



## **Geographical coverage and effectiveness of the UNEP Convention on the Mediterranean**

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### *ABSTRACT*

*The consideration of the regional scale, intended as a multi-national scale (grand espace according to the French terminology), has acquired political importance because of three factors:*

- 1. the adoption of a regional approach by the International Geosphere-Biosphere Programme (IGBP) and the emerging need for a similar approach within Human Dimensions of Environmental Global Change Programme (HDEGCP), briefly called Human Dimensions Programme (HDP);*
- 2. the recommendations by Agenda 21, United Nations Conference on Environment and Development (UNCED, 1992), to undertake sustainable development-aimed actions on all the scales, including the regional (multi-national) scale;*
- 3. the design and implementation of the Regional Seas Programme, United Nations Environmental Programme (UNEP), which for the first time has dealt with ocean management on the regional scale.*

*Moving from this basis, the Mediterranean region, i.e. the space extending from the Straits of Gibraltar to the Sea of Azov, has gained special geopolitical relevance, inter alia due to the geopolitical changes after the end of the cold war, the adoption of the UNEP Mediterranean Action Plan (1976) and its implementation (1995), in association with the Barcelona Convention (1976, amended in 1995), as well as the adoption of the Action Plan for the Black Sea (1994).*

*In this context two crucial issues will be considered: (1) the geographical coverage of the UNEP/MAP Convention on the Mediterranean Sea and its role for the management of natural resource uses; and (2) the membership geographical coverage by which the Convention and its related protocols have been characterised. The*

*combined analysis will lead us to focus on the efficacy of the Convention and the effectiveness of the subsequent political actions.*  
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## 1. THE DOUBLE TRACK OF THE MEDITERRANEAN CO-OPERATION

### 1.1. The UNEP action

Moving from the Regional Seas Programme,<sup>1</sup> in 1975 the Mediterranean Action Plan (MAP)<sup>2</sup> was launched at the conclusion of an inter-governmental meeting convened in Barcelona by the Executive Director of UNEP. Discussions focused on four main aspects:

1. integrated planning of the development and management of the resources of the Mediterranean basin;
2. co-ordinated programme for research, monitoring, exchange of information and assessment of the state of pollution and protection measures;
3. framework convention and related protocols for the protection of the Mediterranean environment;
4. institutional and financial implications of the Action Plan.

As its conclusion, the meeting recommended developing programmes not only to protect the environment but also to promote economic co-operation in those areas which were closely concerned with environmental management.

### 1.2. The Barcelona Convention

In 1976 the Mediterranean states convened in Barcelona and adopted the Convention for the Protection of the Mediterranean Sea against Pollution.<sup>3</sup> The Convention aimed at pursuing only pollution-related goals, namely, a subset of goals designed by the 1975 Conference from which the Mediterranean Action Plan arose. It was followed by the adoption of five protocols (Table 1).

As a consequence of these two events, both the initiatives carried out and the bodies established from that time belong either to one political track or the other, namely, the Action Plan or the Convention frameworks, according to the objectives they pursue and the legal contexts to which they relate. The two tracks are, of course, closely correlated (a breakdown is presented in Table 2).

In 1993 the Eighth Ordinary Meeting of the Contracting Parties to the Barcelona Convention decided that the Mediterranean co-operation

**TABLE 1**  
 Protocols of the Barcelona Convention

<i>Protocols</i>	<i>Adoption place</i>	<i>Adoption time/entering into force time</i>	<i>Re. 1976 Barcelona Convention</i>
Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft <i>Dumping Protocol</i>	Barcelona, Spain	1976/1978	Article 5
Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency <i>Emergency Protocol</i>	Barcelona, Spain	1976/1978	Article 9
Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources <i>Land-Based Sources Protocol</i>	Athens, Greece	1980/1983	Articles 4.2, 8, 15
Protocol concerning Mediterranean Specially Protected Areas and Biodiversity in the Mediterranean <i>Specially Protected Areas Protocol</i>	Geneva, Switzerland	1982/1986	No specific Article
Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Seabed and its Subsoil <i>Offshore Protocol</i>	Barcelona, Spain	1994/1995	Article 7

