



The role of the European Community in the Mediterranean coastal zone management

Stefano Belfiore

Department Polis, The University of Genoa, Stradone di S. Agostino 37, 16123 Genoa, Italy

ABSTRACT

The objective of this paper is to focus on the role of the European Community (EC) in the management of the coastal zones of the Mediterranean. The EC performs this role at two levels of involvement: with respect to its Mediterranean member states and through the Euro–Mediterranean co-operation, in co-ordination with international and regional initiatives, such as those of the United Nations (Mediterranean Action Plan (MAP)) and the World Bank. According to this, the coastal policy of the EC is considered with special attention to past and current developments, and the main policy objectives and instruments are discussed. This review is followed by a brief analysis of the EC Mediterranean coastal zone: the general use and development patterns, the main pressures bearing upon it, and its definition from a legal and administrative perspective. An evaluation of the role of the EC in the Mediterranean context then follows, with particular reference to the ongoing developments of the Euro–Mediterranean co-operation within MAP and the Barcelona Convention system. On this basis, conclusions are drawn on the need to improve the EC Mediterranean coastal policy through a strengthened integration between the various EC sectoral policies, and between these policies and the policies of the member states, and through an optimised co-ordination with MAP.

Copyright © 1996 Elsevier Science Ltd.

1. INTRODUCTION

The European Community (EC, formerly the European Economic Community (EEC)) plays an important role in the management of the Mediterranean coastal zones. This occurs at two levels: (1) European and (2) Euro–Mediterranean, also in the context of regional initiatives by international organisations, such as the Mediterranean Action Plan of the

United Nations Environment Programme (UNEP/MAP) and the co-operation between the European Investment Bank (EIB) and the World Bank. Insofar as the EC Mediterranean member states (France, Greece, Italy and Spain) are concerned, the EC exerts its competence in matters directly or indirectly related to the management of coastal zones, namely: regional development, transport, fisheries, environment, agriculture, energy and industrial policies. These competencies combine with national, sub-national and local responsibilities, requiring levels of integration among sectoral policies and concertation mechanisms among territorial authorities which are particularly difficult to achieve. Regarding the Mediterranean non-member countries, most EC activities in coastal zone management are conducted in the context of its development co-operation policy, particularly for technical assistance in environmental issues.

Given the participation of the EC in international and regional conventions and other arrangements pertaining to the Mediterranean, it is important to consider the level of coherence and co-ordination between EC policies and initiatives and activities from individual states and international and regional organisations. In order to assess the role of the EC in the Mediterranean coastal zone management it is necessary, first, to consider EC coastal policy and instruments in general terms, and then to examine its Mediterranean policy with reference to the coastal zones, also in relation to its participation in international and regional initiatives. In particular, recent developments, such as the 1995 EC demonstration programme on the integrated management of the coastal zones¹ and the results of the third Euro-Mediterranean conference (Barcelona, 27–28 November 1995), will enable an evaluation of EC Mediterranean coastal policy to be made in the framework of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona, 10 June 1995) and the renewal of MAP.

2. THE EC FACING COASTAL ZONE MANAGEMENT

2.1. An overview

An integrated planning policy combining the objectives of development and protection of coastal zones was first endorsed by the Commission of European Communities (CEC) in 1986,² following the adoption of the European Coastal Charter³ and at the request of the European Parliament and the Council. However, this did not lead to measures specific to the coastal zones. It was only in 1992 that the Council adopted another resolution on a European policy for coastal zones.⁴ The resolution was

intended to stimulate the drafting of a European strategy for integrated coastal zone management by the Commission, but there was no further progress.

In 1993 the EC adopted its Fifth Environmental Action Programme (1993–2000),⁵ which singles out the sustainable management of coastal zones as a priority field of action. This programme also provides targets for coastal zone management up to the year 2000. On this basis, in 1994 the Council reiterated a resolution on a Community strategy for integrated coastal zone management.⁶ For the organisation of such a strategy the Council recognised the contribution of some existing Community regulatory measures, as well as the use of financial instruments, and welcomed the possible introduction of additional measures. The Council also emphasised that the management and conservation of coastal zones should be undertaken in a spirit of responsibility-sharing and in accordance with the principle of subsidiarity established by the Treaty on European Union,⁷ entered into force on 1 November 1993. Article 3b of the treaty states that:

‘In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only and in so far the objectives of the proposed action cannot be sufficiently achieved by the member states and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community.’⁸

Following Council’s resolutions in 1995 the Commission adopted a communication on the integrated management of coastal zones.⁹ The communication reviews the main features and the state of the European Union (EU) coastal zones and calls for a better integration of the various sectoral policies of the EU with the policies of the member states. It plans a three-year demonstration programme aiming at experimenting the principles of integration and subsidiarity through co-ordination, both between sectors of activity and the various levels of territorial authorities. The demonstration programme identifies three reasons for the EU interest in coastal zones: (1) the existence of problems of a European dimension which cannot be solved by the countries separately; (2) the influence of the policies and actions of the EU on the development of the coastal zones; and (3) the need for an improved and more participatory exchange of experience and know-how. The demonstration programme is intended to test co-operation instruments and facilitate the identification of possible complementary measures at the Union’s and other levels of decision making. For its implementation the demonstration programme will rely upon existing means (see Section 2.2.4. on horizontal instruments). A

TABLE 1
 Demonstration programme: tasks at the various levels

<i>Element</i>	<i>Local/regional</i>	<i>National</i>	<i>European trans-national/interregional</i>
Description	<ul style="list-style-type: none"> —Detailed state of the environment —Indicators —Environmental measures —Development measures 	<ul style="list-style-type: none"> —Synthetic environment indicators —National Plans 	<ul style="list-style-type: none"> —Definition of synthetic indicators (EEA, Eurostat) —Databases on the state of the European Coast (EEA, Eurostat) —Inventory of the EC policies and programmes relevant to the coast
Analysis	<ul style="list-style-type: none"> —Impact of the local and other measures on the coast —Impact of the general, natural and socio-economic trends —Mutual consistency of the sectorial measures and with policies at other levels —Evaluation of consistency of policies 	<ul style="list-style-type: none"> —Strategic environmental assessment of the national plans and sectorial programmes from the point of view of their impact on the coast 	<ul style="list-style-type: none"> —Strategic environmental assessment of the impact of EC policies on the coast —Evaluation of management options
Concertation	<ul style="list-style-type: none"> —Use of existing mechanisms and procedures, supplemented and adjusted as required, for intersectorial concertation between units 	<ul style="list-style-type: none"> —Interdepartmental co-ordination existing or to be adjusted 	<ul style="list-style-type: none"> —Inter-DG group —Co-ordination with international organisations —Concertation with the countries and regions
Results	<ul style="list-style-type: none"> —Plan/concerted schemes for integrated management of the coast, consistent with the other levels 	<ul style="list-style-type: none"> —State of the coastal environment —Coastal strategies 	<ul style="list-style-type: none"> —Information on the state of the European coast —Information on the environmental and spatial effects of EC policies —Criteria and methods for the implementation of sustainable development in structural funds —Means of improving co-operation for sustainable development

(Source: CEC¹)

breakdown of its content and tasks at the various levels of implementation are given in Table 1 and the historical development of EC coastal policy is summarised in Table 2.

It must be recalled that unlike other international institutions, such as the United Nations and the Organisation for Economic Co-operation and Development (OECD), the Community is provided with legislative

TABLE 2
Historical overview of coastal zone management policy at the EC level

<i>Year</i>	<i>Instrument</i>	<i>Objectives</i>	<i>Specific measures</i>
1982	Council Resolution on the European Coastal Charter	Integrated policy reconciling development and protection of coastal zones	—
1986	Commission Communication on the Integrated Management of Coastal Areas	Application of existing or planned measures taking coastal aspects into account	—
1992	Council Resolution on the Future Community Policy Concerning the European Coastal Zone	Invitation to the Commission to draft a strategy for integrated coastal zone management	—
1993	Fifth Environmental Action Programme	Sustainable development of coastal zones and their resources	—
1994	Council Resolution on the Integrated Management of Coastal Zones	Restatement of the 1993 resolution	—
1995	Commission Communication on the Integrated Management of Coastal Zones	To test co-operation models for the integrated management of coastal zones; to provide technical results to foster dialogue between European institutions and coastal stakeholders	Demonstration programme on the integrated management of coastal zones, making concerted use of existing instruments and programmes

(Sources: COM¹, COM², OJ³, OJ⁴, OJ⁵, OJ⁶)

powers. EC legal tools include, in particular: (1) regulations, directly binding upon the member states; and (2) directives, to be enacted by national laws. Insofar as environment–development relationships are concerned, EC legal provisions mainly aim at: (1) establishing the minimum standards for protecting and safeguarding the environment; (2) implementing the commitments taken by the Community within international agreements; and (3) establishing rules and common provisions for the integrity of the common market.

The role of the EC in matters relating to coastal zone management has to be considered primarily in the context of its general competencies over environment and land-use planning policies. In this respect the principle

of subsidiarity and the concept of 'shared responsibility' have to be regarded as the guiding elements of Community action. The latter is based on the choice to combine instruments and actors at different levels of decision making, without reconsidering the division of competencies between EC, member states and sub-national and local authorities. An indicative breakdown of responsibilities and levels of involvement, drawn from the Fifth Environmental Action Programme, is given in Table 3.

From a legal and policy perspective the significant contribution of Community law to the acceptance of principles which, although of a general nature, are directly applicable to the management of coastal zones must be acknowledged. The Treaty on European Union establishes among the objectives of Community environmental policy 'preserving, protecting and improving the quality of the environment' and the 'wise and rational utilisation of natural resources' (Article 130, paragraph 1). Moreover, it also states that:

'Community policy on the environment ... shall be based on the *precautionary principle* and on the principle that *preventive action* should be taken, that *environmental damage* should be *rectified at source* and that the *polluter should pay*' (Article 130, paragraph 2, emphasis added).

However, most EC measures and actions are directed to the Union's territory as a whole and the 1995 Commission communication considers coastal zone management measures dependent on the implementation of environmental policy and the integration of the environment into the sectoral policies, particularly at the level of land-use planning. The communication also recognises the deficiencies of existing legislative measures and instruments in halting the deterioration of the coastal environment, also due to enforcement shortcomings, and focuses on the lack of integration between the different actors and stakeholders influencing the coasts. Co-ordination deficiencies are apparent not only between sectors of activity but also between policies and initiatives at various levels of territorial authority, making it difficult to apply efficiently the principle of subsidiarity.

