COMMENTS

THE CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LAND-BASED SOURCES: AN EFFECTIVE METHOD FOR ARBITRATING INTERNATIONAL EFFLUENT POLLUTION DISPUTES

Effluent pollution,[1] broadly defined as the flow of waste materials into rivers and coastal seas,[2] has reached alarming proportions. Arbitration, diplomacy, and litigation are among the methods available to the international community to control and combat this form of marine pollution. This comment will evaluate each of these alternatives to determine which method appears most effective in the control of transboundary pollution problems.

The Convention for the Prevention of Marine Pollution from Land-Based Sources,[3] utilizing arbitration, presents guidelines for a comprehensive, regionally organized attack in this facet of pollution control. However, it is necessary to describe effluent

1. *Panel Report of the Commission on Marine Science, Engineering and Resources*, 3 SCIENCE AND THE ENVIRONMENT 50 (1969). It is helpful to note the classification of pollutants to indicate the substances with which concern has been raised. The National Academy of Sciences broadly classifies pollutants entering the watercourses in the following manner: domestic sewage, infectious agents, organic chemicals, sediments from erosion, radioactive wastes, heat from industrial plants and power generating stations and other minerals and chemicals. In *Joint IMCO/FAO/UNESCO/WMO Group of Experts on the Scientific Aspects of Marine Pollution, Abstract of the Report of the First Session* (London), U.N. Doc. A/7750, pt. 1 at 3 (Nov. 10, 1969), this group of experts discussed marine pollution in terms of domestic waste and industrial sewage; the latter was broken into classifications of heavy metals, radioactive materials, pesticides, petroleum based chemicals and pulp paper wastes.

2. AMERICAN CHEMICAL SOCIETY, CLEANING OUR ENVIRONMENT—THE CHEMICAL BASIS FOR ACTION, at 104 (1969). In 1968 in the United States alone, manufacturing accounted for 31.1 trillion gallons of waste water, which contained some 18 billion pounds of dissolved solids. This amount is approximately equal to the amount produced by 360 million persons. This waste water is combined with the domestic wastes and comprises the total amount of effluents.

3. Convention for the Prevention of Marine Pollution from Land-Based Sources, *open for signature* June 4, 1974, [reproduced in 13 INT'L LEGAL MATERIALS 352 (1974)] [hereinafter cited as *Marine Pollution Convention*].

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pollution in greater detail to provide insight into the future uses of the Marine Pollution Convention.

I. SCOPE OF THE PROBLEM

Into oceans and rivers, the nations of the world discard industrial wastes, domestic sewage, and radioactive waste products,[4] amounting to more than four billion tons annually.[5] These pollutants are produced primarily by man's land-based industrial activities. Once dumped into the marine environment, they mingle with previously deposited wastes and are transported about at the whim of the winds and the ocean currents. Thus, pollution activities originating in one nation's waters may affect the quality of the marine environment of an adjacent nation. However, the dynamic processes of the ocean increase tremendously the difficulty of determining the pollution's source and hence the nation liable to another whose marine environment has been altered as a result of that pollution.

The compounds comprising effluents are chemically complex and not easily degraded by bacterial action into their constituent elements.[6] Continuous dumping at a rate which exceeds the degradation rate results in an ever-increasing amount of pollutants being present in the marine environment. All these activities, regardless of their geographic separation, contribute to the total amount of pollutants in the seas.[7] Despite the ocean's seemingly infinite capacity to absorb pollutants, many areas of the seas and many rivers are becoming severely polluted.[8]

The areas of the marine environment affected most by effluents are the coastal regions: estuaries, lagoons, marshes, bogs and beaches.[9] These areas are fished heavily and produce large amounts of food, while remaining important as sources of revenue derived from tourism and recreational pursuits.

Toxic effluents have devastating effects on the food-produc-

4. Douglas, *Environmental Problems of the Ocean: The Need for International Controls*, 1 ENVT'L LAW 149 (1971).

5. Wenk, *The Physical Resources of the Oceans*, 221 SCIENTIFIC AMERICAN 166 (1969).

6. American Chemical Society, *supra* note 2, at 106.

7. Marshall, *Who is Responsible for Pollution*, 57 A.B.A.J. 21, 22 (1971).

8. *See generally* T. Heyerdahl, *Ocean Pollution Observed by Expedition Ra*, attached to IMCO Doc. OPS/Circ. 21 (Oct. 23, 1969).

9. Wenk, *supra* note 5, at 170.

ing capabilities of the seas.[10] The marine food chain, a process which ultimately produces food for human consumption, is extremely fragile and complex. One-celled plants, photo-plankton, are the basis of life in the sea; it is upon these minute organisms that the food chain depends for continued existence. Plankton survive only in a narrow range of environmental conditions of light penetration, temperature and salinity. These are the factors first altered by the introduction of pollutants into the marine ecosystem. When the food chain is thus disrupted, the plankton die, food resources decline and the total oxygen output of plankton is decreased. This change is noted by man only as the amount of food taken from the sea begins to drop.[11]

Effluent pollution occurs mainly in the coastal waters. International law recognizes these waters as within the jurisdiction of the coastal state.[12] The activities which produce effluents likewise are sited within the territorial limits of the nation. Therefore, measures initiated by individual nations might appear to be the most logical way to approach the effluent pollution dilemma. This assumption has been the basis of previous attempts at controlling effluents, but, thus far, these have had little success. To the contrary, where the resource concerned is one common to many nations, such as the seas, a multinational approach actually is more desirable. It must be realized that the biosphere, the air, the waters and the seas, are not parceled out in national segments to be policed and protected by national regulations.[13] Rather, the biosphere is an entity which is best managed on a supra-national basis.[14]

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10. Holt, *The Food Resources of the Oceans*, 221 SCIENTIFIC AMERICAN 178 (1969).

11. *See generally*, P. Yentsch, *Primary Production*, 1 OCEANOGRAPHY & MARINE BIOLOGY ANN. REV. 157 (1963).

12. Comment, *Civil Liability for Oil Pollution*, 10 HOUSTON L. REV. 394, 396-7 (1973).

13. Address by Prime Minister Pierre Trudeau, *Canada Leads the Fight Against Pollution*, STATEMENTS AND SPEECHES No. 70/3, at 2 (April 15, 1970). Prime Minister Trudeau's remarks were delivered in a speech which centered on Canada's controversial Arctic Waters Anti-Pollution Act, which extends to 100 nautical miles Canada's jurisdiction over polluting vessels.

For views on this act, *see* Bilder, *Canadian Artctic Waters Anti-Pollution Prevention Act: New Stress on Law at Sea*, 69 MICH. L. REV. 1 (1970); Utton, *Arctic Waters Pollution Act*, UNIV. B.C.L. REV. 221 (1971).

14. This is because these common resources are treated as belonging to no one nation, but are common to the entire world.

The Baltic Sea is so highly polluted in some areas that unilateral action may

Effluent pollution is outside the scope of pollution addressed by the law of the sea.[15] Conceptually, effluent pollution is deliberate and continuous, whereas pollution caused by oil casualties is random and usually accidental. Effluent pollution, unfortunately, is usually invisible to a casual observer, while oil slicks are highly visible. Effluent pollution demands different treatment than does oil-based pollution of the seas.

Pollution of the high seas is pollution of *res nullius*; that is, territory belonging to no nation. In contrast, effluent pollution occurs generally within the territorial limits of a nation. The high seas are administered through the law of the sea, a part of international law,[16] while territorial waters of nations are controlled by their respective systems of domestic law.[17] For legal action to be taken by a nation or organization in the territorial waters of another nation, that body taking such action must have jurisdiction. Many nations, especially those highly industrialized, face similar types of problems regarding effluents.[18] Since similar problems usually suggest analogous remedies, the desire to solve these common problems conceivably could be used to persuade such nations that multilateral cooperation is the basis for the most effective course of action.

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have no appreciable effect on the quality of the water. For example, the waters which touch Sweden are so mercury laden that a total ban on the use of mercury in Sweden will in all likelihood have little effect on the amount of mercury contamination in the waters which touch the shores of Sweden. Jernelov, *The Menace of Mercury*, 40 NEW SCIENTIST 627 (1968).

15. Wulf, *International Control of Marine Pollution*, 25 JAG. J. 93 (1971). This comment does not deal with marine pollution other than land-based effluents. Other types have been examined by various national and international groups which have formulated controls for these polluting activities.

For a sample of measures relating to other than effluent pollution, see The Geneva Convention on the High Seas, 13 U.S.T. 2312, 450 U.N.T.S. 82 (1958): International Convention of Civil Liability for Oil Pollution Damage, open for signature Nov. 29, 1969 [reproduced in 64 AM. J. INT'L L. 481 (1970)]; Oslo Convention for Prevention of Marine Pollution by Dumping from Ships and Aircraft, [reproduced in 8 INT'L LEGAL MATERIALS 275 (1970)]; International Convention Relating to the Intervention on the High Seas in Cases of Oil Pollution Casualties, [reproduced in 64 AM. J. INT'L L. 471 (1970)]; Water Pollution Control Act of 1972, 33 U.S.C. § 1250 *et seq.* (1972); Outer Continental Shelf Lands Act, 43 U.S.C. § 1331 *et seq.* (1964); Rivers and Harbors Act of 1899, 33 U.S.C. § 401 *et seq.* (1970); Arctic Waters Anti-Pollution Act, 18 ELIZ. II, c. 47 (1970) (CANADA) [reproduced in 9 INT'L LEGAL MATERIALS 543 (1970)].

16. D. GREIG, INTERNATIONAL LAW 251 (1970).

17. *Id.* at 155.

18. Burheme and Schoenbaum, *The European Community and Management of the Environment; a Dilemma*, 13 NAT'L RES. J. 494 (1972).

The highly industrialized and technologically advanced nations produce greater quantities and types of effluents.[19] Actions by these nations which are detrimental to the marine environment can render meaningless unilateral actions by an adjacent nation attempting to maintain or restore the quality of its marine environment.[20] In few areas has environmental consciousness matured to a degree where an appeal will persuade a neighboring nation to abate damaging activities. Cooperation must be the *sine qua non* for progress in effluent abatement and control since international law lacks the enforcement powers inherent in municipal law.[21] If individual nations are allowed to ignore the problem, the oceans will be polluted to the detriment of all mankind.[22]

Emerging nations undergoing rapid development demonstrate another reason why cooperation is essential. Attempts by an industrialized nation[23] to institute standards for the control of effluent pollution may be interpreted by these developing nations as an attempt to restrict their social and economic development.[24] The developing nations maintain that such limitations are merely a subterfuge to keep industrialized nations prosperous and to prevent poorer nations from becoming self-sufficient. It must be recognized that developing nations face extremely difficult choices. A nation's priorities must determine how seriously environmental factors are to be taken into consideration. For instance, populous nations, such as the People's Republic of China or India, presented with a choice between increasing food production through pollution producing fertilizers and maintaining a clean environment, would inevitably choose increased food production. This becomes more certain with the current food

19. Douglas, *supra* note 4, at 150.

20. *Report of the Joint Working Party of the Advisory Committee on Marine Resources Research, The Scientific Committee on Ocean Research and the World Meterological Organization*, at 19 (1969). National pollution problems may become international for a variety of reasons. Improperly designed outfall structures may allow the effluent to be swept into the waters and onto the beaches of neighboring states. Commercial fishing in these waters will also be adversely affected.

21. D. GREIG, *supra* note 16, at 45.

22. *See Can NATO Defend the Environment?*, 2 ENVT'L AFFAIRS 670 (1973), noting the exclusion of East Germany from the Stockholm Conference on the Environment.

23. Doud, *International Environmental Developments, Perceptions of Developing and Developed Countries*, 12 NAT'L RES. J. 520 (1972).

24. Bureheme and Schoenbaum, *supra* note 18, at 401. *See generally* Doud, *supra* note 23.

shortages and widespread famine looming in the not-too-distant future. Selection of food production over environmental considerations is a choice which trades short term welfare for long range disaster. The nations which find themselves on the horns of such a dilemma must be afforded a means which will permit logical, rational use of natural resources while development is permitted to continue at a rate consistent with the maintenance of a reasonably clean environment.

Emerging nations, as well as technologically advanced nations, must be educated to the fact that the goal of a clean marine environment can result only where cooperation is made the cornerstone on which programs for the abatement of effluent pollution rest. The peaceful means to accomplish such a goal—litigation, diplomacy, and arbitration—will each be examined and compared to demonstrate why this comment concludes that arbitration is the most appropriate procedure for the attainment of that goal.

II. PROCEDURES TO CONTROL EFFLUENT POLLUTION

A. Diplomacy

Diplomatic channels have drawbacks which prohibit their effective use as a process through which to attack effluent pollution. It is asserted that diplomacy is not *per se* suited to the resolution of such controversies. Three aspects of conventional diplomacy make it of doubtful worth in this area: (1) the lack of speed and directness; (2) the impediment of national interests; and (3) the suspicion by lesser developed nations of economic coercion. These amount to formidable hurdles which must be scaled before the merits of a problem may be addressed.[25]

The conduct of conventional diplomacy, with its exchanges of notes, filing of formal protests and other cumbersome procedures, entails a relatively long period of time. The parties following such procedures are frequently presented with a *fait accompli* by the time action is ready to be undertaken. The debates over the location of the meetings, the interjection of ancillary problems and the formality of conventional diplomatic negotiations practically rule out a rapid assault on an effluent pollution situation by

25. Schacter and Serwer, *Marine Pollution, Roles and Remedies*, 65 AM. J. INT'L L. 84 (1971).

means of conventional diplomacy.[26] To be sure, there are exceptions to the leisurely pace which is usual in diplomatic relations, but they are just that—exceptions. Upon closer analysis of such exceptional circumstances it will be clear that rapid progress comes about when the parties are ready to cooperate.

Since diplomatic relations are a reflection of a nations's political philosophy, diplomatic efforts are often colored by nationalistic sentiments. An example of how national sentiments can subvert diplomatic efforts at a peaceful resolution of a conflict is the "Cod War" in the Northern Atlantic.[27]

The United Kingdom and Iceland each claimed the right to unlimited fishing in the waters surrounding Iceland. The root of the conflict was Iceland's extension of its territorial waters to fifty nautical miles from its coast. This action placed some of the traditional British fishing grounds within the territorial waters and, consequently, off-limits. The British fishing fleet continued to fish in the disputed waters, even under the threats of action by Icelandic naval vessels. Diplomatic efforts at settlement achieved neligible progress, and finally British naval vessels accompanied the fishing fleet. Each nation was adamant in its position, and each appeared to have some precedent for its view.[28]

Both nations depend on fishing for large contributions to their economies, and, thus, the closure of the fishing grounds would be a severe blow to the national economies of the respective nations. In situations such as these, it is easy to see how national sentiment can replace rational thought and serve as a bar to diplomatic settlement of disputes.

Another problem involves the suspicions on the part of the developing nations that the environmental "problem" is an indirect method for insuring that they remain in a subservient economic position *vis-a-vis* the technologically well-developed nations.[29] Developing nations are the sites of some of the largest sources of raw materials which are most needed by the industrialized nations

26. One needs only to take into account the difficulty of the selection of the conference table for the Paris Peace Negotiations on Vietnam, and the refusal of Arab States to deal with Israel on a face-to-face basis as examples of the difficulties attending diplomacy.

27. Fisheries Jurisdiction Case (United Kingdom of Great Britain and Northern Ireland v. Iceland) [1973] I.C.J. 3 [reproduced in 11 INT'L LEGAL MATERIALS 1069 (1973)].

28. *Id.*

29. Doud, *supra* note 23, at 523.

to sustain their industrially based economies. As example of such a situation is the Arab dominance of petroleum supplies necessary to maintain the economies of the industrialized nations. It is not hard to imagine that any diplomatically based program, no matter how desperately needed, would arouse these nations' suspicions that the industrialized nations desire a secure source for their necessary raw materials and are not truly concerned with environmental quality.

The separation of the proposed remedial measures from the political arena is necessary if realistic progress is to be expected.[30] Allowing political considerations to hinder the formulation of anti-pollution measures dooms the use of diplomacy in this area. Even if outright failure is averted, any agreement derived from such conditions, in all probability, will be an impotent formality. Any program which limits effluents requires technology, and would cost developing nations a great deal of time and money, thus impeding development. In all likelihood, these nations would ignore unduly restrictive requirements, resulting in unchecked pollutant flow into the seas.

In sum, diplomacy thus employed seems to create more problems than it is capable of resolving. The search for an effective method must continue.

B. Litigation

Selection of a court of competent jurisdiction, determination of the proper party-plaintiff and lack of an appropriate theory of liability upon which to base a suit all are factors which hinder effective use of litigation in effluent pollution disputes.[31] Litigation, traditionally employed for the resolution of conflict, focuses its attention mainly on injuries which have occurred in the past, not on injuries which are yet to happen. Treatment of injuries which have already caused damage is only one part of the total approach which effluent pollution demands. In addition to treat-

30. *See generally* Everdhein and Kandone, *Ocean Science in the U.N. Political Arena*, 3 J. MAR. L. & COMM. 473 (1972); For a compilation of claims to width of the Territorial Seas, see 8 INT'L LEGAL MATERIALS 516 (1969).

31. Schacter and Serwer, *supra* note 25, at 105. It is the responsibility of the individual nations to institute an action at international law on the basis that the claimant nation has suffered injury in its own territory. Serious questions arise in such an action in regard to the amount of injury necessary to sustain such an action, and how stringent the standard of proof would be.

ing any past injuries, concentrated effort must be made to stop the injuries before they occur.

Before any attempt can be made at determination of parties to an action and an appropriate theory of suit, the question of selection of a court with competent jurisdiction arises. In litigation submitted to the International Court of Justice, the sole basis on which the Court may assume jurisdiction is upon the consent of the parties.[32] This result stems from the doctrine of sovereign immunity, a doctrine universally held by all nations.[33] In the absence of an agreement to submit the dispute to the International Court for resolution, it is impossible for the would-be plaintiff to bring the other party before the Court.[34] The lack of jurisdiction of one nation over another nation for acts done in the latter's territory has been a major stumbling block to the effectiveness of international litigation.[35]

An example of how this principle of consent-based jurisdiction can work to the disadvantage of the Court is presented by the actions of Canada in enacting the Artic Waters Pollution Prevention Act.[36] Prior to the passage of this controversial Act, the Canadian Parliament revoked the Canadian agreement to submit to the International Court's jurisdiction in matters concerning marine pollution. This eliminated the jurisdictional basis of the International Court as far as Canada was concerned, and facilitated passage of Canada's more stringent anti-pollution measures.[37] Such actions should not be construed to violate international law, for the actions are well within the discretion of each sovereign nation. They do, however, impede the use of litigation.

The jurisdictional problem is further complicated because as well as attaining jurisdiction over the parties, the international character of the claim must be established. This is clouded by the many conflicting claims made by coastal nations regarding the width of the territorial seas.[38] The width of the zone in which

32. I.C.J. STAT., art. 36, para. 2, 3.

33. Falk, *Toward a World Order Respectful of the Global Ecosystem*, 1 ENVT'L AFFAIRS 251, at 253 (1971).

34. W. BISHOP, INTERNATIONAL LAW, CASES AND MATERIALS 63 (3d ed. 1971).

35. D. GREIG, *supra* note 16, at 165. *See also*, Case of the S.S. Lotus [1927] P.C.I.J. Ser. A, No. 10.

36. Address by Pierre Trudeau, *supra* note 13.

37. Bilder, *Canadian Arctic Waters Anti-Pollution Prevention Act: New Stress on the Law of the Sea*, 69 MICH. L. REV. 1 (1970).

38. This was the center of attention at the Conference on the Law

the large majority of effluent cases occurs is not as broad as even the most limited of definitions of the territorial seas.[39] This fact separates effluent pollution issues from the involved and difficult issues surrounding the territorial sea debates and removes the necessity of solving territorial sea issues before attacking the effluent problems.