**TABLE 2**  
Initiatives carried out within and complementary to the Barcelona Convention and MAP

<i>Initiatives</i>	<i>Re. 1976 Barcelona Convention</i>	<i>Re. Protocols</i>	<i>Re. MAP<sup>a</sup></i>
Launching of MEDPOL monitoring and research programme	Articles 5, 6, 7, 8, 9, 10	Dumping Protocol	<i>Item II</i> (monitoring, information, assessment)
Combating pollution from emergency. Building up contingency planning	Articles 9, 10	Emergency Protocol	<i>Item III</i> (environmental protection)
Combating pollution from human onshore and offshore sources	Articles 4, 2, 8, 15	Land-Based Sources Protocol Offshore Protocol Hazardous Waste Protocol	<i>Item III</i> (environmental protection)
Establishing protected areas	No specific article is concerned	Specially Protected Areas Protocol <sup>b</sup>	<i>Item III</i> (environmental protection)
Carrying out coastal area management programmes	No specific article is concerned	No protocol was adopted	<i>Item I</i> (resource management)
Carrying out socio-economic investigations including the setting up of scenarios	No specific article is concerned	No protocol was adopted	<i>Item I</i> (resource management)

<sup>a</sup> References concern the four items listed at the beginning of this Section.

<sup>b</sup> In 1995 this protocol was amended and converted into the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

should conform to UNCED principles and guidelines, with special reference to Agenda 21.<sup>4</sup> According to that resolution and the subsequent work carried out on it, in June 1995 both the Ninth Ordinary Meeting and the Conference of Plenipotentiaries to the Barcelona Convention were held with the aim of moving from the existing, conventional approach to a new approach, consistent with the Agenda 21 and other materials from UNCED (1992), and aimed at pursuing sustainable development in the Mediterranean.<sup>5</sup> The Parties took two kinds of decision.

1. *Adoptions.* They adopted:
  - the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, conceived as the amendment of the 1976 Convention;
  - amended protocols of the Barcelona convention (Table 3).

**TABLE 3**

Decisions undertaken by the Meeting of Plenipotentiaries to the Barcelona Convention, Barcelona, 9–10 June 1995

<i>Subject</i>	<i>Decision</i>
Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean	Adoption as the amendment of the 1976 Convention
Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft	Amendment
Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean	Adoption as the amendment of the Protocol concerning Mediterranean Specially Protected Areas
Barcelona Resolution on the Environment and Sustainable Development in the Mediterranean Basin ( <i>inter alia</i> regarding the establishment of the Mediterranean Commission on Sustainable Development)	Adoption
Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas in the Mediterranean (MAP Phase II)	Adopted as Annex to the Barcelona Resolution
Priority Fields of Activities for the Environment and Development in the Mediterranean Basin (1996–2005)	Adopted as Annex to the Barcelona Resolution

2. *Acquisitions. Inter alia*, the following documents were regarded as leading the Mediterranean co-operation based on the new Convention:
  - the Mediterranean Action Plan Phase II,<sup>6</sup> presenting the initiatives which are expected to be carried out by the MAP Coordinating Unit from 1996 to 2005;
  - the Priority Fields, an extensive document illustrating the actions which will be regarded as being of primary relevance to the future policy;
  - the resolution on the establishment of the Mediterranean Commission on Sustainable Development;
  - the Agenda 21 for the Mediterranean (Agenda Med 21), which was agreed at the conclusion of an international (inter-governmental) conference in Tunis, November 1994.<sup>7</sup>

The whole set of resolutions adopted by the Conference of Plenipotentiaries to the Barcelona Convention<sup>8</sup> is presented in Table 3.

