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THE CONTROL AND PREVENTION OF TRANSNATIONAL POLLUTION: A CASE FOR WORLD HABEAS ECOLOGICUS

LUIS KUTNER*

INTRODUCTION

Throughout its history, humankind has, in the process of dominating the earth, created change in the earth's environment. As the world's human population has increased commensurately with a rapid depletion of its natural resources, it has become evident that environmental problems will increasingly take on an international complexion requiring international resolution.

A world approach to the resolution of environmental problems must take account of the paradox inherent in the dual nature of human life—biological uniformity versus social diversity and competition. Though a global approach is essential for dealing with international ecological problems, each human settlement has problems requiring local solutions. This complex diversity and uniformity are complimentary. On entering the global phase of social evolution the individual has two countries, his own and the planet earth. Neither can be ignored.

Environmental law has developed from early times at the municipal level. Legal systems have developed rules to control the use of one's property and human behavior so as to permit a habitable environment and to minimize adverse ecological effects. For example, Biblical tradition and the Talmud espoused the stewardship of man over his resources and set

^{*}L.L.B., J.D.; Member, Illinois Bar, Indiana Bar; former Lecturer in Law, University of Chicago; former visiting Associate Professor, Yale Law School; Congressional Nominee 1974-75-76; Chairman, World Habeas Corpus Committee, World Peace Through Law Center; President, Commission for International Due Process of Law; former Counsul, Ecuador; former Consul General, Guatemala; former Special Counsel to the Attorney General of Illinois; author of The Living Will; numerous law journal articles and several books, including WORLD HABEAS CORPUS; I, THE LAWYER; and DUE PROCESS OF REBELLION.

The research assistance of Ernest Katin. Ph.D. of Tel Aviv Israel is acknown.

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¹Dubos, Unity Through Diversity, in Only One Earth 38 (1973).

forth rules to avoid pollution.² The Common Law has developed nuisance rules with regard to maximum land use. Planning law has facilitated anticipatory control of the environment. Only recently has international environmental control emerged.

Persons adversely affected by transnational air, water and noise pollution have little remedy. Accordingly, a concrete remedy is proposed herein by which individuals or groups may appeal to an international commission to obtain municipal compliance of international pollution standards.

THE POLLUTION PROBLEM

Pollution involves the introduction into the environment of material or energy that endangers or is likely to endanger man's health, well-being or resources.³ It may affect man directly⁴ through his contact with air, water or food, or indirectly through food supply reduction,⁵ habitat deterioration or climate alteration.⁶

Pollution consideration may be approached from two perspectives. One is to assume that a substance is not harmful until evidence indicates the contrary; the other is to assume that any substance, or at least any new chemical substance, is harmful until found otherwise. It is also necessary to consider the particular properties of substances that are likely to make them significant pollutants.⁷

The problem of air pollution has become a matter of increasing concern as a result of a new awareness of the value of air as a free natural resource used for industrial and other purposes. Air pollution may be defined as the addition into the air of all artificial substances shown at one time to cause harm or disturbance to man or to his environment. A

²Lamm, Man and His World, 15 World Jewry 17 (July, 1972); Rakover, Ecology and the Halakha, 4 Dine Israel 5 (1973).

³Identification and Control of Pollutants of International Significance, U.N. Doc. A/CONF. 48/8.

⁴¹Id. Direct effects include genetic aberrations which manifest themselves several generations after human contact with certain pollution forms.

⁵¹d. Food supply reduction can occur indirectly, for example, by the proliferation of (a previously) harmless species, resulting from the pesticidal extermination of that species' natural enemies.

stricter definition would include the introduction of all artificial additives to the air whether or not proven to cause harm to man or to his environment. The latter definition suggests the idea that the air is a public trust resource into which no material should be inserted until conclusively proven safe.⁸

The primary pollutants include carbon monoxide particles, sulfur dioxide, nitrogen oxide, and carbon. Studies have been undertaken which indicate that in addition to the harmful effects of air pollution on vegetation, there is a causal relationship between air pollution and human respiratory diseases. Air pollution produces adverse economic effects as well. 11

