate a European-wide coastal policy, consolidating the role of the EuroMed SMAP (Short and Medium-term Priority Environmental Action Programme) Coastal Zone Management section.

- The European Spatial Development Perspective (ESDP) was finally adopted in May 1999. While it is not a legally binding document, it provides a policy guidance framework for the Member States, for their sub-national authorities and for the European Commission, acting within their respective spheres of expertise. The ESDP main policy options are:
  - Towards polycentric spatial development: to ensure “regionally balanced development”, it emphasises the need to “integrate the concept of polycentric development to help avoid further excessive economic and demographic concentration in the core area of the EU”.
  - Encouraging projects originating from relevant territories: to implement this polycentric approach, the ESDP proposes that policies should be based on “promoting integrated spatial development strategies for city clusters (...) including corresponding rural areas and their small cities and towns”. This recommendation is put into practice through a contract-based system in which the partners (the State and sub-national authorities, or sub-national authorities among themselves) sign a contract under

which they agree on common objectives, the measures required to achieve them and their funding. This approach applies at different geographical levels; thus the principle behind local development may be summed up in the following formula: territory → strategy → project → contract.

- Promoting economic development: the ESDP states that “the regions of the EU can only be competitive and hence contribute to the reduction of unemployment if towns and cities, including those outside the global economic integration zones and metropolitan regions, have enough economic potential”.
- Encouraging equivalent access to infrastructure and knowledge: “Urban centres and metropolises need to be efficiently linked to one another, to their respective hinterland and to the world economy. Efficient transport and adequate access to telecommunications are a basic prerequisite for strengthening the competitive situation of peripheral and less favoured regions, and hence for the social and economic cohesion of the EU”.
- Wise management of the natural and cultural heritage: “The natural and cultural heritage of the EU is under permanent threat from different directions. Even though strict protection measures are sometimes justified, it is often more sensible to integrate protection and management of endangered areas into spatial development strategies for larger areas”.
- The application of these policy options is “based on the principle of subsidiarity. There is thus a need for close collaboration amongst the authorities responsible for sectoral policies and with those responsible for spatial development at each respective level (horizontal co-operation), and between agents at the community level, as well as the transnational, regional and local levels (vertical co-operation)”. This partnership-based approach to spatial planning requires the synchronised establishment, at all levels, of common systems for monitoring and evaluating policies, in addition to the elaboration of a common prospective approach.
- The Conference of Peripheral Maritime Regions (CPMR) of the European Union has also addressed the issue of Integrated Coastal Area Management by devising and adopting a European Coastal Charter (in 1981) that lays basic principles to be elaborated as guidelines for the sub-national level regional authorities. The European Coastal Charter has been officially recognised by the European Parliament in 1982 with the following general endorsing statement: “The European coastline must be organised so as to allow the reconciliation of the demands of development and the requirements of protection”.
- The European Council has been active in promoting Integrated Coastal Area Management during the last twenty years. It has oriented its efforts towards sensitising Government Agencies in their dealing with Planning and/or the Environment. CEMAT (the Council of Ministers on Planning) and the Standing Committee of Local Authorities have repeatedly highlighted the need to assume responsibility on the integrated management of coastal zones. Recently, a draft Model Law for European coastal

areas and a Code of Conduct were prepared demonstrating the need for regional level action. The limited effectiveness (by comparison to stronger regional agents, such as the EU) of the Council of Europe and the wide diversity of conditions and institutional set-ups among European coastal regions do not favour the future of joint interventions at this scale, although the ground for the political support of such action is quite firm here.

### ***3.6. The Mediterranean experience in the international context***

At world-wide level, the UN Conference on Environment and Development held in Rio de Janeiro, in 1992, acknowledged that coastal zones are areas of particular concern as they host diverse, complex and productive habitats and ecosystems useful for human settlements, development and local subsistence. As a result of growing pressures from the increasing concentration of population and activities, new integrated approaches to coastal area management must be put forward at the national, regional and global levels. However, there has been little evidence of regional co-operation in Integrated Coastal Area Management, which is still greatly relying on the national or local levels.

In Africa, for instance, several recent initiatives, often instigated by national agencies with an international aid agenda, support regional collaboration in environmental management. In the direction of materialising Integrated Coastal Area Management requirements, the Arusha process, PACSICOM (Pan African Congress for Sustainable

Integrated Coastal Management), IOC/FED (Indian Ocean Commission/Fund for European Development) and recently SEACAM (Secretariat for East Africa Coastal Area Management), are all representing significant endeavours. However, although these are very positive initiatives endeavouring to boost co-operation at the regional level, they nevertheless remain vague, arrested at an early stage. In most of these cases, they involve political statements, merely expressing their intentions to act.

Sponsoring donors exert a strong influence while there is little evidence of operational viability, although institutionalised networks within specific fields (ex: Reef conservation, Ecotoxicology) are currently proliferating.

In addition to the above mentioned initiatives, the following examples of co-operative activities in Integrated Coastal Area Management could be mentioned:

- HELCOM, in the Baltic Sea, can be appraised as a successful international collaboration in a number of environmental themes, but can not be defined as an ICAM. Success has rested upon a focus on a limited number of themes.
- The Wadden Sea trilateral co-operation between the Netherlands, Germany and Denmark, which all represent countries with well elaborated administrative systems, experienced in co-ordination and participation, focuses on environmental conservation as the basis for Coastal Area Management.
- In the Black Sea, there is a late start for a collaboration programme with little progress. There is an absence of ICAM objectives, with the exception of a Strategic Action Plan for the

Rehabilitation and Protection of the Black Sea. Here, emphasis is placed on a few key problems (such as pollution). There is a lack of co-operation and limited evidence on the ground. UNEP/Black Sea is one of the regional schemes for such co-operation and BSEC (Black Sea Economic Co-operation) another, both of which have been prioritising pollution control and biodiversity.

In other world regions, there have been efforts to introduce Integrated Coastal Area Management among the topics of international co-operation, through the activities of UNEP and other international organisations that act as technical agencies or donors. Among the UNEP Regional Seas programmes, the Mediterranean is probably the most advanced in terms of enhancing co-operation.

By comparison to the rest of the world, the Mediterranean region is characterised by intense regional collaboration in Integrated Coastal Area Management issues. Collaboration has been founded on the strong basis laid by the Mediterranean Action Plan and recently, the context of the Euro-Mediterranean Partnership.

Following the existing tradition, the Integrated Coastal Area Management regulation falls at the level of national administrations. However:

- There is an increasing understanding that such issues do possess a strong regional dimension, as evidenced in MAP and EU experiences, although, in operational terms, there is a lack of experience in dealing with such issues at the regional level.
- There are benefits from synergies in addressing certain issues at a higher level.
- There are substantial weaknesses at the national level due to an inappropriate delegation of responsibilities and the weak role of Environment Ministries vis-à-vis traditional sectoral and development-oriented ministries in the pursuit of integrated approaches to Coastal Area Management.

It can be concluded that the regional level is essential in the Mediterranean and that it is likely to remain so in the future.

### 3.7. Issues

ICAM has been accomplished within the agenda of MAP, SMAP (EuroMed's Short and Medium-term Priority Environmental Action Programme) and other endeavours. Several activities have taken place, but without being co-ordinated. Co-operation among regional partners on ICAM has been established. Overall, the Mediterranean co-operation scheme is in many respects a world leader, especially in terms of breadth and sustainability.

However, a few issues are still persisting:

- A *strategic view* of the Mediterranean is still absent. ICAM falls behind not in terms of general goals and intentions but in effectively-launched interventions, given the importance of coastal areas for the Mediterranean and the complexity of their problems.
- In spite of the advanced stage reached in defining goals and principles, there are *no mechanisms for ensuring that national administrations adopt these*, except in the form of very formal and rigid administrative procedures, such as Protocols.
- At the regional level, there are *no mechanisms ensuring smooth project succession*, as it is the case with the

recommendations of the MCSDD working committee on Integrated Coastal Area Management.

In spite of the early concern with coastal areas in the Mediterranean and a qualitative approach in outlining the dynamics involved, an accurate basis for estimating the extent of the problems, which would facilitate regional level policy making, has not yet been found. Moreover, although indicators have been developed, there is still no adequate mechanism to utilise these within a long-term policy making process.

## **4. NATIONAL POLICY INITIATIVES FOR MANAGING MEDITERRANEAN COASTS**

From an institutional perspective, the task of Integrated Coastal Area Management, has been left to the national level, worldwide, despite the fact that many problems might be regional or local in character. This is especially the case for most Mediterranean countries that are typified by a strong reliance on central administrative systems. In this sense, the examination of national level operations remains essential. Most countries have elaborated basic legislation referring to the regulation of the public maritime domain, with the additional provisions of land development regulation and planning legislation. Typically, there are multiple authorities and responsibilities with ensuing problems of lack of co-ordination (if not co-operation), gaps and overlaps. For this reason it is necessary to establish a national level system and process of Integrated Coastal Area Management. In this respect, there have been several responses by Mediterranean countries, as explicated below.

### **4.1. Key examples of legal and institutional settings**

#### **4.1.1. Land Policy Initiative**

##### Conservatoire du Littoral in France

In 1975, following the recommendations of the National Coastal Commission, the *Conservatoire du Littoral* (the Conservatoire for the Coast) was founded. Its agenda was to acquire property along the shores of beaches and lakes, in order to protect these areas from urban wretchedness and preserve their ecological character, as well as to improve public access, and assist in the formulation of marine resource plans. Since 1975, the *Conservatoire du Littoral* has acquired 750 km of shoreline. Most of its acquisitions have been made by private agreement, in addition to compulsory expropriation, which is occasionally administered in the public interest. This land cannot be sold thereafter, while public access is generally provided. It is primarily managed by local authorities acting on the Conservatoire's behalf.

The *Conservatoire du Littoral* represents a useful tool for coastal management today, although the following leading French coastal management agencies remain effective at the sub-national level: the *Direction de l'Environnement* (DIREN) – Directorate for the Environment, which is responsible for zoning, land use and environmental protection, and the *Direction de l'Équipement* (DDE) – Directorate for Public Services, which is advanced in the elaboration of plans, such as the *Schemas de Mise en Valeur de la Mer* (SMVM) – Plans for Sea Evaluation.

### 4.1.2. National Policy Framework

#### Agence de Protection et d'Aménagement du Littoral (APAL) in Tunisia

The creation of the Agency for the Protection and Management of the Coast in 1995, and the issuing of the Law 95-73, regarding the Public Maritime Domain, complete the Tunisian institutional and juridical framework, which is nonetheless disposed to prioritise the management and regulation of the coastal area. This special agency is a national level institution, initiated by the President of Tunisia in collaboration with METAP, aiming to synchronise public and private actions for the benefit of coastal areas.