The pursuance of two categories of goals is self-evident when the role of adopted materials is considered. On the one hand, Agenda Med 21, as well as the MAP Phase II, are expected to give shape to a wide spectrum of co-operation areas which refer to the track of MAP initiated by the 1975 Conference. On the other hand, the newly-adopted Convention designed a framework of goals which are a subset of goals defined by Agenda Med 21. Once again two tracks can be identified: the first will consist of the conduct of states aimed at applying the Convention and its protocols; the second will consist of co-operation aimed at achieving extra-Convention goals perceived as relevant to sustainable development.<sup>9</sup> The main operational areas of the two tracks are presented in Table 4.

These two tracks will, of course, be complementary and are required to be pursued with close co-operation between states and UNEP, however, the initiatives included in the Convention-based track will be regarded by states as legally binding, while those included in the Agenda Med 21 track will be pursued by states only according to how they have perceived them as tailored to their needs. This difference is relevant in political terms and could influence the global efficacy of the Mediterranean co-operation, as well as the efficiency of the MAP system.

The newly-adopted Convention designs a set of goals requiring closer co-operation between states, as well as between states and inter-governmental organisations, than those designed by the 1976 Convention.<sup>10</sup> In this view three core issues arise:

1. *The geographical coverage*—the role of the geographical coverage of the Convention, intended as the geographical area to which the

TABLE 4

Main operational areas arising from the sustainable development-aimed approach to Mediterranean co-operation

<i>Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean<sup>a</sup></i>	<i>Agenda Med 21<sup>b</sup></i>
Integrated coastal area management	Protection of atmosphere from pollution with special reference to urban and industrial sites
Protection of biodiversity	Forest management Desertification management Water management Technological transfer

<sup>a</sup> All the operational areas included in the 1995 Convention are also included in the Agenda Med 21 adopted in 1994, Tunis.

<sup>b</sup> Only the operational areas not included in the implemented Convention are mentioned. The structure of Agenda Med 21 is similar to that of the UNCED Agenda 21.

Convention is applied, is more important in the 1995 framework than in the 1976 one. The main reason is that now the basic goal is the protection of the Mediterranean environment referring to the ecosystem, which requires that the geographical coverage covers the extent of the Large Mediterranean Ecosystem (LME), regarded as the combination of the ocean ecosystem and a set of the coastal and island ecosystems surrounding it.

2. *The geographical membership area*—protection of the LME requires all Mediterranean states to adopt the Convention and its related protocols. As a consequence, the geographical membership area, intended as that part of the Mediterranean consisting of the territories and maritime jurisdictional zones of the member states to the Convention system, is to be considered as a measure of the Convention's efficacy.
3. *The effectiveness of the Convention/MAP system*—this is a crucial issue.<sup>11</sup> In this framework the need to measure the capability of producing the effects designed by the Convention and its protocols through the speediness with which these legal tools are adopted and ratified is well motivated. The shorter the timing gap existing between the adoption and ratification, the greater the effectiveness.

Attention will be focused on these three aspects.

## 2. THE GEOGRAPHICAL COVERAGE OF THE 1976 AND 1995 CONVENTIONS

The 1976 Convention defined the Mediterranean Sea Area (MSA) as coincident with the Mediterranean Sea in the hydrographic sense. As a consequence, the geographical coverage of the Convention was designed as consisting only of water bodies (Table 5). In addition, internal waters were excluded by the coverage, in order not to interfere with belts to which the sovereignty of states extends. As a result, the geographical coverage of that Convention was concerned with high seas and the existing maritime national jurisdictional zones.

As presented in Table 6, the geographical coverages of the five protocols mentioned in Table 1 are not all coincident with that defined by the Convention. This breakdown demonstrates that as the implementation of the Convention advanced, the need to design the MSA emerged and