2.2. Main elements for a common strategy

The Fifth Environmental Action Programme contains the main elements of a possible strategy for the integrated management of the Community's coastal zone, defined as 'the entire ambit of the coastal zones, including

fore-shore, coastal waters and estuaries, together with coastal land up to the limit of marine or coastal influence.¹⁰ These elements are reproduced in Table 4.

The targets pursued by the strategy up to the year 2000, also endorsed by the 1995 Commission communication, include: (1) priority to the environmental needs of the coastal zones and policy co-ordination at all levels; (2) an operational framework for integrated planning and management; (3) development of criteria for land use and resource conservation, including environmental economics; and (4) environmental awareness raising and strategic environmental assessment. These targets and the related implementation instruments, grouped into five main categories (policy and institutions, legislation, funds, market, and horizontal tools), are discussed in the following sections.

2.2.1. Policy co-ordination and institutional arrangements

As recognised by the Community communication on integrated coastal zone management, the co-ordination between EC policies and between policies at the EC, national and sub-national level is a core issue, also for its legal and institutional implications. At the EC level the operational aspects of policies are entrusted to the Commission, which is charged with: (1) supervising on the application of the Treaty; (2) formulating recommendations and opinions; and (3) participating in the drafting of acts by the Council and the European Parliament. The Commission also represents the Community with third countries and international organisations.

The structure of the Commission, organised in directorates-general (DGs), reflects a sectoral approach. Despite the importance of marine affairs in Community economy, a high-level policy planning body for ocean and coastal management¹¹ is not in place. Concerning coastal zone management DG XI, Environment, Nuclear Safety and Civil Protection, is the leading body and is provided with a unit charged with the joint management of Environment Quality and Nature Resources, Nature Protection, Coastal Zones and Tourism (Unit D.2). Given the importance of spatial planning for coastal management, DG XI operates in co-ordination with DG XVI, Regional Policies, charged with policies and measures relating to the economic and social cohesion of the Union. Concerning sectoral policies various other DGs have competencies in activities directly or indirectly impacting on the coastal zone. Among these there are, in particular: (1) DG VII, Transport; (2) DG XIV, Fisheries; (3) DG VI, Agriculture; (4) DG XVII, Energy; (5) DG III, Internal Market and Industrial Affairs; (6) DG XII, Science, Research and Development; and (7) DG XXIII, Enterprise Policy, Commerce and Tourism.

TABLE 3
Subdivision of responsibilities in the field of the environment in the EC

Area	Sector	EC	Member states and sub-national governments	Sub-national and local administrations	Enterprises	Public/consumers
Spatial planning	Economic and social development	Regional development, cohesion ^a	Regional development plans, management of growth; EIA ^b	Regional development strategies; EIA ^b	Infrastructure demand ^c	NGOs ^c
	Spatial planning	Directive 85/337/EEC ^c	National, sub-national and local development plans, integration of services ^a	—	EIA; public participation ^c	—
	Networks	European network of road, train and air communications; regional co-operation ^a	—	Distribution and demand ^c	—	—
R&D	Communications	R&D programmes; EEA ^a	Tax reliefs ^a	Emission control and treatment ^a	Environment, R&D, biotechnology ^b	—
	Processes	—	Integrated pollution control ^b	Technological innovation ^b	—	—
	Products	—	Tax reliefs; national waste management plan ^c	Pollution prevention policies ^c	Projects, equipment ^c	Consumers demand; ecological labels ^c
Communications	Information	EEA diffusion and coordination ^a	State of the environment; administrative structures; national statistical offices ^a	Data collection, evaluation and analysis ^a	Industry demand, forecasts, insurances, investments ^a	NGOs, citizens, consumers ^c
	Education	Platform for information and exchange of experience ^a	Elementary, secondary and higher education programmes; didactic aids; teachers ^b	Demand for environmental experts ^a	—	—
Training	Training	Aid instruments ^a	Vocational training proficiency ^b	Stages; insurances; tertiary ^a	—	—

Market	Code of conduct	Agreements: EC codes ^a EC directives; pilot projects ^a	Sectorial agreements and contracts ^a Sectorial agreements (internal audit) ^c	Professional control; internal proficiency; licences ^c	Sectorial agreements ^b	Investors, general public and consumers information ^c Consumers pressures ^c
	Resource management	EC directives; EEA ^c	National promotion and co-ordination ^c Tax reliefs ^c	—	Management instruments; investment capitals; insurance premiums ^b Product projecting ^c	—
	Ecological labels	Examination of state aids and EC instruments ^a	—	—	—	—
	Financial aids	Habitat directive, Natura 2000, rural development ^c	Designation of vulnerable habitats; natural parks ^b	Territorial plans; local leisure services ^a	—	General public and NGOs demand for equipment and quality of life ^c
Regulations	Environmental protection	Regulations on products, emission limits ^b	—	—	Demand for eliminating trade obstacles ^c	Consumers needs for choice ^c
	Internal market	Control on agreement implementation ^b	Implementation at the national level ^a	—	Implementation at the sectorial level ^a	—
	International agreements					

^a Subsidiary role

^b Main role

^c Position of influence (Source: adapted from OJ⁵)

TABLE 4
Main elements for an EC coastal zone management strategy

<i>Objective</i>	<i>EC targets up to 2000</i>	<i>Instruments</i>	<i>Time-frame</i>	<i>Sectors/actors</i>
Sustainable development of coastal zones and their resources in accordance to the carrying capacity of coastal environments	Priority to environmental needs of coastal zones through, <i>inter alia</i> , better co-ordination between relevant EC policies and between policies at the EC, national and regional levels Operational framework for integrated planning and management Development of criteria for a better balance of land use and conservation of natural resources	Framework of integrated management plans on appropriate levels Better know-how and exchange of experiences Creation and improvement of databases and relevant indicators	Before 1998 Continuous Before 1995	Member states, local authorities, EC Member states, local authorities, EC Member states, local authorities, EC
	Awareness raising of the public, competent authorities and economic sectors	Pilot projects on integrated management of coastal zones Information campaigns —Education —Vocational training Demonstration programmes and innovative approaches Improvement of criteria to ensure sustainability of projects and programmes (EIA)	1993/1994 1992 on 1993 on	Member states, local authorities, EC Member states, local authorities, EC, economic sectors Member states, EC

(Source: OJ⁵)

The Treaty on European Union has a provision for the integration of environmental management with policies concerning other sectors (Article 130r) and this calls for an overall strategy overcoming the institutional and operational sectorality of the Community approach to ocean and coastal matters. The decision-making organ of the European Communities, the Council of Ministers, charged with the co-ordination of the general economic policies of the member states, is made up of a ministerial representative of each member state, varying according to the matter to be discussed (e.g. environment, agriculture, transport, etc.). So far, coastal zone management issues have primarily been dealt with by the Council of Ministers of the Environment.

Insofar as the environmental policy process is regarded, the treaty stresses the need to deal with environment and development also on the sub-national scale. This is of great importance with reference to the disparities between the Community as a whole and its coastal zones, as well between coastal zones, also due to the special features of each European regional sea. Both the Fifth Environmental Action Programme and the demonstration programme frame the problem of integrating environment and socio-economic growth within a sectoral and territorial development strategy, pursued through a framework of integrated management plans to be implemented within the year 1998 (see Section 2.2.4.4. on sectoral and spatial planning).

For these reasons the 1995 demonstration programme plans an inter-DG working group to perform the strategic environmental assessment of the impact of Community policies on the coasts and the evaluation of their consistency. This will help make better use of concertation mechanisms both between sectors, and countries and regions, and will improve co-ordination with international organisations.

2.2.2. *Legal instruments*

2.2.2.1. *General policy and nature conservation.* Various legal instruments support the above spatial development strategy, also endorsed by the Treaty on European Union (Article 130s entitles the Council to adopt measures concerning town and country planning and land use). Council Directive number 85/337/EEC of 27 June 1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment¹² imposes on the member states the obligation to undertake environmental impact assessments (EIAs) at the policy making and planning stages of various kinds of projects impacting on the coastal zone, as well as to take into account the general public's and environmental authorities' opinions.

In order to take into account the wider implications of spatial planning policies, a draft directive on the strategic environmental assessment of plans and programmes is expected to be submitted by the Commission to the Council and the European Parliament in a short time. Council Directive number 94/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and Wild Flora and Fauna¹³ builds upon Council Directive number 79/409/EEC of 2 April 1979 on the Conservation of Wild Birds,¹⁴ and considers as a priority various coastal environments. It aims at establishing an inter-related network of sites (NATURA 2000) and promoting sustainable land management and transport, agriculture and tourism policy. In the same context the Commission Communication on the Rational Use and Conservation of Wetlands¹⁵ supports a Community policy for these fragile environments which are of vital importance for the ecological balance of the coastal zones.

2.2.2.2. Other environmental components and economic sectors. To the above measures concerning general issues and nature conservation, various sectoral directives can be added. Among these the most important is Council Directive number 76/160/EEC of 8 December 1975 Concerning the Quality of Bathing Water¹⁶ (modified by the daughter Directive number 91/692/EEC¹⁷), whose partial success now calls for its adaptation to scientific and technical progress.^{18,19,20} Other instruments relevant to the coastal zone concern shellfish water,²¹ urban waste waters,²² and nitrate inputs in water from agricultural sources.²³ A Proposal for a Council Framework Directive on the Ecological Quality of Water was adopted by the Commission,²⁴ paving the way for a less sectoral approach while including quality standards for the coastal zones. This seems to be improved also by the Proposal for a Council Directive on Integrated Pollution Prevention and Control,²⁵ which aims at developing an approach to pollution control able to consider releases from industrial activities to all media in the context of their effects on the environment as a whole.