The primary purpose of APAL is to protect the Public Maritime Domain by regulating its use, as well as to monitor the state of the coastal environment, to preserve and enhance the cultural and natural heritage, to reinforce the rational management of coastal resources, and to support community action and participation in coastal management. Its operational tasks are codified with respect to monitoring the coastal environment, regulating development in the Public Maritime Domain, rehabilitating degraded areas (especially sandy beaches) and protecting sensitive areas. For this purpose, the Agency was created within the Ministry of the Environment and Planning as a public institution enjoying a special status.

APAL is still at its early stage of evolution, but it has been created upon a strong legal framework and has been favoured by high-level political support and by the good will of other high-level government agencies collaborating with it. Legally speaking, it is fully authorised to regulate the Public Maritime Domain, with well defined scope in terms of beach erosion management,

conflict resolution in the domain of coastal space use, and the development of a data bank for the coast. APAL has also benefited from international support, especially from the experience of the French Conservatoire du Littoral and that of the Environment Canada's National Geomatic Programme.

#### Law on Spatial Planning and Sustainable Development in Greece

Substantial efforts have been made in Greece over the last decade, for the promotion of Integrated Coastal Area Management, in the context of spatial planning and in accordance with sustainable development goals. The innovative Law on Spatial Planning and Sustainable Development, adopted in 1999, envisages the issuing of national level Directives ("Special Frameworks for Spatial Development") for areas of special interest, such as coastal zones, islands, mountain areas and generally, areas with persisting environmental, urbanisation and social problems.

Each Directive includes principles anticipating the implementation of an Action Plan that generally defines programmes, regulations, costs, sources, eligible agencies, time schedules, and other issues. The Ministry of the Environment, Physical Planning and Public Works in collaboration with other relevant agencies, elaborates and issues these Directives. The Action Plan has to be revised every five years. In this context, a special Directive on Integrated Coastal Area Management has already been completed and is currently under revision.

### 4.1.3. National Laws

#### The Shores Act in Spain

The 1988 Shores Act is the major legislative initiative to enforce environmental protection and manage the Spanish marine and coastal public domain. It specifically refers to certain aspects of the management of public areas within coastal zones, including the delineation of coastal boundaries, concessions and authorisations of public land, and approval for use and protection of public lands it also elaborates regulations for the use of beaches, such as coastal defence and regeneration. The leading Spanish coastal agency is the Ministry of the Environment.

The Shores Act determines the delimitation of coastal public property. It also identifies four overlapping zones, measured against the landward limit of the seashore, in which the rights of private landowners are subject to certain restrictions in order to protect public use, passage and access to the sea, ensuring that their development is consistent with coastal property protection requirements.

Although the Shores Act creates a framework for coastal management at national level, its focus is relatively narrow; its function is to regulate coastal development and tourism, to manage the physical aspects of the coastline, and to safeguard public access to the coast. The maturation of their integrated approach will require greater attention in integrating marine and coastal management, as well as intensive efforts relating to the marine and coastal environment, in addition to the co-ordination of the various sectoral activities in the coastal zone.

Furthermore, a major problem in the Spanish coastal management scheme has

been the overlap of jurisdiction between national, regional and local governments. Although the bulk of resource management jurisdiction is vested in regional governments, the national government maintains its authority via the national Shores Act. Local governments participate in CZM through the preparation of land-use plans in beach and foreshore areas. The result is a confusing framework of coastal management guidelines and jurisdictions that is rather duplicative and dysfunctional.

#### The Schemas de Mise en Valeur de la Mer (SMVM) and the Loi Littoral in France

Two national legal bodies in France regulate coastal management: the *Schemas de Mise en Valeur de la Mer (SMVM)* – Plans for Sea Valuation and the *Loi Littoral* (the Law on the Coast).

Under the SMVM, enacted in 1983, the coastal sea areas and land adjacent to them are zoned according to use criteria, with elaborate options for future development. These areas are defined as “a geographic and maritime unity” of a multiple-use nature. The SMVM serves as a template for the national and local governments, and is therefore superior to all local terrestrial zoning plans, which must comply with its authority. However, the application of this kind of system would involve a feasibility study and report that should be formulated with public and private consultation followed by a public comment period.

The *Loi Littoral*, enacted in 1986, refers specifically to terrestrial coastal management, modifying the general French zoning and certain land-use laws in order to refer to the specific nature of the coastal area. It regulates development and other activities in the shore and beach area, through the control of irrational urban expansion and via the protection of

vulnerable areas, introducing national land-use planning restrictions and protecting a 100 metre coastal strip from constructions. The *Loi Littoral* both establishes setback zones and sustains the natural character of the coastal zone, which as a part of the public domain, must be preserved. Although the relationship between the SMVM and the *Loi Littoral* is not entirely clear, they nevertheless provide a potential statutory planning framework for the coastal zone.

Whereas responsibility for coastal management is divided among several national institutions, the co-ordination of actions at the national level, especially with reference to fisheries conflicts and to French maritime transport policy, is handed to the *Secretariat a la Mer* (the Secretariat for the Sea), founded in 1995.

#### **4.1.4. Master plans**

In 1970, the Israeli National Planning and Building Board recognised that Israeli coastlines should be treated as resources of national value, and issued an order for the preparation of national plans to protect its sea and lake shores. The National Master Plan for the Mediterranean Coast tackles the following: land use along the coastal strip for beaches, recreation and sport; tourist facilities; the protection of antiquities, nature reserves, national parks, forests and coastal reserves; and ports and other infrastructures. The plan aims to prevent development in cases where a coastal location is not essential, and to resolve conflicts of interest among land uses seeking a coastal location. It prohibits development within 100 metres of the coastline and prescribes the completion of an Environmental Impact Assessment (EIA) as the proviso for permitting coastal projects.

## **4.2. The global experience of national level ICAM**

There has been a worldwide proliferation of programmes that record an extensive activity, but nonetheless a fragmented experience. Two types of national level experience can be distinguished within national level ICAM: in connection with well-developed administrative systems and in countries with developing economies.

*In countries with well-developed administrative systems* (US, Canada, New Zealand, etc.) the emphasis is placed on devising administrative procedures facilitating co-ordination. In these countries problems related to policy integration can be causally connected to the fact that in developed countries, government bureaucracies are highly diversified and bureaucratic divisions are typically long-standing, deeply ingrained, and based on divergent legal mandates.

The *United States* was first to design a national-state oriented coastal management programme, through national legislation, in 1972. The US Coastal Zone Management Act of 1972 elaborates the basic objectives of ICAM, requiring American States to devise coastal management programmes to fulfil these. However, it leaves each State free to choose its own methods, and consequently each has invented its own system. It is not necessary for each coastal State to have an identical system of ICAM, provided that their adapted methods are indeed effective and operate harmoniously for the benefit of the coastal zone as a whole.

This programme's different implementations have matured over the years with striking variations between coastal States.

Furthermore, although the implementation of the Coastal Zone Management Act remains the responsibility of individual States, Federal support is subject to satisfactory evaluation by the responsible federal office. Federal government has been the key catalyst in providing incentives to the States for both planning and implementation of coastal programmes.

In California, for instance, the California Action Plan, established the California Coastal Zone Management Programme in the early 1970's. It sets out a drastic policy for coastal lands based on set priorities. First priority is given to lands that best serve the recreational needs of urban population and lands of substantial ecological importance.

*Canada* began developing a national ICM programme as part of its national ocean policy. It has been successful at achieving community level ICM and in building consensus among local stakeholders, especially in its Atlantic provinces. Integrated Coastal Management was adopted as one of the underlying principles of part II of the Canada Oceans Act of 1996. In this context, interested parties, authorities and stakeholders work together towards an agreement on common goals, plans and policies addressing specific coastal and ocean issues.

Since the 1980s, *New Zealand* has embarked on a major process of legislative reform of its resources management regulations. This process culminated with the issuing of the Resource Management Act (1991), which remains the governing legislation for the management of New Zealand's land, air and water. The Resource Management Act consolidated more than 50 laws regulating land, water and air use, which often served antagonistic

purposes and overlapped, or contradicted each other.

The Resource Management Act established a national framework for coastal planning. It introduced a fundamental reform of pre-existing laws, abolishing numerous authorities and Acts, amalgamating all planning, water and soil legislation under the jurisdiction of the Department of Conservation and Local Authorities, which follows a national coastal policy statement and regional coastal plans.

In *countries with developing economies* (Indonesia and the Philippines, Sri Lanka, etc.) in which emphasis is mostly placed on coastal resources management (integrated or sectoral in essence). Many developing countries that over the recent years have experienced rapid development of their ocean and coastal areas, have now become aware of the environmental costs of rapid, irrational growth. The role of UNEP and donors in shaping emphasis and efforts is usually pivotal.

*Indonesia and the Philippines* have benefited from external assistance from the ASEAN-US programme, while they have both experimented with ICM pilot efforts typical of the ASEAN-US approach. *The Philippines* has emphasised community-based management and tied fishing activities to coastal resources management, a practice that is desirable but seldom employed in most other countries.

Many Philippine islands had been suffering from deteriorating environments reinforced by irrational fishing practices. The Philippines government has long recognised the need to actively involve the community in the preparation of marine and coastal management programmes to halt the degradation of coastal resources. This recognition, supplemented by

legislative changes granting local governments jurisdiction over 15 km seaward of the low watermark, and in addition to timely delivered academic work in the field of community development, paved the way for the effective community-based management of marine and coastal areas in the Philippines.

*Sri Lanka*, in common with many developing countries, faces a range of coastal management issues evolving around a mix of subsistence uses of the coast combined with industrial and tourist development. Sri Lanka utilises some of the oldest programmes in coastal management and its approach has been influenced by international aid agencies, most notably those from the United States, Germany, Denmark and Holland. The focus of the Coastal Zone Management effort has been very limited in spatial terms (merely over a narrow strip of land), setting up a special coastal agency controlling permits over a 1 km wide zone on the basis of erosion control. Nonetheless, the need to elaborate a broader management system has become apparent. Sri Lanka offers a valid illustration of how ICAM may proceed in stages, beginning with one immediate, salient issue (such as coastal erosion) and evolve over time in a mature coherent programme that embraces a plethora of other coastal zone issues.

The development of institutional arrangements in Sri Lanka demonstrates the programme's maturation, from a national, agency-driven programme to a multiple-level community focused system. These changes have allowed the development of an Integrated Coastal Management planning programme at several planning scales.

An analysis of selected national examples is given in Box 2.

### 4.3. *Issues for national level interventions*

ICAM remains a national level concern, while ICAM responses may vary on the basis of the particularities of the development stage, institutional context and environment/development issues. Interestingly enough it has been evident that there is more than one route to the achievement of ICAM.

There are also differences in the approach to Integrated Coastal Area Management in terms of the management focus: resource management versus traditional planning. In the case of Mediterranean countries, the prevalence of tourism and urbanisation in the coastal zones, as well as the reliance of Mediterranean countries on traditional administrative systems, favours the latter. Of particular concern though, are the increasing problems of coastal areas in the Mediterranean, which combine with weak administrative structures and enforcement, a lack of modernisation and integration of policies, the transitory character of many Mediterranean economies and the lack of resources, to form more daunting Coastal Area Management problems.

