

## **PREVENTION OF OFFSHORE POLLUTION IN THE MEDITERRANEAN SEA**

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### **ABSTRACT**

The Mediterranean Coastal States and the European Community have adopted several international political and legal instruments for the protection of the Mediterranean Sea Area against pollution. Thus, they have created a regional environmental system that has inspired other regional agreements all over the world under the auspices of the United Nations Environment Programme<sup>3</sup>. In this paper, I shall study all the legal and political measures adopted at a regional level to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil.

### **KEYWORDS**

International Environmental Law; regional co-operation; Mediterranean Sea; offshore pollution.

### **INTRODUCTION**

One of the less internationally regulated sources of marine pollution is pollution resulting from exploration and exploitation of the continental shelf, the seabed and its subsoil, also known as offshore pollution. The only international treaty of world-wide scope dealing directly with this source of marine pollution is the United Nations Convention on the Law of the Sea, adopted at Montego Bay, on 10 December 1982. But the provisions contained in its Articles 194, 208 and 214 do not provide for any substantive measure to prevent, reduce and control pollution of the marine environment arising from or in connection with sea-bed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdictions.

These provisions only establish the general duty of coastal States to take, individually or jointly as appropriate, all measures that are necessary to prevent, reduce and control pollution from installations and devices used in exploration or exploitation of the natural resources of the sea-bed and its subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design construction, equipment, operation and manning of such installations or devices.

However, the United Nations Convention on the Law of the Sea does not settle down a single concrete measure towards that aim.

It is true that, at a regional level, these provisions have already been implemented in different international regional agreements, some of which have already entered into force, such as: the Protocol for the Persian or Arab Gulf dealing with pollution resulting from exploration and exploitation of the continental shelf and the sea-bed and its subsoil, done at Kuwait on 29 March 1989; the Convention for the protection of the Baltic Sea, done at Helsinki on 9 April 1992; and the Convention for the Protection of the Marine Environment of the North-East Atlantic, done at Paris on 22 September 1992 (Juste, 1993a). Other international treaties on this subject have not entered into force, and it still remains quite impossible that they will do so in the near future, such as the Convention on civil liability for oil pollution damage resulting from exploration for and exploitation of sea-bed mineral resources, done at Paris on 4 June 1974 (De Yturriaga, 1977) or the Convention for the regulation of activities related to Antarctic mineral resources, done at Wellington on 2 June 1988 (Bermejo and Bou, 1992). But, in any case, these regional conventions have no meaning at all for the Mediterranean. Therefore, in this paper I am going to study exclusively the Mediterranean legal and political instruments on offshore pollution, because it is in this geographical area where the newest measures on this topic have been adopted.

We must also bear in mind some data related to this source of marine pollution in the Mediterranean Sea Area (UNEP, 1996). At present, the extraction of oil and gas in the Mediterranean, for energy and for chemical transformation, is the most important submarine activity. It takes place off the eastern Spanish coast, the eastern Italian coast, in the Gulf of Taranto, off southern Sicily, the Ionian Sea and northern Aegean Sea coasts of Greece, off Egypt, Libya, eastern Tunisia, and off eastern Algeria.

Submarine mining in the Mediterranean comprises mainly drilling for oil and gas and dredging of gravel and sand. In fact, most sea-bed mining is more costly than land mining, so that this particular type of activity is at a relatively early stage of development. The narrow continental shelf in the Mediterranean also limits the possibilities for sea-bed mining. A special form of marine mining is salt extraction by evaporation in coastal salt beds.

Sea-bed mining, if it becomes widespread, and specially if some of the industrial processing is done at sea, may become important because of the discharge of waste rock dust into the sea to create significantly increased turbidity or increased concentrations of elements that are normally rare in sea water but become toxic at higher concentrations.