Many other regulations and directives deal with sectors of activity directly impacting on the coastal zones. These include agriculture, maritime transport, energy production and industry.²⁶ Concerning fisheries, ruled by the Common Fishery Policy (CFP), Council Regulation number 3760/92 establishes the basis for the conservation of fishery resources through the annual fixing of the total allowable catch (TAC) of species of the Northeast Atlantic and the establishment of quotas among the member states. Various regulations deal with the balance between fishing capacity and resources²⁷ or place restrictions on fishing gears in regional seas.²⁸

2.2.3. *Market instruments and environmental economics*

As a complement to regulatory arrangements some economic and fiscal measures, such as charges and levies, are used in the field of water pollution and waste disposal, but they are the responsibility of national and local authorities and so far do not involve a direct intervention from the EC. Air pollution issues are considered by the Proposal of Council Directive Relating to a Tax on Carbon Dioxide Emissions and Energy.²⁹ Research on environmental economics at the European level is under way in order to identify economic instruments that integrate environmental and natural resources aspects into development policies.³⁰

2.2.4. *Horizontal instruments*

2.2.4.1. *Data and information.* In spite of the numerous efforts at the Community, national and sub-national level (e.g. the European Database on Marine Environmental Data (EDMED), the Atlas of the Italian Beaches and the Greek Coastal Management Coordinating Committee),³¹ the coverage, quality and standardisation of data needed for coastal zone management on the European scale is far from being satisfactory. Deficiencies are mainly due to the number of different institutions and methodologies involved in data collection and analysis, and the lack of baseline data and indicators to assess environmental conditions and trends and support policy decisions. The absence of quantitative data on human influences on the coastal zones and the inadequacy of the presentation forms are also reported by the Commission.³²

From 1985 to 1990 the EC ran an experimental database, called Coordinated Information on the Environment (CORINE).³³ Organised by DG XI, CORINE aimed at building up systems of comparable and coherent information on the environment. During 1987–1990 CORINE developed the ‘Coastal Erosion Project’ with the purpose of establishing an inventory of coastal erosion problems and identifying high-risk coastal zones in Europe. CORINE is presently being developed also with reference to ‘Land Cover’, ‘Biotopes’, ‘Water Resources’ and other subjects, by the European Environment Agency (EEA) and its operational centres, with the aim to complete a database covering all the coastal zones of the Union and identifying main features, functions and vulnerability to human activities.

2.2.4.2. *EEA.* The EEA was established in 1990 with the task to produce objective, reliable and comparable information for the implementation,

further development and assessment of the European environmental policy.³⁴ This has been operational since 1994 and relies upon the European Environment Information and Observation Network (EIONET), including a series of European Topic Centres (ETCs), centres of excellence contracted for the execution of tasks relating to specific environmental areas.

Among the ETCs already designated by EEA³⁵ the European Topic Centre on Marine and Coastal Environment (ETC/MC) was established as a network of eleven European institutions led by the Marine Environment Research Centre of the National Agency for New Technologies, Energy and the Environment (ENEA/CRAM), located in La Spezia, Italy.³⁶ The centre is charged with the preparation, on behalf of EEA, of reports on the state of the marine and coastal regions of Europe. It also aims at acting as a forum for the marine environmental centres operating in European regional seas. The 1996–1997 work plan of ETC/MC includes two sub-projects relating to: (1) improvement of information on the coastal and marine environment; and (2) integrated environmental assessment of coastal zones. The latter is likely to lead to the establishment of an ETC on coastal protection.

2.2.4.3. Research and development. EEA assessments will also be based on results from ongoing EC research and development (R&D) programmes, which can provide the scientific basis for a better evaluation of the state of the coastal zones and implement their ecologically-sound development. Through these programmes the study of basic environmental processes and the development of environmental baselines, indices, models, and monitoring and assessment systems are carried out. Results from research projects are also contributing to the development of technology and risk assessment methodologies, and the application of techniques for prevention and reduction of environmental impacts. Among the Community's R&D programmes most relevant to coastal management issues there are Marine Science and Technology (MAST), as well as the market-driven co-operation scheme European Research Cooperation Agency (EUREKA), with its marine subset EUROMAR.

Scientific and technical support activities are also developed by the Joint Research Centre (JRC), consisting of various European research institutions, in particular in the field of environmental measurement methods, data and instruments. Most of the European investigations on the coastal zone, including socio-economic research, are conducted in the framework of the European Land–Ocean Interaction Studies (ELOISE) programme.³⁷ ELOISE forms the European contribution to the Land–Ocean Interactions in the Coastal Zone (LOICZ) project of the International

Geosphere–Biosphere Programme (IGBP) Global Change Programme. The Community also participates in large scale oceanographic programmes, such as the Global Ocean Observing System (GOOS) and its European subset EUROGOOS.³⁸

Information technology can help co-ordinate and make compatible different databases and monitoring systems, as in the case of the geographical information systems (GIS) developed through the CORINE project. Environmental telematics is currently being explored for the protection and the improvement of the environment, also through the establishment of networks within the Interchange of Data between Administrations (IDA) programme.³⁹

2.2.4.4. Sectoral and spatial planning. According to the Fifth Environmental Action Programme the overall objective of an environmentally-sound sectoral and spatial planning is based on integrated socio-economic development plans. These include: (1) integrated regional development plans (ongoing); (2) integrated transport plans (1994–2000 and 1997–2010); (3) integrated coastal management plans (from 1998); and (4) EIAs at planning and project level, and applied to programmes and projects supported by regional development mechanisms⁴⁰ (ongoing, see Section 2.2.5. on financial support mechanisms).

The importance of Community regional development policies can not be underestimated: compounded with inter-regional and transnational co-operation schemes, they form the basis of a strategy for the European territorial development. Work on European spatial planning is progressing,⁴¹ in order to produce a reference framework identifying and considering the main trends in changes in land use arising from political and economic integration.⁴² When completed this reference framework will contribute to the formulation of a European spatial planning perspective that will devote particular attention to the coastal zones, whose fragile environment requires an integrated approach framed in the regional context.

2.2.4.5. Pilot actions. In order to promote a more concrete understanding of the concept of sustainable development and encourage the responsible behaviour of all socio-economic actors (i.e. public authorities, public and private enterprises, and the general public), the EC has established funding mechanisms for demonstration programmes concerning environmental technologies and practices, protection and re-establishment of habitats and species, and waste management. Until a few years ago these actions were pursued in a rather dispersed fashion,

through small-scale financial instruments (Action by the Community for the Environment (ACE); Action by the Community Relating to Nature Conservation (ACNAT); Strategy and Plan of Action for the Protection of the Environment in the Mediterranean (MEDSPA); and Action to Protect the Environment in the Coastal Areas and Coastal Waters of the Irish Sea, Baltic Sea and Northeast Atlantic Ocean (NORSPA); for MEDSPA see Section 3.3. on the EC Mediterranean policy).⁴³ In 1992 these actions were merged into a single Financial Instrument for the Environment (LIFE),⁴⁴ totalling ECU 400 million for 1991–1995. Furthering the previous initiatives LIFE is aimed, *inter alia*, at supporting specific demonstrations and pilot projects also in the field of the protection and rational management of the coastal zones. Although the LIFE programme is still at its beginning and the evaluation of results from such initiatives requires time, the some hundred pilot projects on integrated coastal zone management funded since 1986 could constitute a valid means to experiment with innovative approaches and develop criteria for a better balance of use and conservation of coastal land and resources. In this respect a proposal for amendment to LIFE has recently been submitted by the Commission to the Council and the European Parliament.⁴⁵ The proposed new programme targets the coastal environment as a priority and forms one of the implementation instruments for actions within the 1995 demonstration programme on the integrated management of coastal zones.

2.2.4.6. *Public awareness.* So far there are no environmental awareness initiatives at the Community level specific to the coastal zones. Insofar as public information on environmental issues is concerned, the right to information applies to citizens of the member states directly concerned, as well as those of other member states. This right has been recognised by Council Directive number 90/313/EEC of 7 June 1990 on the Freedom of Access to Information on the Environment.⁴⁶ This directive, jointly with public involvement in the assessment of the environmental effects of major projects,⁴⁷ can contribute to raising environmental awareness. However, further work must be done to ensure adequate and uniform European-wide public information and participation in decision-making processes dealing with environmental matters. Moreover, member states should abide by the obligation to provide reports on the implementation of various environmental directives (e.g. concerning water quality), pursuant to Council Directive number 91/692/EEC of 23 December 1991 for the Standardization and Rationalization of Reports Relating to Some Directives Concerning the Environment.⁴⁸

2.2.4.7. *Education and training.* Efforts are also expected to be made to establish specific education and training schemes for coastal zone management at the European level. In general terms, the development of a 'learning society' is the focus of the 1995 Community White Paper on Education and Training.⁴⁹ However, the Community's role is limited to the furthering of co-operation among the member states and does not imply actions to harmonise their educational systems (Treaty on European Union, Articles 126–27). So far training courses on the coastal zones are being carried out as complementary actions within R&D programmes (e.g. MAST),⁵⁰ and are mainly directed towards natural sciences or engineering. The same limitations apply to the activities sponsored by the framework scheme for the stimulation of the Training and Mobility of Researchers (TMR).⁵¹ A more structured approach to training in coastal zone management could be achieved through an increased role of the European Social Fund (ESF). This structural fund (see Section 2.2.5. on financial support mechanisms) sponsors activities of job creation and vocational training that could be directed towards new professions dealing with coastal zone management.

2.2.5. *Financial support mechanisms*

Structural funds are provided by the Community on a regional basis for less developed and crisis areas.⁵² Among these the European Regional Development Fund (ERDF)⁵³ and the Cohesion Fund (the latter limited to Ireland, Greece, Portugal and Spain)⁵⁴ constitute an important contribution to economic development through financing of productive investments, infrastructures and environmental projects dealing in particular with water consumption, waste water, solid wastes and fragile natural zones. Among the beneficiary regions there are many of the European coastal zones, particularly in the Mediterranean, suffering from underdevelopment or industrial decline. Other structural measures are directed to the improvement of conditions in agricultural or rural areas (Integrated Mediterranean Programmes (IMPs)⁵⁵) or areas heavily dependent on fisheries and aquaculture (Financial Instrument for Fisheries Guidance (FIFG)⁵⁶ and Community Initiative Concerning the Restructuring of the Fishery Sector (PESCA)⁵⁷).