Furthermore, there is a prevailing (world-wide) crisis of eroded confidence in government planning systems, itself part of the trend related to a reduced state role. In tandem with weak lower administrations, and the absence of a solid private sector and civil society partners - who could assist states to manage coastal areas - this makes coastal management a very difficult task. One of the major obstacles in Integrated Coastal Area Management is the limited influence (and thus weak integration) of environmental concerns in development planning among many Mediterranean

### **Box 2**

#### ***An analysis of selected national examples***

The United States (1972), Sri Lanka (1981) and New Zealand (1991) national coastal programmes were launched with the passage of a national law. In all three countries, the law provided the necessary authority and framework for more detailed plans and regulatory programmes to be developed at either the national level (Sri Lanka) or lower levels of government (States in the U.S.; Regions in New Zealand). In both the U.S. and New Zealand programmes, standards, or thresholds, must be met by lower level plans. In New Zealand, the central government harmonised over 100 acts in preparing the 1991 Resource Management Act. In Ecuador, the national programme was created through Executive Decree with no plan for new legislation. This is due to the fact that a careful legal review revealed that while Ecuador's laws were not ideal, existing laws provided sufficient authority to achieve the programme's objectives. Instead, the programme decided to devote its energy and resources to building inactive constituency for management, and to improving the implementation of existing laws through the creation and support of an interagency "Ranger Corps". In the Philippines, national programmes have lagged behind local programmes. With over a decade of local level implementation experience, meaningful co-ordination and programming is now occurring at the national level to provide the necessary technical support and back up enforcement for local initiatives. The most significant legal change in the Philippines to affect coastal management was the new Local Government Code, which gave substantial new authorities to Provinces and municipalities, including local jurisdiction over waters. In Australia, a national coastal policy emerged several years after a national coastal zone inquiry. The policy is NOT regulatory, rather it emphasises supportive and facilitative programmes, aimed at building productive intergovernmental relationships, providing incentives for good management (coastal care and strategic planning) and technical support (capacity building programmes and information services) to localities.

With the exception of the Philippines, in each nation there is one lead agency for the nation's "coastal management programme". This statement is, however, somewhat misleading, as in every nation multiple agencies carry out programmes that could be called "coastal management". The national Coastal Management lead agency is found in a variety of "Ministry" equivalents - in the Dept. of Commerce in the U.S., in the Ministry of Fisheries in Sri Lanka, in the President's Office in Ecuador, and in the Ministry of Environment in New Zealand and Australia. In the Philippines, strong coastal programmes are found in two Ministries: Ministry of Agriculture; and Ministry of Environment and Natural Resources.

The roles of lead agencies also vary. In Sri Lanka, the lead national agency, Coast Conservation Department, issues permits along with concerning itself with planning and policy functions. In other nations, the lead national agency is more focused on planning and policy, and providing support (financial and technical) to more local levels of government who actually develop programmes that can be implemented. In the Philippines, the lead agencies provide technical assistance to municipal governments to develop and implement local coastal programmes. Frequently, national agencies are also charged with evaluating local programmes and co-ordinating/facilitating national government interactions with sub-national programmes.

Source: Zeitlin-Hale *et al.*, 1998

partners, jeopardising the possibilities of achieving the establishment of Integrated Coastal Area Management systems at the national level.

Civil society in most Mediterranean countries is not accustomed to active participation in public affairs so there are constraints in mobilising it to contribute to and aid with the task of managing coastal areas. In addition, the primacy of development needs does not yet allow Mediterranean societies to adopt a broader view in terms of Integrated Coastal Area Management.

Despite the fact that national level initiatives have already taken place all across the Mediterranean, administrative and planning levels have not been integrated, and often efforts cannot be sustained. Finally, there are no actual operational links between national and regional (or local) level activities. Some types of integration are given in Box 3.

## **5. INTEGRATED COASTAL AREA MANAGEMENT AT THE LOCAL LEVEL**

As is the case with other world regions, in the Mediterranean Basin, the main economic strategies and legislation, are defined and implemented at national level thus dictating population trends and protection of the air, water and soil. However, with the proliferation of globalisation, national economies, despite their fundamentally regulatory role, have been gradually giving way to sub-national or local levels that offer specific competitive advantages, especially for action implementation.

On the other hand, environmental degradation and thus its remedial sustainability are also locally contextualised. This is not only the case because ecosystems possess their own specific biodiversity, nor so much because pollution originates at different levels, but more importantly, because a strategy of sustainability cannot be achieved without conceiving the complexity of development in its economic, social and cultural dimensions. Coastal Zone Management must be consistent with the particular characteristics of the place, in which a decisive aspect is the local identity itself, in addition to local perception of resources management, with the latter depending on the use of common references and forms of social cohesion.

This “bottom-up” approach can only enable change at the community and local government level, if it is confronted with its dialectical “top-down” approach. Both sides of this dialectic must be reconciled through a “two-track” strategy, incrementally building capacity, both within central government and at selected community sites. The appeal of this two-track approach lies in its capacity to create and sustain a dialogue, promoting a sense of shared purpose at all levels.

In the Mediterranean, several actions have been put forward for ICAM at the local level (see Map 2).

### ***5.1. Coastal Area Management Programme (CAMP) Projects***

The Coastal Area Management Programmes (CAMPs) were first instigated by the Mediterranean Action Plan (MAP), in 1985. The first four CAMP programmes were completed between 1988-89. These

**Box 3**  
***Some types of integration***

**Geographic integration**

All coastal systems are interconnected, and no single organisation can wield control over all or even most of the inputs and outputs from one part of the coast to another. Attention must, therefore, be paid to the interconnections between land and sea environments, which can extend over more or less vast distances (depending on the issues).

**Integration across time scales**

The coast is significantly affected by the cumulative impact of many individual decisions made and actions taken by resource users and governments. Attention must, therefore, be paid to the consequences of these decisions and actions, and to the short-, medium-, and long-term implications of such decisions and actions.

**Integration across sectors**

There is a wide range of human activities on the coast, including: agriculture; commerce; fishing; forestry; industry; military use; mining; nature reserves; recreational and residential development; subsistence resource use and tourism and transport infrastructures. Attention must, therefore, be focused on the "horizontal integration" of sectors traditionally seen as separate, together with the associated governmental agencies that influence the planning and management of coastal systems and resources.

**Political and institutional integration**

A considerable challenge is posed by the fact that the boundaries of coastal ecosystems go beyond local, provincial and often national areas of authority. Attention must, therefore, be paid to "vertical integration" between spheres of government, from the local to international level, and to integration between institutions in government, civil society and the private sector which influence the planning and management of coastal ecosystems and resources. Ideally, legislative and planning frameworks and development assessment procedures should be integrated.

**Integration across disciplines**

Coastal systems are multifaceted, dynamic and complex. In addition, the consequences of coastal management decisions are often subject to considerable uncertainty. These characteristics make it difficult, if not impossible, to determine cause and effect relationships, and to predict accurately the potential impacts of human activities. Attention must therefore be paid to integrating knowledge and understanding from the natural and social sciences, the humanities and the design professions (including engineering, planning and architecture). In addition, scientific research must be integrated with other sources of information, including knowledge of coastal communities and users.

**Integrating policy, management, education and research**

Coastal management is a process that requires creative partnerships to be established between government, civil society and the private sector. To manage coastal ecosystems and resources for the benefit of current and future generations, such partnerships will need to be based on the integration of a range of considerations, including policy, management, education and applied research.

Source: DEAT, 1998

include the Bay of Izmir (Turkey), the Island of Rhodes (Greece), Kastela Bay (Croatia), and the Syrian Coast. During the second stage of CAMP initiatives, several other programmes were materialised in Albania, Egypt and Tunisia.

In order to qualify for a CAMP, all selected sites must have been facing specific environmental problems whose urgent or long-term need to be resolved must have been expressed by national and local government. More importantly, selected sites must be evaluated as “typical” to the Mediterranean coast, so that the experience and the lessons learned would be easily transferable to another context.

Generally, CAMPs have succeeded in fulfilling their specific objectives to a limited extent. Nonetheless, they have contributed a great deal in promoting the overall MAP objectives, which can be summarised as follows:

- Promoting co-operation among national authorities, institutions and experts;
- Transferring international knowledge and experience;
- Supporting expertise, training and providing minimum equipment, especially for South Mediterranean countries; and
- Collaborating with international funding institutions.

Although the majority of CAMP initiatives have efficiently amalgamated environmental concerns into development issues, they have faced serious difficulties in involving all the stakeholders, particularly NGOs and the general public. Moreover, stakeholders’ involvement has not been sufficient. However, the most severe and common difficulty faced by CAMPs has been the lack of financial resources for follow-up activities, as well as their rigid operational structures. Only in



*Map 2: MAP CAMPs and EU demonstration projects*

the case of the Island of Rhodes and Kastela Bay, in which investments were anticipated, did CAMPs produce concrete results. On the other hand, CAMP initiatives have increased the capacity of local experts by offering training and by raising awareness within the domain of decision making in respect to coastal management issues.

### **5.1.1. City of Sfax, Tunisia**

The CAMP in Sfax has zoomed in on the major industrial and commercial area in the city of Sfax in the southern part of Tunisia. It has elaborated the actions to be implemented aiming at the radical change of the existing development trend, whilst securing the future sustainable development of the area and the improvement of the population's quality of life. Here, priority issues referred to the:

- Implementation of the programme for pollution abatement and the rehabilitation of degraded resources and areas;
- Establishment of protected areas, of a National Park, and a number of recreational and tourism facilities;
- Integrated management of aquifer protection and exploitation; supply and distribution of water resources and liquid and solid waste management; and
- Integrated management and sustainable development of the area, with particular reference to its southern part.

### **5.1.2. The Bay of Izmir, Turkey**

The geographic scope of this particular intervention was the vicinity of the Metropolitan Municipality of Izmir. The programme's activities were divided into two major phases: the preliminary pilot phase, and the actual CAMP phase. During the initial phase, several urgent problems

were solved, while a better comprehension of the natural system was achieved, laying the foundation for the materialisation of the actual CAMP. This programme's major output entitled "The Integrated Management Study for the Area of Izmir" proposed the following:

- Urgent measures for the alleviation of acute problems referring to unsustainable patterns of resource use;
- Medium-term measures enabling the preparation of the Integrated Coastal Master Plan; and
- A methodological framework for the elaboration of the Master Plan.

The programme's final assessment concluded that only half of the operations envisaged were finally performed. However, major positive changes could be observed in the management and the actual development of the Izmir Metropolitan Area, partly achieved by means of the CAMP initiative. The Master Plan was developed as a land-use plan rather than as a management plan, in line with CAMP objectives. Other obstacles included the low level of public participation, the vague time schedule for the Master Plan's completion, which slowed down its formulation, as well as weak institutional and political support reinforced by alterations within local administrations.