Such extraction adversely affects benthic organisms by destroying habitats and damaging spawning grounds of demersal and other fishes; it also interferes with trawling and other bottom-fishing methods; however the duration of the effects, once sea-bed mining has ceased, is relatively short. The main effects of oil on marine waters are due to: direct discharge, intentionally or accidentally, leading to such problems as the tarring of marine animals, notably seabirds and marine mammals, and of fishing gear, degradation of beach quality, if the oil comes ashore, and the tainting of seafood.

The mining of oil and geothermal energy often leads to the production of dirty water which, at best, degrades the quality of marine waters and the effluents of thermal power plants may contain toxic substances that contaminate the waters, fresh or marine, depending on the sites receiving these effluents. In areas of oil exploitation, once the exploratory drilling phase is over, and the production platforms are in place, fishing is only likely to be seriously affected if these platforms are closely spaced, so that a substantial area of sea bed is closed to fishing; however, such "platform parks" may provide a haven for the fish, and thus eventually increase recruitment to the fished stock. Platform accidents, leading to discharge of substantial quantities of oil into the sea, are more likely to have adverse effects on human activities such as tourism and fishing.

## HISTORICAL BACKGROUND

### **The former system for the protection of the Mediterranean Sea Area**

Since the adoption of the Mediterranean Action Plan in Barcelona, on 4 February 1975 (UNEP, 1992a) <sup>4</sup>, the coastal States of the Mediterranean Sea and the European Community, in close collaboration with the UNEP, have successfully co-operated on a regional basis in order to protect the marine environment of this semi-enclosed sea. As a result of this regional co-operation, the Barcelona system for the protection of the Mediterranean Sea was built, being integrated by several political and legal instruments (UNEP, 1992b), that have evolved with time (Juste, 1993b). The Barcelona legal system for the protection of the Mediterranean Sea has been characterised as a "framework approach" (De Yturriaga, 1979). It is composed of a framework Convention, that is, the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 <sup>5</sup>, laying down the basic general rules and obligations, and several complementary Protocols covering specific sectors of marine pollution.

While the 1975 MAP did not say a single word on offshore pollution, at least the 1976 Barcelona Convention contained an Article 7, entitled Pollution resulting from exploration and exploitation of the continental shelf and the sea-bed and its subsoil. This Article 7 stated that the Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the sea-bed and its subsoil. This was a very general undertaking, drafted in soft legal terms, given that the 1976 Barcelona Convention was intended to act as a framework for further legal developments. Nevertheless, it expressed the general agreement of the Contracting Parties to prevent, abate and combat offshore pollution. At the same time, it must be highlighted that its Article 4.-2 provided for international co-operation among the Contracting Parties in the formulation and adoption of additional Protocols prescribing agreed measures, procedures and standards for the implementation of the 1976 Barcelona Convention.

The implementation of the general undertaking concerning offshore pollution only could take place after lengthy international negotiations (Gutierrez, 1987; Sersic, 1988, 1989; Vukas, 1988). In fact, nearly twenty years were needed before an Offshore Protocol could be adopted, being the last Protocol in implementing a specific source of marine pollution ruled down by the 1976 Barcelona Convention.

Preparatory work for the adoption of an Offshore Protocol began in 1978 (Treves, 1978). In 1978, the International Juridical Organisation <sup>6</sup> promoted and held a seminar on offshore exploration and exploitation, treating in an interdisciplinary approach both the legal and technical aspects involved, for which numerous studies were prepared. These studies were submitted to the Meeting of Experts on the Legal Aspects of Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil. This Meeting of Experts was convened both by the IJO and the UNEP and it was held in Rome, from 11 to 15 December 1978. In this Meeting, the guidelines for a future Protocol were adopted on the basis of the recommendations prepared by the IJO Advisory Committee (IJO/UNEP Joint Project n° FP/1400-77-02 (1352)).

After this Meeting, the negotiations were nearly frozen. The Fourth Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its related Protocols, held in Genoa from 9 to 13 September 1985, seems to have been a major turning point as its Recommendation A.6 requested the UNEP's Co-ordinating Unit for the Mediterranean Action Plan to initiate the preparations for an Offshore Protocol (UNEP/IG.56/5). Accordingly, from 22 to 26 September 1986 UNEP convened in

Athens a Technical Consultation on Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil (UNEP/WG.155/1).