**TABLE 5**

The geographical coverages according to the 1976 and 1995 Conventions

<i>Convention for the Protection of the Mediterranean Sea Against Pollution, 1976</i>	<i>Convention on the Environment and Development in the Mediterranean Sea Area, 1995</i>
<p>Article 1. Geographical Coverage</p> <ol style="list-style-type: none"> <li>1. For the purposes of this Convention, the Mediterranean Sea Area shall mean the Maritime waters of the Mediterranean Sea proper, including its gulfs and seas, bounded to the west by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar, and to the east by the southern limits of the Straits of the Dardanelles between Mehmetcik and Kumkale lighthouses.</li> <li>2. Except as may be otherwise provided in any protocol to this Convention, the Mediterranean Sea Area shall not include internal waters of the Contracting Parties.</li> </ol>	<p>Article 1. Geographical Coverage</p> <ol style="list-style-type: none"> <li>1. For the purposes of this Convention, the Mediterranean Sea Area shall mean the Maritime waters of the Mediterranean Sea proper, including its gulfs and seas, bounded to the west by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar, and to the east by the southern limits of the Straits of the Dardanelles between Mehmetcik and Kumkale lighthouses.</li> <li>2. The application of the Convention may be extended to coastal areas as defined by each Contracting Party within its own territory.</li> <li>3. Any protocol to this Convention may extend the geographical coverage to which that particular protocol applies.</li> </ol>



**TABLE 6**  
The Mediterranean Sea Area, as defined by the protocols of the 1976 Barcelona Convention

<i>Protocol years of adoption/entry into force</i>	<i>Definition of the Mediterranean Sea Area</i>	<i>Re. Convention articles</i>
Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft 1976/1978	Article 2. The area to which this Protocol applies shall be the Mediterranean Sea Area as defined in article 1 of the Convention	Article 5
Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency 1976/1978	Article 1. The Contracting Parties to this Protocol shall cooperate...within the area defined in article 1 of the Convention	Article 9
The Protection of the Mediterranean Sea Against Pollution from Land-Based Sources 1980/1983	Article 3. The area to which this Protocol applies...shall be: (a) The Mediterranean Sea Area as defined in article 1 of the Convention; (b) Waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending in the case of watercourses, up to the freshwater limit; (c) Saltwater marshes communicating with the sea.	Articles 4.2, 8, 15
Mediterranean Specially Protected Areas 1982/1986. In 1995 this protocol was amended and converted into the 'Protocol on Specially Protected Areas and Biodiversity in the Mediterranean'	Article 2. For the purposes of the designation of specially protected areas...the area to which this Protocol applies shall be the Mediterranean Sea Area as defined in article 1 of the Convention...; it being understood that, for the purposes of the present Protocol, it shall be limited to the territorial waters of the Parties and may include waters on the landward side of the baseline from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit. It may also include wetlands or coastal areas designated by each of the Parties.	No specific article
The Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil 1994/(not yet determined)	Article 2. Geographical Coverage. 1. The area to which this Protocol applies...shall be: (a) The Mediterranean Sea Area as defined in Article 1 of the Convention, including the continental shelf and the seabed and its subsoil; (b) Waters, including the seabed and its subsoil, on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit. 2. Any of the Contracting Parties to this Protocol...may also include in the Protocol area wetlands or coastal areas of their territory. 3. Nothing in this Protocol, nor any act adopted on the basis of this Protocol, shall prejudice the rights of any State concerning the delimitation of the continental shelf.	Article 7

exerted growing influence. That process had developed through three phases.

### **2.1. Initial phase—second half of the 1970s**

The two protocols, which were designed to deal with dumping and pollution caused by emergencies, and were adopted contextually in the adoption of the Convention, were based on the marine Mediterranean area. As a consequence, the geographical coverage defined by Article 1 of the Convention was also extended to these protocols.

### **2.2. Development phase—1980s**

The progress in co-operation led the Mediterranean states to agree on the criteria necessary to tackle the most binding issue of pollution, namely, that provoked by land-based sources. In the meantime the need to conserve endangered or fragile local ecosystems led to the designing of a programme for the special protected areas. Both needs required that areas extending landward from the baselines, normal and straight, be considered, including both the internal waters and land areas. Nevertheless, to derogate as little as possible from the Convention, both the relevant protocols defined their geographical coverage as consisting of MSA plus the waters extending landward from the baselines but within the fresh-water limit of the watercourses.