During 1990–1993 the Community Initiative Concerning the Environment in the Regions (ENVIREG) granted ECU 500 million for the reduction of coastal pollution and protection of the coastal environment

and landscapes,⁵⁸ particularly in the Mediterranean. Another action concerns the financing of environmental infrastructures in border regions, through the ECU 2900 million of the 1994–1999 Community Initiative Concerning Border Regions Development, Trans-frontier Cooperation and Selected Energy Networks (INTERREG II) scheme.⁵⁹ Finally, the Link between Actions for the Development of Rural Economy (LEADER II) programme⁶⁰ is aimed at, *inter alia*, promoting exchange of experience in the integrated management of rural coastal areas.

The results of all these measures have been mixed, partly due to a partial consideration of the environmental implications of their implementation.⁶¹ However, after the signing of the Treaty on European Union the structural measures have undergone a revision that requires conformity with environmental legislation and EIA requirements, with an emphasis on the assessment of the wider implications of plans, programmes and projects.⁶²

All the above measures are intended to contribute to the implementation of the demonstration programme. This is also in order to verify whether the sustainable development of European coastal zones can be achieved through the concertation and better use of existing means.

On the basis of this brief review, it is possible to sketch an overview of EC role and responsibilities with respect to the various instruments dealing with coastal zone management. This overview, given in Table 5, refers to the Community itself and does not take into account the complementary roles of member states⁶³ and sub-national and local authorities, enterprises, and the general public and consumers (for this, see Table 3).

3. THE EC POLICY FACING THE MEDITERRANEAN COASTAL REGION

3.1. The coastal use framework

3.1.1. *Use and development patterns*

The EC Mediterranean coastal strip stretches for 27 500 km, about 60% of the total of the basin. Almost 80 million people, about 50% of the Mediterranean coastal population, and most economic activities are concentrated here (see Fig. 1). Concerning land use three main types of coastal zones can be identified.^{64–66}

TABLE 5
EC coastal zone management responsibilities and tools

Area/responsibility	Policy/administration	Legislation	Market	Horizontal tools	Financial support
Integrated framework	DG XI, DG XVI	—	—	Demonstration programme	Various
Physical planning	DG XI, DG XVI	Directives 85/337/EEC, 79/409/EEC, 92/43/EEC	—	Integrated coastal management plans; EIA at the planning and project stages	INTERREG, LEADER
Environment sectors	DG XI	Sectorial directives	—	—	—
Socio-economic sectors	DG III, DG V, DG VI, DG VII, DG XIV, DG XVII, others	Various	Various	Various	Various
Regional development	DG XVI	Revision of structural funds	—	Integrated regional development plans	ERDF, Cohesion Fund
Evaluation and accounting	DG XI	—	—	EEA	—
Economic and fiscal measures	—	—	Proposed tax on CO ₂ emissions	—	—
Databases and indicators	DG XI, DG XII, DG XIII	—	—	R&D programmes, EEA, Eurostat, JRC	R&D framework programme
Pilot projects	DG XI	—	—	Demonstration programme	LIFE, others
Public information	DG XI, DG X	Directives 90/313/EEC, 91/692/EEC	—	EEA, Eurostat	—
Education and training	DG XXIII, various	—	—	—	ESF
International relations	DG I, DG XI	International agreements	—	Various	Various

(Source: various EC documents)

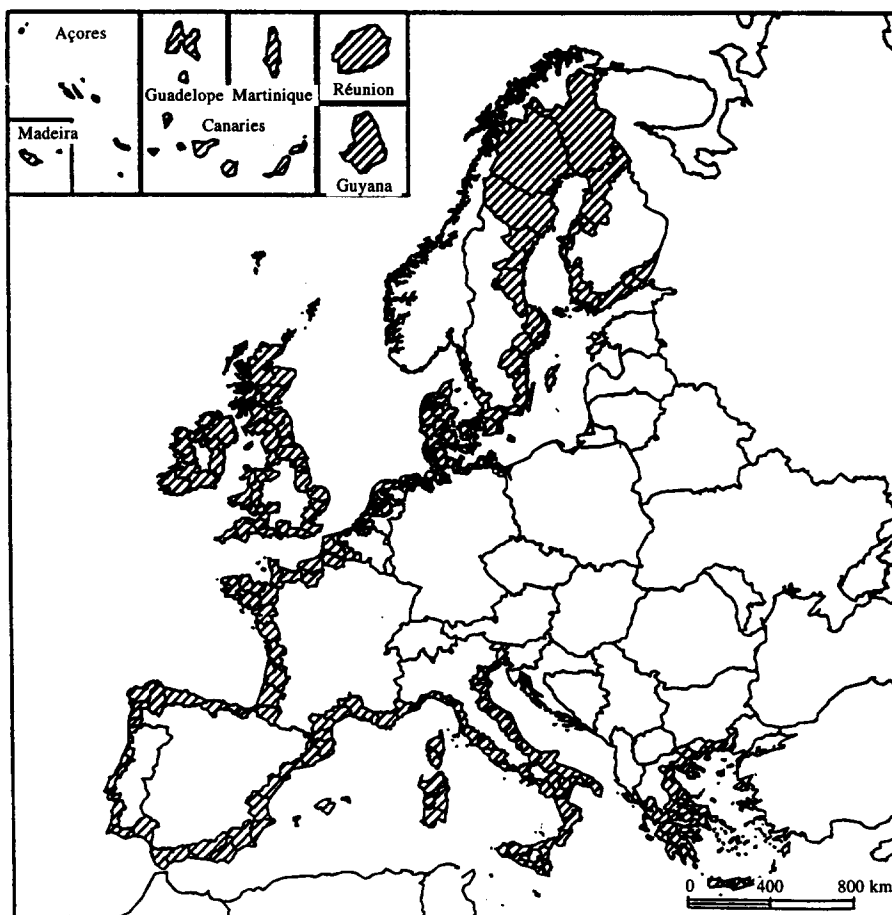


Fig. 1. European coastal zones. (Source: CEC¹)

3.1.1.1. *Urban and industrial areas.* All these areas, sometimes structured in large maritime industrial development areas (MIDAs),⁶⁷ are characterised by high concentration of population and activities, often conflicting. In spite of the limited portion of land occupied—however rapidly expanding—these highly developed areas influence large parts of the surrounding environment, with serious damage to natural habitats.

3.1.1.2. *Intensive tourism areas.* Beyond the metropolitan core are peripheral areas with mixed economy, in which urbanisation combines with other sectors of activity, in particular intensive tourism. Coastal resource utilisation is characterised by conflicts over land and sea use and

great seasonal differences in activities. The development of these mixed areas is often chaotic and leads to socio-economic problems.

3.1.1.3. *Nature, rural or fisheries areas.* The remaining coastal periphery is characterised by scattered settlements, often of a rural sort, where agriculture combines with fisheries. In some cases the physical features of the coast prevent economic development. Other zones are protected by law, by virtue of their natural beauty or ecological significance. These still pristine areas are being reduced by the development of tourism and urbanisation.

The Commission⁶⁸ proposes the division of Community Mediterranean regions into two groups: (1) the Latin Rim, comprising the coastal regions from Andalusia in Spain to Lazio in Italy together with the Balearic Islands, Corsica and Sardinia; and (2) the Central Mediterranean, comprising the Mezzogiorno in Italy and the whole of Greece. This division allows the identification of inter-regional disparities, apparent in development models, communications networks and urban systems. Development trends show that the Latin Rim is likely to become more peripheral and more dependent on the northern-European economic centres, while the Central Mediterranean is likely to continue to be fragmented and underdeveloped, with negative consequences for regional disparities and environmental conditions.

This brief analysis of the use and development patterns can be complemented by an overview of the major pressures bearing upon the environment. These pressures are often exerted and perceivable at the sub-national and local levels.

3.1.2. *Main pressures*

The main pressures reported on the EC Mediterranean coastal zone are briefly summarised in the following paragraphs. Most data are from the UNEP prospective study 'The Blue Plan'⁶⁹ and Community⁷⁰ and OECD sources.⁷¹

3.1.2.1. *Urban encroachment.* On a general basis the western coast of the Mediterranean is characterised by a very high urban encroachment—60% of the coasts of Provence and 50% of the coasts of Spain are occupied by urban and tourism developments. This is reflected in a population density higher in the coastal municipalities than in the remainder of the country, with a peak of 400 inhabitants per km² in Italy. Poorly managed urbanisation is apparent in Spain, France and Italy, and the effects of urbanisation here are more adverse than elsewhere. With the

exception of the Athens–Piraeus area less severe conditions are reported for Greece, but seasonal increase due to leisure activities is making it worse.

3.1.2.2. *Tourism development.* The Mediterranean takes the lion's share in the 'top ten' tourism regions in Europe—for a number of Mediterranean coastal zones of Spain, Italy, Greece and France the summer population is something in the region of about 20 times the number of permanent residents, while in some zones it can pass 100 times. Tourism infrastructures are normally insufficient to cope with this seasonal demand, which may reach 140–180 million by the year 2000 and vary between 170 and 340 million by 2025. Presently, 80% of Mediterranean international tourism is concentrated in the four EC member states, which are expected to represent 90% of the total increase.

3.1.2.3. *Degradation of natural habitats.* Almost 30% of EC significant biotopes are located in 12.5% of coastal zones and some conservation measures have been undertaken, particularly in France and Spain. Nevertheless, these measures are inadequate to avoid the reduction or even disappearance of important natural zones—75% of southern European dune systems, from Gibraltar to Sicily, have disappeared since 1960 and Italian coastal flats have reduced from 700 000 ha at the beginning of the century to 100 000 ha in 1994. Low areas, such as the deltas of Ebro, Rhone, Po and Evros are likely to be particularly sensitive to sea-level rise, with the possible consequence of salt water intrusion into aquifers. This natural hazard is worsened by widespread phenomena of coastal erosion, deforestation and desertification.

3.1.2.4. *Pollution of coastal waters.* All Mediterranean EC member states report concern for water quality conditions. Almost 60% of municipal waste waters and a large amount of industrial waste are being discharged without a secondary treatment, as well as large amounts of heavy metals and pesticides (550 t per year) brought to the coast by rivers like the Rhone, Po and Ebro. Pollutants accumulate in coastal sediments and persistent pollution concentrates in coastal zones, particularly in estuaries and inlets, leading sometimes to the phenomenon of algal blooms, as in the Adriatic. In the northwestern Mediterranean 90% of cadmium and lead deposits are due to atmospheric inputs originating from human activities.

3.1.2.5. *Demographic change.* On the Mediterranean coastal zone the resident population is likely to increase over the next ten years. The

areas most subject to this increase will be the eastern and northern parts of Greece and the western Mediterranean. The growth will mainly concern the existing urban centres, thus increasing the disparities in population density between the coastal and inland areas. In Italy, for example, the population of coastal municipalities within 50 km from the coast accounts for 60% of the total population, while in Greece it accounts for 85% of the total.

The dynamic and conflicting interaction between economic and natural systems in the Mediterranean is often characterised by chaotic and uncontrolled patterns. The complexity of this regional sea calls for the consideration of the main issues over time and the establishment of monitored goals for the whole coastal zone of the basin. To this end it is important to consider the coastal policy of the EC in the Mediterranean regional context.

3.2. The legal and jurisdictional framework

The EC has not provided a legal definition of its coastal zone and the 1995 Commission communication suggests a flexible approach, dependent upon the nature of the environments and management purposes considered. On the regional scale the new Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona, 1995), to which the EC is party, fails in reaching a legally-based definition of coastal areas for regional co-operation purposes, leaving the Parties the right to define the coastal areas within their territory (Article 1, paragraph 1).⁷² However, the Convention permits the extension of the geographical coverage of particular protocols for the issues they address (Article 1, paragraph 2), as in the case of the Protocol on Specially Protected Areas and Biodiversity in the Mediterranean (Barcelona, 1995), whose application area extends from the Mediterranean sea area to the freshwater limits of watercourses.

So far the EC coastal states have not agreed on the establishment of exclusive economic zones (EEZs) in the Mediterranean, that remains to a large extent an area of high seas. France and Spain, whose coasts also border the Atlantic Ocean, have established EEZs which are applicable only to their non-Mediterranean coasts. Five continental shelves have been agreed in the Mediterranean involving EC member states, namely, (1) Italy and Yugoslavia (1968); (2) Italy and Tunisia (1971); (3) Italy and Spain (1974); (4) Greece and Italy (1977); (5) France and Monaco (1984); and (6) Albania and Italy (1992).

Therefore, in the absence of a definition by the EC itself, the 6 (Greece)–12 (Spain, France, Italy) nautical miles of territorial seas represent the seaward boundaries of the EC Mediterranean coastal zone, in accordance with rights and obligations established by the United Nations Convention on the Law of the Sea (UNCLOS).⁷³ However, in 1993 France, Italy and Monaco signed a declaration on a Sanctuary for the Protection of Marine Mammals in the Mediterranean. When implemented by national legislation it will prohibit the use of driftnets by all ships in the marine area between Corsica, Liguria and Provence, with a possible extension of national jurisdiction over the high seas.⁷⁴

On the landward side of the shoreline a strict legally-based definition of the EC Mediterranean coastal zone is probably not possible. Regulations governing land use in Spain,⁷⁵ France,⁷⁶ Italy and Greece tend to prohibit construction or exert development control over a strip of land between 100 and 500 m from the mean high water mark.^{77,78} The width of this strip of land is in France 100 m (no construction) and 2000 m (no new roads); Italy 300 m (no construction); Greece 500 m (strict control); and Spain 500 m (strict control). In addition, the administrative boundaries of local and regional coastal administrative units can provide a useful framework for statistical and policy objectives.^{79,80} It has also been noted that most infrastructures and activities directly linked to the sea concentrate within 5 km inland from the coastline and that marine and coastal resources are particularly sensitive to the environmental quality of the first kilometre of land from the shoreline.⁸¹ Furthermore, Community initiatives such as ENVIREG apply to a littoral belt no more than 10 km wide.

Thus, a possible definition of the EC Mediterranean coastal zone would imply an integrated management regime applying to: (1) the inland part of the coastal zone administered by local and sub-national authorities; (2) the internal and coastal waters up to the limits of the territorial sea or the most extended national jurisdictional zone; and (3) the impacting watersheds.

3.3. The EC Mediterranean policy

3.3.1. Environment and regional policy, research and technical assistance

Elements of a Community policy for the Mediterranean coastal zones can be identified in policies operating at various levels. These include the participation of the EC in MAP and the co-operation between the EIB and the World Bank.

Within the framework of EC environmental policy, the Strategy and

Plan of Action for the Protection of the Environment in the Mediterranean (MEDSPA)⁸² ran from 1991 to 1996 with the aim of contributing to integrate environmental protection with regional development. Priorities considered included the collection, treatment, storage and disposal of waste water, solid waste, sewage sludge and toxic and dangerous waste for coastal towns with less than 100 000 inhabitants; the treatment of water from ships' tanks; integrated management of coastal ecosystems; and soil erosion programmes combating the dangers of or effects from coastal erosion, desertification or forest fires. The budget for 1991–1992 was ECU 25 million. In addition to MEDSPA, ENVIREG,⁸³ applying to Objective 1, 2 and 5b regions,⁸⁴ aimed at reducing coastal pollution and promoting the integrated management of coastal biotopes and landscapes, particularly in the Mediterranean.

Results from MEDSPA and ENVIREG are presently under evaluation. Despite their objectives, however, it is not clear to what extent this programme had been applied in co-ordination with structural measures, in particular those specific to the Mediterranean⁸⁵ such as the IMPs (directed towards agricultural and rural investments) and the Cohesion Fund (supporting environmental infrastructures, mainly for water supply, sewage treatment, waste management and erosion control projects). Moreover, these environmental protection measures appear to have been detached from initiatives carried out in the field of scientific and technological research. For example, within the MAST programme a large pluri-disciplinary project has been under development since 1991—the Mediterranean Targeted Project (MTP), which focuses on the investigation of physical processes and biogeochemical cycles (in particular, the sub-projects MERMAIDS and EROS 2000).⁸⁶ Within Environment and Climate (ENV), besides the regional investigations foreseen by ELOISE and many other research projects in coastal sciences,⁸⁷ the Mediterranean Desertification and Land Use (MEDALUS) project is being conducted on the processes of desertification and deforestation also in the coastal areas.^{88,89}

Concerning co-operative technical assistance programmes, together with the World Bank, the EIB and the United Nations Development Programme (UNDP), the Commission supports the Environmental Programme for the Mediterranean (EPM), founded in 1990 and including the Mediterranean Technical Assistance Programme (METAP).⁹⁰ Among METAP priorities are solid and hazardous waste management, integrated water resources management, coastal zone management, and marine pollution. In the context of the EPM, for example, the EIB is supporting a twenty-year programme to improve waste water collection

and treatment facilities in Italy to reduce pollution in the Po Basin and its rivers.

3.3.2. *Euro–Mediterranean co-operation*

Technical assistance activities are carried out by the Community also in co-operation with Mediterranean third countries. Among these are the initiatives undertaken since 1990 in the context of the Charter on the Euro–Mediterranean Cooperation Concerning the Environment in the Mediterranean Basin (Nicosia, 1990),⁹¹ including waste management and protection of coastal zones and endangered biotopes.

In 1992 following a ministerial conference in Cairo, a Declaration on Euro–Mediterranean Cooperation on the Environment in the Mediterranean Basin was issued restating the commitments of the Nicosia Charter.⁹² In 1994 in the context of the Conference MED 21 on the Sustainable Development in the Mediterranean (Tunis, 1 November 1994), the Commission endorsed, among other instruments, a Resolution Relative to the Use of Land Policy Tools to Ensure the Conservation of the Mediterranean Coastal Areas.⁹³ In the same year the European Parliament adopted a Resolution on the Mediterranean Policy of the European Union,⁹⁴ calling for the implementation of a global and coherent policy supported by co-operation programmes and the acceleration of the Union's enlargement to Cyprus and Malta.

Concerning fisheries, in order to harmonise national rules and establish common arrangements for the conservation and management of fishery resources in the Mediterranean the EC adopted Council Regulation number 94/1626/EC of 27 June 1994.⁹⁵ This is the first regulation at EC level on the conservation and management of fishery resources in the Mediterranean after the establishment of the CFP in 1983. The technical measures set by the regulation include: (1) banning of certain fishing gears; (2) definition of minimum mesh sizes and minimum fish sizes; and (3) coastal reserves for non-industrial fishing. They aim at making better use of available scientific data and maintaining the socio-economic role of fisheries in certain coastal regions of the EC Mediterranean member states. On this basis the EC organised a Conference on Fisheries Management in the Mediterranean (Heraklion, 12–14 December 1994) in order to define a policy for the conservation and management of resources acceptable to and applicable by all countries bordering the Mediterranean.⁹⁶ The Conference adopted a Solemn Declaration on the Conservation and Management of the Fishery Resources of the Mediterranean.⁹⁷

In 1995 the meeting of the European Council held in Cannes adopted

conclusions on the Euro–Mediterranean co-operation on the environment, detailing a series of objectives and priorities, including the protection and sustainable development of the coastline and fully endorsing the role of MAP and the Barcelona Convention,⁹⁸ and fixing a co-operation budget of ECU 4685 million for 1995–1999. In the same year the EC Economic and Social Committee adopted an Opinion on Spatial Planning and Inter-regional Cooperation in the Mediterranean Area.⁹⁹ The opinion underlines the serious spatial imbalances, such as geographical fragmentation and isolation of outermost areas and the process of marginalisation faced by the region, and suggests the establishment of a Euro–Mediterranean strategic area, strengthening internal cohesion, integrating sub-areas and pursuing joint development. It also proposes a spatial planning policy, including the integrated management of coastal zones and the establishment of trans-European and trans-Mediterranean networks in transport, telecommunications and energy, as well as the strengthening of existing inter-regional co-operation instruments and their extension to all southern and eastern Mediterranean countries.

More recently the Commission issued a Proposal for a Council Regulation Concerning Financial and Technical Measures in Support of the Reform of the Socio-economic Structures of the Mediterranean Non-member Countries and Territories.¹⁰⁰ This was endorsed by the third Euro–Mediterranean conference (Barcelona, 27–28 November 1995), which ended with the Barcelona Declaration, launching a new Euro–Mediterranean partnership aimed at promoting peace, stability and prosperity throughout the Mediterranean through a continuous process of dialogue and co-operation.¹⁰¹ The proposed new regulation is of utmost importance for the Euro–Mediterranean co-operation, replacing the previous system of bilateral financial protocols with a single aid scheme and aiming at establishing a Euro–Mediterranean free trade area from the year 2010. Among the actions adopted by the conference there are some particularly relevant to coastal issues, such as the strengthening of co-operation in maritime transport and fishery, and the integrated management of water, soils and coastal zones, as well as the setting up of infrastructures for regional and trans-frontier exchanges and a better co-ordination with MAP.

Exchange of experiences between EC and Mediterranean countries is developed at different levels under various budget headings, including environmental co-operation among universities (Med-Campus),¹⁰² local authorities (Med-Urbs),¹⁰³ enterprises (Med-Invest),¹⁰⁴ and media (Med-Media).¹⁰⁵ Issues of technological development (Med-Techno)¹⁰⁶ and migration (Med-Migration)¹⁰⁷ are also dealt with. Scientific research and co-operation are being carried out through the Avicenne scheme¹⁰⁸ and

the Cooperation with Third Countries and International Organisations (INCO)¹⁰⁹ programme. Inter-regional co-operation among Mediterranean regions and cities is supported by INTERREG and by the ECOS-OUVERTURE programme through a specific sub-programme.¹¹⁰ Technology transfer activities are carried out by the Marseille Value Relay Centre.¹¹¹ All these programmes have financed projects dealing with coastal zone management issues.

3.4. The EC in the framework of UNEP/MAP

The EC participates in MAP and has been a Contracting Party to the Barcelona Convention system since its beginning. Following the establishment of the UNEP Regional Seas Programme, MAP was adopted in 1975 and the Convention for the Protection of the Mediterranean Sea against Pollution opened for signature in 1976 in Barcelona. A series of related protocols followed, devoted respectively to pollution from dumping, oil accidents and land-based sources, and specially protected areas. Between 1977 and 1984 the EEC ratified the Convention and all the other protocols currently into force.¹¹² In 1994 the EC signed the Offshore Protocol¹¹³ and in 1995 the amended Barcelona Convention and Dumping Protocol and the new Biodiversity Protocol,¹¹⁴ not yet embodied in EC legislation. In 1995 the Commission also endorsed the Barcelona Resolution on the Environment and Sustainable Development in the Mediterranean Basin jointly with the new Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II).¹¹⁵ A new protocol on transboundary movements of hazardous wastes¹¹⁶ and the amended Land-Based Sources Protocol are expected to be concluded in 1996, thus completing the updating of the MAP system: an action plan and a framework Convention complemented by six protocols.

The amended framework Convention contains elements of novelty in line with the current developments of international environmental law: sustainable development (preamble), the precautionary principle, the 'polluter pays' principle, environmental practices and the application of, access to and transfer of environmentally sound technology, including clean production technologies (Article 1, paragraph 4), and public information and participation (Article 15). In addition, the Contracting Parties commit themselves to promote the integrated management of coastal zones (Article 15, paragraph 3). As noted the Convention extends its coverage to marine internal waters and admits the possibility to extend its application to the coastal areas, but leaves each Party the definition of

these within its territory (Article 1, paragraphs 1 and 2), while allowing any protocol the possibility to extend the geographical coverage to which it applies (Article 1, paragraph 3).

In this respect, the application area of the Biodiversity Protocol is defined (Article 2, paragraph 1) on the basis of an ecosystem approach. It encompasses all the marine waters of the Mediterranean (Mediterranean Sea Area, territorial seas and internal waters extending, in the case of watercourses, up to the freshwater limit), the seabed and its subsoil, and the terrestrial coastal areas designated by each Party, including wetlands.

Amendments have also been proposed for the geographical coverage of the Land-Based Sources Protocol (Articles 2 and 3).¹¹⁷ According to the proposals the application area of the protocol would include the hydrologic basin of the Mediterranean Sea Area, intended as the entire watershed area within the territories of the Contracting Parties draining into the Mediterranean. This important change for controlling river- and air-borne pollution would imply the integrated management of land and sea, and the set up of improved legal and institutional frameworks, as called for by the UNEP global programme of action for land-based activities.¹¹⁸

Therefore, the combined effect of the Barcelona Convention and its related protocols is contributing to the creation of a legal apparatus which can well support some of the basic objectives of integrated coastal management, such as protection from pollution and conservation of biological diversity. However, so far the Barcelona system appears to lack the necessary 'authority' to prompt and ensure its implementation through the full integration of environmental protection objectives and economic and physical planning policies. Deficiencies are particularly apparent in the provisions concerning liability and compensation for environmental damage (Article 16) and compliance control procedures (Article 21), that fail in defining precise obligations for the Parties. In this respect it is not evident to what extent the Barcelona system could add to the enhancement of an EC framework legislation for coastal zone management purposes.

On the other hand, the Barcelona Resolution and MAP Phase II introduce important objectives such as the reduction of all toxic substances, the protection of coastal zones, and the sustainable management of natural marine and coastal resources. Further, with a view to achieve the integration of the environment in economic, social, cultural and other development, as well as land-use policies, the signatory countries decided to set up the Mediterranean Commission on Sustainable Development (MCSD). This is expected to be established in 1996 and will be made up of representatives from states, local authorities, Mediterranean associations and their networks, and individuals.

Concerning integrated coastal area management, MAP Phase II establishes it as a key field for the period 1996–2005.¹¹⁹ Objectives identified include: (1) preservation of coastal biological diversity; (2) coastal planning; (3) control of human pressure and resource use; (4) socially acceptable environmental and economic objectives; (5) prevention and elimination of pollution from all sources; (6) public participation; and (7) development of institutional capacity and human resources. Priorities¹²⁰ focus on: (1) development of measures and techniques for integrated management of coastal areas and coastline protection; (2) development of capabilities through training; and (3) formulation and implementation of programmes on management of coastal areas, particularly in pilot zones. Activities will be co-ordinated by PAP/RAC (Regional Activity Centre for the Priority Actions Programme) building upon the Coastal Area Management Programme (CAMP) experience, including tools such as guidelines for integrated coastal area management, EIA, GIS and carrying capacity assessment for tourism.

EC participation in MAP is ensured through voluntary contributions. For 1996 it accounts US\$ 560 000, about 10% of the total budget. These funds are mainly directed to some specific priority activities on a project-by-project basis. Concerning coastal zone management, the EC supported the 'Island of Rhodes' pilot project within the CAMP scheme. The Commission also supported the preparatory phase (1993–1995) of the Observatory on the Environment and Development of BP/RAC (Regional Activity Centre for the Blue Plan). The Observatory performs: (1) evaluation activities through processing of data and development of indicators for the Mediterranean region; (2) analysis of the implications of sustainable development in the region; and (3) dissemination of methodologies for sustainable development strategies. Finally, EEA is expected to draft co-operation agreements with MAP concerning the Long-term Programme for Pollution Monitoring and Research in the Mediterranean (MED POL), a data holder of primary importance for the work of ETC/MC.

Given the modalities of EC participation in MAP it is difficult to assess the level of coherence and integration between the two, at both the level of policies and implementation activities. The objectives set forth by the 1990 Nicosia Charter and MEDSPA almost coincide with those of the 1985 MAP's Genoa Declaration.¹²¹ Moreover, EC environmental legislation seems to have served as a basis for the drafting of MAP's Land-Based Sources Protocol, in particular for the establishment of EIA procedures.¹²² However, despite the intentions, the implementation of the Euro–Mediterranean strategy launched by the Nicosia Charter and continued by the Cairo Declaration (1992) and the Barcelona Declaration

(1995) appears to be detached from MAP and increasingly directed by socio-economic and political concerns that leave environmental issues partially aside. This can be understood considering that the EC Mediterranean policy is aimed primarily at maintaining and improving economic relations with non-member states, an objective which differs substantially from that of MAP. In the pursuit of this objective the EC appears to be provided with instruments—legal instruments and financial means—which alone suffice to an independent action.

However, the 1995 Commission demonstration programme foresees co-ordination activities with international organisations in order to concertate and optimise existing mechanisms and procedures. To this end the Commission made reference to and established contacts with BP/RAC, although the demonstration programme does not mention CAMP activities among the examples of measures specifically targeting the coastal zones. In this respect it would be interesting to assess the specific co-operation mechanisms that will be established by the programme.

4. CONCLUSIONS

From this review it can be concluded that an EC policy for the coastal zone is slowly emerging. Thirteen years after the endorsement of the European Coastal Charter a specific programme for the integrated management of coastal zones has finally been launched. The programme aims at testing co-operation models for coastal zone management and providing technical results for their implementation. This will help develop criteria for integrating the environment in structural measures and establishing a regulatory framework for strategic environmental impact assessment. The pursuit of these objectives will require, at the end of the programme, the establishment of a management framework supported by adequate legislation, institutional arrangements in the form of a inter-agency co-ordinating body, sets of coherent policy instruments, and effective systems of information collection, monitoring and enforcement.

In spite of some limitations brought about by the principle of subsidiarity and the sectoral organisation of EC institutions and policies, elements which can contribute to an EC coastal policy are in place. These include regional development initiatives with direct implications for physical planning and management of coastal zones (particularly for improving communications and strengthening the economy), information, monitoring and surveillance networks, and environmental, technical and

risk assessment procedures. These initiatives can provide the foundation for the establishment of scientifically-supported guidelines for a common approach to coastal zone management. Even if the demonstration programme should not lead to binding regulations but only to soft instruments, the exchange of experience between European research structures and administrations and the increasing role of EC directives is *de facto* leading to greater European co-ordination and harmonisation. This is particularly true at the sub-national level, where the traditional role of local, port and river authorities adds to EC regional initiatives.

The EC is provided with a set of instruments which, although far from being comprehensive and totally effective, can form the basis for an increased integration and harmonisation of national and sub-national efforts. With the revision of the regional development mechanisms and the improvement of the regulatory instruments, it is probably at the sub-national and local levels that the EC will play its major role, through the building up of regional frameworks for coastal development and physical planning, improving co-ordination and co-operation and supporting a more harmonised European legal framework.

Concerning the role of the EC in the Mediterranean context, this is at present undergoing an evolutionary process. The recent enlargement of the EC to two Nordic countries and Austria makes necessary a redefinition of its Mediterranean policy, also in the prospect of the accession of Cyprus and Malta and, in the future, of Turkey, Israel, Tunisia and Morocco. Long-term initiatives concerning environmental protection and coastal zone management have often been developed by the EC within the context of technical assistance interventions, through financial support for economic development, environmental infrastructures and pilot actions. On the internal side these do not appear framed in a well defined policy for the development and protection of the coastal zones; on the external side they seem to be driven by the political and socio-economic implications of environmental problems, including peace, security and stability. However, the latest developments within the Euro-Mediterranean co-operation allow to think that a EC policy for the Mediterranean coastal zones will be built through the EC regional development instruments and in the prospect of creating a Euro-Mediterranean strategic trade area for the stability and prosperity of the basin.

The Mediterranean basin has today the opportunity to play a pilot role in the definition of an EC strategy for the coastal zones. MAP has placed integrated coastal management at the heart of its strategy for the sustainable development of the Mediterranean coastal regions. Objectives for the next ten years encompass preservation of biodiversity, use of

coastal planning, control of human pressures, prevention of all sources of pollution, and achievement of environmental and economic objectives at an acceptable cost to society. These developments call for new conceptual approaches to coastal management, institutional restructuring and legal mechanisms. All this makes the complex Mediterranean basin a *région laboratoire* which could be inspiring for the development of an EC policy for the coastal zones of the Mediterranean, also including a closer dialogue with its non-member partners.

REFERENCES

1. CEC, *Communication from the Commission to the Council and the European Parliament on the Integrated Management of Coastal Zones*. COM(95) 511, CEC, Brussels, 1995.
2. CEC, *Communication from the Commission to the Council and the European Parliament on the Integrated Planning of Coastal Areas: Its Role in Community Environment Policy*. COM(86) 571, CEC, Brussels, 1986.
3. *Official Journal of the European Communities*, **C182** (19 July 1982) 124.
4. Council Resolution of 25 February 1992 on the Future Community Policy Concerning the European Coastal Zones. *Official Journal of the European Communities*, **C59** (6 March 1992) 1.
5. A European Community's plan of policy and action in relation to the environment and sustainable development. *Official Journal of the European Communities*, **C138** (17 May 1993) 1.
6. *Official Journal of the European Communities*, **C135**, (18 May 1994) 2.
7. The European Union (EU) was established in 1992 by the Treaty on European Union (Maastricht, 7 February 1992), entered into force on 1 November 1993, with the aim of: (1) promoting a balanced and sustainable economic and social growth through the establishment of an area without internal frontiers, the strengthening of the economic and social cohesion, and the establishment of an economic and monetary union; (2) carrying out a common foreign and security policy; (3) establishing an EU citizenship; (4) developing co-operation in the fields of justice and internal affairs; and (5) maintaining and developing the Community *acquis*. The EU is based upon the European Communities, integrated by policies and forms of co-operation. The European Communities include: (1) the European Carbon and Steel Community (ECSC, established in 1951); (2) the European Atomic Energy Community (EAEC, established in 1957); and, most important (3) the European Community (EC, established in 1957 as the European Economic Community (EEC), converted into the EC by the Treaty on European Union).
8. Council of the European Communities and Commission of the European Communities, *Treaty on European Union*. ECSC, EEC and EAEC, Brussels and Luxembourg, 1992.
9. See reference 1.

10. *Official Journal of the European Communities*, **C138** (17 May 1993) 56.
11. Cf. *Agenda 21*, chapter 17, paragraph 17.6.
12. *Official Journal of the European Communities*, **L175** (5 July 1985) 40.
13. *Official Journal of the European Communities*, **L206** (22 July 1992) 7.
14. *Official Journal of the European Communities*, **L103** (25 April 1979) 1.
15. *Bulletin of the European Union*, **5** (1995), point 1.3.90.
16. *Official Journal of the European Communities*, **L31** (5 February 1976) 1.
17. *Official Journal of the European Communities*, **L377** (31 December 1991) 48.
18. CEC, *General Report on the Activities of the European Union 1994*. ECSC, EC and EAEC, Brussels and Luxembourg, 1995, point 516.
19. *Bulletin of the European Union*, **6** (1994) point 1.2.180.
20. *Bulletin of the European Union*, **6** (1995) point 1.3.152.
21. Council Directive number 79/923/EEC. *Official Journal of the European Communities*, **L201** (10 November 1979) 47.
22. Council Directive number 91/271/EEC. *Official Journal of the European Communities*, **L135** (30 May 1991) 40.
23. Council Directive number 91/676/EEC. *Official Journal of the European Communities*, **L375** (31 December 1991) 1.
24. *Bulletin of the European Union*, **6** (1994) point 1.2.179.
25. *Bulletin of the European Union*, **5** (1995) point 1.3.87.
26. For example, restrictions on the marketing and use of certain pollutant products, such as paints containing organostannic compounds, plant protection products and detergents.
27. Numbers 4028/86, 3690/93 and 1627/94.
28. Number 3094/86, Atlantic and North Sea; number 1866/86, Baltic; and number 1626/94, Mediterranean.
29. *Official Journal of the European Communities*, **C196** (3 August 1992) 1.
30. *Official Journal of the European Communities*, **L361** (31 December 1994) 77.
31. Ballinger, Rh. C., Smith, H. D. & Warren, L. M., The management of the coastal zone of Europe. In *Ocean & Coastal Management*, **22** (1994) 56.
32. Fifth Environmental Action Programme, *op. cit.*, section 7.1: Improvement of Environmental Data.
33. CEC, *Commission Communication to the Council and Parliament on the Results of the CORINE Programme*, SEC (91) 958. ECSC, EEC and EAEC, Brussels and Luxembourg, 1991.
34. Council Regulation of 7 May 1990 on the European Environment Agency and the European Environment Information and Observation Network (90/1210/EEC). *Official Journal of the European Communities*, **L120** (11 May 1990) 1.
35. EEA, *1994 Annual General Report*. EEA, Copenhagen, 1995.
36. ENEA/CRAM, *Scoping Study European Topic Centre on Marine and Coastal Environment*. ENEA/CRAM, La Spezia, 1995.
37. Heip, C., ELOISE: European land-ocean interaction and shelf exchange. *Ecosystems Research Reports*, No. 11, ECSC, EC and EAEC, Brussels and Luxembourg, 1994.
38. Personal communication from Mrs Silvana Vallerga, MAST Italian focal point.

39. *Official Journal of the European Communities*, **L206** (22 July 1992) 1.
40. Cf. *supra*, Legal instruments, general policy and nature conservation (Section 2.2.2.1.).
41. Conclusions of the German Presidency following the informal Council meeting of the ministers responsible for regional planning at Leipzig on 21–22 September 1994.
42. CEC, *Europe 2000 + : Cooperation for European Territorial Development*. ECSC, EC and EAEC, Brussels and Luxembourg, 1994.
43. CEC, *Report of the Commission of the European Communities to the United Nations Conference on Environment and Development*. ECSC, EEC and EAEC, Brussels and Luxembourg, 1992.
44. Council Regulation Number 92/1973/EEC. *Official Journal of the European Communities*, **L206** (22 July 1992) 1.
45. *Official Journal of the European Communities*, **C184** (18 July 1995) 12.
46. *Official Journal of the European Communities*, **L158** (23 June 1990) 56.
47. See *supra*, Legal instruments (Section 2.2.2.).
48. *Official Journal of the European Communities*, **L377** (31 December 1991) 48.
49. CEC, *White Paper on Education and Training*. ECSC, EC and EAEC, Brussels and Luxembourg, 1995.
50. *Official Journal of the European Communities*, **S240** (15 December 1995) 36.
51. *Official Journal of the European Communities*, **L361** (31 December 1994) 90.
52. Objective 1: regions whose development is lagging behind; Objective 2: declining industrial areas; and Objective 5b: fisheries structures.
53. *Official Journal of the European Communities*, **L337** (24 December 1994) 11.
54. *Official Journal of the European Communities*, **S128** (7 July 1993) 34.
55. *Official Journal of the European Communities*, **L197** (31 July 1985) 1.
56. *Official Journal of the European Communities*, **L193** (31 July 1993) 1.
57. *Official Journal of the European Communities*, **C180** (1 July 1994) 1.
58. *Official Journal of the European Communities*, **C115** (9 May 1990) 3.
59. *Official Journal of the European Communities*, **C180** (1 July 1994) 60.
60. *Official Journal of the European Communities*, **C180** (1 July 1994) 48.
61. CEC, *Report of the Commission of the European Communities to the United Nations Conference on Environment and Development*, *op. cit.*
62. *Official Journal of the European Communities*, **L193** (31 July 1993) 34.
63. Among the national institutions and laws concerning the coastal zones established by the Mediterranean member states, the following can be mentioned: (1) France, Law number 75/602 of 10 July 1975, Loi relative à la création du Conservatoire du littoral et des rivages lacustres (Law relating to the creation of the conservatory of sea and lakeside shores), *Journal Officiel*, 11 July 1975, 7162; and Law number 86/2 of 3 January 1986, Loi relative à l'aménagement, la protection et la mise en valeur du littoral (Law relating to the management, protection and development of the coast), *Journal Officiel*, 4 January 1986, 200; and (2) Spain, Law number 22/88 of 28 July 1988, Ley de Costas (Coastal law), *Boletín Oficial del Estado*, 29 July 1988.
64. CEC, *Europe 2000 + : Cooperation for European Territorial Development*, *op. cit.*
65. Ballinger, Rh. C., Smith, H. D. & Warren, L. M., The management of the coastal zone of Europe, *op. cit.*