This Meeting both reviewed the main issues to be included in the proposed Offshore Protocol in order to secure adequate protection of the marine environment in the Mediterranean Sea, and a guide to exploration for and exploitation of natural oil and gas resources of the Mediterranean Sea-bed was also considered. On the basis of all these preparatory works, the IJO prepared the Draft Offshore Protocol (UNEP/IG.74/Inf.9) and it was presented to the Fifth Ordinary Meeting of the Contracting Parties, held in Athens in September 1987, which decided that the Draft Offshore Protocol should be reviewed by the national authorities and asked them to send their comments to the Secretariat by the end of 1989. On the basis of these comments, the Sixth Ordinary Meeting of the Contracting Parties (Athens, 3-6 October 1989) decided to convene a Working Group of Experts nominated by the Contracting Parties that met in Athens from 7 to 11 May 1990. The Meeting of this Working Group of Experts reviewed the Draft Offshore Protocol in depth and amended it, leaving several provisions within brackets for further negotiation (UNEP(OCA)/MED WG.15/4).

In fact, three additional Meetings of the Working Group of Experts on the Draft Offshore Protocol ought to take place in Athens, from 8 to 11 January 1991 (UNEP(OCA)/MED WG.18/4); in Cairo, from 4 to 5 October 1991 (UNEP(OCA)/MED WG.30/4); and in Madrid, from 11 to 12 October 1994 (UNEP(OCA)/MED WG.81/1) before the Conference of Plenipotentiaries for the adoption of this Protocol could be convened in Madrid, from 13 to 14 October 1994, where the 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 was adopted in Madrid, on 14 October 1994 (UNEP(OCA)/MED IG.4/4; Scovazzi, 1994)<sup>7</sup>.

#### **The 1995 Revision Process of the Mediterranean system**

At the Eighth Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and Its Related Protocols, held in Antalya, Turkey, from 12 to 15 October 1993, the Contracting Parties decided to begin a revision process of the whole Barcelona system for the protection of the Mediterranean Sea in order to update these political and legal instruments and to adjust them to the new environmental trends that had appeared after the celebration of the United Nations Conference on Environment and Development.

After convening several Meetings of Legal and Technical Experts, and during the twentieth anniversary since the adoption of the 1975 MAP, the revision process ended at the Conference of Plenipotentiaries that was held in Barcelona, from 9 to 10 June 1995 (UNEP(OCA)/MED IG.6/7), where new political and legal instruments were adopted (Bou, 1995, 1996a, 1996b, 1997; Juste, 1995; Scovazzi, 1996; Badenes, 1997; Bou and Badenes, in press). Although none of these new political and legal instruments is exclusively devoted to the problem of protecting the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil, references to this issue can be found both in the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) and in the 1995 amendments to the 1976 Barcelona Convention (UNEP, 1995)<sup>8</sup>.

*The Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II).*

The Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) devotes its whole Subsection I.3.2.2.(d) to the prevention and control of the pollution of the marine environment resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil. Offshore activities are recognised as an important potential source of pollution for the Mediterranean. In particular, exploration, rig construction, drilling mud, water discharge, operational oil discharges, loading and accidents are considered as realistic threats to the Mediterranean marine environment.

The objective of this component of the new MAP Phase II is the protection of the Mediterranean marine environment from all forms of pollution resulting from offshore activities. Although it is expressly stated that this objective will be met through specific activities arising from the provisions of the 1994 Madrid Offshore Protocol, there are also additional indications of activities to be carried out in order to achieve the stated objective of this political arrangement. On the one hand, the activities that must be carried out at a regional level are both the promotion of co-operation among Contracting Parties, with the assistance of competent regional or international organisations, to formulate and implement programmes of assistance to developing countries including training of personnel and acquisition of appropriate equipment; and the formulation and adoption of common standards for the disposal of oil and oily mixtures and for the use and disposal of drilling fluids and drill cuttings. On the other hand, at a national level, the activities scheduled for the forthcoming years in this field consist both in monitoring the effects of the activities on the environment through the creation of national monitoring programmes; and in organising research studies and programmes enabling the carrying out of these activities with minimum risk of pollution.