### **2.3. Maturity phase—the 1990s**

While the perception of the need to re-orient the Mediterranean co-operation towards sustainable development-inspired goals was diffusing, another step along the path derogating from the Convention coverage was made. This occurred by the adoption of the protocol on offshore exploration and exploitation. Not only was the geographical coverage concept adopted including the salt areas extending landward from the baselines, but also the possibility of including coastal areas (i.e. land areas and wetlands, salt and fresh areas) was conferred to states. As a result of this, for the first time the operational area of the Convention was thought of as a combination of marine bodies, freshwaters and land. In addition, this area was designed as sufficiently agile to meet the needs of individual states.

As a final result, this process demonstrates that the geographical coverage of the Convention, as concerned only with marine bodies, was not tailored to the objectives that the Convention itself defined and

would have frustrated the Mediterranean co-operation if a derogating attitude had not materialised during the 1980s. That experience led to a different design of MSA when the 1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean was adopted. As is evident from Table 5, UNEP/MAP was able to persuade the Mediterranean states to determine a geographical coverage exempt from being affected by the above mentioned constraints and consistent with the broad objective of co-operation, since the newly-designed MSA extends landward including:

- the coastal area, the extent of which is not determined by the Convention and is unlikely to be by subsequent protocols, it being stated that its delimitation will be made through national provisions;
- where needed for special purposes, also areas extending landward from the inland limit of the coastal area.

As far as the marine environment is concerned, it is rich in the political sense that while the 1976 Convention was referred only to sea-surface and water column, the geographical coverage of the 1995 Convention system also includes the seabed and its subsoil (with reference to the protocol on offshore activities). As a final result, the Mediterranean co-operation carried out under the umbrella of the Convention will be able to cover all the abiotic components of LME.

### 3. THE MEMBERSHIP GEOGRAPHICAL COVERAGE

The geographical coverage of the Convention is to be considered in relation to the geographical coverage consisting of the land areas and associated national maritime jurisdictional zones of the member states. The former coverage results from the Convention itself. In this sense the Mediterranean Sea Area (MSA) embraces all the Mediterranean basin. It is regarded as a geographical coverage consistent with the objective that the Convention intends to pursue, namely, the sustainable development of the Mediterranean. The latter coverage, which could be referred to as the Convention Membership Geographical Coverage (CMGC),<sup>12</sup> consists of the territories of the states which adopted the Convention and could be regarded as a measure of the extent to which the states are inclined to conform their policy to the Convention. Only when the geographical

coverage of the Convention, i.e. MSA, coincides with CMGC will a perfect geopolitical framework exist, because then the sustainable development of the whole LME is possible.

This contributes to evaluate the Convention effectiveness, namely whether the Convention system has been able to produce the desired effects. In the case of the Mediterranean it is useful to consider: (1) how many states in 1976 adopted the Convention for the Protection of the Mediterranean Sea against Pollution; and (2) how many states joined them during the life cycle of that legal tool. The number of member states of the 1995 Convention is a set resulting from the sum of these two subsets.

In 1976 the Convention was adopted by 15 states, including Libya, which joined the Contracting Parties in early 1977. The Convention was not adopted by Albania, Algeria and Syria. At that time 18 states existed in the Mediterranean Area.<sup>13</sup> The European Economic Community (EEC) joined the Parties in 1978. In 1995, all 20 existing Mediterranean states adopted the Convention.

On this basis the evolution of the geographical coverage can be measured by the Convention Membership Geographical Coverage (CMGC) indicator, which is expressed as follows:

$$\text{CMGC} = \frac{n_t : n_1}{N_t : N_1}$$

where

- $n_1$  and  $n_t$  represent the member states of the Convention in the year when it was adopted and the year which is considered for analysing its evolution, respectively;
- $N_1$  and  $N_t$  represent the Mediterranean states existing in the year when it was adopted and the year which is considered for analysing its evolution, respectively.

In the case of the Mediterranean the initial year is 1976 and the most significant is 1995, when the new Convention was adopted as the amendment of the existing one.<sup>14</sup>

The indicator has a twofold significance: static and dynamic. The static significance emerges by comparing:

- $n_1$  and  $N_1$ : when  $n_1 = N_1$  it means that the Convention was initially adopted by all the states existing in the area; as a result, a perfect membership geographical coverage characterised the initial phase of the Convention evolution;
- $n_t$  and  $N_t$ : when  $n_t = N_t$  it means that a perfect membership geographical coverage at the moment  $t$  exists.

Thus when:

- $n_1 < N_1$  and  $n_t < N_t$ , an imperfect membership geographical coverage has characterised all the evolution of the Convention;
- $n_1 < N_1$  and  $n_t = N_t$ , the membership geographical coverage was not perfect in the initial stage of the Convention and the lack was made up for afterwards.

The dynamic significance emerges from the values assumed by the Convention Membership Geographical Coverage (CMGC) during the evolution of the Convention. When the  $CMGC = 1$  it means that all the states existing in MSA, both in the initial and final moments, were members of the Convention. In other words, the membership geographical coverage was perfect when the Convention was adopted and it has kept itself so. When  $CMGC > 1$  it means that, in terms of accessions, the Convention has progressed because the states which acceded to the Convention after its adoption were more numerous than the number of the new states which have been created in the meantime. When  $CMGC < 1$  it means that the Convention has evolved less speedily than the geopolitical evolution in the area, because some states withdrew, or new states were born and did not adopt the Convention. Considering the Convention on the Mediterranean and taking into account the 1976–1995 period:

$$CMGC_{(1976-1995)} = \frac{n_{1995} \cdot n_{1976}}{N_{1995} \cdot N_{1976}};$$

$$CMGC_{(1976-1995)} = \frac{20:15}{20:18} = \frac{1.33}{1.11} = 1.19.$$

This value shows that initially the Convention had an imperfect membership geographical coverage and has progressed during its life cycle: the number of states (five) which acceded to it after its adoption was more numerous than that of states (three) which were created in the meantime (Croatia, Slovenia and Bosnia–Erzegovina, as a result of the collapse of Yugoslavia). This reflects the geopolitical improvement of the Convention as a result of two circumstances: (1) during the 1980s the Arab states, which did not adopt the Convention initially, became Parties; and (2) in the early 1990s as Yugoslavia collapsed the new states acceded to the Convention immediately.

To evaluate the effectiveness of the Convention system the membership geographical coverage of its related protocols should also be evaluated. In

this case the Protocol Membership Geographical Coverage (PMGC) indicator can be employed. The perfect coverage of the Convention machinery occurs when  $PMGC = 1$  for all the protocols, namely where all the states adopted all the protocols at the moment they were adopted by the Meeting of the Contracting Parties. The membership geographical coverage has improved during the life cycle of the Convention when  $PMGC > 1$  for all the protocols or some of them, because this indicates that all or a part of states which did not adopt the protocols at the beginning, did so afterwards.

Bearing that in mind the indicators can be calculated for all the protocols listed in Table 2 except the protocols on seabed and subsoil exploration and exploitation, and hazardous waste, since they were adopted too recently to be included in this reckoning. As a result, the basis to which estimation can be referred is presented in Table 7.

Applying the formula proposed above the following breakdown of values referring to the protocols, as well as that referring to the Convention, is presented in Table 8.

These values demonstrate that the Mediterranean states did not find it difficult to adopt measures to prevent or mitigate marine pollution, while they have been quite reluctant to protect the environment through actions in the coastal area, involving land settlements and ecosystems.

**TABLE 7**  
Designation of the protocol membership geographical coverage

<i>Protocols</i>	<i>Indicators</i>	<i>Years of reference</i>	
		<i>Initial</i>	<i>Final</i>
Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft	$P_dMGC$	1976	1995
Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency	$P_oMGC$	1976	1995
Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources	$P_lMGC$	1980	1995
Protocol concerning Mediterranean Specially Protected Areas	$P_pMGC$	1982	1995

**TABLE 8**  
Indicators of membership geographical coverage

<i>Convention and Protocols</i>	<i>Values of the indicators of membership geographical coverage</i>
Convention for the Protection of the Mediterranean Sea Against Pollution/Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean	$CMGC_{(1976-1995)} = \frac{20:15}{20:18} = \frac{1.33}{1.11} = 1.19$
Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft	$P_dMGC_{(1976-1995)} = \frac{20:15}{20:18} = \frac{1.33}{1.11} = 1.19$
Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency	$P_oMGC_{(1976-1995)} = \frac{20:15}{20:18} = \frac{1.33}{1.11} = 1.19$
Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources	$P_lMGC_{(1980-1995)} = \frac{18:12}{20:18} = \frac{1.50}{1.11} = 1.35$
Protocol concerning Mediterranean Specially Protected Areas	$P_pMGC_{(1982-1995)} = \frac{18:11}{20:18} = \frac{1.63}{1.11} = 1.46$

This is self-evident considering that the initial membership geographical coverage was much wider for the protocols concerned with dumping and pollution due to emergencies than in the protocols concerned with land-based sources and specially protected areas. The latest protocols (land-based sources and protected areas) were characterised by an initial, more restricted membership geographical coverage—demonstrating a lack of interest or reluctance by the states—but have since gained some states, acceded to them in recent years. In spite of this, their present geographical coverage is not perfect, since in 1995 two states (Lebanon and Syria) were not yet Parties.

#### 4. THE EFFECTIVENESS OF THE CONVENTION SYSTEM

As has been stated beforehand, the effectiveness of the Convention system, namely, its capacity to produce desired effects, can be evaluated considering the time which passed between the adoption of the legal tools

and the production of consequences. In this respect the following moments of the legal process are relevant:

- the *adoption* of the Convention by the Conference of the Plenipotentiaries, as well as its related protocols by the Meetings of the Contracting Parties;
- the *signing* of the Convention, or its related protocols, by states; this could occur when the Convention or the protocol is adopted, or afterwards;
- the *ratification* of the Convention, or its protocols, by the states which have signed it;
- the adoption by states of the *domestic measures* necessary to make the provisions of the Convention, or protocol, operational within the national administrative framework.

The best analysis would consist of comparing the time from the adoption of the Convention to its implementation by states, but this is quite difficult since it requires the national legal and administrative machinery of each state to be taken into account in detail. Therefore, attention could be centred on the moments of ratification and the initial adoption of the Convention.

In this respect the following elements are relevant:

- $N$  the number of states which were Parties to the Convention in its last year (in this case 1995);
- $T$  the year when the Convention was adopted by the Conference of Plenipotentiaries (in this case 1976);
- $t$  the year when the single state ratified (or approved, or acceded to) the Convention.<sup>15</sup>

Based on these elements the Convention Time Effectiveness (CTE) is expressed by the formula:

$$\text{CTE} = \frac{\sum_1^N (t - T)}{N}.$$

In this framework CTE expresses the mean time from the adoption of the Convention by the Conference of Plenipotentiaries to the ratification (or approval, or accession to) by the states which, at year  $t$ , had the status of Contracting Party. The lesser the CTE, the greater the Convention's effectiveness. This is the value of CTE:

$$\text{CTE} = \sum_1^{20} \frac{(t - T)}{N} = \frac{57}{20} = 2.85.$$



Extending the procedure to the protocols (Table 9), this comprehensive framework emerges.

**TABLE 9**  
Convention and protocol—time effectiveness indicator

<i>Protocols</i>	<i>Year of adoption</i>	<i>Number of member states in 1995</i>	<i>Time effectiveness indicator</i>
Convention for the Protection of the Mediterranean Sea Against Pollution	1976	20	$CTE = \sum_1^{20} \frac{(t-T)}{N} = \frac{57}{20} = 2.85$
Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft	1976	20	$P_dTE = \sum_1^{20} \frac{(t-T)}{N} = \frac{62}{20} = 3.1$
Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency	1976	20	$P_0TE = \sum_1^{20} \frac{(t-T)}{N} = \frac{56}{20} = 2.8$
Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources	1980	18	$P_1TE = \sum_1^{18} \frac{(t-T)}{N} = \frac{115}{18} = 6.3$
Protocol concerning Mediterranean Specially Protected Areas	1982	18	$P_pTE = \sum_1^{18} \frac{(t-T)}{N} = \frac{85}{18} = 4.6$

This breakdown demonstrates that, as far as effectiveness is concerned, the Convention system passed through two phases, which can be designated as take-off and maturity, during which the states adopted different approaches to the Mediterranean co-operation.