Jurisdictional concepts regarding the international character of the claim have been refined to greater clarity by the resolution of the *Corfu Channel Case*[40] and the *Trail Smelter Case*.[41] The decision in *Trail Smelter* states, in part, that "no state has the right to use or permit the use of its territory in such a manner as to cause injury . . . in or to the territory of another or to the properties or persons therein . . ."[42] This affords a basis for jurisdiction in trans-boundary pollution suits.

Apparently, suit may be brought and the polluting nation may be held accountable only when the resulting injury to the territory of another nation is demonstrated by clear evidence.[43] This is circuitous logic. When injury is clearly evident, no problem exists with jurisdiction; when the injury is not so clearly evident, no jurisdiction attaches. It is the function of the litigation to determine the merits of the controversy. If demonstration of an injury remains a condition precedent to the attachment of jurisdiction, the function of litigation will be supplanted by jurisdictional considerations. There should be a more liberal basis upon which to bring suit, and it should be within the competence of the tribunal to determine whether the injury is one of such a nature that the polluting nation should be held accountable.

It seems clear that jurisdiction which rests on such an evanescent base as consent leaves a great deal to be desired. Since jurisdiction here is problematic, litigation's value as a method for determination of effluent issues is severly diminished. Jurisdic-

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of the Sea at Caracas in 1974. The problem stems from two seemingly antagonistic positions: extension of fishing rights out to 200 nautical miles from the coast and desire for free passage through the world's straits; *see* N.Y. Times, Aug. 21, 1974, at 1, col. 4.

39. D. GREIG, *supra* note 16, at 149.

40. Corfu Channel Case [1949] I.C.J. 4 [reproduced in 43 AM. J. INT'L L. 558 (1949)].

41. Trail Smelter Arbitration, (U.S. v. Canada) [1939] 33 AM. J. INT'L L. 182.

42. *Id.*

43. Sepulveda, *Mexican-American International Water Quality Problems; Prospects and Prospectives*, 12 NAT'L RES. J. 487, 492 (1971).

tional issues aside, standing to sue remains as a hindrance to litigation's usefulness as a tool to eliminate effluent pollution.

Serious questions also arise concerning the ascertainment of the identity of the injured party and the determination of who shall initiate the action.[44] The issue of selection of a party to act as the plaintiff is difficult. For example, when coastal fishing stocks are depleted by pollution, is the fisherman or the nation the injured party? Obviously the fisherman has suffered direct injury by loss of his earnings, but so has the nation, albeit in a less direct manner, through injury to its territorial waters. According to current concepts in international law, individuals have no standing to initiate suit in international forums;[45] such suits must be brought by their respective nations.[46] This concept is particularly unacceptable in effluent pollution cases because the fate of the suit is taken out of the hands of the individual and placed squarely in the hands of his government. The government may, in turn, decide that a minor incident is not worth the disruption in international relations which may be caused by it. Political considerations, which have already been seen to be detrimental to the efficiency of the actions, are thus interjected into the situation.

Even if the party-plaintiff is satisfactorily selected, the determination of the defendant is made difficult by the problems of identification of the source of the damaging pollution. Assuming that these difficulties are overcome, and a suit is brought, there still is the question of how to handle awards for future damages. Such damages would almost certainly be deemed speculative, for which compensation would be a nominal award.[47]

If these problems are overcome, the question of a viable theory upon which to base such a suit remains to be resolved. Consideration of the "classical" basis upon which liability might conceivably rest evidences another disadvantage of litigation in the area of effluent control and abatement. This is clear from Professor Oppenheim's[48] assertion that an act of a nation does not

44. *See generally* Rogers *Alice in Wonderland World of Standing*, 1 ENVT'L LAW 169 (1971); Comment *Standing and Administrative Agencies, The Changing Concepts of Judicial Review*, 32 LA. L. REV. 634 (1971).

45. *See* Scanwell Labs, Inc. v. Shaffer, 424 F.2d 859, 861-73 (D.C. Cir. 1970) which describes aptly the confusion of the American judiciary regarding the issue of standing.

46. T. RALSTON, INTERNATIONAL LAW FROM ATHENS TO LOCARNO (1972).

47. W. PROSSER, LAW OF TORTS, 602 (4th ed. 1970).

48. Professor Oppenheim, an English jurist, authored INTERNATIONAL LAW, a standard work in the field. *See* 1 L. OPPENHEIM, INTERNATIONAL LAW (7th ed. 1948).

constitute an international delinquency unless it is committed willfully or through culpable negligence,[49] however injurious it may be to another nation.

By basing a suit for effluent pollution damage in nuisance, the result may well be that the pollution-producing nation may be granted a *de facto* license to pollute. This conclusion results from application of "classical" nuisance analysis, in which a balance could be struck by the court between the harm resulting, and the economic benefit derived from the polluting activity.[50] The technologically developed nations pollute the most, and they depend heavily upon manufacturing for their economic vitality.[51] Therefore the chance appears remote that the economic benefit to these countries, even with consequent polluting activities, would be outweighed by a consideration of the harm done to the environment.[52]

Similarly, the doctrine of negligence is inapposite for determination of liability for injury caused by effluent pollution. Proof of proximate cause would be a formidable obstacle in any attempt to persuade a court to arrive at the decision that the injury should be compensated.[53] This element is essential in every negligence action. However, the effects of the sea, such as salinity, chemical action on the pollutants, and the currents and tides, make such proof prohibitively difficult.[54] As soon as the pollutants enter the marine environment, the sea begins to act upon them by spreading and disguising them,[55] and an effort to analyze the unique processes which determine the final products of the pollution would be a monumental task.

Even assuming proximate cause could be adequately shown, the difficulty of proof of the existence of a duty and its breach

49. *Id.* at 293.

50. W. PROSSER, *supra* note 47, at 581; Commoner, *A Current Problem in the Environmental Crisis, Mercury Pollution and Its Legal Implications*, 4 NAT'L RES. LAWYER 139 (1971).

51. *See, e.g.*, Douglas, *supra* note 4; Doud, *supra* note 23, at 520.

52. *See generally* Goldie, *International Principles of Responsibility for Pollution*, 9 COLUM. J. TRANSNAT'L L. 283 (1971).

53. Esposito, *Air and Water Pollution: What to Do While Waiting for Washington*, 5 HARV. CIV. RIGHTS—CIV. LIB. L. REV. 32 (1970); Reitze, *Private Remedies for Environmental Wrongs*, 5 SUFFOLK L. REV. 779 (1971).

54. Newman, *Oil on Troubled Waters: International Control of Marine Pollution*, 2 J. MARITIME L. AND COMM. 349-51 (1971).

55. *Id.* at 352; *see generally* Comment, *Ocean Pollution: An Examination of the Problem and an Appeal for International Cooperation*, 7 SAN DIEGO L. REV. 574 (1970).

effectively prevents pursuit of an action founded in negligence. A duty to refrain from polluting the seas hitherto has not been widely promulgated by courts. Since the decision that a duty is owed even to the citizens of the polluting state is an open question at the present time, it follows *a fortiori* that a decision of a similar nature in respect of the citizens of a neighboring state is, at least for the present time, unlikely. If proof of a duty and causation stands[56] as a hinderance to an effective negligence action, perhaps strict liability may be a more appropriate concept.

Under a strict liability theory, the essential element in liability is a consideration whether injury results from an activity unduly dangerous or an activity which by its nature is "ultra-hazardous" as compared to the activity and character of the surrounding area.[57] Whether pollutants from a city or district primarily engaged in manufacturing would be inappropriate to the character of the surrounding area is a question of fact, but it seems unlikely that these activities would be so considered.[58]

Based upon the problems related in the foregoing discussion, it seems that litigation as a process does not fulfill the requirements for an effective vehicle by which to attack effluent pollution. The failure of litigation to provide a viable means of solving these effluent problems[59] emphasizes the need for a solution-oriented alternative to litigation.

C. Arbitration

International arbitration, originated by the ancient Greeks,[60] has been effectively employed as a means to settle disputes.[61] According to accepted international legal principles, arbitration has been considered a type of judicial process in which it is the function of the party or parties acting as arbitrator to arrive at a solution to the problem submitted.[62] International arbitration is

56. Rylands v. Fletcher, L.R. 3 H.L. 330 (1868).

57. W. PROSSER, *supra* note 47, at 406.

58. For a definition of an ultra-hazardous activity, *see* RESTATEMENT (SECOND) OF TORTS § 519 (1967), and citations contained therein.

59. In fact, there is no record of a case heard before either the P.C.I.J. or I.C.J. arising out of *inter*-state water pollution. 3 M. WHITMAN, DIGEST OF INTERNATIONAL LAW 1044 (1969).

60. T. RALSTON, INTERNATIONAL LAW FROM ATHENS TO LOCARNO (1949).

61. P. MOORE, INTERNATIONAL LAW AND SOME CURRENT ILLUSIONS 97 (1944).

62. T. RALSTON, *supra* note 60, at 96.

best suited to a narrow range of situations: interpretation of a treaty or convention, formulation of the nature or extent of reparation due for a breach of such an international obligation, determination of the facts surrounding such a breach of international obligation, and resolution of any general question of international law submitted by the parties.[63] Experience has demonstrated that international arbitration is most successful in solving disputes which are concerned with the interpretation of a treaty or convention.[64] Arbitration can be used as a substitute for litigation in situations where no suitable court exists to address the problem, or can provide a completely separate process where a competent court exists, but the parties have concluded that an arbitral tribunal can complete the task at hand in a more acceptable manner.[65] A definition will clarify the process under discussion:

> Arbitration means the determination of a dispute between States through a legal decision of one or more umpires, other than the International Court of Justice chosen by the parties to the dispute.[66]

According to this definition, the arbitral tribunal must be a body other than the International Court of Justice. There is ample reason for this requirement. The rules used by arbitral tribunals in some cases run counter to those rules used by courts, especially with regard to evidentiary matters. Another fact which makes the Court inappropriate is that its decisions cannot be enforced by or against the litigants before it.[67] Such enforcement problems are relegated to a place of minor importance when arbitration is the chosen method. This is so because in international arbitration, awards are considered final and binding on the parties, unless a contrary intent is specified by the agreement.[68]

Arbitration's attributes make it preferable to diplomacy or litigation. Because diplomatic efforts toward solution of a problem necessitate inclusion of much in a political vein, arbitration

63. P. MOORE, *supra* note 61, at 96.

64. W. FRIEDMAN, O. LISSITZYN, & R. PUGH, INTERNATIONAL LAW, CASES AND MATERIALS 262 (1971).

65. L. OPPENHEIM, *supra* note 48, at 61.

66. *Hague Convention on the Pacific Settlement of International Disputes*, 1907 *Hague Court Reports*, Carnegie Endowment for Peace, Univ. Press (1916).

67. W. BISHOP, *supra* note 34, at 63. *See also*, Truman Declaration Concerning the U.S. Submission to I.C.J. Jurisdiction, 61 Stat. 1218, 15 U.S. DEPT. STATE BULL. 452 (1946); H. HAMBRO, *Some Observations on the Compulsory Jurisdiction of the International Court of Justice*, [1948] BRIT. Y. B. INT'L 133.

68. L. OPPENHEIM, *supra* note 48, at 26.

can provide an effective and, more importantly, equitable alternative to the dilemma of deadlocked diplomatic negotiations.[69] By its very existence, the arbitration agreement may be a helpful element in inducing the parties to abandon untenable positions and seek agreement.[70] The parties can maintain their political identity, but submission of the dispute to arbitration signals a preference for solution, rather than satisfaction with stalemate. The parties can provide that the proceedings remain confidential to minimize possible political repercussions.[71] Thus, submission of a conflict to arbitration minimizes political maneuvering and permits concentration on the merits of the controversy.[72]

Since the arbitration process incorporates the disputants into the decision-making process, the working arrangement may be as formal or informal as the parties themselves desire; this is in sharp contrast to the situation of a diplomatic negotiation which is highly dependent on the formalities of the exchange. In contrast to diplomacy, arbitration does not seem to rank the importance of the subject matter under discussion by the title of the persons engaged in the negotiations. Because of its participatory nature, arbitration can remain effective without the necessity of highly placed representatives. Arbitration appears to be a relatively apolitical process, which is able to continue functioning in the face of political changes in the nations which the members of the tribunal represent.[73]

The major distinction between arbitration and litigation is found in the composition of the decision-making body.[74] In litigation, the parties appear before a permanent judicial body to plead their case but they have no voice in the actual decision. Arbitration, on the other hand, requires a representative from each of the parties to the dispute to be a member of the tribunal which formulates the award. Its participatory nature helps to instill

69. One only need remember the difference in the diplomacy of De Gaulle's post-World War II France and the isolation of the American policy immediately preceding World War I.

70. DAVID DAVIS MEMORIAL INSTITUTE OF INTERNATIONAL STUDIES, REPORT OF A STUDY GROUP ON PEACEFUL SETTLEMENT OF INTERNATIONAL DISPUTES, 18 (1966).

71. *Id.* at 17.

72. L. OPPENHEIM, *supra* note 48, at 60.

73. *Id.*

74. *Compare* I.C.J. STAT., art. 36 *with* The Marine Pollution Convention, *supra* note 3, Annex B, art. 3.

confidence in the tribunal as it insures objectivity and impartiality which can only aid in demonstrating to the participants the desirability of arbitration as a problem-solving procedure. Arbitration presents a viable alternative to litigation and diplomacy in the solution of disputes unsuited to resolution within framework of plaintiff and defendant.

Jurisdiction of the arbitral tribunal is usually dealt with by the parties during the adoption and ratification of the document which contains the *compromis d' arbitrage*,[75] that is, the arbitration agreement. This is actually the first step in the arbitration process. The disputants, at the time of submission cannot challenge the jurisdiction, being estopped by their prior ratification of the agreement.[76] Even absence of a party does not hinder the ability of the tribunal to dispose of the case.

The international arbitration process usually follows the International Law Commission's Draft Articles on Arbitral Procedure,[77] which sets forth general guidelines for procedure. This guide vests the procedure with normality and authority lacking in an *ad hoc* tribunal, and often is included in the convention or other document in which the agreement to arbitrate is located. Nations still cling to the notion that a "court" for arbitration removes too much of their sovereignty;[78] thus, arbitration provisions are found in separate conventions, each addressing a unique facet of international law.

The arbitration process is easily adaptable to effective use in almost any area of international law. The following discussion demonstrates how arbitration can be used to deal effectively with effluent pollution.

III. THE CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LAND-BASED SOURCES: EFFECTIVE USE OF ARBITRATION

Present international agreements and municipal programs have made moderate progress in many areas toward pollution control, with the notable exception of the area of effluents.[79] One

75. R. SIMPSON, INTERNATIONAL ARBITRATION 42 (1959).

76. 5 M. HACKWORTH, DIGEST OF INTERNATIONAL LAW 639 (1973).

77. [1958] 2 Y.B. INT'L L. COMM'N 82; U.N. DOC. A/CN. 4/113.

78. *Id.*

79. The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, [reproduced in 9 INT'L LEGAL MATERIALS 25

of the few international agreements containing a provision for liability, The International Convention on Civil Liability for Oil Pollution,[77] restricts its liability provisions to pollution caused by ships and other sea-going vessels.[80] This convention's application is limited to oil-based pollution.[81] As a rule, conventions are extremely difficult to modify, so modification of this convention appears unlikely.[82]

Other international agreements[83] exist which address the pollution caused by agents other than oil.[84] However, the purpose clauses of these conventions usually do not contain a power to deal with pollution of the type under consideration here. It is not clear whether the paucity of innovative programs in this area of pollution control results from the complexity of effluent problems or is due to a decision to attempt to solve simpler situations first. Whatever the reasons may be, the fact is that an international agreement which comprehensively attacks effluent pollution *per se* does not now exist.

(1970)] seems to embark upon a desirable course of action with the statement in article II(4)(a-c):

> a. maritime coastal, port or estuarine activities including fishing activities constituting an essential means of livelihood of the persons concerned,
> b. tourist activities and attractions of the area concerned,
> c. the health of the coastal population and the well-being of the area concerned, ...

However, upon further examination it is noted that the intersts are limited by the fact that there must be an oil spill before the Convention can come into effect. *Id.* at art. 1.

The Canadian *Arctic Waters Pollution Prevention Act*, 2 ELIZ II 18-19, c. 47 [reproduced in 9 INT'L LEGAL MATERIALS 543 (1970)]; applies only to pollutants entering the area from vessels within the jurisdiction of the Canadian Act. The heart of the Act is the "pollution control zone" which extends 100 nautical miles from the coast pollution jurisdiction. No mention is noted with regard to effluent pollutants from land-based activities.

80. *International Convention on Civil Liability for Oil Pollution Damage, done at Brussels* November 29, 1969, [reproduced in 9 INT'L LEGAL MATERIALS 45 (1970)].

81. *Id.*

82. *Id.*

83. P. JESSUP, THE PRICE OF INTERNATIONAL JUSTICE 59 (1971).

84. *Agreement on the Implementation of a European Project on Pollution, on the Topic: "Sewage Sludge Processing,"* [1972] Gr. Brit. T.S. No. 114 (CMO. 5122) [reproduced in 12 INT'L LEGAL MATERIALS 9 (1973)].

Article I states:

> The signatory nations agree to coordinate their efforts in the project which is to be undertaken to compare the methods of processing and disposing of sewage sludge practiced in the different nations.

However, it must be pointed out that the Marine Pollution Convention does attempt to grapple with this problem,[85] and it will now be demonstrated how this agreement can be the basis around which a comprehensive attack on the effluent problem may be centered.[86] The Marine Pollution Convention's adoption by the Conference on Marine Pollution from Land-Based Sources evidences that the participants have finally realized the gravity of the threat which effluent pollution poses to the marine environhent.[87] The parties[88] to the Marine Pollution Convention have pledged to cooperate in concerted action to counter effluent pollution at global, regional and national levels.[89] In addition to this pledge of cooperation, the Marine Pollution Convention is notable for two other features.

One of these features is that disputes which arise concerning the application and interpretation of the Marine Pollution Convention, which cannot be otherwise settled, shall be submitted to arbitration upon request of one of the parties to the dispute.[90] This demonstrates the desire of the participating nations to solve their disputes regarding effluent pollution without reliance on the judicial process of litigation. The point of view of this regionally based agreement has evolved into a viewpoint which has shifted away from pure nationalism to regionalism; a subtle, though extremely important shift where common resources are under discussion. The ability to address trans-boundary disputes on a multi-national basis greatly increases the chances for effective action.

Another feature of the Marine Pollution Convention is that the waters in which its provisions shall apply are multi-national.[91] The Marine Pollution Convention is one of the few instances in which nations have relinquished even a small portion of their sovereign rights in deference to an international agreement. This provision alone makes the Marine Pollution Convention a landmark in the battle against marine pollution.

85. The Marine Pollution Convention, *supra* note 3.

86. *Id.*

87. *Id.*, Preamble, art. 2.

88. *Id.* Austria, Belgium, Denmark, France, the Federal Republic of Germany, Iceland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom participated in the Conference out of which came the Marine Pollution Convention. Italy attended as an observer.

89. *Id.*, Preamble.

90. *Id.*, art. 21 and Annex B.

91. *Id.*, art. 2.

The waters in which the Marine Pollution Convention authority will be recognized include "the high seas, the territorial seas, and even rivers up to the freshwater limit."[92] The inclusion of the territorial seas and rivers is particularly important for it is in these waters that the great majority of effluents enter the marine environment.[93]

Since the parties have agreed to waive national jurisdiction over territorial waters for the purpose of the Marine Pollution Convention,[94] difficulties centered around jurisdictional concepts appear to have been solved. Such action infers that the contracting parties have finally realized that the elimination of effluent pollution is a need of higher priority than the assertion of national sovereignty in territorial waters. The parties, it is asserted, have acted well in this regard and will be rewarded with progress in the struggle against effluents' despoilment of the marine environment. It is ironic that jurisdictional concepts, ordinarily the most troublesome, are the problems most easily resolved by the agreement of the parties.[95] The goal[96] of the Marine Pollution Convention is the elimination of pollution by certain compounds[97], based upon considerations of persistence, toxicity and concentration in the food chain.[98] The location and quantity of matter discharged are also to be noted. However, as admirable as this goal may be, it will not be accomplished without disputes. Cooperation, a necessary element for success in such ventures, has been built into the Marine Pollution Convention, through its arbitration provisions.[99]

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92. *Id.*, art. 3(a) wherein the treaty provides:

Maritime area — means the high seas, the territorial seas of the contracting parties and waters on the landward side of the base line from which the width of the territorial seas are measured, extending, in the case of watercourses up to the freshwater limit.

93. *Id.*, art. 3(c):

i). through watercourses,
ii). from the coast, including introduction through underwater or other pipelines.
iii). from man-made structures placed under the jurisdiction of a Contracting Party within the limits of the area to which the present Convention applies.

94. *Id.*, art. 1, art. 4.

95. *Id.*, Preface states: "CONSIDERING that the common interests of the states concerned with the same marine area should induce them to cooperate at regional or subregional levels."

96. *Id.*, art. 1(1).

97. *Id.*, Annex A.

98. *Id.*

99. *Id.*, art. 21, which provides: Any dispute between the Contracting Par-

Arbitration has been selected as the method to resolve these anticipated disputes and guides for the conduct of such arbitration are annexed to the Marine Pollution Convention.[100] These guidelines require the submission to arbitration of any dispute concerning the application or interpretation of the Marine Pollution Convention upon the request of one contracting party to another.[101] Upon such a petition an arbitral tribunal shall be constituted, based upon the specific complaint as included in the call for arbitration.[102]

The arbitral tribunal is composed of three members. Each of the parties to the dispute appoints one arbitrator and, by agreement, they appoint the third person who acts as the chairman.[103] The tribunal thus constituted can institute its own rules of procedure, limited only by the Marine Pollution Convention's recognition of international law.

It is unfortunate that this arbitration provision is not as comprehensive as it might be. The method by which the arbitral tribunal is constituted is poorly equipped to deal with some expected situations. Following this provision strictly in a more than two-nation dispute would precipitate an undesirable situation where not all nations would be represented on the tribunal. This means that national representatives would have to represent more than one nation. This conflict of interest clearly violates the concept of participatory decision-making inherent in arbitration.[104] Arbitration demands that each party have a representative on the tribunal. An alternative method of composition would allow each party to seat one representative, regardless of the number of countries involved.[105] The tribunal would then be completed by the selection of three or four neutral arbitrators by the parties to the dispute, whichever would result in an odd number on the

ties relating to the interpretation or application of this Convention . . . shall at the request of any of the Parties be submitted to arbitration. . . .

100. *Id.*, Annex B.

101. *Id.*, art. 21.

102. *Id.*, Annex B, art. 2.

103. *Id.*, Annex B, art. 3.

104. *Id.*, Hague Convention, *supra* note 66, art. 37, states: "International arbitration has for its object the settlement of disputes between States by judges *of their own choosing* and on the basis of respect for the law." (emphasis added).

105. *See, e.g.*, Convention on Settlement of Investment Disputes Between States and Nationals of Other States of 1966 38, *entered into force* October 14, 1966, 17 U.S.T. 1270, 575 U.N.T.S. 159: Constitution of the Universal Postal Union, Article 32, *entered into force* January 1, 1966, 16 U.S.T. 1291 (1964).

tribunal,[106] a desirable procedure to safeguard against deadlocked votes.

However, the method of selection of the tribunal does not constitute the major defect of the arbitration provision. Rather, the fact that the tribunal is composed on a case-by-case basis hinders the most effective use of arbitration by the panel. Disputes arising from the Marine Pollution Convention will necessarily be similar in nature, and through repeated submission of such disputes to a standing arbitration tribunal, expertise in dealing with them could be developed. Establishing such a permanent corps of arbitrators would provide the opportunity for development of expertise, and failure to do so prohibits maximum use of the arbitral concept. A permanent corps of arbitrators, from which the neutral arbitrators can be drawn, would insure impartiality and objectivity. Objectivity is absolutely necessary to instill confidence in the arbitration process. Confidence in the objectivity and impartiality of the arbitral tribunal will increase the willingness of the parties to submit their disputes to arbitration for solution.[107] Through regularity of decision, a type of informal *stare decisis* could be developed to aid in the decision of the disputes. The approach to a problem which was taken by the arbitral tribunal in a certain fact situation would be a matter of record available to the parties. Demonstrating the procedure by which the dispute was satisfactorily resolved would provide parties to subsequent similar disputes an incentive to take analogous action without the necessity of submitting to arbitration. This is important because the more rapidly effluent pollution is abated the smaller the amount of damage that will be done to the marine ecosystem.

The arbitration provision states that the tribunal shall render an award in accordance with international law and rules contained in the Marine Pollution Convention.[108] This is another important factor which implies that the parties have opted for international law in lieu of municipal law as the legal system upon which decisions shall be based. Combination of this with the provision calling for the establishment of an integrated planning policy[109]

106. *International Law Commission's Draft Articles on Arbitral Procedure, supra* note 74, art. 4(2).

107. P. JESSUP, *supra* note 83, at 52.

108. The Marine Pollution Convention, *supra* note 3, Annex B, art. 5.

109. *Id.*, art. 6(2)(d).

demonstrates the real advantage of the Marine Pollution Convention.

Through consistency of decision and incorporation of research submitted as evidence, a *de facto* planning policy can be initiated and effected by the tribunal. A court, especially the International Court of Justice, is unable to monitor and gather data about such a situation unless it relates to a pending suit. The Marine Pollution Convention establishes a series of permanent monitoring stations, designed to assess the existing level of pollution and to evaluate the effectiveness of its remedial measures.[110] These independent sources permit data to be transmitted to the tribunal or any other organization relatively free of national bias. The individual signatories to the Marine Pollution Convention have agreed to share any data collected.[111] The tribunal can effectively employ the data thus submitted to formulate its awards. Submission of best-available data allows integration of the plans and policies of the Marine Pollution Convention into a comprehensive approach.[112] Continued monitoring of the procedures employed to measure the effectiveness of remedial actions has dual significance. Primarily, the contracting parties are assured that ineffective measures will not be repeated, and secondarily, feedback from the monitoring network allows modification of ineffective remedial measures to be initiated rapidly.

Unfortunately, the language of the Marine Pollution Convention is not clear when it mentions "awards".[113] "Awards" are mentioned in several places, but no adequate description of them is given. They can be categorized generally as awards of rights and awards of money damages. Awards of rights usually presuppose national integrity, designating one nation to be in a superior legal position. This is not consistent with the nature of arbitration, nor the co-operative spirit of the Marine Pollution Convention.[114] The goal is to eliminate pollution, not to establish the hierarchy of national rights.

Awards of damages in money have both positive and negative

110. *Id.*, art. 11.

111. *Id.*, Preface, art. 1(2), 6, 10.

112. Joyner & Joyner, *Prescriptive Administrative Proposal; International Machinery for Control of the High Seas*, 8 INT'L LAWYER 57 (1974).

113. The Marine Pollution Convention, *supra* note 3, Annex B, art. 7.

114. *Id.*, art. 1.

aspects.[115] Compensatory damage judgments should be viewed as merely an interim measure and not regarded as a satisfactory final solution. Compensation for damages ignores the basic problem which demands solution. A wealthy country, heavily dependent on pollution-producing industries, would probably prefer paying damages to limiting industrial activity. The result of such a decision would be continued pollution, a situation which is totally unacceptable. The scenario becomes less desirable with the possibility of cancelling counterclaims. For example, State A, awarded damages for pollution injuries caused by State B, is sued by State B for damages caused it by State A. It is entirely possible that these claims would offset each other and the real award would be minimal in both cases, and pollution would continue with little or no actual monetary penalty imposed.

It is proposed that if awards include money damages, they should be paid at least in part to the commission established by the Marine Pollution Convention.[116] The duties of this commission consist of formulation and implementation of abatement measures.[117] The arbitral tribunal should cooperate with the commission in the formulation of abatement measures using funds derived from awards to perpetuate the monitoring program, to financially support the program, and to educate the parties to seek solutions for effluent problems.

The disregard of a decision by a party to the dispute sabotages any beneficial effect that such a decision may have had. In order to sanction effectively, whether a state or an individual, the sanctioning body must have the power of enforcement.[118] Authority is derived either from an enforcement power external to the body, such as a police force, or from agreement by the parties to be bound by the decision rendered. The Marine Pollution Convention's controls are based upon agreement by the parties. In international arbitration, unless the contrary is noted, arbitral awards are deemed final and bind the parties involved.[119] The Marine Pollution Convention expressly stated that its arbitration awards are binding.[120] Enforcement powers established by

115. Doud, *supra* note 23, at 524.
116. The Marine Pollution Convention, *supra* note 3, art. 15.
117. *Id.*, art. 16.
118. Burheme and Schoenbaum, *supra* note 18, at 496.
119. 2 L. OPPENHEIM, *supra* note 48, at 26.
120. The Marine Pollution Convention, *supra* note 3, Annex B, art. 7(1).

the parties[121] are consistent with an arbitration-based approach to disputes.

Participation by the parties in solution of disputes implies that the parties do not desire an entity other than the disputants and the arbitrators to become involved. This desire for lack of foreign participation in the decision-making process is one possible reason for the apparent reluctance of some to submit disputes to the International Court of Justice.[122] By permitting the disputing nations to participate in the decision rendering, the nations are individually asserting sovereignty, rather than ceding it as must be done before the International Court of Justice.

Protracted dialectics which hinder the solution of effluent disputes are undesirable. The decision making process must be as efficient as possible to avoid delays. Parliamentary delays and those caused by inefficient data collection must be avoided. The Marine Pollution Convention minimizes these possible problems[123] and evidences a desire to arrive at solutions. A majority vote is used as the proportion necessary to affect a decision,[124] and applies to questions of substance as well as matters of procedure. Even absence of a party will not be considered an impediment to a decision.[125]

The scope of the Marine Pollution Convention[126] encompasses an area large enough to have substantial impact on effluent pollution, yet small enough to permit effective administration of its programs. Regional attacks seem the most promising approach to effluent problems. Unilateral action is ineffectively narrow, and global organization does not take into consideration problems peculiar to any one area. Effective operation of this regional agreement would help to overcome both of these problems.

Two important purposes can be served by the Marine Pollution Convention. First, successful resolution of disputes through the Marine Pollution Convention's arbitration procedure will demonstrate conclusively that arbitration is a desirable alternative to either diplomacy or litigation. The international legal basis of the decisions permits the awards to be analyzed and employed by

121. *Id.*
122. I.C.J. STAT. arts. 2, 31, 54.
123. The Marine Pollution Convention, *supra* note 3, Annex B, art. 6.
124. *Id.*, Annex B, art. 6(1).
125. *Id.*, Annex B, art. 6(5).
126. *Id.*, art. 3(a).

other like tribunals. The adaptability of the arbitral concept to the peculiarities of a situation is evident, since arbitration can perform as extensive or as limited a function as the parties may agree.

Second, and more importantly, meaningful efforts toward the prevention of effluent pollution can be made. This accomplishment is the ultimate goal,[127] regardless of the method employed. Of the alternatives examined, arbitration is the only one which places consideration of the merits of the problem above all other considerations. Impressive trappings of power are eschewed in favor of effective action.

Nations disturbed by widespread despoilment of the marine environment would be well-advised to observe closely the efforts of the Marine Pollution Convention. Nations such as the United States have realized that regional organization is preferred.[128] Particular note should be taken by those nations of the operation of this arbitration process. The technology to control effluents is currently available, and arbitration, as contained in conventions such as the Marine Pollution Convention, seems a most effective way to integrate this technology with legal action to alleviate the problem of effluents.

IV. CONCLUSION

The international arbitration process can help to remove many of the major impediments to solution of effluent pollution disputes. Cooperation is inherent in the arbitration procedure. The arbitration forum is designed to formulate equitable solutions to problems affecting a wide sector of the world's community. Participatory decision-making fosters trust and communication among the parties to a dispute, a desirable situation in any relationship.

Of the methods examined, arbitration is the process best suited to a rapid, effective solution of effluent pollution disputes. It takes into account international legal principles, and employs technical expertise in the approach to problems; it acts as a hybrid

127. *Id.*, art. 1.

128. Letter from Robert McManus, Oceans Section Director, Environmental Protection Agency (on file at CALIF. W. INT'L L.J.) which states that the United States is committed to the goals of the Marine Pollution Convention. An example of this commitment is the Water Pollution Control Act of 1972, 33 U.S.C. 1251 *et seq.* (1972) which in section 7 authorizes the President of the United States to seek international action for control and abatement of marine pollution.

of court and legislature, and combined with the research capability of the Commission, it is the catalyst for effective action in this area. No novel procedures need be formulated; arbitration can succeed at its present stage of development.

The Marine Pollution Convention, one of the initial attempts employing arbitration as its main problem-solving process, is obviously not a panacea for the world's effluent problems. However, it is certainly the most comprehensive action of this type to date. No other method approaches the flexibility or potential speed of action of arbitration. Few, if any, preconceived misconceptions clutter the notion of what arbitration is or what it is capable of accomplishing.

It is for these reasons that the Marine Pollution Convention is an important contribution to the international arbitration concept, and should be given support.

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