*The 1995 Amendments to the Barcelona Convention.* Several provisions of the 1995 Amended Barcelona Convention may have some importance for the 1994 Madrid Offshore Protocol, such as the new definition of both the general provisions and the general obligations provided for by its Articles 3 and 4. But the only provision dealing directly with offshore activities is the amended Article 7, which still is entitled as "Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil". The new amended Article 7 states that the Contracting Parties shall take all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil. If we compare the former Article 7 of the 1976 Barcelona Convention with the new Article 7 of the 1995 Amended Barcelona Convention, we can see that the main difference between them consists in that the objective of adopting measures "to prevent, abate and combat" offshore pollution has been replaced by a more radical one: to adopt measures "to prevent, abate, combat and to the fullest possible extent eliminate" offshore pollution of the Mediterranean Sea Area. The wording of the amended Article 7 is the legal set formulae that has appeared after the United Nations Conference on Environment and Development and it mainly insists on the need of eliminating pollution as far as possible. In fact, as we will see it immediately, the Article 7 of the 1995 Amended Barcelona Convention has also broadened the general undertaking of the 1994 Madrid Offshore Protocol.

## **THE 1994 MADRID OFFSHORE PROTOCOL**

As it is stated by the Preamble of the 1994 Madrid Offshore Protocol, the Contracting Parties adopted this Protocol because they bore in mind the increase in the activities concerning exploration and exploitation of the Mediterranean seabed and its subsoil; they recognised that the pollution which may result therefrom represents a serious danger to the Mediterranean environment and to human beings; and they were desirous of protecting and preserving the Mediterranean Sea from pollution resulting from exploration and exploitation activities.

In order to reach this aim, the general undertakings provided for by the 1994 Madrid Offshore Protocol consist in that the Parties shall take, individually or through bilateral or multilateral cooperation, all appropriate and necessary measures to prevent, abate, combat and control pollution in the Protocol Area resulting from activities. These objectives could be reached, *inter alia*, by ensuring that the best available techniques, environmentally effective and economically appropriate, are used for this purpose (Article 3).

These general undertakings deserve the three following comments. First, the Contracting Parties to the 1994 Madrid Offshore Protocol have not assumed in its text the duty of adopting measures for eliminating, to the fullest possible extent, offshore pollution of the Mediterranean Sea Area.

Only nine months later, the same Contracting Parties laid down this more radical aim in the new Article 7 of the 1995 Amended Barcelona Convention. Therefore, the 1994 Madrid Offshore Protocol can be considered as a transitional international treaty between the former Barcelona system for the protection of the Mediterranean environment and the new amended Barcelona system. Moreover, as far as the 1994 Madrid Offshore Protocol has not yet entered into force, it still remains to be seen whether it can be useful for reaching this more radical aim. Otherwise, the 1994 Madrid Offshore Protocol would be a provisional treaty that sooner or later should be revised.

Second, for understanding the full meaning of the general undertakings ruled by Article 3, it is necessary to say a few words about the definitions of both the Protocol Area and of the activities covered by this Protocol. On the one hand, the 1994 Madrid Offshore Protocol has extended the geographical coverage of the 1995 Amended Barcelona Convention. Both international treaties apply to the maritime waters of the Mediterranean Sea Area, but the 1994 Madrid Offshore Protocol also applies to the continental shelf and the seabed and its subsoil. This extension is obviously justified, given the purposes of the 1994 Madrid Offshore Protocol. Moreover, it is expressly stated that it also applies to 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 (Article 2.-1). This particular mention is important for the Mediterranean Sea, because there are many activities of exploration for and exploitation of seabed mineral resources that take place in internal or historical waters claimed by the Mediterranean coastal States. But with this definition, and as far as in the Mediterranean Sea there is not a single square meter distant more than 200 marine miles from land, the result is that all the maritime waters and all the seabed and its subsoil existing in the Mediterranean Sea Area are covered by the 1994 Madrid Offshore Protocol. Finally, pursuant to Article 2.-2, any of the Contracting Parties may also include in the 1994 Madrid Offshore Protocol Area wetlands or coastal areas of their territory. This provision, that allows for the integrated management of both coastal and marine areas, was afterwards extended to all the legal instruments that form the Barcelona system, by Article 1.-2 of the 1995 Amended Barcelona Convention.