The take-off phase was characteristic of the second half of the 1970s. The Mediterranean states, being aware of the need to combat pollution, adopted the Convention and protocols on dumping and emergencies immediately and were able to ratify them in about 3 years. This means that the adoption of measures to tackle the emerging needs of environmental protection was very effective.

The maturity phase emerged in the 1980s and was characterised by effectiveness two to three times less than that of the take-off phase, since the mean period to ratify the protocols on land-based sources and special area protection required about five years and in some cases more than six years. The most significant aspect is that the least effective part related to

land-based sources, namely, the most important cause of pollution. Low effectiveness, which characterised the protocol on specially protected areas, demonstrates that at least during the 1980s the more the prospect of pursuing conservation emerged the less states were reluctant. This could be a premonition of reluctance which could influence political behaviour.

## 5. CONCLUSION

In recent times literature on regional seas management has focused on the effectiveness of the co-operation mechanisms<sup>16</sup> designed, built up and experienced within the UNEP Action Plans<sup>17</sup> and in the framework of the new sustainable development-aimed regional Convention system. In this view the Mediterranean Sea, playing a pilot role for the evolution of the UNEP Regional Seas Programme—based on the integrated development of Action Plans and Conventions—has been assumed as an important case study to carry out investigations on effectiveness.<sup>18</sup>

The indicators which, in the present contribution, were presented and applied to the Mediterranean have an experimental role, namely, that of assessing the effectiveness of a regional programme and carrying out comparisons between regional seas. They are only based on the geographical coverage concept and the legal process, starting with the adoption of a legal tool (the Convention and its related protocols) and evolving with the accession and ratification by states.

This is only a specific point of view, which leads only to a partial picture of what is to be intended as the effectiveness of the Convention/protocols system. As a result, it has a potential complementary role *vis-à-vis* the indicators based on other elements, such as those concerned with specific sectors, e.g. ecological, economic and social. The more the goal framework and the subsequent legal system on the management of regional seas become complicated, the greater the need to deal with the effectiveness of policies and actions.

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12. The evolution of the Convention and Protocols membership is presented in: UNEP, *Status of Regional Agreements Negotiated in the Framework of the Regional Seas Programme, Rev. 4*, UNEP, Nairobi, 1994.
13. Until the Eighth Ordinary Meeting of the Barcelona Convention (1993), the member states of the Convention were: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Spain, Syria, Tunisia, Turkey, Yugoslavia. The EEC was considered as a member. The Eighth Ordinary Meeting nominated Croatia, Slovenia and Bosnia–Erzegovina as member states replacing Yugoslavia. The initial membership is presented in: UNEP, *Mediterranean Action Plan and Convention for the Protection of the Mediterranean Sea against Pollution*. UNEP, Nairobi (no date), p. 4. Scovazzi, T., Management regimes and responsibility for international straits: with special reference to the Mediterranean Straits. *Marine Policy*, **19**(2) (1995) 146 and note 35: according to Scovazzi, the UK is to be considered as a Mediterranean state 'as regards Gibraltar and the two Sovereign Base Areas of Akrotiri and Dhekelia on the

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## APPENDIX

### List of acronyms

CMGC	Convention Membership Geographical Coverage
CTE	Convention Time Effectiveness
HDEGCP	Human Dimensions of Environmental Global Change Programme
HDP	Human Dimensions (of Environmental Global Change) Programme
IGBP	International Geosphere–Biosphere Programme
LME	Large Mediterranean Ecosystem
MAP	Mediterranean Action Plan
MSA	Mediterranean Sea Area
PMGC	Protocol Membership Geographical Coverage
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme