Mediterranean Protocol on Land-Based Sources: Regional Response to a Pressing Transnational Problem

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MEDITERRANEAN PROTOCOL ON LAND-BASED SOURCES: REGIONAL RESPONSE TO A PRESSING TRANSNATIONAL PROBLEM

The sewage-infested waters off the coast of Israel have driven away the fish, sharply pushing up prices. In Badalona, Spain, a day on the beach ended in hypochlorite poisoning for twenty people who swam in toxic wastes from a bleach factory. Yugoslavia's seaside resorts have been warned that typhus and cholera epidemics may occur if present pollution levels are not reduced. The once pellucid Mediterranean Sea, declared Rome's Il Messaggero, has become a "stinking puddle."¹

The Mediterranean Sea,² a center of western civilization for well over four thousand years, has become one of the world's most severely polluted water bodies.³ Although the Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention)⁴ represents an ambitious attempt to combat Mediterranean pollution, it fails to deal with the

1. Newsweek, Sept. 3, 1979, at 47.
2. For the purposes of this Note, the Mediterranean Sea includes the sea's waters, as well as its gulfs and dependent seas, from the Straits of Gibraltar to the southern limits of the Straits of the Dardanelles. There are 18 Mediterranean littoral states: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahirya, Malta, Monaco, Morocco, Spain, Syrian Arab Republic, Tunisia, Turkey, and Yugoslavia.
3. See notes 34-47 infra and accompanying text.
most serious threat to the Mediterranean marine environment—pollution from land-based sources.\(^5\)

On May 17, 1980, the Mediterranean coastal nations confronted the land-based pollution problem by formally adopting the Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources (Mediterranean Protocol on Land-Based Sources).\(^6\) This Note examines the approach to the land-based pollution problem adopted by this Protocol. The discussion begins with an overview of the global land-based pollution problem. The Note then examines the land-based pollution problem in the Mediterranean region and briefly describes the new Protocol. Finally, this Note concludes with an assessment of the agreement in light of other regional accords of its type.

I

BACKGROUND TO TRANSNATIONAL CONTROL OF LAND-BASED SOURCES OF MARINE POLLUTION

A. LAND-BASED POLLUTION AND THE INTERNATIONAL COMMUNITY

Mankind's impingement on the oceans has reached crisis proportions.\(^7\) Since marine pollution knows no boundaries, the need for international controls is paramount.\(^8\) Although the international community has attempted to deal with the problems of dumping\(^9\) and oil spills,\(^10\) there are

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\(^{5}\) Experts estimate that 85% of all Mediterranean marine pollution originates from land-based sources and, hence, falls outside the ambit of the original protocols. [1979] INT'L ENVIR. REP. (BNA) 507. The Barcelona Convention, supra note 4, contains a provision on land-based sources, but its language is far too general to impose any specific obligations on the parties. See notes § 61-62 infra and accompanying text.

\(^{6}\) Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources, opened for signature May 18, 1980 (on file at the office of the Cornell International Law Journal) [hereinafter cited as Mediterranean Protocol on Land-Based Sources]. The author wishes to thank Mr. Aldo Manos, coordinator of the Mediterranean Action Plan, for assistance in providing copies of the Final Act, note 71 infra, and the Protocol as adopted.

\(^{7}\) It is incredible that so little attention has been paid to the enormous damage we have done to life in the seas. This is arguably our greatest environmental blunder and yet it is one that is rarely mentioned. . . . It could well be that marine pollution is a much more critical problem than any other form of environmental assault.


\(^{8}\) See A. Kiss, SURVEY OF CURRENT DEVELOPMENTS IN INTERNATIONAL ENVIRONMENTAL LAW 12-16 (1976).


\(^{10}\) See, e.g., International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, done Dec. 18, 1971, reprinted in 11 INT'L LEGAL
presently no global agreements concerning the most serious menace to the marine environment—the continual discharge of industrial, agricultural, and human wastes into the sea.\textsuperscript{11}

Customary international law fails to squarely address the issue of land-based pollution. Due to the absence of dispositive international judicial or arbitral decisions on point, it is arguable that, absent fault, no government is liable to another nation for pollution originating within the former’s jurisdiction.\textsuperscript{12} Given the inconclusive state of international custom regard-

\textsuperscript{11} "While it may be true that a growing body of international law exists to deal with ocean-based pollution, which in certain respects overlaps into the area of land-based pollution, the majority of high seas pollution comes from land-based sources and remains largely uncontrolled." Hickey, \textit{Custom and Land-Based Pollution of the High Seas}, 15 \textit{San Diego L. Rev.} 409, 420-21 (1978) (footnotes omitted). For an exhaustive current bibliography of literature on marine pollution, see N. Papadakis, \textit{International Law of the Sea: A Bibliography} (1980).

\textsuperscript{12} The issue of transnational liability for marine pollution damage is of vital importance. Without such liability, states may not have the incentive to enact strict pollution control legislation. Many commentators now agree that nations are strictly liable under international custom for pollution emanating from their territory. See, e.g., J. Barros & D. Johnston, \textit{The International Law of Pollution} 69-82 (1974); \textit{Legal Aspects of Transfrontier Pollution} (1977); Brownlie, \textit{A Survey of International Customary Rules of Environmental Protection}, in \textit{International Environmental Law} 1 (1974); Hickey, supra note 11; Moore, \textit{Legal Aspects of Marine Pollution Control}, in \textit{Marine Pollution} 589 (R. Johnston ed. 1976); Teclaff, \textit{International Law and the Protection of the Oceans from Pollution}, in \textit{International Environmental Law} 104 (1974). Most of these commentators assert that the doctrine of \textit{sic utere tuo}, as applied in \textit{Trail Smelter Arbitration}, 3 R. Int’l Arb. Awards 1905 (1949), \textit{reprinted in} 35 Am. J. Int’l L. 684 (1941), and The Corfu Channel Case, [1949] I.C.J. 4, applies by analogy to render the polluting nation strictly liable for land-based pollution damages. The doctrine comes from the ancient strict liability maxim of \textit{sic utere tuo ut alienum non laedas} (use your own property in such a manner as not to injure that of another). It is also referred to as the “good neighbour” principle or the “principle of the harmless use of territory.” \textit{Legal Aspects of Transfrontier Pollution}, supra, at 349.

The claim in \textit{Trail Smelter Arbitration} arose when an American smelter emitted noxious fumes that damaged property in Canada. The arbitrators found the United States liable under international law for damages, stating that “no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another... when the case is of serious consequence and the injury is established by clear and convincing evidence.” 3 R. Int’l Arb. Awards at 1965, \textit{reprinted in} 35 Am. J. Int’l L. 684. The case has perhaps been overemphasized as support for the proposition that nations are strictly liable for marine pollution. Its nature as an arbitral award, as opposed to a court holding, limits its precedential value. J. Barros & D. Johnston, supra, at 75-76.

In \textit{The Corfu Channel Case}, the court held Albania liable to Britain for damages from mines placed in Albanian waters. The court based its decision upon a nation’s duty to prevent its territory from being used to the detriment of another nation. The majority’s reliance on Albania’s actual knowledge of the mines may mean that fault is a requirement for governmental
For several reasons, the international legal community has failed to develop precise rules governing land-based marine pollution. Until recently, scientific knowledge of the extent of environmental harm attributable to land-based pollutants was inadequate. Moreover, waste-treatment technology was either unavailable, or too expensive to implement. This prohibitive cost factor caused the developing nations, which feared that forced pollution control expenditures might impede their march toward industrial development, to be reluctant to negotiate agreements. Finally, because causation is difficult to prove in the typical effluent pollution case, nations have been unable or unwilling to assert claims whose resolution might yield a body of decisional or customary law. The complexity of land-based pollution control, coupled with the divergent interests of developing nations, particularly acute.

But cf. [1949] I.C.J. at 44 (Alvarez, J. concurring) (nation has a duty to know "of prejudicial acts committed in parts of its territory where local authorities are installed"). Recent events such as the Ixtoc I oil spill in the Gulf of Mexico may show the ability of countries to refute successfully the strict liability argument. Ixtoc I, an off-shore drilling rig owned and operated by the Mexican national company PEMEX, blew out on June 3, 1979. At the height of the spill, the well was gushing more than 30,000 barrels of crude oil per day into the Gulf of Mexico. By August 28, the oil spill affected more than 130 miles of Texas beaches, and Texas authorities reported a 65% decline in tourism. The U.S. State Department claimed that Mexico was strictly liable for the damage to the Texas beaches. Mexico refused to enter into negotiations concerning liability and compensation for the spill. On October 2, 1979, President Portillo stated flatly that Mexico would not pay for the damage to the American tourist and shrimp industries or for clean-up costs. Mexico contends that it was not negligent and, therefore, denies liability under international custom for damages.

The dispute between developing and developed nations is the major obstacle to international environmental control. Many developing nations consider pollution control to be a luxury that only developed nations can afford and feel that the economic burdens imposed by global standards will only serve to condemn developing nations to permanent poverty. See R. Hallman, Towards an Environmentally Sound Law of the Sea 25-26 (1974); A. Kiss, supra note 8, at 11; Abrams, The Environmental Problem of the Oceans: An International Stepchild of National Egotism, 5 ENVTL. AFFRS 3, 32 (1976); Udall, Some Second Thoughts on Stockholm, 22 AM. U.L. REV. 717, 720 (1973).

The difficulty lies in tracing the damaging pollutant to its source. When the damaging pollutant is a rare substance, causation may not be difficult to prove. In the usual case, however, conclusive proof of the origin of an effluent is impossible because of the gradual and cumulative nature of the harm. See LEGAL ASPECTS OF TRANSFRONTIER POLLUTION, supra note 12, at 290-91.
oping and developed nations, makes comprehensive global agreement unlikely in the immediate future.\textsuperscript{17}

Regional agreements between countries in a limited geographical area offer such countries the chance to fill the void created by the failure of nations to develop global solutions. Moreover, regional agreements may avoid the conflicting political and economic interests that negotiators are unable to harmonize at the global level.\textsuperscript{18} Many commentators feel that regional arrangements offer the only viable means for controlling transnational marine pollution.\textsuperscript{19} In addition, negotiators at the United Nations Conference on the Law of the Sea supported the regional approach.\textsuperscript{20}

The semi-enclosed seas were the first to feel the effects of transnational land-based pollution because their lack of substantial contact with the high seas prevented adequate water transfer.\textsuperscript{21} Consequently, the semi-enclosed seas were the most logical starting point for the development of regional transnational standards governing the land-based discharge of pollutants.\textsuperscript{22} All states bordering a semi-enclosed sea naturally possess a common interest in controlling the environmental degradation of that sea, thereby making transnational cooperation between such states especially feasible.

The first successful efforts to conclude regional land-based pollution control agreements involved the coastal nations of the North Sea and Baltic Sea areas. The two resulting agreements provide important comparisons to the Mediterranean Protocol on Land-Based Sources. Such comparisons are

\textsuperscript{17} Although the negotiators to the United Nations Conference on the Law of the Sea have made considerable progress in recent years toward the adoption of a comprehensive agreement, the Conference remains divided over several crucial issues. The most important of these issues involves deep sea-bed mining, with developed nations and the Group of 77 disagreeing on the nature and authority of an international mining regime. See Oxman, \textit{The Third United Nations Conference on the Law of the Sea: The Seventh Session (1978)}, 73 AM. J. INT'\textsc{L} L. 1, 30-38 (1979). Agreement does not appear likely in the near future, and 1979 may have been a "make or break" year for the negotiations. [1979] INT'L ENVIR. REP. (BNA) 627, 667.

\textsuperscript{18} See note 23 \textit{infra} and accompanying text.

\textsuperscript{19} "[T]here has come to be a greater recognition of the need for regional pollution control organs since it is apparent that, although pollution is a global problem, it is not uniformly global." Schachter and Serwer, \textit{ supra} note 13, at 111. \textit{See generally REGIONALIZATION OF THE LAW OF THE SEA} (D. Johnston ed. 1978); Alexander, \textit{Regional Arrangements in the Oceans}, 71 AM. J. INT'\textsc{L} L. 84 (1977); Mensah, \textit{The Law Relating to the Pollution of the Seas}, in \textsc{ENVIROMENTAL POLLUTION CONTROL} 174, 196 (1974); Okidi, \textit{Toward Regional Arrangements for Regulation of Marine Pollution: An Appraisal of Options}, 4 OCEAN DEV. \& INT'\textsc{L} L.J. 1 (1977).


\textsuperscript{22} One commentator notes that there are 25 semi-enclosed seas in the world. Semi-enclosed seas with special pollution problems include the Baltic, Mediterranean, North, and Caribbean Seas. Of these, the Mediterranean has the lowest percentage of water in contact with the open sea. \textit{Id.} at 155-59.
especially valuable in view of the different political and economic situations existing in the North Sea, Baltic, and Mediterranean regions.23 Furthermore, the comparison of these three regional agreements may suggest possible solutions to land-based pollution in the world’s other twenty-two semi-enclosed seas,24 and may provide the model for a future global pollution control scheme.25

The serious pollution problem in the North Sea led to the 1974 Conference on the Prevention of Marine Pollution from Land-Based Sources.26 The resulting Convention for the Prevention of Marine Pollution from Land-Based Sources (Paris Convention)27 applies to the North Sea region and a portion of the northern Atlantic.28 The region was a natural birthplace for international land-based pollution cooperation since all the parties to the conference were developed nations with similar political ideologies.29 The absence of political and economic disputes in the region promoted rati-

23. The region covered by the Paris Convention, see notes 28-30 infra and accompanying text, was an appropriate place to begin regional cooperation in land-based pollution control. Unlike the Mediterranean states, the parties to the Paris Convention are all highly-developed countries. Moreover, unlike the Baltic and Mediterranean negotiators, the Paris Convention drafters did not face the political obstacles that threatened to undermine cooperation in the other two regions. These differences help explain the variations between the resulting agreements.

24. See notes 103-37 supra and accompanying text.

25. In the final analysis, the waters of the earth are finite; even the oceans are enclosed. R. HALLMAN, supra note 15, at 8. Moreover, numerous regional successes may facilitate the development of a global control scheme. The problem would be one of coordinating regional efforts. See Bilder, The Consequences of Regionalization in the Treaty and Customary Law of the Sea, in REGIONALIZATION OF THE LAW OF THE SEA 31, 34 (D. Johnston ed. 1978).

26. See A. Kiss, supra note 8, at 67-68.


28. Paris Convention, supra note 27, art. 2.

29. Fourteen nations attended the conference: Austria, Belgium, Denmark, France, the Federal Republic of Germany, Iceland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. 13 INT’L LEGAL MATERIALS 352 (1974). The parties are basically the same as those to the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, done Feb. 15, 1972, reprinted in 11 INT’L LEGAL MATERIALS 262 (1972).
fication and, on May 6, 1978, the Paris Convention became the first land-based pollution agreement to enter into force.\textsuperscript{30}

The Convention on the Protection of the Marine Environment of the Baltic Sea Area (Baltic Convention) emerged from a 1974 Helsinki conference that assembled representatives of seven Baltic littoral states.\textsuperscript{31} The Baltic Convention is an ambitious attempt to consider all marine pollution sources in a single document.\textsuperscript{32} As a model for transnational environmental agreements, the Baltic accord is especially valuable because it brings together members of opposing political and military blocs.\textsuperscript{33}

B. LAND-BASED POLLUTION CONTROL IN THE MEDITERRANEAN REGION

The Mediterranean Sea has been the ultimate receptacle of man's wastes since the appearance of civilization along its shores.\textsuperscript{34} In the past century, however, the volume of discharged wastes began to surpass the

\begin{footnotesize}
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\item 30. 18 \textit{INT'L LEGAL MATERIALS} 549 (1979). The first seven parties to ratify the agreement were Belgium, Denmark, the European Economic Community, France, Norway, Sweden, and the United Kingdom. \textit{Id.}
\item By early 1980, six of the seven Baltic states had ratified the agreement. The Federal Republic of Germany announced its intention to deposit its ratification with the depository Finnish government in February, 1980. Interview with Consul Sakari Nurmi of Finland (Feb. 5, 1980). Political problems, stemming in part from conflicts between the two Republics of Germany, were largely responsible for the postponement of the document's entry into force until May, 1980. \textit{See} Goralczyk, \textit{La Mer Baltique et Les Problemes de Cooperation des Etats Riverains}, 84 \textit{REVUE GENERALE DE DROIT INTERNATIONAL PUBLIC} 269, 279 (1980). In addition, economic and technological problems, as well as the need to adjust existing national legislation to the language of the Convention, have contributed to the delay. Boczek, \textit{International Protection of the Baltic Sea Environment Against Pollution: A Study in Marine Regionalism}, 72 \textit{AM. INT'L L.} 782, 813 (1978).
\item 32. The Baltic Convention deals with pollution by ships, Baltic Convention, \textit{supra} note 31, art. 7; dumping, \textit{id.} art. 9; land-based sources, \textit{id.} art. 6; and exploitation of the seabed, \textit{id.} art 10. The agreement also refers specifically to airborne pollution, \textit{id.} art. 5, and provides for the establishment of the Baltic Marine Environment Protection Commission, \textit{id.} art. 12.
\item 33. Serious political differences encumbered the Baltic negotiations. The participating parties include three Warsaw Pact nations (U.S.S.R., Poland and East Germany), two members of NATO (Denmark and West Germany), and two nonaligned western democracies (Finland and Sweden). \textit{See generally} Alexander, \textit{note} 21 \textit{supra}; Johnson, \textit{The Baltic Conventions}, 25 \textit{INT'L COMP. L.Q.} 1 (1976); Lundholm, \textit{The Oceans—Their Production and Pollution. The Baltic as a Case Study}, in \textit{PACEM IN MARIBUS} 25 (E. Borgese ed. 1972).
\end{itemize}
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marine environment's absorptive capacity,\textsuperscript{35} prompting environmentalists to warn of impending ecological disaster.\textsuperscript{36}

Because the Mediterranean is an almost totally enclosed ecosystem,\textsuperscript{37} its marine environment is especially fragile.\textsuperscript{38} A total transfer of water through the Straits of Gibraltar takes about eighty years; therefore, the Mediterranean is unable to cleanse itself by mixing with the open seas.\textsuperscript{39} Moreover, the Mediterranean's relatively warm average water temperature\textsuperscript{40} makes it particularly susceptible to microbacterial pollution, which already constitutes the most serious threat to human health in the region.\textsuperscript{41}

Four major factors are responsible for environmental decay in the Mediterranean. First, the construction of waste treatment facilities has failed to keep pace with rapid population growth in coastal areas.\textsuperscript{42} An estimated eighty percent of Mediterranean coastal cities' sewage enters the marine environment inadequately treated or not treated at all.\textsuperscript{43} Second,
an ever-increasing number of tourists flock to Mediterranean beaches each year, increasing the burden on already inadequate sewage treatment plants.\textsuperscript{44} Third, significant industrial expansion, primarily along the French, Spanish, and Italian coasts,\textsuperscript{45} has resulted in heightened concentrations of heavy and light metals and other toxic substances in the water.\textsuperscript{46} Finally, intensified agricultural production necessitated the use of fertilizers and pesticides, many of which enter the marine environment by way of the atmosphere.\textsuperscript{47}

The governments of the Mediterranean littoral states ignored this pollution problem until the water quality began affecting the sea's users.\textsuperscript{48} When unilateral domestic regulation proved inadequate to reverse the trend toward destruction of the sea, the need for transnational cooperation became apparent.\textsuperscript{49} Organizing collective action was not a simple task, however, as sharp political disputes among the eighteen Mediterranean coastal states threatened to preclude any type of multilateral cooperation.\textsuperscript{50}

Economic, not political differences among the countries, however, were the most serious impediment to the adoption of a Mediterranean pollution

\textsuperscript{44} The annual number of tourists in the region more than doubled from 1960 to 1970 and more than 100 million people now visit the Mediterranean each year. 10 MARINE POLLUTION BULL. 346 (1979). Transformation of coastal areas to accommodate massive numbers of tourists has greatly contributed to the Mediterranean land-based pollution problem. Increased seasonal population increases the burden of treating human wastes at inadequate facilities. See Gonen, Mediterranean Tourism: Some Geographic Perspectives, in THE TIDES OF CHANGE, supra note 34, at 195.


\textsuperscript{46} Annual pollution levels of heavy and light metals in the Mediterranean include 100 tons of mercury, 3,800 tons of lead, and 21,000 tons of zinc. Newsweek, Sept. 3, 1979, at 47. The effects of metals discharged into the sea are discussed in Bryan, Heavy Metal Contamination in the Sea, in MARINE POLLUTION, supra note 43, at 185.

\textsuperscript{47} Since they enter the sea through run-off or the atmosphere, these sources of pollution are especially difficult to control. DDT has posed the most serious pesticide problem. Experts estimate that as much as 25% of all DDT produced to date may have already entered the marine environment. NATIONAL ACADEMY OF SCIENCES, CHLORINATED HYDROCARBONS IN THE MARINE ENVIRONMENT 1 (1971). A related problem is the alarming increase in carbon dioxide levels in the Mediterranean caused by increased reliance on fossil fuels. See Ritchie-Calder, supra note 34, at 152-53.


\textsuperscript{49} The Italian government's inability to implement domestic controls on sewage disposal exemplifies the problem. See note 42 supra. For a review of domestic European environmental legislation, see S. ERCMAN, EUROPEAN ENVIRONMENTAL LAW: LEGAL AND ECONOMIC APPRAISAL (1977).

\textsuperscript{50} Examples of past and present political conflicts in the region include the Israeli-Arab, Greek-Turkish, Algerian-Moroccan, and Libyan-Egyptian disputes.
control agreement. The developing nations of the southern and eastern shores felt that the developed countries, as the biggest polluters in the region, should pay the lion's share of program costs. Furthermore, the developing states indicated that they might refuse to accept stringent pollution control standards because the cost of compliance might prevent them from reaching the stage of industrial development that the richer nations had attained, in part, through pollution.

In 1975, the Mediterranean littoral states finally overcame their political and economic differences and joined forces to save their contaminated sea. The result was the Mediterranean Action Plan, which envisioned a massive transnational clean-up effort under the auspices of the United Nations Environment Program (UNEP). One year later, representatives of fifteen Mediterranean states signed the Barcelona Convention and its related Protocols on Dumping and Emergencies. Under the Barcelona Convention, in force since early 1978, the Mediterranean nations have made considerable progress, particularly in scientific assessment of the Mediterranean pollution problem.

The Barcelona Convention, however, lacks provisions regulating the most important sources of Mediterranean marine pollution—man's land-based activities. Article 8 of the Barcelona accord broadly outlines the

51. There are enormous economic differences between the rich and poor nations in the region. In 1977, for example, France had nearly twenty-five times the industrial output of Morocco, Libya, and Algeria combined. See Johnson, Regionalism and the Law of the Sea: New Aspects of Dominance and Dependency, in Regionalization of the Law of the Sea 103, 124 (D. Johnston ed. 1978).
52. For the purposes of this Note, "northern countries" refers only to Italy, France, and Spain. These three nations are far more developed than any of the other Mediterranean littoral nations, referred to here as "southern and eastern states." Id.
54. Id. at 25-26; see note 15 supra and accompanying text.
57. Barcelona Convention, note 4 supra.
58. Protocol on Dumping, note 4 supra.
60. Under the direction of the Action Plan, scientists have carried out extensive research in the hope of assessing the extent of pollution damage in the Mediterranean. The two major scientific programs are the co-ordinated Mediterranean Pollution Monitoring and Research Programme (MED POL), and the "Blue Plan." This research has demonstrated conclusively that the Mediterranean Sea is highly polluted and that urgent action is required to prevent further deterioration of the marine environment. See generally Intergovernmental Meeting Report, note 48 supra.
61. 10 MARINE POLLUTION BULL. 346 (1979).
need for land-based pollution control, and the parties envisioned a special protocol on the subject from the beginning.

Less than one year after the adoption of the Barcelona Convention, representatives of sixteen Mediterranean states assembled to discuss the problem of land-based pollution. Over the next two years, however, a funding dispute marred the meetings of technical and legal experts on land-based pollution. The continuing rift between developed and developing nations concerning distribution of program costs not only blocked the negotiation of a land-based pollution protocol, but also threatened to undermine the effective implementation of the Mediterranean Action Plan.

In early 1979, the negotiation of a new funding scheme helped clear the way for the conclusion of an agreement on land-based sources. Under

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62. The agreement provides, "[T]he Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea Area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories." Barcelona Convention, supra note 4, art. 8.

63. The first meeting of legal and technical experts on land-based pollution took place in Athens in February, 1977. United Nations Environment Program: Report on Draft Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, U.N. Doc. UNEP/IG. 6/6 (1977), reprinted in 17 INT'L LEGAL MATERIALS 958 (1978). Experts at the Athens meeting agreed to many broad principles, id. at 964-69, but disagreed on such fundamental questions as the inclusion of airborne pollutants within the Protocol's scope, assistance to developing countries, and the application of different pollution standards to existing sources and new installations. Id. at 961-62.

By their October, 1977 meeting in Venice, the negotiators had begun drafting a protocol on land-based sources, and officials were optimistic that an accord could be signed in 1978. [1978] INT'L ENVIR. REP. (BNA) 16.

64. In January, 1978, all the Mediterranean littoral states except Albania participated in a Monte Carlo meeting that officials hoped would lead to completion of a protocol on land-based sources. The meeting was far from successful, however, and the gap between developed and developing countries widened. The experts reconvened in Geneva in October, 1978, but again failed to reach a compromise. The question of payment of program costs remained unresolved. It seemed unlikely, therefore, that the parties could agree on even more costly land-based pollution measures. See [1978] INT'L ENVIR. REP. (BNA) 16-17, 25-26, 60, 96.

65. See notes 66-67 infra and accompanying text. In early 1979, the entire Mediterranean Action Plan was in deep trouble. UNEP had announced that it would be unable to continue contributing funds to the extent that it had in the past ($7.5 million by early 1979). Moreover, the Mediterranean states had been unable at previous meetings to agree upon an appropriate distribution of costs. In early 1979, therefore, it appeared that the Action Plan might not even have sufficient funds to continue its programs through 1979. [1979] INT'L ENVIR. REP. (BNA) 507. See also United Nations Environment Programme: Report of the Governing Council on the Work of its Sixth Session, 33 U.N. GAOR, supp. (No. 25) 114, 139-40, U.N. Doc. A/33/25 (1978).

66. Facing the possibility that the Action Plan's funds would expire, representatives of all the Mediterranean coastal states except Albania met in Geneva in February, 1979. The result of this Intergovernmental Review Meeting was the creation of the Mediterranean Regional Trust Fund, which will provide $6.4 million to fund the Action Plan through 1980. UNEP attended and agreed to contribute $1.6 million, but expressed the hope that the program would be entirely self-supporting by 1983.
the rules of the Mediterranean Regional Trust Fund, the developed nations agreed to contribute nearly eighty-five percent of the government funds required for implementation of the Action Plan for the following two years. The funding agreement guarantees financing through 1981 and, more importantly, shows the willingness of the developed nations to bear the primary financial burden of pollution control.

With the funding issue settled, technical and legal experts met again in 1979. Motivated by severe and continuing environmental decay in the Mediterranean, primarily a result of continuing effluent pollution, the experts concluded an acceptable draft agreement. On June 26, 1979, representatives from fourteen of the eighteen Mediterranean littoral states agreed to this draft. Pursuant to article 15 of the Barcelona Convention, the Mediterranean states held a diplomatic conference in Athens on May 12-16, 1980, for the formal adoption of the Protocol. Only Albania, Egypt, and the Syrian Arab Republic did not participate in the Athens conference. The Athens negotiators were successful, and the conference formally adopted the new Protocol on May 17, 1980. Twelve states and the European Economic Community have since signed the agreement.

II

THE MEDITERRANEAN PROTOCOL ON LAND-BASED SOURCES

The language of the Mediterranean Protocol on Land-Based Sources indicates that the negotiators sought to strike a balance between a broad statement of unattainable goals and a narrow, over-technical document that the parties might be hesitant to sign. While the drafters clearly announced their objectives and proposed methods for reducing land-based pollution,

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67. Intergovernmental Meeting Report, supra note 48, annex VIII.
68. See notes 51-54 supra and accompanying text.
69. Albania, Syria, Cyprus, and Algeria did not send representatives to this June, 1979 meeting in Geneva. [1979] INT'L ENVIR. REP. (BNA) 793.
71. See Final Act, Conference of Plenipotentiaries of the Coastal States of the Mediterranean Sea Region for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources 1980 (on file at the Cornell International Law Journal) [hereinafter cited as Final Act].
72. Id.
73. The conference participants unanimously adopted the new Protocol, and only the Turkish government expressed any reservations to the text. Turkey's reservations to articles 3(b) & (c), 4, 5, 6, 12(2) and 13(2) were included in the Final Act, note 71 supra.
they left the development of precise standards and timetables to future amendments, annexes, and protocols.\(^7^5\)

The scope of the Mediterranean Protocol on Land-Based Sources is broad. Article 4 indicates that the Protocol applies to both direct effluent pollution from coastal establishments and indirect discharges into the sea through rivers, canals, and run-off.\(^7^6\) Furthermore, the agreement expressly applies to pollutants entering the marine environment through the atmosphere.\(^7^7\) Moreover, unlike the Barcelona Convention,\(^7^8\) the Protocol applies to the internal coastal waters of the parties.\(^7^9\)

The Mediterranean Protocol on Land-Based Sources uses the "black list/grey list" approach to describe pollutants.\(^8^0\) The Oslo Dumping Convention of 1972\(^8^1\) established this method, which also appears in both the Paris and Baltic Conventions.\(^8^2\) Like its counterparts, the Mediterranean Protocol calls for the issuance of "authorization[s]" that "strictly limit" the discharge of substances on the grey list.\(^8^3\) Annex III sets forth a detailed list

\(^7^5\) See, e.g., Mediterranean Protocol on Land-Based Sources, supra note 6, arts. 4-6. The Baltic negotiators took a similar approach, which led one commentator to state:

This is an excellent way of building a convention. Experience shows that it is difficult or even impossible to change the provisions of a convention once it has already been adopted and ratified. . . . New hazardous activities and new noxious substances can thus be included in the Annexes without undue delay.


\(^7^6\) Mediterranean Protocol on Land-Based Sources, supra note 6, art. 4(1). The inclusion of non-point sources indicates the drafters' ambitious approach. Unlike capital-intensive control of point sources, control of non-point sources raises complex questions of land-use planning and local waste water treatment. See R. Stewart & J. Krier, Environmental Law and Policy 475 (2d ed. 1978).

\(^7^7\) Mediterranean Protocol on Land-Based Sources, supra note 6, art. 4(1)(b). Airborne pollution, accounting for a high percentage of all marine pollution, is an exceedingly complex problem. Some airborne pollutants fall with rain into the sea, while others enter the marine environment through a complex process of interaction between air and water. This latter process is a major concern of scientists, who fear that marine pollution may impair the transfer of oxygen. The oceans supply about 70% of the earth's oxygen. See Mordy & Mordy, Atmospheric Control and the Ocean Regime, in PACEM IN MARIBUS 42, 51-53 (E. Borgese ed. 1972); Marstrand, Pollution of the Seas, in ENVIRONMENTAL POLLUTION CONTROL 150, 152 (1974).

\(^7^8\) See Barcelona Convention, supra note 4, art. 1(2).

\(^7^9\) Mediterranean Protocol on Land-Based Sources, supra note 6, art. 3(b).

\(^8^0\) Id. arts. 5, 6, annexes I, II. The black list includes certain heavy metals such as mercury and cadmium, organohalogens and organophosphorus substances (D.D.T. and P.C.B.'s), carcinogenic matter, and other extremely toxic substances. Id. annex I. The grey list names most other heavy and light metals, biocides, pathogenic micro-organisms, phosphates, thermal pollutants, and any other substances that have a deleterious effect on the marine environment. The list includes those substances affecting the oxygen balance in the water. Id. annex II.

\(^8^1\) See Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, supra note 29, arts. 5, 6.

\(^8^2\) Paris Convention, supra note 27, art. 4, annex A; Baltic Convention, supra note 31, arts. 5, 6, annexes I, II.

\(^8^3\) Mediterranean Protocol on Land-Based Sources, supra note 6, art. 6; Baltic Convention, supra note 31, art. 6; Paris Convention, supra note 27, art. 4(2).
of factors that national authorities may consider in establishing permit criteria. The agreement, however, will subject grey list substances to "strict measures" designed to completely eliminate their discharge.

Under article 8, the Mediterranean nations agree to cooperate in an extensive effort to monitor the extent and continuing levels of pollution from land-based sources. The Protocol also calls for cooperation in the areas of scientific and technical training and assistance, with recognition of the special needs of developing countries.

Like the Paris and Baltic accords, the Mediterranean Protocol does not outline a standard of liability for land-based pollution damage. It does, however, propose certain measures when one state's pollution affects another state, and when pollution threatens "a watercourse which flows through the territories of two or more parties."

84. National authorities are to consider five major factors in formulating standards for grey list discharges:
   A. Characteristics and composition of the waste
   B. Characteristics of waste constituents with respect to their harmfulness
   C. Characteristics of discharge site and receiving marine environment
   D. Availability of waste treatment technology
   E. Potential impairment of marine ecosystems and sea water uses

Mediterranean Protocol on Land-Based Sources, supra note 6, annex III.

85. Id. art. 6, annex I.
86. Id. art. 8.
87. Id. arts. 9, 10.
88. The Baltic Convention provides:
   The Contracting Parties undertake, as soon as possible, jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of the present Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies.

Baltic Convention, supra note 31, art. 17.

The Barcelona Convention contains a provision similar to that of the Baltic Convention. See Barcelona Convention, supra note 4, art. 12. Studies are presently underway to determine the feasibility of a Mediterranean interstate guarantee fund to compensate parties injured by marine pollution. Liability for damage may be the subject of a separate protocol in the future. Intergovernmental Meeting Report, supra note 48, at 14-15.

89. Under such circumstances, the parties "undertake to enter into consultation with a view to seeking a satisfactory solution." Mediterranean Protocol on Land-Based Sources, supra note 6, art. 12(1). Furthermore, any concerned party may raise the matter at a meeting of the parties to the Protocol. Id. art. 12(2).

90. Id. art. 11. See notes 115-20 infra and accompanying text.
III

ANALYSIS OF THE MEDITERRANEAN PROTOCOL ON LAND-BASED SOURCES

A. POSITIVE FEATURES

Differences between rich and poor nations constitute the primary impediment to international environmental protection. The most significant aspect of the Mediterranean Protocol on Land-Based Sources, therefore, lies in the negotiators' success in obtaining any agreement. The regional approach to the problem certainly facilitated the negotiating process. Nevertheless, by overcoming the political and economic differences of the parties, the drafters have successfully dealt with the same problems that arise at the global level. Focusing on the negotiating process, therefore, the Protocol stands as a model for international environmental cooperation among developing and developed countries.

Due to the economic-political character of the region, the Mediterranean representatives faced difficult issues not present in the Paris and Baltic negotiations. To obtain the all-important approval of the developing nations, the Protocol includes numerous provisions reflecting concern for the interests of these countries. Most notably, article 7 requires that the acceptable pollution levels for grey list substances reflect the economic interests of the parties to whom they apply. Under this approach, very different pollution control criteria may apply to nations in close geographic proximity.

A further encouraging result of the drafters' compromise is article 10, in which the contracting parties promise to promote "programmes of assistance to developing countries." Unique to the Mediterranean accord, the article calls for the establishment of personnel training programs, as well as aid to developing parties for the acquisition, production, and use of pollu-

91. See note 23 supra and accompanying text.
92. See notes 21-22 supra and accompanying text.
93. See note 25 supra and accompanying text.
94. See note 23 supra and accompanying text.
95. The provision states, in pertinent part, "Without prejudice to the provisions of article 5 of this Protocol, such common guidelines, standards or criteria shall take into account . . . the economic capacity of the Parties and their need for development. . . ." Mediterranean Protocol on Land-Based Sources, supra note 6, art. 7(2).
96. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 10(1).
tion control equipment. Article 10 purports to place the primary financial burden of all aspects of the land-based pollution fight on the developed Mediterranean states by requiring assistance to be provided to the developing countries "on advantageous terms."

The Protocol relies on UNEP to perform secretariat and organizational functions. The document also permits competent transnational groups to become signatories to the Protocol. By including the participation of international organizations, the land-based pollution program will benefit from the financial and informational assets of these groups. Furthermore, these groups may provide mediation services when disputes arise, an important concern in the conflict-ridden Mediterranean region. Finally, the participation of international organizations will help to ensure that more than purely national interests will influence the formulation of land-based pollution standards for the Mediterranean.

B. DEFICIENCIES IN THE DRAFT PROTOCOL AND SUGGESTED ALTERNATIVE APPROACHES

The objective of the Mediterranean Protocol is "to prevent, abate, combat and control" land-based pollution. Given the value of the Protocol as a compromise between rich and poor nations, the question remains as to the potential effectiveness of the agreement. Since a correlation exists between the number of interests that must be accommodated and the resulting rights and obligations of the parties, the compromise has serious implications respecting the Protocol's future effectiveness. The comparative analysis that follows considers the Mediterranean Protocol in light of the Baltic and Paris Conventions, where the negotiators did not face the problem of reconciling the conflicting interests of environmental protection and economic development.

97. Id. art. 10(2).
98. Id.
99. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 2; Barcelona Convention, supra note 4, art. 13.
100. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 16(3).
101. The most important of these groups is the European Economic Community. The EEC is already a party to the Barcelona Convention and has agreed to contribute to the Mediterranean Regional Trust Fund. Intergovernmental Meeting Report, supra note 48, annex VIII. Conversely, participation in environmental conventions benefits the international organization. Because of the benefits it receives in the form of increased legal personality, the EEC hopes to become a party to an eventual convention on the Law of the Sea. See Koers, Participation of the European Economic Community in a New Law of the Sea Convention, 73 AM. INT'L L. 426 (1979).
102. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 1.
LAND-BASED POLLUTION

Broadness of language concerning the rights and duties of the parties is a liability of the Protocol. This textual deficiency is apparent in the agreement’s opening paragraph, in which the parties agree to take “all appropriate measures” against land-based pollution. Furthermore, the parties merely agree to “endeavour” to give effect to articles 9 and 11(2). Non-binding language of this type encourages the participation of developing nations that might refuse to sign a more narrowly-drawn document. Unfortunately, such language may also offer an escape route for governments that do not wish to comply with pollution standards. Perhaps because of the political heterogeneity of the region, the Baltic Convention also speaks of “appropriate measures.”

Similarly, both the Mediterranean Protocol and the Baltic Convention contain deficient provisions regarding enforcement of standards against polluting private citizens. Unlike the Paris Convention, neither agreement imposes a definitive duty “to punish conduct in contravention of the provisions of the present Convention.” Such a duty may be implied from the duty to take “appropriate measures” but, again, this language is probably too vague to be effective.

All three land-based pollution agreements rely on affected contracting parties to enforce the obligations undertaken by other parties. None of the agreements provide for the establishment of an independent enforcement agency. Actions against violators, therefore, will occur only if a party asserts damage to its interests.

Concerning dispute settlement, the Mediterranean Protocol’s requirement that parties “undertake to enter into consultation” is an insufficient method of protecting party rights. As with consultations under the Baltic Convention, the failure of negotiations between parties to yield a solu-

103. Id.
104. Id. arts. 9, 11. For discussions of the inadequacy of this type of convention language, see Senate Comm. on Commerce, 94th Cong., 1st Sess., Effects of Man’s Activities on the Marine Environment 38 (Comm. Print 1975); R. Hallman, supra note 15, at 42-43.
105. See note 51 supra and accompanying text.
107. 1974 Paris Convention, supra note 27, art. 1(1).
108. Id. art. 12(1).
109. See notes 103-07 supra and accompanying text.
110. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 12.
111. The paradoxical language of the Baltic Convention first directs parties to negotiate and then seek mediation by a third contracting party. The convention thereafter provides: If the parties concerned have not been able to resolve their disputes through negotiation or have been unable to agree on measures as described above, such disputes shall
tion will lead to arbitration only "upon common agreement." In contrast, the Paris Convention provides for binding arbitration at any party's request. A deficiency of all three conventions, however, is the failure to define adequately the nature of a party's responsibility for harm caused by its land-based pollution.

Article 11 of the Mediterranean Protocol, which covers watercourses shared by several states, is potentially problematic due to the Mediterranean's geography. When two parties share a watercourse, the Protocol requires them to endeavor "to enter into consultation" if pollution disputes arise. When a nonparty is involved, however, the Protocol merely prevents the nonparty from invoking the agreement. The Baltic agreement does not even address this problem, but the Paris Convention again suggests a possible approach. The Paris Convention requires a contracting state to "endeavour to cooperate with the non-contracting state" to prevent upstream pollution. Alternatively, the Mediterranean drafters might have required the Organization to negotiate with polluting nonparties.

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112. Barcelona Convention, supra note 4, art. 22.
113. Paris Convention, supra note 27, art. 21. The Paris accord also establishes an arbitral procedure for use in such instances. Id. annex B. See also Barcelona Convention, supra note 4, annex A.
114. Although all three agreements imply that parties are liable for pollution originating in their territories, none of the accords specify whether the liability is strict or based upon fault. Moreover, the agreements do not provide for compensation or other remedies. See note 88 supra and accompanying text. For a more direct, though simplistic, approach to the problem, see Draft Articles on Marine Pollution of Continental Origin, art. V, INTERNATIONAL LAW ASSOCIATION, REPORT OF THE FIFTY-FIFTH CONFERENCE 98, 104 (1974).
115. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 11.
116. For a general discussion of the present state of international law concerning transnational rivers and lakes, see Dickstein, International Lake and River Pollution Control: Questions and Method, 12 COLUM. J. TRANS. L. 487 (1973).
117. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 12(1).
118. Id. art. 11(2). Problems of upstream pollution by nonparties are most likely to arise along the Nile, the Mediterranean's most important source of fresh water, and the Rhone. The Nile flows through eight developing nations of northern Africa before emptying into the Mediterranean. Ritchie-Calder, supra note 34, at 150-51. Moreover, man's activities along the Nile have already had serious effects on the Mediterranean marine environment. Once the source of 30% of all fresh water emptying into the Mediterranean, the Nile flows at about one-tenth of its former level since construction of the Aswan Dam. Damage to the delta region and to the entire eastern Mediterranean has already occurred, but the long-term effects are unknown. 4 PROCEEDINGS PACEM IN MARIBUS CONVOCATION, note 124 infra, at 168-69 (statement of Dr. Neil Hulings).
119. Paris Convention, supra note 27, art. 14(2).
120. "Organization" presently refers simply to UNEP in its secretariat role. See note 99 supra and accompanying text. Dispute mediation could also be one of the functions of a
The acceptable pollution level concept governing grey list discharges under the Mediterranean Protocol is the agreement's primary attraction to the developing countries. Nonetheless, the concept could create difficulties. The lack of a nondegradation provision will tempt nations to allow existing pollution levels to rise to the acceptable level in order to derive the maximum economic benefit of pollution. The end result of such an approach is to permit discharges that existing technology could prevent. Rather than forcing the Mediterranean Protocol's basic purpose of preventing pollution to yield to the economic interests of the developing nations, a better approach would be to set a single standard applicable to all countries. To accommodate the developing nations, the developed nations might help pay for the required pollution control technology.

Two especially interesting provisions of the Preliminary Draft Protocol were deleted at the Athens meeting and do not appear in the final Protocol. Article 10 of the Preliminary Draft Protocol called for special protection of particularly vulnerable areas of the marine environment. Ecologically fragile areas such as estuaries and lagoons would have been designated as transnational marine parks to which special pollution standards would apply. This important area for transnational cooperation would certainly be an appropriate subject for an additional protocol. The second significant deletion of the Athens negotiators involved the Preliminary Draft Protocol's distinction between "existing sources" and "new installations." The Preliminary Draft Protocol called for formulation of a Mediterranean land-based pollution commission. See notes 134-37 infra and accompanying text.

121. See notes 80-85 supra and accompanying text.

122. Such a financial commitment may presently be too much to ask of the developed nations. In a perfect economic model, however, the benefits of reduced pollution would equal the expenditures for pollution control. Unfortunately, the sea's recreational value, reduced health care costs to coastal inhabitants, and other social benefits of pollution control are difficult to quantify, and do not often enter into governmental budgetary decisions. See Marstrand, Pollution of Inland Waters, in ENVIRONMENTAL POLLUTION CONTROL 88, 95 (1974); Stewart, Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy, 86 YALE L.J. 1196, 1212 n. 66 (1977).

123. Preliminary Draft Protocol on Land-Based Sources, note 70 supra.

124. Id. art. 10. See generally 4 PROCEEDINGS PACEM IN MARIBUS CONVOCATION 182-91 (D. Krieger ed. 1974).

125. These areas merit special protection, because they often provide the habitat for rare species of wildlife. For a discussion of the ecological fragility of such marine areas, see generally POLLUTION CRITERIA FOR ESTUARIES (J. Bossanyi & P.R. Helliwell ed. 1975); THE WATER'S EDGE: CRITICAL PROBLEMS OF THE COASTAL ZONE (B. Ketchem ed. 1972).

During the Ixtoc I oil spill, note 12 supra, a major fear of ecologists was that oil would reach Laguna Madrea. This ecologically unique bay provides the habitat for such endangered species as the Kemp's Ridley Sea Turtle and the Brown Pelican. [1979] INT'L ENVIR. REP. (BNA) 798, 841.

126. Mediterranean Protocol on Land-Based Sources, supra note 6, arts. 5, 6.
timetable to progressively reduce discharges from existing sources, while installations established after the document’s entry into force were not to “interfere with any existing or foreseeable legitimate uses.”127 Articles 5 and 6 of the Preliminary Draft Protocol would have introduced a concept unique to the Mediterranean accord, and it is unfortunate that the Athens negotiators decided to eliminate these provisions in the final text.

Perhaps the most significant change made at the Athens meeting, however, involves the final Protocol’s treatment of off-shore structures under a party’s jurisdiction.128 This coverage is especially important because of increasing exploration and exploitation of the Mediterranean continental shelf.129 The Protocol as adopted, however, applies only to fixed off-shore structures “which serve purposes other than exploration and exploitation of mineral resources,”130 thus leaving uncontrolled the vast majority of such structures.

The elimination of standards for off-shore structures used for mineral exploitation is unfortunate. By including these structures in its coverage, the Protocol would have implied that contracting states are responsible for the actions of off-shore polluters, a question far from settled under customary international law.131 Moreover, because the Baltic and Paris Conventions cover all off-shore installations,132 the Preliminary Draft Protocol provision might have offered further evidence of emerging state practice or opinio juris, two of the processes by which international custom develops.133

Finally, the Protocol negotiators failed to establish a special commission to monitor land-based pollution and to implement the plan.134 The Baltic Convention provides for such a body,135 and the Paris Convention

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127. Id. art. 6. Notable “existing or foreseeable legitimate uses” include fishing and recreation. See note 44 supra and accompanying text.
128. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 4(2).
129. Intergovernmental Meeting Report, supra note 48, at 14. Safety practices and standards governing Mediterranean off-shore exploitation of the seabed are currently left to private operators. Id.
130. Mediterranean Protocol on Land-Based Sources, supra note 6, art. 4(2).
131. See note 12 supra and accompanying text.
132. Paris Convention, supra note 27, art. 3(c)(iii); Baltic Convention, supra note 31, art. 10. The Baltic Convention is the most stringent, requiring the party under whose jurisdiction off-shore activities are taking place to “ensure that adequate equipment is at hand to start an immediate abatement of pollution in that area.” Id.
134. Therefore, all decisions must presently be made at meetings of the parties held every two years. See Barcelona Convention, supra note 4, arts. 13-14.
135. Baltic Convention, supra note 31, art. 12.
establishes a commission with broad powers.\textsuperscript{136} As secretariat, UNEP will play a beneficial role in the immediate future of the Protocol.\textsuperscript{137} In the long run, however, a special commission might be desirable for several reasons. The commissioners could meet during the two-year interval between official meetings of the parties. Moreover, this approach might foster the development of regional expertise in specific Mediterranean pollution problems, and might promote the program's own self-sufficiency. Finally, the commission might supply the infrastructure for a judicial or arbitral body to settle complex land-based pollution disputes.

**CONCLUSION**

Given the severity of land-based transnational marine pollution and the inconclusive state of customary international law on the issue, multilateral treaties at the regional level may offer the only feasible solution to the problem. Compared with similar agreements covering the Baltic and North Seas, the Mediterranean Protocol on Land-Based Sources is laden with textual deficiencies resulting from an attempt to reconcile numerous conflicting interests. The success of the plan, therefore, will ultimately depend on the Mediterranean states and their willingness to carry out the Protocol's objectives.

Though not the final answer to Mediterranean land-based pollution, the Protocol is a first step. Two years after the entry into force of the Barcelona Convention, the parties have demonstrated their ability to cooperate in transnational protection of the environment. Despite its deficiencies, the Mediterranean Protocol, which includes nations in all stages of development, will provide an invaluable negotiating model to the international community in its battle to reduce marine pollution from land-based sources.

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\textsuperscript{136} Paris Convention, \textit{supra} note 27, arts. 15-16. In addition to its functions with respect to implementation and exchange of information, \textit{id.} art. 16, the commission may propose amendments to the list of controlled pollutants. Such amendments enter into effect unless the parties specifically object. \textit{Id.} art. 18(4).

\textsuperscript{137} See note 99 \textit{supra} and accompanying text.