It is also important to highlight that for the adoption of the 1994 Madrid Offshore Protocol, it was fully necessary to introduce a non prejudice clause. Hence, Article 2.-3 states that 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. It must be taken into account that the Mediterranean is a semi-enclosed sea, where still most of the delimitations among the continental shelves appertaining to two or more coastal States must be drawn (Scovazzi, 1993; Bou, in press). The idea that lies in this provision consists in underlining that the difficult legal solutions for the delimitation of continental shelves between adjacent or opposite coastal States must not either prejudice or postpone the necessary collaboration among the Mediterranean States for adopting measures to protect the environment from offshore activities.

On the other hand, the activities to which the 1994 Madrid Offshore Protocol applies are defined very broadly. Pursuant to its Article 1 (d), they include: a) activities of scientific research concerning the resources of the seabed and its subsoil; b) exploration activities, such as: seismological activities, surveys of the seabed and its subsoil, sample taking; and exploration drilling; and c) exploitation activities, that include: establishment of an installation for the purpose of recovering resources, and activities connected therewith; development drilling; recovery, treatment and storage; transportation to shore by pipeline and loading of ships; and maintenance, repair and other ancillary operations.

Third, Article 8 insists once again in the fact that the Parties shall impose a general obligation upon operators to use the best available, environmentally effective and economically appropriate techniques and to observe internationally accepted standards regarding wastes, as well as the use, storage and discharge of harmful or noxious substances and materials, with a view to minimising the risk of pollution.

But there is none provision either in the 1994 Madrid Offshore Protocol or in its seven annexes defining what must be understood with the expression "best available techniques, environmentally effective and economically appropriate". It is true that its Article 23 says that the Parties shall cooperate in order to establish appropriate scientific criteria and to formulate and elaborate international rules, standards and recommended practices and procedures for achieving the aims of this Protocol. Although until now there has been no particular attempt at all to define the best available techniques for the purposes of this Protocol, it must be remembered that Article 5-4 of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (Athens, 17 May 1980, amended in Syracuse, on 7 March 1996) states that the Contracting Parties shall take into account, either individually or jointly, the best available techniques and the best environmental practices, including, where appropriate, clean production technologies, taking into account the criteria set forth in its Annex IV entitled "Criteria for the Definition of Best Available Techniques and Best Environmental Practices". Whereas the problems concerning land-based and offshore pollution are not the same, the criteria used for defining the best available techniques and the best environmental practices in the Land-Based Sources Protocol can also serve for the purposes of the 1994 Madrid Offshore Protocol.

An important provision is contained in Article 4 of the 1994 Madrid Offshore Protocol. Pursuant to this Article, all activities in the Protocol Area, including erection on site of installations, shall be subject to the prior written authorisation from the competent national authority. Before granting any authorisation, the competent national authority shall be satisfied that the installation has been constructed according to international standards and practice and that the operator has the technical competence and the financial capacity to carry out these activities. The authorisation shall be granted only after examination by the national competent authority of the requirements listed in Article 5. It must be underlined that, among these requirements, there is the possibility for the national competent authority to require the preparation of an environmental impact assessment. This was the first time that a Mediterranean legal instrument contemplated the possibility of requiring the preparation of an environmental impact assessment. Later on, Article 4-3 (c) of the 1995 Amended Barcelona Convention established, with a general character, that the Contracting Parties shall undertake environmental impact assessment for proposed activities that are likely to cause a significant adverse impact on the marine environment and are subject to an authorisation by competent national authorities. But, until now, the decision either to carry out or not an environmental impact assessment does not enjoy a mandatory character and it is optional for each national competent authority to require it or not. Moreover, in the Barcelona system for the protection of the Mediterranean Sea against pollution there is not a uniform regional procedure either for carrying out environmental impact assessments or for evaluating their results. However, Annex IV of the 1994 Madrid Offshore Protocol lists the requirements that, at least, must be contained in each environmental impact assessment. It is also important to note that authorisation shall be refused if there are indications that the proposed activities are likely to cause significant adverse effects on the environment that could not be avoided by compliance of the conditions laid down in the authorisation. This is a concrete application of the precautionary principle that, later on, was provided for by Article 4-3 (a) of the 1995 Amended Barcelona Convention.

The most important provision of the 1994 Madrid Offshore Protocol is its Article 9. According to it, the disposal into the Protocol Area of harmful or noxious substances and materials resulting from offshore activities and listed in its Annex I, known as the black list, is prohibited; the disposal of harmful or noxious substances and materials listed in its Annex II, known as the grey list, requires, in each case, a prior special permit from the national competent authority; and the disposal of all other substances and materials which might cause pollution (known as the green list) requires a prior general permit from the national competent authority. Both kinds of permits shall be issued only after careful consideration of all the factors set forth in Annex III to the 1994 Madrid Offshore Protocol, which is entitled "Factors to be considered for the issue of the permits". Moreover, there are specific provisions concerning the disposal of oil and oily mixtures and drilling fluids and cuttings; sewage; and garbage.

We must take into account that the three lists system, which was quite frequently used in International Environmental Law some years ago, nowadays has become an old-fashioned system. The three lists system was first used by dumping conventions, such as the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters (London, 29 December 1972) or the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona, 16 February 1976). But these international treaties used the three lists system in a time when their objectives were preventing, abating and controlling marine pollution.

Nowadays, after the adoption of both the 1995 amendments to the Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (Barcelona, 10 June 1995) and the Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters (London, 7 November 1996), both treaties have a more radical objective, that is, the elimination to the fullest extent possible of marine pollution. In order to reach this aim, both treaties have abandoned the three lists system and have replaced it with a general waste dumping ban and follow a reverse list system which enumerates the wastes that can be dumped at sea after obtaining a prior special permit from the competent national authorities. The shortcomings of the objectives of the 1994 Madrid Offshore Protocol are, then, evident, as far as this Protocol still follows the three lists system. In fact, the 1994 Madrid Offshore Protocol allows, under certain conditions, for the disposal at the Mediterranean Sea of harmful or noxious substances and materials included in the grey and green lists.

The 1994 Madrid Offshore Protocol also contains very concrete and technical provisions concerning safety measures, contingency planning, notifications of events causing or likely to cause offshore pollution, mutual assistance in cases of emergency, monitoring activities, removal of installations and specially protected areas. Moreover the duty to co-operate at a Mediterranean regional level is planned in the fields of: studies and research programmes; international rules, standards and recommended practices and procedures; scientific and technical assistance to developing countries; mutual information; and transboundary pollution.

A special comment deserves the provision dealing with liability and compensation. Article 27 of the 1994 Madrid Offshore Protocol also establishes the duty to co-operate in this field. According to its first paragraph, the Contracting Parties undertake to co-operate as soon as possible in formulating and adopting appropriate rules and procedures for the determination of liability and compensation for damage resulting from the activities dealt with in this Protocol. This is a procedural provision, without any substantive content.

It leaves for the future the difficult legal questions concerning the adoption of substantive provisions in this field. Although this provision states that this kind of co-operation shall be carried out as soon as possible, we must bear in mind that a similar provision was already included in Article 12 of the former 1976 Barcelona Convention and more than twenty years have already passed since then without any attempt to implement that Article 12. For this reason, Article 27.-2 deserves some praises as far as it tries to introduce at least two substantive provisions in this field. Pursuant to Article 27.-2: "Pending development of such procedures, each Party:

- (a) shall take all measures necessary to ensure that liability for damage caused by activities is imposed on operators, and they shall be required to pay prompt and adequate compensation;
  - (b) shall take all measures necessary to ensure that operators shall have and maintain insurance cover or other financial security of such type and under such terms as the Contracting Parties shall specify in order to ensure compensation for damages caused by the activities covered by this Protocol".
- But, despite the timid character of these two substantive provisions, at the time of the adoption of the 1994 Madrid Offshore Protocol the delegations of France and the European Community expressed a reservation pending consideration with regard to paragraph 2 of Article 27.



## FINAL CONSIDERATIONS

During the last few years, the Mediterranean coastal States and the European Community have been very active in co-operating towards the environmental protection of the Mediterranean Sea Area. As a result of this regional co-operation several political arrangements and legal instruments dealing with offshore pollution have been adopted. The 1994 Madrid Offshore Protocol is the legal instrument that pays more attention to this particular source of marine pollution. But the contents of this Protocol are conditioned by two different facts: first, the lengthy negotiations that were needed for its adoption; second, that at the time of its adoption the Mediterranean coastal States and the European Community had already initiated a revision process of the whole Barcelona system for the protection of the Mediterranean Sea Area.

As a result of these two determining factors, the 1994 Madrid Offshore Protocol is a transitional agreement between the former and the new legal system for the protection of the Mediterranean Sea against pollution. It is true that this Protocol foresees some of the features of the new legal Mediterranean system, such as its extension to coastal areas, the preparation of environmental impact assessments or the use of best available techniques. But, at the same time, it remains anchored in the former legal Mediterranean system. In this way, the 1994 Madrid Offshore Protocol is not aimed at eliminating progressively offshore pollution, but only at preventing, abating, combating and controlling this source of marine pollution. Accordingly, it follows the three lists system of wastes to be disposed of at sea, and not the reverse list system. Taking all these provisions into account, doubts arise on the need to amend the 1994 Madrid Offshore Protocol before it enters into force.

## REFERENCES

- Badenes, M. (1997), Recent Trends on International Protection of Species in the Mediterranean Sea Area. In: Proceedings of the 7th International Conference on Environmental Protection is a Must, 769-784.
- Bermejo, R. and Bou, V. (1992), El marco jurídico de la cooperación económica antártica: realidades y perspectivas de futuro, Anuario Argentino de Derecho Internacional, 5, 91-137.
- Bou, V. (1995), Protected areas and species: the Mediterranean Basin. In: Proceedings of the Second International Conference on the Mediterranean Coastal Environment, E. Özhan (Ed.), vol. 2, pp. 671-695.
- Bou, V. (1996a), Hacia la integración del medio ambiente y el desarrollo sostenible en la región mediterránea, Anuario de Derecho Internacional, 12, 201-251.
- Bou, V. (1996b), Land-Based Pollution in the Mediterranean Sea Area. In: Proceedings of the International Workshop on Integrated Coastal Zone Management in the Mediterranean and Black Sea, E. Özhan, (Ed.), 53-72.
- Bou, V. (1997), Prevention of Pollution of the Mediterranean Sea Area by Transboundary Movements of Hazardous Wastes and Their Disposal. In: Proceedings of the 7th International Conference on Environmental Protection is a Must, pp. 751-768.
- Bou, V. La delimitación de los espacios marítimos españoles. In: Libro homenaje al Profesor J. T. Villarroya, 35 pp., in press.
- Bou, V. and Badenes, M. La protección internacional de zonas y especies en la región mediterránea, Anuario de Derecho Internacional, 13, in press.
- De Yturriaga, J. A. (1977), Convenio de Londres de 1977 sobre responsabilidad civil por daños por contaminación por hidrocarburos, derivada de la exploración y explotación de los recursos minerales del subsuelo marino, Revista de Instituciones Europeas, 4, 729-742.
- De Yturriaga, J. A. (1979), Regional Conventions on the Protection of the Marine Environment, RCADI, 162, 338 et seq.
- Guttières, M. (1987), Il Protocollo per la protezione dall'inquinamento derivante da attività off-shore nel Mar Mediterraneo previsto dall'art. 7 della Convenzione di Barcellona. In: Il regime giuridico internazionale del Mare Mediterraneo, U. Leanza (Ed.), pp. 477-480.