66. CEC, *Communication from the Commission to the Council and the European Parliament on the Integrated Management of Coastal Zones*, *op. cit.*
67. Vallega, A., *The Changing Waterfront in Coastal Area Management*. Ocean Change Publications, Franco Angeli, Milan, 1992.
68. CEC, *Europe 2000 +: Cooperation for European Territorial Development*, *op. cit.*
69. Grenon, M. & Batisse, M., *Futures of the Mediterranean Basin: The Blue Plan*. Oxford University Press, Oxford, 1989.
70. CEC, *Europe 2000 +: Cooperation for European Territorial Development*, *op. cit.* and CEC, *Communication from the Commission to the Council and the European Parliament on the Integrated Management of Coastal Zones*, *op. cit.*
71. OECD, *Coastal Zone Management: Integrated Policies and Coastal Zone Management: Selected Case Studies*. OECD, Paris, 1993.
72. UNEP/MAP, *Final Act of the Conference of Plenipotentiaries on the Amendments to the Convention for the Protection of the Mediterranean Sea against Pollution, to the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft and on the Protocol Concerning Specially Protected Areas and Biodiversity in the Mediterranean*, Barcelona, 9–10 June 1995. UNEP, Athens, 1995.
73. United Nations, *The law of the sea. United Nations Convention on the Law of the Sea*, 1982.
74. *ICCOPS Newsletter* 1 (1993) 9–11.
75. Cf. reference 63.
76. Cf. reference 63.
77. Sorensen, J. C. & McCreary, S. T., *Institutional Arrangements for Managing Coastal Resources and Environments*. US Department of Interior, National Park Service, Washington DC, 1990.
78. Boelaert-Suominen, S. & Cullinan, C., *Legal and Institutional Aspects of Integrated Coastal Area Management in National Legislation*. FAO, Development Law Service Legal Office, Rome, 1994.
79. Within MAP this has been the case, for example, of the prospective analysis of the Regional Activity Centre for the Blue Plan (BP/RAC) and the Coastal Area Management Programmes (CAMPs) pilot projects of the Regional Activity Centre for the Priority Actions Programme (PAP/RAC).
80. Pavasovic, A., *Integrated Coastal Area Management in the Mediterranean: Present State, Problems and Future*. Paper presented at the International Workshop: Regional Seas Towards Sustainable Development: Challenges for Research and Policy, Genoa, 19–22 April 1995.
81. CEC, *Europe 2000 +: Cooperation for European Territorial Development*, *op. cit.*
82. *Official Journal of the European Communities*, L63 (9 March 1991) 1.
83. See reference 58.
84. See reference 52.
85. See *supra*, Financial support mechanisms (Section 2.2.5.).
86. Perez Salinero, P. & ter Mors, H. (ed.), *Marine Science and Technology (MAST-II): Project Synopses*. ECSC, EC and EAEC, Brussels and Luxembourg, 1994.
87. See Nolan, C. (ed.), *Coastal sciences: research at the land–ocean–*

- atmosphere interface in the Environment Programme (1991–1994). *Ecosystem Research Reports*, No. 14, ECSC, EC and EAEC, Brussels and Luxembourg, 1995.
88. CEC, *The Environment—at the Heart of European R&D: The European Union's Environmental Research Programmes*. ECSC, EC and EAEC, Brussels and Luxembourg, 1994.
 89. Fantechi, R., et al. (ed.), *Desertification in a European Context: Physical and Socio-economic Aspects*. Proceedings of the European School of Climatology and Natural Hazards Course, held in El Campello, Pueblo Acantillado, Alicante, Spain, 6–13 October 1993. ECSC, EC and EAEC, Brussels and Luxembourg, 1995.
 90. The World Bank and the European Investment Bank, *The Environmental Program for the Mediterranean: Preserving a Shared Heritage and Managing a Common Resource*. The World Bank, Washington DC, 1990.
 91. CEC, *Charter on the Euro–Mediterranean Cooperation Concerning the Environment in the Mediterranean Basin and Long-term Strategy*.
 92. CEC, *Declaration on Euro–Mediterranean Cooperation on the Environment in the Mediterranean Basin*.
 93. Conference MED 21 on Sustainable Development in the Mediterranean, Tunis, 1 November 1994. *Draft Resolution Relating to the Creation of a Mediterranean Coastline Conservancy*. Republic of Tunisia, Ministry of the Environment and Land Use Planning, Tunis, 1994.
 94. *Official Journal of the European Communities*, **C305** (31 October 1994) 82.
 95. *Official Journal of the European Communities*, **L171** (6 July 1994) 1.
 96. CEC, *General Report on the Activities of the European Union*, *op. cit.*, point 640.
 97. *ICCOPS Newsletter*, **4** (1995) 8.
 98. *Bulletin of the European Union*, **3** (1995) point 1.2.157.
 99. *Official Journal of the European Communities*, **C133** (31 May 1995) 32.
 100. *Official Journal of the European Communities*, **C232** (6 September 1995) 5.
 101. Information from CEC on-line database services.
 102. *Official Journal of the European Communities*, **C196** (20 July 1993) 15.
 103. *Official Journal of the European Communities*, **S118** (22 June 1994) 120.
 104. *Official Journal of the European Communities*, **C150** (1 June 1994) 11.
 105. *Official Journal of the European Communities*, **S118** (22 June 1994) 117.
 106. *Official Journal of the European Communities*, **C161** (27 June 1995) 16.
 107. *Official Journal of the European Communities*, **S132** (14 July 1995) 23.
 108. *Official Journal of the European Communities*, **S72** (14 April 1994) 111.
 109. *Official Journal of the European Communities*, **C164** (15 March 1995) 5.
 110. Personal communication from Mrs Doina Amprimo, Italian Institutional Supervisor, ECOS-OUVERTURE.
 111. Information from the CEC Community Research and Development Information System (CORDIS) database. The Value Relay Centres are a series of national centres established within the Dissemination and Optimization of Results (INNOVATION) programme to disseminate results from EC R&D projects and promote technological innovation, particularly in small and medium enterprises.
 112. Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona, 1976) and Protocol for the Prevention of Pollution of the

- Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona, 1976). *Official Journal of the European Communities*, **L240** (19 September 1977) 1; Protocol Concerning Cooperation in Combating Pollution from the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency (Barcelona, 1976). *Official Journal of the European Communities*, **L162** (19 June 1981) 4; Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (Athens, 1980). *Official Journal of the European Communities*, **L67** (12 March 1983) 1; and Protocol Concerning Mediterranean Specially Protected Areas (Geneva, 1982). *Official Journal of the European Communities*, **L68** (10 March 1984) 36.
113. Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Madrid, 1994). *Bulletin of the European Union*, **9** (1994) point 1.2.170.
 114. Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean (Barcelona, 1995); Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (Barcelona, 1995); and Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995). In *Final Act of the Conference of Plenipotentiaries on the Amendments to the Convention for the Protection of the Mediterranean Sea against Pollution, to the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft and on the Protocol Concerning Specially Protected Areas and Biodiversity in the Mediterranean, Barcelona, 9–10 June 1995, op. cit. Bulletin of the European Union*, **6** (1995) point 1.3.153.
 115. *Ibid.*
 116. Protocol on the Prevention of Pollution of the Mediterranean Sea Resulting from the Transboundary Movements of Hazardous Wastes and Their Disposal.
 117. UNEP/MAP, Second Meeting of Legal and Technical Experts to Examine Amendments to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Siracusa, Italy, 3–4 March 1996. *Proposed Amendments to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources*. UNEP, Athens, 1996.
 118. UNEP/MAP, Second Meeting of Legal and Technical Experts to Examine Amendments to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Siracusa, Italy, 3–4 March 1996. *Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities and Other Activities Relevant to the Process of Amendment of the LBS Protocol and Its Implementation: Information Paper by the Secretariat*. UNEP, Athens, 1996.
 119. Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II).
 120. Priority Fields of Activities for the Environment and Development in the Mediterranean Basin (1996–2005).
 121. UNEP, *Mediterranean Action Plan and Convention for the Protection of the*

Mediterranean Sea against Pollution and its Related Protocols. UNEP, Athens, 1992.

122. Kütting, G., Mediterranean pollution: international cooperation and the control of pollution from land-based sources. *Marine Policy*, **18** (1994) 233–247.

APPENDIX

List of acronyms

ACE	Action by the Community for the Environment
ACNAT	Action by the Community Relating to Nature Conservation.
BP/RAC	Regional Activity Centre for the Blue Plan
CAMP	Coastal Area Management Programme
CEC	Commission of the European Communities
CFP	Common Fishery Policy
CORDIS	Community Research and Development Information System
CORINE	Coordinated Information on the Environment
DG	Directorate-General
EC	European Community
EDMED	European Database on Marine Environmental Data
EEA	European Environment Agency
EEC	European Economic Community
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EIONET	European Information and Observation Network
ELOISE	European Land–Ocean Interaction Studies
ENEACRAM	Marine Environment Research Centre, National Agency for New Technologies, Energy and the Environment
ENV	Environment and Climate
ENVIREG	Community Initiative Concerning the Environment in the Regions
EPM	Environmental Programme for the Mediterranean
ERDF	European Regional Development Fund
ESF	European Social Fund
ETC	European Topic Centre
ETC/MC	European Topic Centre on Marine and Coastal Environment
EU	European Union
EUREKA	European Research Cooperation Agency

FAIR	Agriculture and Fisheries
FIFG	Financial Instrument for Fisheries Guidance
GIS	Geographical Information Systems
GOOS	Global Ocean Observation System
IDA	Interchange of Data between Administration
IGBP	International Geosphere–Biosphere Programme
IMP	Integrated Mediterranean Programme
INCO	Cooperation with Third Countries and International Organisations
INNOVATION	Dissemination and Optimization of Results
INTERREG	Community Initiative Concerning Border Regions
JRC	Joint Research Centre
LEADER	Link between Actions for the Development of the Rural Economy
LIFE	Financial Instrument for the Environment
LOICZ	Land–Ocean Interaction in the Coastal Zone
MAP	Mediterranean Action Plan
MAST	Marine Science and Technology
MCSD	Mediterranean Commission on Sustainable Development
MEDALUS	Mediterranean Desertification and Land Use
MED POL	Long-term Programme for Pollution Monitoring and Research in the Mediterranean
MEDSPA	Strategy and Plan of Action for the Protection of the Environment in the Mediterranean
METAP	Mediterranean Technical Assistance Programme
MIDA	Maritime Industrial Development Area
MTP	Mediterranean Targeted Project
NORSPA	Action to Protect the Environment in the Coastal Areas and Coastal Waters of the Irish Sea, North Sea, Baltic Sea and North-East Atlantic Ocean
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal of the European Communities
PAP/RAC	Regional Activity Centre for the Priority Actions Programme
R&D	Research and Development
TAC	Total Allowable Catch
TMR	Training and Mobility of Researchers
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme