



## **Education for sustainable development of the Mediterranean: the missing link**

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### **ABSTRACT**

*The author surveys some of the principal amendments to the Barcelona system adopted at the Ninth Ordinary Meeting of Contracting Parties to the Barcelona Convention in June 1995 and underlines the new national responsibilities for the implementation of the policy, legal and institutional changes in the direction of sustainable development. Emphasis is placed on the types of human resources that will be needed to facilitate implementation and render the regime effective at both national and regional levels. The author advocates a role for Mediterranean universities to assist regional regime-building through the development of relevant marine affairs education programmes in support of the Mediterranean Action Plan (MAP). A catalytic role for the United Nations Environment Programme (UNEP)/MAP Coordinating Unit in mobilizing inter-university cooperation is also identified. Copyright © 1996 Elsevier Science Ltd.*

### **1. INTRODUCTION**

Competent human resources easily constitute one of the most essential ingredients of regime-building, be it global, regional or national. Regimes are social institutions and consequently depend on the numbers and qualities of the people that build and manage them. Obviously, the more technical a regime in content and operations, the greater the need for technical human resources. However, it is probably equally true that despite their obvious importance, human resource

needs required to make a regime efficient and effective tend to be overlooked.†

Time and time again the subject of implementation of national undertakings, or lack thereof, surfaces in Mediterranean fora, raising questions as to the degree of commitment of regime members, whether in the environmental, fisheries or other fields. The reasons behind lack of implementation are diverse, including changing political perceptions and interests, urgent socio-economic concerns, bureaucratic inefficiency, disinterest or lack of understanding, lack of resources or technical capabilities, lack of institutional and human capacities, or simply perceptions of compliance with regime requirements. Also, every time the subject of implementation surfaces the prescription is invariably the bureaucratic same: political commitment, international cooperation, technical assistance and funding. In practice, the cooperative action that follows rarely addresses human resources directly and in any systematic manner in efforts to build capacity.

Within the Mediterranean Action Plan (MAP) this lack of appreciation of the importance of competent human resources has been a key factor in the generally insufficient national and local implementation of regional agreements, management measures and recommendations. It has taken 20 years of MAP experience and general frustration with widespread lack of national implementation of regional commitments, to identify education and training‡ as a key prescription in any action plan. Even with such a realization, however, the official report of the Ninth Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Protocols, at its last meeting in June 1995 made little mention of this.<sup>1</sup> Most of the discourse on capacity building took place in technical meetings in preparation for the Ninth Ordinary Meeting and not in any systematic manner. One would have expected a comprehensive and systematic address of human resource needs at the time of adoption of the most far reaching amendments and change of direction which this

† The International Maritime Organization is one of the few international institutions in marine affairs that has identified the human factor as central to the efficiency and safety of shipping and has given it the necessary importance in its actions, including through the establishment of the World Maritime University and related maritime academies and institutes around the world.

‡ In this paper education programmes refer to tertiary education programmes leading to degrees, diplomas or certificates. Such programmes may be offered at various levels, including bachelor, masters and doctoral degrees, and may also be available as continuing education programmes. Training programmes refer to short-term courses, generally skill-oriented and problem specific, and need not necessarily be delivered solely or at all by a tertiary education institution.

regional environmental regime has seen since its inception in 1975. The changes entail far-reaching obligations and responsibilities for implementation action by Contracting Parties at the national and local levels (provincial and municipal).

This paper argues that the need for competent human resources is more evident than ever to redirect regional regimes and national action towards sustainable coastal and ocean development. Agenda 21 identified pertinent areas for human resources development. The discussion in this paper concentrates on the principal changes to the regional environmental regime adopted in Barcelona and the consequences of these on management personnel in public institutions, the human resources that are providing or should be expected to provide management leadership. Coastal and ocean managers need sound interdisciplinary knowledge of complex multisectoral problems with frequent transboundary origin or impact, versatile organizational, analytical and communication skills, and an appreciation of political, economic, social and cultural issues in coastal and marine areas. These qualities are critical for the running of institutions with management responsibilities, decision-making authority and to interact with diverse public constituencies. Managers are required to operate within a new and demanding policy, legal and institutional framework.

It is suggested that capable coastal and ocean managers are essential if the redirection of MAP towards a new era of Mediterranean cooperation is to be meaningful and effective, and its implementation feasible. A systematic approach to coastal and marine management education would promote better planning and management practices in the region, and would also facilitate the recruitment of capable managers. A common and regional education framework may well serve to further strengthen cooperation among decision-making centres in the region, and between decision makers and coastal and marine user communities.

## 2. THE CHANGING FRAMEWORK OF COASTAL AND MARINE MANAGEMENT IN THE MEDITERRANEAN REGION

The Ninth Ordinary Meeting succeeded in redirecting the MAP through the changes in policy, legal and institutional framework, and the definition of priority activities for the 1996–2005 decade.<sup>1</sup> These changes are ambitious, far-reaching, costly and require a degree of commitment to action and implementation at the national level which

has been hard to achieve to date. It is worth considering the principal changes and their consequences for coastal and marine planning and management capacity.

### **2.1. The integrated policy and planning framework**

For the first time Mediterranean states formally committed themselves to implementing MAP and its legal framework (Para. 2, Barcelona Resolution<sup>2</sup>), setting ambitious, but much needed new policy objectives and targets. MAP phase II is a combination of a policy statement and a planning document,<sup>3</sup> supported by priority fields of action.<sup>4</sup> The underlying philosophy is integration in the interests of sustainability, thus looking at the broadest range of human resource and non-resource activities, including agriculture, industrial activity, energy, tourism, transport (air and land), urban management, water resources, soil, living marine resources, forestry and plants and coastal areas.<sup>3</sup> Integration of sectors is accompanied by diversity of planning concerns, ranging from development to management, protection and conservation, guided by the principles of sustainable development as defined in the Rio Declaration on Environment and Development and Agenda 21,<sup>5</sup> and the Mediterranean version of the latter.<sup>6</sup> The activities accompanying these with reference to each of the problem areas identified are diverse and for our purposes those that should be highlighted are capacity building and training needs.

Although the MAP phase II document purports to have been designed taking into account the work of the United Nations Conference on Environment and Development, Rio, 1992, and the Conference MED 21 on Sustainable Development in the Mediterranean, Tunis, 1994, the conclusions on education and training reached at these two meetings are reflected only in small part. In Agenda 21 human resources development was addressed systematically as an essential means of implementation throughout the document.<sup>5</sup> Chapter 17 on coasts and oceans is a case in point, containing detailed recommendations for the range and type of education and training programmes at the sub-regional, regional and global levels.<sup>7</sup> The Mediterranean Agenda 21 dedicated a whole chapter to the promotion of education, public awareness and training, which can be described as comprehensive and visionary (Chapter XXXVI, Mediterranean Agenda 21<sup>6</sup>).

MAP phase II does recognise difficulties in assessing the 'progress achieved' and that 'inappropriate management of the coastal region due to the lack of adequate coastal zone planning and management', 'weak institutional structures and inadequate human resources', 'inadequate

and ineffective national legislation and its effective enforcement', among others, as major shortcomings (p. 101, Action Plan<sup>3</sup>). It is submitted that at the heart of these shortcomings is insufficiency of capable human resources, but the Action Plan does not seem to give this causative factor the same kind of importance it was given in Agenda 21 and the MED Agenda 21. The new Action Plan is a complex document configured to address complex interdisciplinary and multisectoral developmental problems. The majority of the prescriptions are for training, not education as defined in this paper, and are biased towards intra-sectoral training, as in the case of tourism, transport, urban management, and water resources (pp. 104–108, Action Plan<sup>3</sup>). Each one of these problem areas should be expected to have complex multi-sectoral linkages, as it would be difficult to isolate and address them independently. The prescription for training in relation to integrated coastal area management is more comprehensive and includes cooperation at the regional level (pp. 110–111, Action Plan<sup>3</sup>). However, again the Action Plan's goal here is training, which tends to be focused and skill-oriented over a short time frame. This will, at best, constitute a stop-gap measure, as it is submitted that the necessary knowledge and skills for coastal zone planning and management cannot be inculcated on the basis of training courses alone. The importance of this direction of MAP phase II is well described in the Action Plan:

'Integrated coastal area management should gradually become the standard approach for tackling the problems affecting Mediterranean coastal areas'

(p. 110, Action Plan<sup>3</sup>). The need for national and local capacity building is recognized, but interestingly, the emphasis is again on improvement of 'levels of training' and in a restricted range of fields (p. 112, Action Plan<sup>3</sup>). The importance rightfully attached to problem identification and evaluation, planning and inter-agency liaison and coordination logically should have been followed by more ambitious prescriptions for education *and* training for ocean and coastal policy making, integrated planning and management, and the need to promote the roles of educational and training institutions in the region to assist with these needs.

## **2.2. The legal framework**

The Barcelona Convention for the Protection of the Mediterranean Sea against Pollution 1976 was originally conceived as a legal extension of the MAP, providing a framework within which to address specific

marine pollution problems and the pursuit of regional cooperation.<sup>8</sup> Within that framework and with reference to specific marine environmental problems, various protocols on dumping, emergencies at sea, land-based sources of pollution, specially protected areas and pollution from seabed activities were developed and adopted, ostensibly with a higher degree of detail and commitment than the umbrella instrument could or should have provided.<sup>8</sup> However, whereas the high degree of generality provided a basis for consensus, it also left much vagueness as to the type of implementation action that was expected of state parties as a matter of legal obligation. Perhaps the single most important change in what has now become the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean 1995 was to clarify the legal expectation in terms of treaty and regime implementation, within the broader context of sustainable development and not limitedly to marine pollution.<sup>9</sup>

The effect of these amendments for coastal and marine management purposes was at least threefold. First, the thematic areas of cooperation and obligation were expanded from mere marine pollution problems to broader sustainable development concerns. State 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’ (Article 4(2), Barcelona Convention<sup>9</sup>).

Second, the potential geographic area subjected to cooperative undertakings within the regional regime was expanded from the Mediterranean Sea proper, defined in terms of the ‘Convention Area’, to at least coastal areas as may be defined by coastal states (Article 1(2), Barcelona Convention<sup>9</sup>). Current negotiations on amendments to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, 1980<sup>8</sup> may also result in more potential enlargement to cover activities on land which do have an impact on the marine environment and this would make management sense in order to look at hydrological systems as transport systems (e.g. watersheds and water resources generally). Already in the amended Convention, pollution from land-based sources has been defined sufficiently broadly to include coastal areas, rivers, canals, watercourses, underground watercourses, surface run-off and atmospheric transport (Article 8, Barcelona Convention<sup>9</sup>). Even though land territory is gradually being drawn into the regime’s ambit, Contracting Parties consented to a further geographical extension of the Convention Area

by individual protocols for specific purposes in those instruments (Article 1(3), Barcelona Convention<sup>9</sup>). This is a triumph for functionalism in coastal and ocean management. Thus, Contracting Parties have committed themselves 'to promote the integrated management of the coastal zones' (Article 4(3)(e), Barcelona Convention<sup>9</sup>). They have also undertaken to promote cooperative environmental impact assessments where the implications are transboundary (Article 4(3)(d), Barcelona Convention<sup>9</sup>).

Third, there is a new level of legal obligation in terms of the duty to implement the Barcelona Convention and protocols. Although the general obligation opens with the familiar individual and joint undertaking for the protection and preservation of the marine environment, it is soon converted to more specific duties to apply the precautionary and polluter pays principles, and to undertake environmental impact assessments (Article 4(3), Barcelona Convention<sup>9</sup>). This obligation becomes even more specific with the adoption of 'programmes and measures which contain, where appropriate, time limits for their completion' and the utilization of the 'best available techniques and the best environmental practices', including technology transfer (Article 4(4), Barcelona Convention<sup>9</sup>). New protocols that may be adopted would again prescribe 'agreed measures, procedures and standards for the implementation of this Convention' (Article 4(5), Barcelona Convention<sup>9</sup>). They are required to adopt implementing legislation (Article 14(1), Barcelona Convention<sup>9</sup>) and to provide for public information and participation in decision-making (Article 15, Barcelona Convention<sup>9</sup>). In addition to the problem of lack of implementation in the past, there was also a conspicuous difficulty in lack of reporting of whatever national implementation action had been taken. The various new levels of substantive obligation are now further supported by a procedural obligation to provide reports on:

1. the legal, administrative or other measures taken by them for the implementation of this Convention, the Protocols and of the recommendations adopted by their meetings;
2. the effectiveness of the measures referred to in subparagraph (a) and problems encountered in the implementation of the instruments as mentioned above (Article 20(1), Barcelona Convention<sup>9</sup>).

Meetings of the Contracting Parties will assess implementation of and compliance with the legal obligations, measures and recommendations adopted from time to time, and would recommend what action is to be taken (Article 21, Barcelona Convention<sup>9</sup>).

The foregoing applies to Contracting Parties. In addition to the above, Contracting Parties have gone beyond their own immediate duty to implement the Barcelona Convention by undertaking missionary roles to take 'individual or joint initiatives ... through the relevant international organizations (e.g. UNEP) to encourage the implementation' by non-party states (Article 3(4), Barcelona Convention<sup>9</sup>).

### **2.3. The institutional framework**

A third dimension of change in the MAP is the institutional framework of the regional regime. Since its inception in 1975, MAP has seen an evolutionary growth in the system of regional activity centres (RACs) and national focal points. This structure facilitated the pursuit of cooperation through international organizations and national organizations with regional functions. More recent developments include the strengthening of the Blue Plan RAC's Mediterranean Observatory function, the Priority Actions Programme RAC's Coastal Area Management Programme (CAMP), and the establishment of a new RAC concerned with sustainable production processes.<sup>1</sup> Perhaps potentially the most important new institutional development at the nerve centre of the regime is the establishment of the Mediterranean Commission on Sustainable Development, with the Coordinating Unit as its secretariat, expected to be operational in mid-1996. The functions of the Commission are under development at the time of writing, but it is expected that these will include problem identification with reference to Agenda 21 and the authority to recommend policy directions to Contracting Parties at a ministerial level.<sup>10</sup> What is clear is that the Commission's functions will not be limited to traditional regime domains of environment protection and preservation, but rather will be expansive to include broad socio-economic development concerns.

The RACs have been responsible for much of the regional environmental cooperation that has been built, despite fiscal and human resource shortages and frequent lack of follow-up at the national level. Even so, however, given regime expectations as a result of commitments undertaken by Contracting Parties, the national focal points for MAP as a whole and each of the RACs should have been more active and effective in pursuing regime commitments and coordination at the national level. In the next phase of MAP, the roles and responsibilities of national focal points will be even more far-reaching than in the past, partly as a result of the expansion of the subject-matter of the regime, strengthening of the requirements for national implementation, expansion of the institutional framework and amendment of existing or



adoption of new protocols. The system of reporting on national implementation as a matter of legal responsibility described above will pressure governments to lean on their focal points and national agencies, at least in order to avoid embarrassing reports at regular meetings of Contracting Parties. Further, it should be expected that the Mediterranean Commission will influence national coastal and ocean policy-making in such a way as to add expectations on national focal points.

#### **2.4. Growing participation of 'new' actors**

A significant development in the participatory processes in MAP is in the direction of greater involvement of an array of non-governmental actors. Concerns in relation to MAP expressed in the past included the regime's preponderant emphasis on governmental actors and the lack of Mediterranean public constituencies.<sup>11</sup> It tends to be forgotten that in the early 1970s non-governmental actors played important roles in the gestation period of the emerging regime that eventually became the Barcelona system. Well-endowed NGOs did carve themselves roles in the regime, most notably in the legal and technical development of protocols for specially protected areas (IUCN/World Conservation Union), seabed activities (International Juridical Organization) and transboundary movement of hazardous wastes (Greenpeace).

The number of NGOs ready to play significant roles has grown to an extent where the Contracting Parties amended the Barcelona Convention to include access to information by NGOs and the public at large (Article 17(iv), Barcelona Convention<sup>9</sup>). Concomitant with this development is recognition of the importance of public information and education, consistent with the Rio Declaration. Contracting Parties committed themselves to more open decision-making processes and public consultation in environmental matters relevant to the Barcelona Convention, although substantial discretion has been left to governments on grounds of confidentiality and public security or investigation (Article 15, Barcelona Convention<sup>9</sup>).

The significance of these developments for coastal and ocean managers is far-reaching. Open consultative processes in support of decision-making will necessarily encourage a broad range of special interest groups, such as community-based organizations, business and industry associations, and a broad array of specialised NGOs, to seek meaningful participation. These public processes are important to ensure constituent support from the public and interest groups, but will

tax the knowledge, and interpersonal and communication skills of managers.

### 3. THE DEMAND FOR COASTAL AND MARINE MANAGERS

Given the wide range of expertise that Agenda 21 and MAP Phase II demand for their implementation, there will not be any one omnibus professional specialization with the full range of applications required by these two instruments. Without necessarily minimizing the usefulness and importance of specializations in ocean affairs and environmental studies, what is distinctly missing is a category of generalists that can perform a wide range of interdisciplinary and multisectoral functions across a variety of agencies. These generalists would constitute a professional group distinguished more by its inclusive multidisciplinary character than by exclusive disciplinary affiliation.

Reflecting on the human resource demands in Mediterranean states to enable the effective redirection of MAP and its full implementation at the national level, there is a fast growing need for generalist expertise in coastal and ocean management at various levels of government and in various sectors:

1. *Ocean policy makers*: ocean policy capabilities are needed at the central government level to facilitate the development of comprehensive national ocean policy frameworks, consonant with the requirements of national sustainable development, management and security concerns, and regional and global commitments. These capabilities would be well-placed in the highest level of government and in agencies responsible for economic planning, ocean affairs, security matters and foreign affairs.
2. *National focal points*: personnel with a general marine affairs education (including coastal and marine management) are needed in positions of MAP or RAC national focal points with responsibilities for the national implementation or follow-up of specific MAP activities and the coordination of inter-agency efforts. Such personnel also tend to be the persons who represent their governments in specialized regional meetings.
3. *Coastal planners and managers*: coastal planners and managers are needed at the central, provincial and municipal government

levels, in agencies with specific regional development, ocean sector, land-use planning, urban planning and environmental management mandates. These agencies could be those responsible for environment, natural resources (including fisheries, hydrocarbons and forestry), transportation, tourism, cultural resources, etc. For the CAMP projects to be followed up successfully, this category of personnel is absolutely essential. Likewise, the region's efforts in increasing the number and effectiveness of specially protected areas will require capable coastal and protected area managers.

4. *Environmental managers*: there is a need for environmental management expertise in public sector agencies and industries whose activities will be affected by integrated approaches to watershed management and control and reduction of pollution from land-based activities and sources. Such expertise should include environmental impact assessment capabilities. This category of expertise will be important for the implementation of the relevant protocol.
5. *Consulting services*: another category of expertise that should be cultivated is the private service sector, especially in consulting. This category of personnel often provides independent specialized expertise to government agencies and industries in a broad range of problem areas (coastal zone planning, land-use planning, urban planning and management, port and harbour development and management, coastal recreational tourism, environmental impact assessment, etc.) and disciplines (e.g. engineering, environmental sciences, public administration, economics, law, etc.).
6. *Community organizers*: similarly, coastal community organizers and NGOs will need generalists to support public information, education and mobilization for integrated planning and management in their areas of interest.
7. *Educators*: generalists are also needed in the teaching profession. Generalist education for educators and trainers themselves would facilitate a multiplier effect to maximize the educational reach and impact at various levels of national educational systems.

The demands are both for long-term university academic and professional programmes and for more immediate short-term training programmes. Long-term university programmes will need planning and it may well be a few years before the first graduates could be out in the

market. There may be an option to allocate resources to educate generalists outside the Mediterranean region, but the costs could be substantial and in all likelihood there may not be sufficient capacity in extra-regional universities to address this region's needs alone. Accordingly, until universities build capacity to offer generalist professional education in coastal and marine management, there will need to be heavy reliance on short-term training courses. Even in the long-term, training courses would still be useful vehicles to sensitise busy managers to the complexities of coastal and marine management.

The argument for generalist expertise is not advanced at the expense of specialist expertise. The two types of expertise are highly complementary, and collectively offer breadth and depth. However, it is the generalist education that has not been given sufficient attention by education and training institutions in the region.

#### 4. ROLE OF REGIONAL EDUCATIONAL AND TRAINING INSTITUTIONS

With very few exceptions that this writer has identified elsewhere,<sup>7</sup> Mediterranean universities have not yet addressed the human resource needs for sustainable coastal and ocean development and management. The absence of universities and meagre participation by other institutions with coastal and marine management training experience at any of the preparatory meetings at the Ninth Ordinary Meeting are a symptom of the problem. Tertiary education and training institutions in the region have as yet to have their potential roles identified and recognized. Consequently, no formal roles have been identified and allocated to these actors in any of the policy or legal instruments. There is a case to be made for an initiative by the UNEP/MAP Coordinating Unit to stimulate interest in regional associations of Mediterranean universities.

A constraint for tertiary education generally is that universities' priorities are often elsewhere. Traditional academic discipline-based faculties and departments tend to narrow focus and limit identification of interdisciplinary opportunities. Furthermore, universities are changing in many countries due to fiscal restraints, changing student composition, integration processes in Europe, and changing workforces as a result of transformation of economies under pressure from globalization and technological change. The universities themselves need to redefine and reinvent their mandates and functions in response to client demands and change. Universities are the most important

institutions with the necessary capabilities to address the needs of a re-directed MAP. Professional educators have the necessary capabilities to undertake needs assessments for various professions and disciplines based on identified problems. Curricula could be designed to address planning and management concerns. However, the message on the new human resource needs that MAP phase II is issuing needs to be brought to the attention of the regional universities. The UNEP/MAP Coordinating Unit, in concert with the RACs, could provide a necessary stimulus for the regional universities to cooperatively meet the demands of the regional regime.

An initiative by the Coordinating Unit as proposed above would do well to aim at the development of common core curricula that address the human resource needs and activities of the regional regime as a whole. It is time for the regime to support a personnel recruitment system. If this is pursued, then it is likely that this would constitute yet one more major innovation in regional regime-building.

## 5. CONCLUSIONS

MAP phase II has succeeded in redirecting the Mediterranean regional environmental regime towards a sustainable development route beyond mere marine pollution prevention and control. This decision by the Contracting Parties was primarily political and the civil services of the region have as yet to reconfigure their roles within the regime to respond to a more comprehensive subject-matter, adapt to the legal obligation to inform and respond, undertake more complex planning and management tasks, and interact with increasingly demanding public and NGO constituencies.

Over MAP's two-decade history, Mediterranean universities have generally stood on the sidelines. The Mediterranean region does not have sufficiently trained human resources to address MAP phase II and especially coastal and marine management tasks efficiently and effectively. The successful performance of these tasks calls for the establishment of regional education programmes on a major scale, and it should be a responsibility of the UNEP/MAP Coordinating Unit to provide the necessary catalytic role among regional universities. Perhaps a starting point should be an inventory and evaluation of planning and management needs which the next phase of MAP is already giving rise to. This would constitute a necessary first step towards the formulation of the first regional human resources development plan in support of MAP.

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