- IJO/UNEP Joint Project n° FP/1400-77-02 (1352). Meeting of Experts on the Legal aspects of Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil in the Mediterranean, Rome, 1978.
- Juste, J. (1993a), La Convention pour la protection du milieu marin de l'Atlantique Nord-Est, Revue Générale de Droit International Public, 97, 365-393.
- Juste, J. (1993b), The Evolution of the Barcelona Convention and Its Protocols for the Protection of the Mediterranean Sea against Pollution. In: The Law of the Sea: New Worlds, New Discoveries, E. L. Miles and T. Treves (Eds.), pp. 208-238.
- Juste, J. (1995), Le Plan d'action pour la Méditerranée vingt ans après: la révision des instruments de Barcelone, Espaces et ressources maritimes, 9, 249-259.
- Scovazzi, T. (1993), Mediterranean and Black Sea Maritime Boundaries. In: International Maritime Boundaries, Charney and Alexander (Eds.), Dordrecht, pp. 321 et seq.
- Scovazzi, T. (1994), The Fifth Protocol to the Barcelona Convention for the Protection of the Mediterranean, IJO Newsletter, November 1994, 14 et seq.
- Scovazzi, T. (1996), The Recent Developments in the "Barcelona System" for the Protection of the Mediterranean against Pollution, The International Journal of Marine and Coastal Law, 11, 95-100.
- Sersic, M. (1988), Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the seabed and its subsoil. In: The Legal Regime of Enclosed or Semi-Enclosed Seas: The Particular Case of the Mediterranean, B. Vukas (Ed.), pp. 279-309.
- Sersic, M. (1989), Draft Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Offshore Activities, Marine Policy Reports, 1, 161-165.
- Treves, T. (1978), La pollution résultant de l'exploration et de l'exploitation des fonds marins en droit international, Annuaire Français de Droit International, 1978, 827 et seq.
- UNEP/IG.56/5 (30 September 1985). Report of the Fourth Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols.
- UNEP/WG.155/1 (26 September 1986). Report of the Technical Consultation on Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil.
- UNEP/IG.74/Inf.9 (15 July 1987). Progress Report on the Preparation of a Draft Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil.
- UNEP(OCA)/MED WG.15/4 (11 May 1990). Report of the Meeting of the Working Group of Experts on the Draft Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil.
- UNEP (OCA)/MED WG.18/4 (11 January 1991). Report of the Second Meeting of the Working Group of Experts on the Draft Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil.
- UNEP(OCA)/MED WG.30/4 (5 October 1991). Report of the Third Meeting of the Working Group of Experts on the Draft Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil.
- UNEP (1992a), The Mediterranean Action Plan. Saving our common heritage.
- UNEP (1992b), Mediterranean Action Plan and Convention for the Protection of the Mediterranean Sea against Pollution and its related Protocols.
- UNEP(OCA)/MED WG.81/4 (12 October 1994). Report of the Fourth Meeting of the Working Group of Experts on the Draft Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Sea-bed and its Subsoil.

- UNEP(OCA)/MED IG.4/4 (14 October 1994): Final Act and 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, 13-14 October 1994).
- UNEP(OCA)/MED IG.6/7: 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 Biological Diversity in the Mediterranean.
- UNEP (1995), Mediterranean Action Plan Phase II and Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols.
- UNEP (1996), The State of the Marine and Coastal Environment in the Mediterranean Region, MAP Technical Reports Series n° 100.
- Vukas, B. (1988), Le projet du protocole relatif à la protection de la Méditerranée contre la pollution résultant de l'exploration du fond de la mer et son sous-sol. In: Droit méditerranéen de l'environnement, J-Y. Cherot and A. Roux (Eds.), pp. 157-161.