### **5.1.3. Kastela Bay, Croatia**

Kastela Bay is located on the eastern coast of the Adriatic Sea, in the immediate vicinity of the town of Split. It is one of the Adriatic areas that have suffered intensive degradation due to irrational industrial and urban development combined with a total absence of any adequate measures to reduce urban and industrial pollution.

The principal objectives of this project were the following:

- To add to the existing knowledge on the causes and consequences of pollution;
- To identify prerequisites for the treatment and discharge of urban wastewater into the bay and its adjacent Brac Channel;
- To contribute to the solution of the water supply problems;
- To introduce GIS; and
- To elaborate a concept of urban wastewater collection, treatment and disposal.

#### ***5.1.4. The Island of Rhodes, Greece***

The geographic scope of this specific CAMP initiative was the entire Island of Rhodes. It envisaged the preparation of a number of sectoral activities, including: liquid waste management and the monitoring of pollution; a general water resources master plan; the implications of expected climatic change; a programme of environmentally-sound energy planning; the protection of historical settlements; a GIS training programme; the application of EIA; development/environment scenarios; and the management of conservation areas, all included in the Integrated Planning Study for the Island of Rhodes.

Despite the fact that the CAMP of Rhodes was considered to be partially successful, it faced several obstacles, such as the lack of an adequate legislative framework (i.e. planning law) and a fully functional co-ordinating mechanism at the prefecture level, which did not materialise, leading to a prolongation of CAMP operations. The various activities and reports were inappropriately formulated, hindering the ability of local government to make use of them. To make matters worse, the programme failed to efficiently integrate

the various government layers. Last but not least, the inefficiency of the existing legal and institutional framework itself represented a significant obstacle to the programme's long-term sustainability.

#### ***5.1.5. Fuka-Matrouh, Egypt***

The main objectives of this ICAM initiative were to raise awareness on issues relating to coastal resources, uses and conflicts, to formulate effective strategies addressing coastal management issues, to cultivate communication and collaboration amongst stakeholders, to provide practical training, and to establish the necessary basis for the implementation of the ICAM strategy. As the programme remains at an initial stage, a performance evaluation cannot be currently obtained. The integration of environment/development concerns and the communication between local, regional and national agencies, have been considered to be adequate. Nonetheless, the programme has not yet secured the financial and human resources required for its implementation, and consequently its follow-up is only vaguely formulated.

#### ***5.1.6. Ishkenderun Bay, Turkey***

The Ishkenderun Bay Environmental Management Project does not constitute a consistent CAMP project, but is nevertheless significant as it was intended that it submit an environmental management model within the context of Development/Environment issues based on a systemic and prospective analysis. The project contained three principal parts: the first analysed the economic and social structure, the current environmental situation and the administrative organisation of the project area; the second part was a prospective analysis regarding development trends and their interaction

with the environment; and the last part sketched an administrative model, elaborating its objectives, role, structure, means and function.

In conclusion, the systemic and prospective analysis:

- Highlighted the risks of the long-term degradation or destruction of natural resources;
- Identified contemporary and possible future conflicts between activities and resources;
- Underlined the multifaceted interdependencies between development and the environment; and
- Initiated collective reflection processes on the Bay's future development.

## ***5.2. European Union ICZM Demonstration Programme***

In 1996, the European Commission established a Demonstration Programme in order to identify appropriate measures for upgrading the state of the European coastal zones. Conceived jointly by the Directorates General for Environment, Fisheries and Regional Policy, this ICZM Demonstration Programme aimed to:

- Provide coherent technical information on the factors and mechanisms that either encourage or discourage the sustainable management of coastal zones; and
- Stimulate a broad debate and encourage the exchange of information among the various actors involved in the planning, management or use of European coastal zones. The debate was intended to lead to a consensus regarding the appropriate measures necessary at European and other competence levels, for the promotion of ICZM in Europe.

With this end in mind, the Commission selected 35 Coastal Zone Management projects. Each of these projects has studied the operation of integrated management and co-operation procedures, and their efficiency. From 1996 to 1999, experts and scientists of various coastal regions of the European Union endeavoured to demonstrate the conditions necessary for successful Integrated Coastal Zone Management.

Generally speaking, the lessons learned from the Demonstration Programmes cover the following:

- The preliminary ICZM phase (i.e. establishing the eligibility criteria for practising ICZM);
- The ICZM process (i.e. information issues, collaboration issues, legal issues);
- Enabling mechanisms (i.e. legal instruments, consultation, voluntary agreements, economic instruments);
- ICZM follow-ups (i.e. building public support, financial aspects); and
- The impact of EU policy on ICZM (agriculture, fisheries, environment, etc.).

Under this framework, valuable experience was gained on the following issues:

### Preliminary phase of ICZM

- The Gulf of Finland project recommended that *integrated planning* should be undertaken at the regional and local levels.
- Storstrom County has elaborated *coastal planning* at the local level under the regional plan's overall directive. Although detailed, the regional plan has been considered to be incapable of addressing the complexity of coastal issues and sustainability evaluations in a given actual situation, and to confront the community misconception that

conservation initiatives would necessarily curtail economic activities.

- *Local incapacity* was regarded as a particular difficulty in Latvia.
- The necessity of *local political will and support* was stressed in La Gironde.

#### Information Issues

- The Cyclades Project has carried out *community mapping* for which locals contributed their local knowledge in defining local resources and key issues.
- Both Kent and the Côte d'Opale have set up coastal and marine "observatories" as foci in order to *raise awareness* on coastal issues, providing information and advice to decision makers, thus acting as catalysts in promoting ICZM within their regions.
- Submitting coherent information to a *public validation process*, as was the case with Rade de Brest, can only help to secure the general acceptance of its credibility.
- The Bantry Bay project has developed a coherent, *community-based GIS system*.

#### Collaboration Issues

- The Strymonikos project was initially planned to benefit from a broad consultative body (Co-ordination scheme) with representatives from all relevant groups, but it was later decided that such a group, with more than 120 members, would be dysfunctional. Instead, the broader group meets on an annual basis, while the mantle for the project's *Steering Committee* is restricted to those agencies with direct jurisdiction over the project area, including sectorally oriented ministries.
- The Southern Danish Archipelago ICZM project in the Storstrom and Fyn counties has been built upon Storstrom

county's efforts, over the past 20 years, to elaborate a *public participation* process for identifying and securing the active involvement of all relevant stakeholders within the regional planning process. Their main task was to sustain present participation and to commit new stakeholders to the ICZM process.

- The Côte d'Opale project has composed a Charter for Development of the Littoral, designed to inspire the four levels of administration involved in the development of coastal zone proposals (local, departmental, regional and national), and to be reflected in the local management schemes.
- The Norway project has been to a certain extent a response to the inability of the municipal level to alleviate conflicts between the environment and fisheries.
- In Kent, a conference brought together fishermen, fish processors and retailers, academics, regulatory authorities and NGOs, for the first time, in order to discuss the future of inshore fishing in the region.

#### Legal Issues

- Complex and overlapping or *conflicting jurisdiction* (roles and responsibilities) of management bodies has been proven to constitute a persistent problem in Strymonikos.
- Several projects have shown that the elaboration of a simple, comprehensive guide to "*Who Does What, Where and How?*" is indeed an indispensable tool, clarifying the divisions of institutions accordingly to their specific responsibilities.

### Enabling Mechanisms

- The Forth Estuary project has developed an “implementation action plan” inviting various agencies and organisations to voluntarily implement relevant aspects of their strategy. However, it remains uncertain as to whether the partners will implement the results, as they are not legally obliged to do so.

### Follow-up to ICZM

- Various projects have established *long-term structures and networks*, such as: the information centre in Strymonikos, the island network in Cyclades, the centre for Coastal Environment on the Isle of Wight, etc.
- The Local Development Corporation of the Cyclades might secure the *long-term sustainability* of the ICZM initiative.
- All 35 Demonstration Projects were on a sharp learning curve responding to pressures and opportunities in their own specific environmental and institutional contexts. The Magnesia project, for instance, is experimenting with *new modes of participation*, including brainstorming and “planning for real” role-play.
- Kent notes that politicians are most responsive to projects that: have a clear sense of direction; do not suggest an open-ended commitment by the authority; and, last but not least, are more drastic and less descriptive.

In brief, the EU Demonstration projects have shifted the emphasis to creative participation, directly or indirectly, within coastal zone management procedures. Several structures have been established in order to foster co-operation between national government, regional and local

authorities, experts, the private sector, NGOs and a broader public. They also have been characterised by diverse ranges and organisational schemes, as well as by distinctive socio-economic and environmental conditions. This may have limited the potential for replicability although the general conclusions drawn and experience gained can still be widely applied.

## **5.3. Other international experiences**

### **5.3.1. Africa**

Over the past two decades, African countries have taken several steps in the direction of Integrated Coastal Management, demonstrating their political will to face the problems and challenges of their coastal zones. Overall, there are positive signs of a gradual incorporation of the basic principles of Integrated Coastal Management into public policy, at the local, national and regional levels. This is very encouraging, considering certain acute problems, such as slow development, the scarcity of resources, and inadequate institutional capacities to organise complex interventions.

Coastal management initiatives have produced indirect benefits to local communities by stimulating dialogue and involvement in development/environment decision making. International agencies and donors also significantly influence project development. In general, small-scale interventions have better chances of success but as their replicability is restricted, they have limited multiplex effects. Integrated Coastal Management initiatives have been carried out in Kenya (ICAM in the Nyali-Bamburi-Shanzu area),

Tanzania (Tanga Coastal Zone Conservation and Development Programme), and Mozambique (Mecufi CZM Project, Xai-Xai Area Project). Other projects at the local/regional level mainly address sectoral issues (such as biodiversity, marine resources) and thus do not fully qualify as ICAM initiatives (i.e. Abidjan Lagoon Environment Project, Côte d'Ivoire and the work on Participatory Control of Coral Mining, Tanzania, Mafia Island).

The African experience has demonstrated that political support, proper institutional arrangements, participatory mechanisms and commitment of sufficient resources, supplemented by the adaptation of existing patterns and practices of coastal resource management, are all essential elements of successful ICAM initiatives. In Africa, the implementation stage of ICAM programmes, plans, and projects is absolutely essential and should stretch the capacities at the local levels. Initiatives at the national and regional level will promote institutional co-operation across sectors and levels of government, benefiting policy making as well as project performance. A lack of an information provision process and of mechanisms for exchanging experience has been documented, especially at the sub-regional and Pan-African level. It is, therefore, important to elaborate mechanisms as part of the concrete promotion of Integrated Coastal Management. In order to secure a wider applicability of ICAM initiatives, common methodologies and training should be identified in addition to the elaboration of capacity enhancement mechanisms, in order to consolidate the scientific and administrative capacity of African coasts management. Other priorities concern national level action, as well as regional co-operation and international support by eligible agencies and organisations.

### **5.3.2. Asia**

Since the late 1970's, several Asian countries, such as China, Indonesia, the Philippines, and Sri Lanka, have become aware of the need for coastal management. The first steps of coastal management derived mainly from the need for economic development rather than that of protecting the marine environment or of preserving coastal resources. As the concept and process of coastal management matured, more emphasis was placed on harnessing economic development to marine protection requirements. The majority of coastal management projects in Asia deal with specific issues, such as biodiversity (i.e. coral reef protection in 35 Indonesian sites), pollution control (i.e. Xiamen demonstration site in China), or capacity building. Local communities' involvement may be very effective in countries like the Philippines.

Other Asian countries, such as the Islamic Republic of Pakistan, and India, exhibit weak or no integrated coastal planning and management initiatives. The approach used is mainly sectoral, setting significant barriers for ICAM. In such cases, greater vertical (local, provincial and national levels of government) and horizontal (different sectors) co-ordination is needed. More specifically, in the case of India, although the Indian government responded promptly to the dynamic changes in international ocean affairs in the 1970s and early 1980s, it has not yet accomplished a comprehensive Integrated Coastal Area Management legislation or policy.

## 5.4. *Issues for ICAM interventions at the local level*

Local level interventions have been widely used as pilot projects to test the effectiveness of national/local level arrangements in Integrated Coastal Area Management. The undoubtedly local character of the existing problems and the particularities of each case suggest that the local level is an indispensable dimension in tackling concrete coastal area management problems, provided that strong institutional mechanisms have been established in collaboration with the national level. The various evaluation endeavours (MAP/CAMPs, METAP, European Union, and other international work), offer lessons gained from experience on the following operations:

### Local and national ownership

The local Coastal Area Management Programme (CAMP) activity is hardly effective in cases characterised by a policy vacuum at higher levels. In fact, national programmes must recognise that more local levels of government should necessarily be involved in order for them to be successfully completed. This mutual realisation must be deeply internalised, if a broader ownership of a given programme is to be secured and productive national and local partnerships formed. Ultimately, ownership implies the voluntary financial support of a programme or project. Unless this programme or project becomes part of regular government activities and allowances, it will neither be locally owned nor sustained.

### Leadership

Effective and committed leadership in both the political and practical spheres is

essential. Technical co-ordination should be soundly organised, connecting all participants in decision-making procedures, so that the initiative is smoothly integrated into the formal management system. Outlining ideal leadership, leaders should be characterised by their ability to recognise and act in a timely fashion on opportunities, to obtain co-operation from key actors, and to sustain the programme/project as a national priority.

### Vision

Any CAMP or other ICAM initiative needs to elaborate a mission statement entailing a future vision, taking into account that the local communities' long-term view is absolutely essential, which further implies that negotiation must be well organised and properly instigated. In other words, mediation between differing ways of looking at the past, the present and the future is necessary. This calls for a competent mediator, who will be expected to stimulate dialogue and enhance the capacity for negotiation, in cases in which the outcome must be consistent with the following:

- Very long-term objectives (a generation: what is expected);
- Medium-term management scenarios (what is desirable and feasible); and
- The devising of a negotiated management structure.

### Stakeholder participation

Participatory methods engage people who have a stake in the outcome of the management effort, providing them with the opportunity to voice their own ideas and concerns in management decisions. It may take a significant amount of time to involve every stakeholder in question, and this may seemingly delay the

implementation phase. However, the processes of involving all stakeholders, as well as that of sustaining their participation throughout the succession of different project phases, constitute an integral part of the management process itself and are thus indispensable for securing the initiative's success. Participation is often best accomplished by incorporating public education and consensus-building into the management process, as these represent its components.

#### Phased strategic approach

Identifying key issues as well as the place and time to address them, are among the most crucial decisions to be made. Programmes and projects have failed by attempting to cover too many areas at once, thus remaining superficial, and gradually rendered either irrelevant or restricted in their ability to resolve the problems faced by local authorities and their publics. To sustain a strategic focus, it is essential to prioritise coastal problems and proceed to deal with the easiest first, thereby securing rapid initial success, whilst boosting confidence.

#### Integration across sectors and scales of management

Success lies in forging partnerships between the different sectoral institutions and among user groups by employing a "two-track" approach, that is to say, by linking local governance development to national policies, and to central government structures and procedures. More specifically, a great deal of attention must be given to different management approaches on land and sea, bringing together the authorities responsible for these domains, as well as financiers. When transboundary water resources, such as a shared river basin are at stake,

collaboration and co-ordination between the authorities involved is necessary. Of the utmost importance too is the attempt to engage the private sector, which is functionally linked to the sectoral administrations and can contribute financial resources for the materialisation of remedial activities.

#### Integration of scientific information

Some coastal management projects have been focusing too heavily on science and technology, and too little on governance processes, whilst others have done the opposite. Research and technical tools (GIS, EIA, inventories, monitoring, modelling, etc.) are of little value, if the institutional and societal context in which they are introduced cannot assimilate the beneficial insights that these resources may provide. Furthermore, planners, decision makers and the general public cannot interpret raw data. Transforming raw data into useful information is a complex systemic procedure, requiring not only knowledge of data processing but more importantly, thematic and interdisciplinary expertise. It is also important to remember that information and knowledge can only be useful if delivered when and where needed. This implies that both scientists and managers must work closely as a team, periodically evaluating the usefulness of the produced information in relation to project objectives and priorities.

#### Individual and institutional capacity

Many coastal management studies, action plans or even regulations have little or no significant impact on either the resolution of use conflicts or that of the degradation of coastal ecosystems. Often the major reason for this is the absence of resourceful experts with the adequate knowledge and skills to execute step-by-step coastal

management procedures. Most coastal planners and managers have a strong sectoral education, encompassing land-use planning, fisheries, urban development, and other sectors. However, technical and governance complexity requires the formation and nurturing of multidisciplinary teams whose members are prepared to think and act strategically, resolve conflicts, administer complicated projects, have a deep understanding of how coastal ecosystems function and possess the ability to co-operate smoothly with coastal residents. Therefore, short- and long-term initiatives in capacity building must be elaborated. In the short term, this may include undertaking capacity building (meetings, workshops, etc.) in public administration and among CAMP project participants. In the long term, the best approach would be to incorporate a multidisciplinary perspective into the educational system.

#### Matching project activities to institutional capacity

In cases in which the MAP (CAMP), METAP or European demonstration projects undertaken at the local level, have been considered as first generation CAMPs (or “pre-implementation phases” of the ICAM cycle), one of the most common mistakes is to set multi-objectives and place heavy workloads on institutions, exceeding their capacity for implementation and financial resources. It is important to realistically match the scale and objectives of the project with local calibre, as well as with the national institutions involved, and the strength and commitment of the constituencies affected. While this focus may not yield the ideal plan from a technical standpoint, it should help produce a realistic and viable strategy, given the reasonable matching of available

resources (internal and external) with the permanent objective of “internalising the externalities” through economic systems.

#### Implementation of actions that occur concurrently with planning

Preliminary action implementation or “practical exercises in Integrated Coastal Management”, represents a key tool in minimising the gap between planning and implementation, during a plan’s preparatory period, regardless of the specificity of its scope. To put it simply, “practical exercises” need to proceed concurrently with the coastal management planning phase without waiting for its completion. Short-term and cost-effective actions, (such as beach clean-ups, protection and rehabilitation of dunes, water facilities, etc.), in being tangible manifestations of an improved management, boost local support for the coastal management process (at the community structure level) and offer specific opportunities to test horizontal and vertical co-ordination, whilst providing a basis for exploring successful approaches and implementation constraints. However, it is important that these actions emerge through a participatory process at the selected location, and that they are then supported by comprehensive and professional feasibility studies.

#### Learning and adaptive management

ICAM is closely related to planning activities but it approaches them using new forms of integration, exploring new resource management techniques. This approach must provide the capacity to cope with uncertainty and complexity. To do so, the system should be able to be upgraded in order to allow it to adjust to new information as and when it becomes available. Adaptive management implies

learning by doing, where the implementation of the programme/project creates opportunities to test and improve the scientific basis for action. Because of its high levels of uncertainty, a programme or project should be evaluated on both short-term success and on its ability to assimilate new information. Summarising: “A programme that learns poorly will be defeated by uncertainty; one that learns well can prevail despite the initially poor state of knowledge.” (CRC, 1994). Despite the substantial efforts made to demonstrate the value of ICAM at the local level with special projects, there is still a great deal of room for improvement with reference to the following:

- The design of interventions, which are replicable, flexible and adaptive to different contexts. In this respect, guidelines for local level interventions are essential;
- The diffusion and recontextualisation of experience in other areas; and
- The introjection of interventions in policy making, planning and programming.



## **PART III: THE FUTURE**



## 6. POLICY OPTIONS FOR THE FUTURE

The Mediterranean coastal areas constitute a terrain of significant pressures for transformation imposed by local and other broader forces of change. World economy globalisation, increasing competition, technological evolution, institutional and geopolitical change, new patterns of lifestyle, to name but a few, all represent major forces affecting the localisation and intensity of development in Mediterranean coastal areas. These are reflected in two major processes:

- *Urbanisation* i.e. the increasing concentration of people and activities in coastal cities as a result of rural, urban migrations and tourism.
- *Littoralisation* i.e. the intensive development and transformation of coastal areas.

In this respect, Mediterranean coastal areas are facing complex problems of development and environmental protection with reference to pollution, degradation of resources, loss of biodiversity, conflicts of land and sea use, etc. Responses have been fragmented, reflecting rigid institutional arrangements and policy making that ignores the need to consider the interaction of land and sea, coast and hinterland, across sectors and administrative levels. There is a general lack of legislation addressing complex coastal issues and even with reference to those aspects for which law exists, these often fall short at the implementation stage.

As we have previously argued (see section 2.2.), it is necessary to adopt *Integrated Coastal Area Management* widely across the Mediterranean and to this end

particularly intensive efforts at the regional, national and local levels are required. Although in principle there has been mobilisation in this direction, its outcome has not been commensurate with the speed of change and the severity of the problems. The rapid transformation and increasing complexity of the Mediterranean coastal areas demand more substantial efforts.

ICAM thus involves a range of coastal planning, day-to-day coastal resources management and support activities (applied research, monitoring, education, law, institutional capacity enhancement and funding) that must be synchronised in order to address critical issues. The process of coastal management involves policy (programme or plan) formulation, implementation, monitoring and evaluation of results, and, where needed, a revision of both the policy and implementation measures to ensure that the topics under examination are effectively addressed.

Essential actions associated with the steps of ICAM development cycle are presented in Box 4.

Elaborating an Integrated Coastal Area Management approach is not an easy task; it must progress cautiously, maturing over a period of time, through successive project generations. Attention needs to be primarily drawn to the topic of coastal management. Secondly, awareness must be built around the subject. Dialogue also needs to be encouraged amongst the various stakeholders. Co-operation can then be smoothly promoted, followed by co-ordination of activities. Finally, integration can be realised.

Taking on board the global scenarios framework and the specific ICAM requirements, the following distinctive policy scenarios can be considered (see Table 2):

**Box 4*****Essential actions associated with the steps of ICAM development cycle*****Step 1: Issue Identification and Assessment**

- Identify the major stakeholders and their interests.
- Identify the principal environmental, social and institutional issues and their implications.
- Identify the causal web linking human uses, natural processes and adverse natural conditions.
- Define the goals of the coastal management initiative.

**Step 2: Preparation of the Plan**

- Conduct selected scientific research.
- Document baseline conditions.
- Develop the management plan and the institutional framework by which it will be implemented.
- Create staff and public sector capacity for implementation.
- Design institutional structure and decision-making processes for plan implementation.
- Test implementation strategies on a pilot scale.
- Conduct a public education and awareness programme.

**Step 3: Formal Adoption and Funding**

- Obtain formal governmental endorsement of the coastal management plan or programme and the institutional framework by which it will be implemented.
- Obtain the funding required for an initial period of programme implementation.

**Step 4: Implementation**

- Adapt the programme to its own experience and to changing environmental, political and social conditions.
- Improve legislation and legal authority for management.
- Establish mechanisms for inter-agency co-ordination.
- Establish conflict resolution procedures.
- Strengthen programme managerial capacity.
- Catalyse the construction and maintenance of necessary physical infrastructure.
- Encourage participation of major stakeholder groups.
- Maintain the programme's priority on the public agenda.
- Programme monitoring.

**Step 5: Evaluation**

- Evaluate and adjust programme as necessary.

*Table 2: Levels of action*

<b>Options</b>	<b>Regional</b>	<b>National</b>	<b>Local</b>	<b>Benefits</b>	<b>Shortcomings</b>
Do nothing	Little co-operation	Voluntary initiatives	Demo-projects	<i>Better co-operation</i>	<i>Limited effectiveness</i>
As usual	Moderate co-operation	Regulation		<i>Experience in regulation</i>	<i>Limited funds</i>
Pro-active	Common framework	Enforcement	Plan revision	<i>Complementarities and synergies</i>	<i>Administrative inertia</i>

1. *Trend (do nothing)*: to continue existing arrangements based on international co-operation, voluntary mobilisation at the national level and the propagation of demonstration projects. This option entails efforts of further streamlining assumed and planned activities, relying to a greater extent upon the activities and support of MAP, EuroMed and the European Union (as well as other eligible actors).
  - The benefits of this pilot scenario can be justified by its tested viability and its ability to offer a common basis for co-operation in adopting regional goals and principles, as well as in its potential to replicate demonstration projects.
  - The major shortcomings stem from its exclusive reliance on supra-national level guidance, reducing the effectiveness of interventions, as well as from certain limitations relating to the availability of funds and the external setting of priorities.
2. *National (business as usual)*: to depend more heavily on existing legal structures and systems, consolidating the traditional role of the state in regulating development and enforcing environmental protection. This requires an improved level of co-operation across sectors, and administrative levels within each state, supplemented by a sustained level of co-operation at the regional level.
  - The benefit of this scenario is the existence of a long tradition in regulating matters at national level, reflecting the complexities of cultural, social and economic contingencies. Implementation could be facilitated, given that tried and tested institutional procedures and legal grounds form the basis of this approach.
  - The shortcomings of this scenario are linked to typical rigidities and administrative inertia manifested in central administrative systems in their attempt to innovate and adapt to change. Action depends on contingencies and resource mobilisation at the national level.
3. *Proactive*: to endeavour to mobilise all partners towards drastic action, sharing responsibilities in managing coastal areas in an integrated way. This approach implies the necessity to intensify efforts at the following levels:
  - The regional level, by providing a framework of action and co-ordination of international initiatives.

- The national level, through an internal harmonisation of its institutional arrangements to internalise and reflect ICAM principles, which in turn can be achieved via the establishment of policy priorities, as well as by strengthening its legal enforcement.
- The local level, by elaborating action plans with integrated management practices.
- The benefits of this scenario stem from its ability to steer action simultaneously at all levels, and in its accomplishing a functional sense of unity that springs from a targeted joint effort and which is reinforced by drastic synergies.
- The main shortcomings derive from difficulties in mobilisation imposed by administrative inertia at all levels (regional-national-local) and the eventual lack of political will (to make unpopular decisions) which in itself constitutes substantial evidence of long-term commitment.

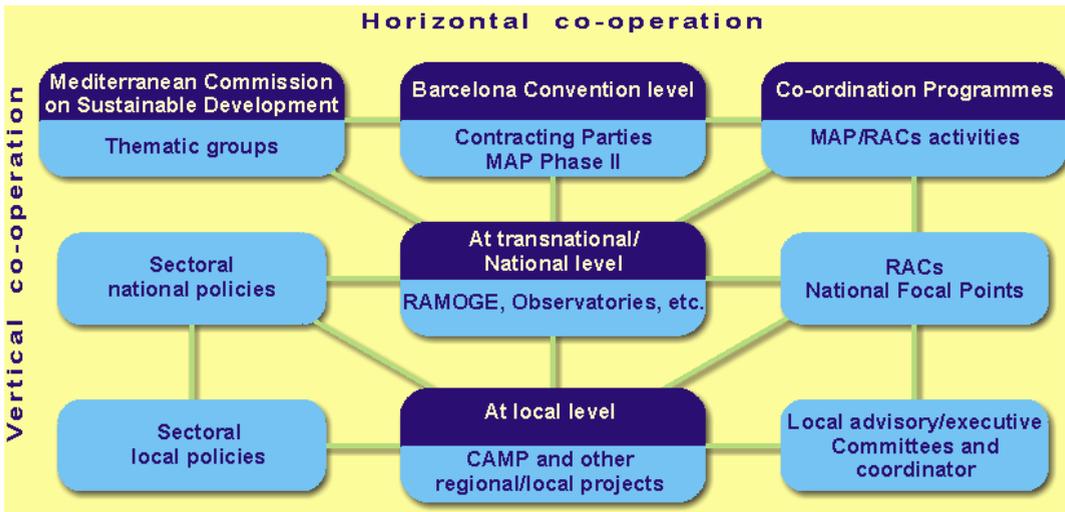
This scenario aims to elaborate *governance mechanisms* for the *integrated management of coastal areas* that would secure action at all levels: the national, by stimulating and incorporating local initiatives; and the regional, assisting and pursuing forward strides via a commonly adopted framework of guidelines. In this context, ICAM can be used as a powerful *tool* for sustainable development.

## 7. GUIDELINES FOR ICAM AND SUSTAINABLE DEVELOPMENT

### 7.1. Regional level

The existence of an established and widely trusted framework of co-operation (such as MAP) in the Mediterranean does not necessarily lead to improvements in the coastal zones, which continue to face increasing pressures and in many instances degradation. The regional framework of co-operation offers opportunities for the exchange of information, experiences and ideas between regional agents (states) on practices policies and problems. It also provides opportunities to declare the common principles for Integrated Coastal Area Management, bolstering action at the national level. Occasionally, it offers individual countries the benefits of limited funding for simulation exercises. However, there remains *a great need for action*. Although a great deal of responsibility typically falls at the national level, coastal zone management problems do not merely possess a local or national level significance, but should be understood as part of the common Mediterranean heritage. From this perspective, regional level action is essential. Links between the local and national level within the Barcelona Convention framework are presented in Figure 2.

In employing the “proactive option”, there is a need for bolstering co-operation amongst the structures burdening sectoral policies and the agents shouldering ICAM implementation, at each involvement level (horizontal co-operation), and between agents at the Mediterranean Action Plan (MAP) level, as well as the transnational, national and local levels (vertical co-operation).



**Figure 2: Links between the local and national level within the Barcelona Convention framework**

The Mediterranean Action Plan Phase II, put forward in 1995, supplies the framework for integrated application of the proactive policy option. Its application is under the aegis of a whole system composed on one side by a Co-ordinating Unit (MEDU) and its Regional Activity Centres (RACs), a consultative Mediterranean Commission on Sustainable Development (MCSDD), and on the other side, by a wide range of spatial development planning authorities (land use, regional planning, urban planning and sectoral planning authorities).

In the MAP Phase II, ICAM is highly recommended as the way of integrating environment and development aspiring to become “the standard approach for tackling the problems affecting Mediterranean coastal areas”. Within this framework, MEDU can play a major role in streamlining communication and providing support for co-operation among major international and supra-national agencies

and the Mediterranean countries, in the area of developing a common *strategic vision* and eventually an *action plan*. In this respect, it should also elaborate a *guiding framework* for regional Integrated Coastal Area Management in the form of a charter. Furthermore, a *State of the Mediterranean Coastal Environment* report would be required on a periodic basis.

The Mediterranean Commission on Sustainable Development can assume a *mediating role* in facilitating communication and expanding awareness among the Contracting Parties and civil society, private sector, etc. It can also continue to pursue routes leading to international collaboration towards the sustainable development of coastal areas. More concretely, the MCSDD and its thematic groups should strengthen the links with past experiences and projects under implementation in order to base their reflection on lessons learned and on concrete actions carried out at the local and national levels.

The existence of several international (bilateral and multilateral) co-operation programmes in the region offers a unique opportunity and challenge: to develop a Mediterranean Action Plan for Coastal Zone Management that would constitute a *long-term strategic vision*, and a *medium-term strategic plan of action*, placing emphasis on capacity fortification, institutional strengthening, law enforcement, monitoring, etc.

Additionally, a *common framework of policies* may be adopted in the wake of an early endeavour (Santorini meeting, see Appendix I) of setting up principles and priority goals and objectives for Integrated Coastal Area Management. These can be either general or specific to a particular type of coastal area. In the latter case, a *typology* study would be necessary, drawing upon environmental, geographic and development pressure criteria. As a step in this direction, a *charter or protocol-type of approach at the regional level* would be appropriate.

In the above context, a State of the Environment Report could periodically assess progress. A GIS based, regional level *reference system and database* to include land cover change data, littoralisation, population density, tourist density, and other qualitative categories, as well as *coastal management specific (Pressure-State- Effect-Response) indicators* for Mediterranean coastal areas, would be required.

An improvement of the horizontal co-operation between the assorted MAP Regional Activity Centres (RACs) has been proposed, especially through a synchronised instigation of national and/or local projects, such as CAMPs. This endeavour should rely more specifically on

the two “horizontal” RACs, which are the Priority Actions Programme (PAP/RAC) and the Blue Plan (BP/RAC), apart from other appropriate thematic RACs.

The Blue Plan can maintain its role as a leading *facilitator* in the exploration of future prospects drafted in the form of pilot scenarios through *prospective analysis*, and to substantially assist PAP in refining further *indicators* for sustainable development that are context specific to Mediterranean coastal areas.

PAP could act as a “*broker*” for ICAM, working closely with the different thematic RACs and other partners as a whole *Project Management Unit*. Thus serving not merely as a centre offering *technical assistance* but more significantly as an organic centre of documentation and *information* dissemination, raising awareness on Integrated Coastal Area Management in the Mediterranean and sharing its experience with the rest of the world.

Information and analysis required at the MAP level needs the support of an ongoing spatial monitoring system that should encompass:

- The progressive development of sustainable development indicators, more specifically regarding the coastal zone.
- The establishment of appropriate criteria and indicators for observing and evaluating the ICAM related projects, either at the national or local levels.

Criteria and indicators are also necessary in the development of long-term scenarios for sustainable development. The institutionalisation of a *Mediterranean Observatory Network* should be undertaken at the earliest opportunity taking into account the experience gained in the already existing national observatories.

Moreover, it is urgent to interlink reflection (the prospective phase) and action (successful project implementation), as well as to elaborate the practice of *social engineering*, which indisputably represents one of the weakest fields within the CAMPs' implementation scope to the present day. The practice of social engineering conditions the level of participation, cultivating a sense of *ownership* in the participant throughout the ICAM process.

## ***7.2. Transnational co-operation between Contracting Parties***

Innovative approaches to Coastal Zone Management at the transnational level, although rare, already exist as the case of the RAMOGE Agreement between Italy, Monaco and France demonstrates. Managing co-ordination and activities involves not only national governments but also the extensive participation of regional and local authorities, underlining their strong interest in closing up their respective methodologies and tools for Coastal Zone Management. This type of transnational co-operation should be encouraged by MAP, as it can be very useful as an additional means to steer ICAM operations to a larger, more ecologically coherent scale.

## ***7.3. Application of ICAM at the national and local levels***

The national level is envisaged to maintain a solid role in Integrated Coastal Area Management across the Mediterranean. Given that the responsibility is more likely to remain at this level, it will be necessary to rapidly proceed in the fortification of its operational capacities.

The responsible agencies (activity sectors, spatial planning, finance) contributing to Integrated Coastal Area Management at the national, sub-national and local levels have significant tasks in two respects:

- Externally, by *planning and implementing possible cross-border, transnational and interregional co-operation measures* that have incorporated MAP Phase II, within their responsibility as Contracting Parties.
- Internally, by introjecting ICAM approach requirements in the formulation of environment and development policy relating to their specific territory.

MAP should commit Contracting Parties to intensify their *exchange of experience* on Coastal Area Management practices in order to further develop national regulations and instruments. ICAM strategies should be elaborated in each country at the national level and gradually become *integrated into development strategies* and plans. Strategic Environmental Assessment (SEA) could be especially helpful to this task.

The creation of appropriate *institutional mechanisms* would be necessary to achieve horizontal and vertical integration through establishing review procedures, special commissions, *ad hoc* committees, administrative re-organisation measures, etc. In this context, it is essential to secure the harmonisation of goals, policies and plans across administrative levels, by revisions at each level in the context of ICAM.

Given the multi-dimensional character of the Integrated Coastal Area Management approach, it would be necessary to complete the existing legislation in each country, in order to refer to the thematic

areas of Coastal Area Management. The consolidation of *law enforcement systems* on land-use control, biodiversity conservation, pollution and water quality controls, to name but a few, is equally urgent.

An additional national terrain of ICAM promotion within the framework provided by MAP Phase II, is the appropriation and utilisation of the existing national and local agendas on sustainable development, triggered by the Rio process (Agenda 21) and the Conference “Med 21” on Sustainable Development in the Mediterranean, held in Tunis, in 1994.

Review procedures are also useful in anticipating and mitigating impacts of development projects. The elaboration of *coastal area specific EIA guidelines* and even of *coastal area type specific guidelines*, aiming to qualitatively refine existing EIA tools, should also be put forward. *Capacity fortification and institutional consolidation* via training and re-organisation constitute significant steps in the direction of successful policy implementation.

Flexible administrative systems favouring concerted action function as the supportive premises for action and innovation. Given the difficulties encountered in most legislative systems in the diffusion of responsibility for Integrated Coastal Area Management, it is crucial to establish appropriate *facilitating mechanisms* to encourage *ad hoc* arrangements and implement local initiatives. In addition, it is necessary to provide an enabling framework at the national level in order to integrate local experiences. Promoting and *supporting private sector and civic society involvement* in ICAM processes is equally important.

*Planning* could be considered as a central dimension in the establishment of ICAM at both the national and local levels. Planning can be defined as *a dynamic and adaptive process of governance that involves strategic decisions referring Integrated Coastal Area Management to sustainable development*. This process should not be limited to land use, infrastructure development and building regulation schemes only, but should instead manage the co-ordination of sectoral policies as well as the integration of environmental concerns, practices and management activities, steering development in coastal areas.

#### ***7.4. Practical recommendations at the regional, national and local levels***

It should now have become apparent that local coastal management projects such as the MAP Coastal Area Management Programmes (CAMPs), together with the European Union, the World Bank, EIB, EBRD and other approaches have to be revised. (See also UNEP/MAP/PAP, 1999). One way of highlighting this argument would be to state that MAP and PAP/RAC working closely with central governments, should aim their focal points on processes rather than the tools to achieve these. This recognition ultimately places emphasis on the early participation of stakeholders in the coastal management process, which is primarily referring to “ecosystem governance”.

Olsen (1999) mentions that “because ICM (Integrated Coastal Management) requires non-traditional forms of analysis, planning and action, and because in most places such behaviour is unfamiliar and frequently resisted, initiating a process that is

inclusive, participatory and responds to the values and concerns of the people and the place is a dominant concern of an ICM practitioner". Therefore, the key experts needed for the initiation of the process should be "generalists" rather than "sectoral experts".

Collaborating with central governments, the basic components of an efficient local ICAM procedure should include the following steps:

- Establishing a local co-ordination office, led by a locally-hired manager;
- Appointing advisory committees (public and resource users) and executive committees (public officials) to promote local participation in the programme/plan preparation process;
- Assembling a team of national and international experts to elaborate technical reports on critical issues, either on the basis of already existing guidelines or on that of the outcomes of the MCSD Working Groups;
- Identifying short-term action recommendations and implementing selected projects at the local level ("practical exercises");
- Submitting a draft of the CAMP programme or plan (that may substitute for a "feasibility study") for committee revision;
- Insisting further that the integrated draft plan be locally adopted; and
- Submitting the programme/plan to the national authorities in charge of coastal resources management for their approval.

In the wake of the "two track" approach (top-down/bottom-up) and its institutional framework, the advisory and executive committees must be appointed by national

authorities at the highest possible level.

These committees, whatever the form they take, depending on the particular national context, should not be conceived as merely facultative but rather as the premise for the establishment of an effective institutional mechanism between the local and national level. The local co-ordinator should be given the authority of monitoring the effectiveness of the committees. The same agent must shoulder the additional task of building the local constituency for coastal management. This could be achieved via outreaching, direct contact with community members, and by selecting local data directly relevant to the elaboration of a detailed profile of the coastal area being rehabilitated.

It is important to note that the appointment of local committees and co-ordinators is crucial to ensure a local support commitment to the programme or plan. Their activities should be defined in specific terms of reference. PAP/RAC, under the supervision of its corresponding National Focal Point, should be supporting the establishment and smooth operation of local agents, but in no sense, replace them. As we have attempted to highlight in this paper, any endeavour leading to programme ownership should proceed slowly and cautiously rather than rapidly and ineffectively.

Often, the initial response of local advisory committee members is to press for specific projects in order to support their communities and benefit the economic sector. This attitude may change if user groups and community representatives begin to associate the success of economic development and the quality of life with the maintenance of ecosystems. The prerequisite steps to pave the way towards such a radical change include the following:

- Analysing the area's environmental profile and the readily available technical reports, working closely with the advisory and executive committees.
- Identifying problems and conflicts related to coastal resources amongst the different communities of the project area.
- Elaborating a long-term vision and medium-term options ("scenarios") for resources management.
- Designing and implementing short-term and non costly mini-projects or "simulation" exercises in the field of coastal management.
- Encouraging education and training for user groups, enabling them to recognise the interrelationships of their specific activities and explore the vital links between economic development and environmental quality.

## **8. THE NEXT STEPS IN ICAM POLICY FORMULATION**

The most commonly evoked referent of the term "Mediterranean" is a synthesis of the Region's coastal areas and islands, as these constitute some of the most significant ecosystems, in terms of their provision of space and resources for Mediterranean communities. In this respect, coastal areas can be understood as a common natural and cultural heritage that should be managed carefully to sustain present and future generations. To this end, it is essential to act drastically at the national, local and regional levels. What follows is an analysis of the essential preliminary steps for the future.

### ***Launching a common policy framework***

It would be necessary to elaborate and adopt a common framework of policies for ICAM in the Mediterranean referring closely to initiative *principles*. Preliminary work has already been instigated by the Santorini Workshop on Policies for Sustainable Development of Mediterranean Coastal Areas (1995). Its prospective follow-up may involve the preparation of an extended set of ICAM principles by MAP, possibly in the form of a *Charter or Protocol of ICAM* clarifying the minimal steps to be taken by all Mediterranean countries. This has to be discussed extensively by Contracting Parties and the MCSD.

It is our contention that MAP's leading capacity is incontestable in elaborating a proper analysis on the *State of the Coastal Areas in the Mediterranean Region*, collaborating with the EU EEA on a regular basis to enrich discussion on coastal zones. MEDU, the Blue Plan, the Priority Actions Programme and other RACs (especially RAC ERS) can undertake this project successfully.

MAP can act as catalyst assisting the EU and the Contracting Parties to develop *a vision in spatial terms* in the context of the ESDP expansion, as it has been the case with Central European and Balkan countries. The Blue Plan can provide technical assistance in this task.

### ***Building-up support***

Political support is necessary in terms of *adopting* a Charter or Protocol of ICAM and setting such long- and medium-term *goals* and priorities as an *Action Plan*. A political statement of intention to act is an important precondition for both regional and

national level action. A special Ministerial Conference on Coastal Area Policies could constitute a good launching pad.

However, the greatest step would be to *convince others* about the rewards of timely action in coastal areas. Inviting ministries of planning to the launching conference, reflecting a wider mobilisation, would be a good option. The third level of mobilisation may be to *steer donors* and international agencies, who could be invited to attend, and persuaded to endorse the Action Plan. The MCSD and NGOs, as well as key institutions, are essential partners in this campaign. An *Action for Mediterranean Coasts Year* could represent a solid collaboration platform.

### ***Establishing national policy and enforcement***

Regional level action should be complemented with parallel and concurrently run operations within the national level. Mediterranean countries should instigate *ICAM adoption* in practical ways. Several routes can be envisaged to such a task depending on the particularities (structures, institutions, dynamics, etc.) of each country. Nonetheless, it is expected that to a certain extent the following general steps can be taken:

- Revision of the state and analysis of pressures of coastal areas;
- Revision of the policy framework (conflicts, gaps, synergy potential);
- Elaboration of co-ordination mechanisms and of a long-term strategy; and
- Action Plan development.

To succeed in this effort it would be necessary to cultivate, enhance and sustain collaboration between sectoral Ministries

and planning ministries. This task is not so clear-cut and would probably require the *assistance of civic society partners*.

Convincing different audiences about the benefits of development springing from an ICAM approach is a necessary dimension of this task. A political statement in the form of a *national white paper* could offer an adequate framework of action for coastal areas, at the national level.

It is perhaps important to highlight that adopting policies is not enough. It is vital that policies are *implemented*. This implies the *provision of resources* and the *consolidation of enforcement mechanisms* within most Mediterranean countries. MAP can offer technical assistance in this direction through PAP, and other RACs, in developing national visions.

### ***Supporting local action***

Local action is essential. To succeed at this level, it would be necessary to instigate action at the national level, providing a flexible institutional framework that would encourage and orient innovative action.

Pilot projects are also essential to contextualise and illustrate the value of nurturing coastal zones. This task requires substantial funding that usually exceeds the capacities of Mediterranean countries. International aid agencies of the calibre of EuroMed, can provide certain resources, but it must be pointed out that commitment at both the national and local levels is equally essential. MAP's role would be akin to that of a catalyst in the provision of technical support for these activities, mainly through PAP and other RACs.

### ***Stimulating partners***

A context specific management of coastal areas in the Mediterranean is not merely a

government-based activity. It is a shared endeavour within whose processes several agents have specific roles and responsibilities. Carving out roles and developing collaborative mechanisms to forge synergies is in itself a long-term process of adopting and testing procedures, developing mechanisms, assigning roles and monitoring progress, to name but a few. Institutions, NGOs, associations and other agents, including key private sector actors, should be sought as partners to cultivate, within Mediterranean societies, a deeper respect for the common coastal heritage.

In this awareness-raising endeavour, bolstering the national level is important. Nonetheless, support can be sought in other levels too. MAP, through the RACs, especially SPA, PAP and the Blue Plan, can provide technical assistance.

Priority questions for policy implementation are given in Box 5.

Given the typical budgetary constraints and capacity limitations, careful consideration

will need to be given to the priority issues for the ICAM implementation. As a first phase, informed feedback should be stimulated for the identification of action priorities.

A useful step-by-step approach that begins to address the issues arising from this document can include the following:

- Proactively identifying opportunities to diversify coastal economies and optimise benefits for local coastal communities, drawing specific attention to agriculture and tourism sector policies.
- Regulating the irrational growth of coastal urbanisation, and enhancing solidarity between towns and the countryside.
- Identifying, supplementing and effectively managing coastal assets as natural and cultural heritage through spatial development strategies for larger areas.
- Bolstering the strategic role played by ports, harbours and related facilities, paying attention to the clustering of

#### **Box 5**

##### ***Priority questions for policy implementation***

- How can the levels of public awareness, support and participation be increased?
- How can the capacity of present and future involvement in coastal management be improved?  
Is it through a specific training programme?
- How can adequate financial support be secured?
- How can the institutional links between MAP entities (RACs), MCS D and respective National Focal Points be improved towards more efficient implementation of ICAM at the national and local levels?
- What mechanisms can be put in place to improve the working relationships between these MAP entities, Government authorities, the private sector and civil society?
- How national action plans generated under the SAP MED (Strategic Action Programme to Address Pollution from Land-based Activities in the Mediterranean Region) should be linked to ICAM implementation?
- What incentives can be provided to implement the ICAM policy?

their urban areas, including corresponding rural areas and their small adjacent towns.

- Establishing and effectively managing a representative system of coastal protected areas, including wherever possible a land-marine connection and in the framework of broader sustainable coastal development plans.
- Improving the management of wetlands and estuaries referring these to their entire watershed.
- Rehabilitating degraded coastal areas and resources, such as areas that have been extensively “artificialised”.

**This White Paper aims to provide the reader with the necessary background for the promotion of Coastal Area Management related actions with the intention of elaborating a long-term strategic vision and a medium-term strategic action plan. On the basis of what has already been achieved, it presents key guidelines designed to improve and steer action within the general framework of the MAP Phase II, at the regional (MAP), national and sub-national levels. These guidelines and ideas need to be evaluated and discussed, while agreement should be sought and achieved, as this constitutes a precondition and a premise for their realisation.**



## APPENDIX I

### *Workshop on Policies for Sustainable Development of Mediterranean Coastal Areas*

*(The Island of Santorini, Greece, 26-27 April, 1995)*

#### **Final Conclusions**

1. Sustainable development policies for Mediterranean coastal areas should be:
  - Multi-dimensional and long-term oriented;
  - Structured and proactive;
  - Targeted to critical factors (pressures, resources) and issues;
  - Based on the conservation of biodiversity, natural resources and ecosystem functions as a basis for social and economic development;
  - Diversified and adapted to the *type* of problem area addressed; and
  - Mobilising basic actors in the spirit of “shared responsibility” through sensitisation to issues and participation to the management of coastal areas.
2. A comprehensive approach should be instituted to plan and manage in an integrated way, the Mediterranean coasts, to include:
  - Special legislation for protection of coastal areas;
  - Delineate coastal natural reserves for present and future generations;
  - Identification of a *critical* zone for strict management;
  - Linking the planning and management of the critical zone to as *wider area of influence*;
- Coastal area management should be linked to urban planning and regional development programmes;
- Specification of urban development control legislation to the particularities of the coastal areas;
- Landscape protection incorporated in rural management policies;
- Management should extend to the sea as well.
3. Social acceptance is considered central to the implementation of policies and measures for coastal zone management. There is a need for structures and mechanisms to manage conflicts at the local level. Identity enforcement is essential for implementation. To this end, a dialogue with the public must be initiated and promoted.
4. Coastal zones need to be declared free of major industrial or energy installations especially nuclear ones which entail significant environmental risks.
5. Coastal zones must be a major thematic area for the Euro-Mediterranean Co-operation, as well as of the programmes of International and Economic Organisations. The Mediterranean Action Plan can play a supporting role in this context given its long experience in Mediterranean coastal issues.
6. Islands are a unique case due to their openness and fragility, and special integrated management plans should be prepared to respect their local capacities to sustain growth. Co-operation among islands is essential, and to this end a network of Mediterranean islands could be supported.

## APPENDIX II

### *MCS D Recommendations on the Integrated and Sustainable Management of Coastal Zones*

*(Approved by the 10<sup>th</sup> Ordinary Meeting of the Contracting Parties, Tunis, 1997)*

Taking note of the findings of the working group convened in Benidorm under the guidance of the two task managers, Morocco and Medcities<sup>2</sup> (21-23 September 1997), and in light of the work of RAC/BP and RAC/PAP, on the rapid degradation of many coastal areas, such as islands, with its inherent risk to certain economic activities, the MCS D adopted the following draft recommendations:

- (i) To improve institutional mechanisms for the integrated management of coastal areas by creating if necessary and/or strengthening inter-ministerial or inter-administrative structures and frameworks for the co-ordination of the actors involved in coastal development and management and the integration of their activities.

Such structures should be set up at the level relevant to each country (national, regional, local).

Local and regional authorities should be invited to play a significant role in the preparation of integrated coastal management strategies.

- (ii) To establish or strengthen and enforce legislative and regulatory instruments:
  - On the regional scale, to prepare guidelines for implementing appropriate national legal instruments.

- On the national scale, the legislative instruments should:
  - define the coastal areas concerned;
  - require that for all coastal areas subject to development pressures, management plans be prepared;
  - ensure that management plans be accompanied by environmental impact studies;
  - establish regulations for development and protection to promote sustainable management of coastal areas including regulations on the protection of sites of ecological and landscape value on preventing dispersed urban development, or development too close to the shore and on ensuring proper provision of environmental infrastructure for areas already urbanised.
- Until regional or local development plans are in force, conservation provisions to protect natural and coastal areas should be adopted and implemented.
- Finally, provisions should be made to ensure the implementation of the foregoing provisions; to that effect:
  - the organisations responsible for coastal development and protection should be strengthened; staff should receive appropriate training as needed;
  - effective law enforcement mechanisms should be provided or strengthened;
  - when necessary and with respect to national conditions, court action should be made easier everywhere to oppose planning decisions;

<sup>2</sup> PAP report MCS D/18/97/W1

- an efficient system for liability and sanctions should be established.
- (iii) To ensure access to information in order to raise awareness and training for the largest possible number of actors. Capitalising on and disseminating information should be encouraged through exchanges of experience and transfer of know-how by making use of MAP structures.
- (iv) To establish appropriate systems of incentives for the integrated management of coastal areas by developing economic, financial and tax instruments which would ensure that the costs of the protection and management of natural areas would be linked to as well as balanced by the financial resources generated by development. Funds from multilateral services, bilateral co-operation and domestic resources should be better co-ordinated.
- (v) To develop with the support of relevant international organisations and of the European Union, practical pilot projects in the field of coastal areas management and disseminate the results.

Priority should be given to projects concerned with:

- coastal areas subject to potential or actual conflicting uses;
  - other areas of environmental, economic or social significance like islands and deltas.
- (vi) The role of the public is very important within the context of sustainable development of coastal areas, according to a principle of joint responsibility which should be encouraged. The main object is to

increase opportunities and improve the effectiveness of active public participation.

- to that effect, participation mechanisms, such as advisory committees, public enquiries and hearings and actual participation in the management should be developed.
- the MCSDD further proposes:
  - setting up good practice guidelines on the integrated management of coastal areas;
  - drafting a regular report on the state of the environment of coastal areas; and putting assessment tools in place with the support of public stakeholders;
  - developing new forms of partnership between the public and other stakeholders to encourage innovative ideas;
  - inviting the public to participate in the decision-making processes;
  - strengthening the co-operation which promotes exchanges of experience and adds incentives for the public to implement integrated management programmes and projects for coastal areas.

National, regional and local strategies and Mediterranean partnerships should be promoted in order to ensure a sustainable management of coastal areas.

## APPENDIX III

### *Barcelona Convention Excerpt on Coastal Zones*

#### *Article 4: General Obligations*

1. The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and to protect and enhance the marine environment in that Area so as to contribute towards its sustainable development.
2. The Contracting Parties pledge themselves to take appropriate measures to implement the Mediterranean Action Plan and, further, to pursue the protection of the marine environment and the natural resources of the Mediterranean Sea Area as an integral part of the development process, meeting the needs of present and future generations in an equitable manner. For the purpose of implementing the objectives of sustainable development the Contracting Parties shall take fully into account the recommendations of the Mediterranean Commission on Sustainable Development established within the framework of the Mediterranean Action Plan.
3. In order to protect the environment and contribute to the sustainable development of the Mediterranean Sea Area, the Contracting Parties shall:

- e) commit themselves to promote the integrated management of the coastal zones, taking into account the protection of areas of ecological and landscape interest and the rational use of natural resources.

[...]

6. The Contracting Parties further pledge themselves to promote, within the international bodies considered to be competent by the Contracting Parties, measures concerning the implementation of programmes of sustainable development, the protection, conservation and rehabilitation of the environment and of the natural resources in the Mediterranean Sea Area.

[...]

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