The technical prevention of air pollution includes choosing nonpolluting processes and matter, separating the pollutant from its dispensing source using planning techniques to locate polluting activities in particular areas, and planting protective and filtrating vegetation.¹²

Noise pollution may be defined as unwanted sound.¹³ Not only does noise produce the empirically proven physiological effect of a loss of hearing, it also produces other physiological, psychological and societal effects, and is destructive to wildlife. The danger limit for most individuals is between 80 and 85 decibels.¹⁴

Water pollution is comprehensively defined by the Israel Water Law (Prevention of Water Pollution) Amendment as

a change in the properties of water in a water resource in physical, chemical, organoleptic, biological, bacteriological, radioactive or other respect, or change as a result of which water is dangerous to

⁸ Air Pollution (2d ed. I.A.C. Stern 1968).

⁹Zutski, A Perspective On Current Air Pollution Problems, Indian Atom. Energy Rep., BARC-355 (1968); National Air Pollution Control Administration, Air Quality Control for Sulfur Dioxide (Jan. 1970) and Air Quality Criteria for Carbon Monoxide (March 1970).

¹⁰Eg., Cossell, The Health Effects of Air Pollution and Their Implication for Control, 33 L. and Contemp. Prob. 197 (1968).

¹¹ The Economics of Air Pollution (H. Wolozin, ed. 1966).

¹²Balicack, Combined Pollution Index for Measurement of Total Air Pollution, 1970 J. Air Pollution Control Assoc. 6, 65.

¹³Hildebrand, Noise Pollution: An Introduction to the Problem and an Outline for Future Legal Research, 70 Colum. L. Rev. 652 (1970).

¹⁴Id. at 669.70; Schenker-Sprungli, Down With Decibels!, UNESCO Courier, July 1967 at 4, 7.

public health or is likely to harm animal or plant life or is less suitable for the purpose for which it is used or is intended to be used.¹⁵

The most widely invoked definition of marine pollution is that which was agreed upon in 1970 by the United Nations Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), a body of experts drawn from a number of UN agencies:

The introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to marine activities including fishing, impairment of quality or use of sea water, and reduction of amenities.¹⁶

Environmental problems will tend to become more acute with weather changes. Some observers contend that radical weather changes throughout the world will evoke mass migrations. Inevitably this will give rise to international crises.¹⁷

MUNICIPAL AWARENESS AND RESPONSE

Though the Soviet Union had boycotted the 1972 United Nations Stockholm Conference, it and other Communist countries have become aware of environmental problems. Production of Caspian Sea caviar has decreased as a result of oil pollution, sewage and industrial waste pumped into the Volga River from cities along its 3,200 kilometer course. Lake Balkai in Siberia, the world's largest-volume inland body of water, has been affected by the effluence of a paper pulp mill on its shore. A film, At The Lake, potrays the struggle by a hero biologist to protect the purity of the lake. The Supreme Soviet enacted legislation to provide for long-range environmental protection. 18

¹⁵Water Law Amendment No. 5, S.H. 5732, 8 (1971), quoted in Katin and Virshubski, Environmental Law and Administration in Israel, 1 Tel Aviv U. Studies in Law 197, 229 (1975).

¹⁶J. Barros and D.M. Johnston, The International Law of Pollution 6 (1974).

¹⁷Peleg, Crazy Weather—Is A Worldwide Holocaust Anticipated? Maariv, May 21, 1976 at 32.

¹⁸Dornberg, Soviets Wake Up to Ecology, Jerusalem Post, Sept. 11, 1973. The Soviet Union has adopted legislation to conserve mineral resources. New Soviet Legislation to Conserve Mineral Resources, 1 Envt'l Pol'y & L. 92 (1975).

East Germany established a Ministry for Environmental Protection and entered into an environmental protection agreement with neighboring Poland. Post-war urbanization and rapid industrialization have created environmental problems in Poland. Hungary has become concerned about pollution of its lakes and of the Danube River.¹⁹

China has been concerned with environmental problems since the Communist Revolution. Clean-up campaigns were initiated with programs for the recycling of waste. Commercial departments throughout China have approached factories to tap latent potentials in the purchase of recycled materials.²⁰

Mao Tse-tung recognized, long before the current international concern for ecology, that the long-term success of economic development required that the people be protected from environmental hazards and that the environment be protected from uncontrolled abuse. Believing that the basic physical needs of the population—good health, good water, adequate food—were prerequisites to other national goals, programs to improve sanitation and health were undertaken at an early stage. In the 1970's, programs have been undertaken to curtail industrial pollution by the Ministry for the Environment.²¹ With a predominantly rural population and the absence of an economy of abundance, the People's Republic of China is in a favorable position to control her environment. Moreover, she has the advantage of maintaining a coercive national commitment. Industries have been located in smaller rural areas and controls imposed on the movement of peasants to the cities.²²

The developing countries are also much affected in the course of their development by environmental problems. Projects have been undertaken with little regard for environmental effects. A striking example is Egypt's Aswan Dam. Though intended to facilitate increased electric power and land reclamation, these benefits were outbalanced by the Dam's adverse ecological side effects, including the loss of a fifty-million ton supply of fertile silt dropped annually by the Nile Flood. This deprivation has (1) led to an erosion of the coastline; (2) increased diseases flourishing in stagnant waters; (3) caused the presence of algae, which

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¹⁹Dornberg, id. at 29.

²⁰Orleans, China's Environomics: Backing Into Ecological Leadership, 2 Envt'l Pol'v & L. 98 (1976).

²¹*Id*.

²²Id.

in turn adversely affected drinking water; (4) ended Egypt's Mediterranean fishing industry; and (5) spawned an increase in the debilitating snail-carried disease, bilharzia.²³

Many developing countries have experienced mass urbanization while emerging from predominantly rural economies. An example is Thailand, where the city of Bangkok has experienced one of the highest rates of population growth—3.1 percent per annum.²⁴ In Lapland, hydroelectric projects, heavy logging, and new highways have cut into old reindeer grazing grounds.²⁵

Sweden has enacted regulatory legislation over products endangering man and his environment.²⁶ The government is authorized to control material at all stages of production, import, sale, and even at the stage of waste disposal. Manufacturers and importers are required to provide precise data as to the components of the product. Sweden is also engaged in natural resource planning and the protection of important land areas. A particular emphasis is placed on aesthetic considerations.

European governments have launched a campaign to clean rivers.²⁷ British rivers are now claimed to be the cleanest in Europe. Italy has followed Britain's lead, mainly in Rome, where results have been impressive since the construction of two treatment plants. Efforts to clean the Rhine—Europe's largest open sewer—have been hindered by limited funds and political problems. A joint agency has been formulating a plan of action to control the River's two worst pollution sources: salt from French potash mines and chemicals from West German plants. Courts of states through which tributaries of the Rhine flow have encountered some of the problems of transnational pollution, i.e., whether jurisdiction is to be assumed by the court in the state where the pollution flows or in the state where the source of the pollution is situated.²⁸

²³ Aswan Dam Controls Nile Flood, but Weeds Clog Cairo's Water, Jerusalem Post, Dec. 12, 1974, at 5.

²⁴Goldstein, Urbanization and Economic Development—The Case of Thailand, 12 LTC Newsletter 2, (U.S. ISSN 00 84-0795) (1973).

²⁵Clouds in the Midnight Sun, Newsweek, Sept. 3, 1973 at 3.

²⁶See, Current Sweden, July, 1974.

²⁷Robie, The Fight to Clean Europe's Rivers, Jerusalem Post, May 19, 1967.

²⁸Kiss and Prieur, Cooperation Transfrontiere: Region du Rhin Superieur, 2 Env'l Pol'y & L. 81 (1976); Van Hoogstraten, La Salinite du Rhin et le Tribunal de Rotterdam, Handelskwekerij Bier v. Mines de Potasse d'Alsace, 1 Envt'l Pol'y & L. 73 (1975).

In Britain, the Secretary of State for the Environment has primary responsibility for coordinating the government's activity with regard to pollution control. While the central government lays down the statutory framework within which controls are to be applied, the implementation and enforcement are generally delegated to local authorities and to regional water authorities who have discretion to set pollution limits. The central government, however, issues guidelines as to matters of national concern, and, in a limited number of cases, sets national standards for radioactive wastes, automobile noise, and air and marine pollution.²⁹ Britain, unlike other industrial countries, does not have legislation and regulations providing for uniform emission and environmental quality standards. Central and local authorities believe that reasonable standards should govern the use and maintenance of equipment and supervision of processes. Accordingly, standards are set locally for particular factories. Permission to use the resources is based on the environment's ability to sustain the use. No grants are made for pollution control. Those who create pollution are financially responsible for controlling it.

Britain has had some success in controlling air and water pollution. The Royal Commission on Environmental Pollution, a permanent, independent body of pollution experts, makes evaluations and recommendations. It recently recommended a comprehensive approach with a national unified inspectorate to guide industry pollution-abatement programs. The British are opposed to uniform emission standards in the Common Market, and would provide incentives for locating industries in environmentally degraded cities.

The West German Government has established an Information and Documentation System for Environmental Planning (UMPLIS), which is administered by the Federal Environmental Agency (FEA). The System, comprised of data banks, provides information to governmental agencies and business enterprises. With UMPLIS, the FEA also functions as a clearinghouse for environmental information within the European community. Environmental standards are formulated for general applicability by statutory ordinance or by general administrative regulation. Environmental policy is based upon the principle of precautionary action. Citizen participation is encouraged in the making of environmental decisions.³⁰

²⁹Lummis, Environmental Protection in the U.K., 2 Envt'l Pol'y & L. 87 (1976).

³⁰Statement of State Secretary D. G. Hartkopf, printed in Envt'l Pol'y & L. 89 (1976).

Israel's experience is unique. The impact of mass absorption of immigrants and the pressing need for housing development and industrialization, accompanied by a utilitarian ethic, did not encourage long-range environmental planning. Since 1970, however, a growing concern for environmental problems has developed. Though an environment ministry has not been established, an Environmental Protection Service was formed which is now part of the Ministry of Interior. The Service coordinates the functions of various agencies, ministries and local authorities. A comprehensive Water Law was enacted providing extensively for the control of water pollution.³¹

In the United States, extensive environmental control legislation has been enacted. The National Environmental Policy Act of 1969³² confers a duty on all federal agencies to consider and formulate Environmental Impact statements on the environmental effects of proposed major government projects. A Council of Environmental Quality has been established within the Executive Office of the President. It is required to submit to Congress an annual report on the quality of the environment. The Noise and Pollution Abatement Act of 1970³³ establishes an Office of Noise Abatement in the Environmental Protection Agency (EPA). Water pollution is controlled by the Safe Drinking Water Act of 1971.³⁴ It constitutes a statutory mandate for state programs which protect groundwater, and emphasizes the kind rather than the number of contaminants.³⁵ The Water Quality Control Act of 1972³⁶ requires states to devise mandatory permits and other functions related to water control. The EPA takes action when the state function is insufficient.

The United States Clean Air Act³⁷ requires the EPA to establish primary and secondary ambient air quality standards. The primary standards pertain to the protection of human health, while the secondary standards protect and promote public welfare. Each state must implement a plan coordinated by the EPA through local enforcement agencies. The

³¹See eg., R. Lasiter, The Legal Framework for the Prevention and Control of Water Pollution in Israel, (Jerusalem, 1976).

³²⁴² U.S.C. §4321 (1969).

³³⁴² U.S.C. §1858 (1970).

³⁴⁴² U.S.C. §300(f) et seq. (1974).

³⁵⁴² U.S.C. \$300g-1 (1974).

³⁶³³ U.S.C. §1251 et. seq. (1972).

³⁷⁴² U.S.C. §1857 et. seq. (1967).

operations are required to be undertaken in a prescribed manner involving internal procedures to minimize pollution. Standards are developed to regulate chemical emissions, including sulfur oxide, carbon monoxide, hydrocarbons, nitrogen oxide, and particulate matter. Each emission source is required to stay below a certain emission level during a specified period of time. Visual emission standards require smoke to be of less than a certain density. Regulations are enforced by special-purpose districts or state agencies, with local prosecutors having concurrent jurisdiction as environmental prosecutors. Enforcement mechanisms include criminal prosecutions, permit revocations, cease and desist orders, civil nuisance actions, civil injunctions, and the use of public pressure.³⁸

Latin American countries have also been concerned about the environment. A Venezuelan law of 1973 established a national council for the environment to prepare a national plan for environmental protection.³⁹ Further, both Venezuela⁴⁰ and Mexico⁴¹ have established environmental protection agencies.

MUNICIPAL COMMON LAW DOCTRINES

The international law regarding pollution is derived from municipal law principles. Though much of pollution litigation in common law coun-

tries is based on statutes, common law doctrines continue to play a role. The relevant doctrines are likely to involve tort liability and/or property rights.

The application of common law doctrines will be determined by a nation's attitude towards interference with property rights.⁴² A preference has developed for resolving conflicts by interest balancing.⁴³

Negligence may be a basis for pollution litigation if an alleged polluter (1) does not perform his duty to the plaintiff with the care of

³⁸Pines, Criminal Prosecution of Air Pollution Cases, 1975 Rep. of the Comm. on Environmental Protection, Nat'l Institute of Municipal Law Officers.

³⁹Environmental Protection in Venezuela, Habiosphera, Feb. 1976 at 8.

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⁴¹Darkness at Noon, Newsweek, Aug. 27, 1973, at 35.

⁴²Friedmann, Social Security and Some Recent Developments in the Common Law, 21 Can. B. Rev. 369 (1943).

⁴³Friedmann, Law in a Changing Society 80 (1959).

a reasonable man and (2) could have foreseen that damage might result from his conduct.⁴⁴ The plaintiff might encounter difficulties in showing what standard should be expected of the prudent operator and that the negligent act caused the damage.⁴⁵ The courts have lightened the plaintiff's burden by the doctrines of strict or absolute liability. Under these doctrines, certain injuries may give rise to liability even though caused by activities which were neither wrongfully nor negligently performed.⁴⁶ A familiar example is where the defendant creates a peril on his own property or engages in a lawful but ultrahazardous activity that results in injury to the plaintiff. The defendant is thereby obligated to compensate the plaintiff for all damage that is the natural result of the peril or activity, regardless of whether the defendant had exercised due care. The doctrine has become applicable to oil pollution litigation.⁴⁷

The common law doctrine of nuisance has been invoked in environmental litigation.⁴⁸ Nuisance has been divided into three categories: private, public, and statutory.⁴⁹ Private nuisance involves the defendant's use of his property in such a way as to cause substantial interference with the use and enjoyment of the plaintiff's property. Public nuisance is an interference with a right of the public at large, and generally involves an action initiated by a prosecuting authority, although in some cases a class of citizens may prosecute. In an action for statutory nuisance the plaintiff is only required to allege that the statute was violated.

Nuisance actions are of limited effect in controlling pollution. In may instances the court is confronted with an ex post facto situation wherein the activity causing the disturbance results from an enterprise whose operation began before its effects were considered environmentally

⁴⁴Barros and Johnston, supra note 16, at 19.

⁴⁵ See, e.g., Overseas Tankship (U.K.) Ltd. v. Morts Dock & Eng'r Co., [1961] A.C. 388 (P.C. 1961).

⁴⁶Barros and Johnston, supra note 16, at 19-20.

⁴⁷The principle is derived from the English case of Rylands v. Fletcher, L.R. 3 H.L. (1860), which held that "[t]he person who for his own purposes brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril; and if he does not do so, is prima facie answerable for all the damage which is the natural cause of its escape." This principle was extended from what had previously been limited to the escape of special things like fire, or unruly beasts to mischievous things generally.

⁴⁸V. J. Yanncone and B.S. Cohen, Environmental Rights and Remedies, 9-10 (1972).

⁴⁹Barros and Johnston, supra note 16, at 20-21.

harmful. The proceedings may be protracted. Also, pollution arising from a multiplicity of sources is not amenable to nuisance litigation.⁵⁰

The trust doctrine, which holds that all natural resources are held in vested trust for the full benefit, use and enjoyment of the people,⁵¹ has also been asserted to protect natural resources.

Controversies have come before the United States Supreme Court involving complaints against one state for acts which adversely affect the air or water of a neighboring state. In Georgia v. Tennessee Copper Co., 52 Mr. Justice Holmes upheld the right of the State of Georgia to obtain an injunction to enjoin a Tennessee copper company from polluting the air in Georgia. In a subsequent action between the parties, the Court issued a regulatory decree. 53 The Court, in Illinois v. City of Milwaukee, 54 recognized a federal common law of public nuisance permitting states to sue other states, municipalities, and private persons to abate injuries and impairments of a state's air and navigable waters caused by activities outside the state's domain. Thus, a state may properly assert a public nuisance action against an adjoining state.

Though the tendency has been to extend standing rights in environmental suits, the courts are reluctant to accept mere acto popularis actions. ⁵⁵ In Sierra Club v. Morton, ⁵⁶ the Supreme Court of the United States held that an organization or group, although sufficiently identified with the interests sought to be protected under NEPA, must allege actual injury on the part of a person or persons it represents, in order to be properly before the court. Groups of United States citizens have formed environmental defense teams, stressing scientific research and a multidisciplinary approach in undertaking legal action. ⁵⁷

⁵⁰Edelman, The Law of Air Pollution Control (1970); Katin and Virshubski, supra note 15, at 216-17.

⁵¹Yanncone and Cohen, supra 48, at 11.

⁵²²⁰⁶ U.S. 96 (1906). See also, Missouri v. Illinois and the Sanitary District of Chicago, 200 U.S. 496 (1906), involving the pollution of a river by one state to the harm of a riparian state.

⁵³²³⁷ U.S. 474 (1915).

⁵⁴⁴⁰⁶ U.S. 1395 (1972).

⁵⁵See, e.g., French Hill Hotel Ltd. v. Jerusalem Local Planning Comm., H.C. 410/72, 27 (2) P.D. 325.

⁵⁶⁴⁰⁵ U.S. 727 (1972).

⁵⁷Butler, Law and Science Team Up to Preserve Environmental Quality, 7 Env't. Sci & Tech 30 (1973). A counter group has been formed to oppose public interest suits. Thomas, On the Right Side: The Pacific Legal Foundation is Doing Yeoman Work, Barron's, Feb. 2, 1976. The United States Supreme Court has refused both to accept the concept of Private Attorney General and to exempt plaintiff's from cost liability. Alyseska Pipeline Serv. Co. v. Wilderness Soc'ys, (421 U.S.

Litigation is an important but limited tool in controlling the environment.⁵⁸ It may delay the implementation of needed projects. Accordingly, extensive legislation has been enacted to regulate air, water and noise quality standards.

Criminal enforcement of environmental legislation has been highly efficient, primarily because proof of intent is unnecessary. In a water pollution matter, the British House of Lords held that, if a person causes water pollution, criminal liability may arise even where the accused had no knowledge that polluting matter had entered a stream. The test is whether the person concerned caused or knowingly permitted the poisonous, noxious, or polluting matter to enter the stream. The accused is deemed to have caused the pollution by the mere operation of the enterprise. The United States Supreme Court, in U.S. v. International Mineral and Chemical Corp., 60 held that where dangerous materials are involved, anyone knowingly in possession thereof will be presumed to know of regulations concerning their use and handling. The court broadly defined the phrase "knowingly" as referring only to the knowledge of the act and not that the act was illegal.

Constitutional search and seizure provisions of the Fourth Amendment do not apply under the "open field" exception.⁶¹ Though a warrant may be required for administrative searches as to building violations, it need not be very specific and is easily obtained.⁶²

Enforcement of oil pollution legislation involving foreign vessels is complicated. For example, although identification of habitual polluters is

⁵⁸See, e.g., French Hill Hotel Ltd. v. Jerusalem Local Planning Comm'n, supra note 55.

⁵⁹Alphacell Ltd. v. Woodward, 2 All E.R. 475 (1972).

⁶⁰⁴⁰² U.S. 558 (1971). The Court followed the dicta in Morissette v. United States, 342 U.S. 246, that intent ought not be required as an element of health and welfare offenses. Morissette States that offenses of neglect do not generally require wrongful intent. "The accused, if he does not will the violation, is usually in the position to prevent it with no more care than society might reasonably expect from one who assumed his responsibilities." Id. at 256.

It should be noted that mens rea is not ordinarily "an element of the offense

It should be noted that mens rea is not ordinarily "an element of the offense in the case of statutory crimes not involving moral turpitude... where the word 'knowingly' or other apt words are not employed to indicate that knowledge or intent is an essential element of the crime charged..." 22 C.J.S., Criminal Law §30 (2d. ed. 105).

⁶¹Air Pollution Variance Bd. v. W. Alfalfa, 416 U.S. 861 (1974), where air pollution inspectors entered defendant's property without consent and observed a smoke emission violation. The Court held that since the activity took place in an "open field," the observation did not come within Fourth Amendment requirements.

⁶²Camara v. Municipal Court, 387 U.S. 523 (1967).

easier when owners rather than masters are prosecuted, because of former offense records, foreign shipowners are unlikely to be available for prosecution within a State's jurisdiction. Additionally, prosecution of the owner may raise probative problems as to intent and the imputation of vicarious liability.

Under The British Prevention of Oil Pollution Act,⁶³ harbor authorities may elect to prosecute either a vessel's master or owner according to who is more responsible. While the fine imposed on a master in a criminal proceeding is related to his means, civil compensation, by the vicariously liable owner, is determined by the amount of damage. The British Merchant Shipping (Oil Pollution) Act of 1971,⁶⁴ which effects the International Convention of Civil Liability for Oil Damage (Brussels, 1969), provides for civil liability merely upon a plantiff's showing that a defendant probably caused damage.

Enforcement against foreign shipowners is facilitated by a number of voluntary schemes. Through the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP) (whereby tanker owners, without proof of negligence, reimburse national governments for oil pollution damage up to a specified financial limit), compulsory schemes under the Brussels Convention, and ship owners protection and indemnity clubs, 65 pollution harms are adjusted.

Individual rights to a clean environment are gaining constitutional status in several countries. It has been urged that the Ninth Amendment to the United States Constitution, which affirms those rights retained by the people not mentioned elsewhere in the Constitution, includes the right to a clean environment. ⁶⁶ A proposal for the inclusion of a protocol regarding such rights into the European Human Rights Convention has been made. Article 24 of the 1975 Greek Constitution concerns the environ-

^{631971,} C. 60.

⁶⁴C. 59.

⁶⁵Brown, Enforcement of Oil Pollution Legislation-A Practitioners View, 39 Mod. L. Rev. 162 (1976). Canada has resolved some of its enforcement problems, in this area, by placing responsibility on the ship in addition to the individual. The ship may be served with proceedings in a similar manner as in an Admiralty action in rem and detained until trial or released upon the giving of security.

⁶⁶Yanncone and Cohen, supra note 48, at 61-76.

ment.⁶⁷ However, by deeming such a right fundamental, a society loses its ability to balance other interests with that right in varying local and national contexts.⁶⁸

THE INTERNATIONAL LAW OF POLLUTION

A state's responsibility for pollution beyond its borders has not yet been fully developed in international law.⁶⁹ The basis for state responsibility, generally, is to be found in the *Corfu Channel Case*.⁷⁰ There, the International Court of Justice (ICJ) asserted the principle that every state has the obligation not to allow its territory to be used for acts contrary to the rights of other states. State responsibility towards the environment was asserted in Principle 21 of the Stockholm Declaration,⁷¹ and was reaffirmed by the General Assembly of the United Nations.⁷²

In 1966, the International Law Association, a non-governmental agency, formulated the Helsinki Rules.⁷³ They assert that each state is entitled, within its territory, to a reasonable and equitable share in the beneficial use of the water of an international drainage basin. The Association rejected the principle, however, that a state has the unqualified right to utilize and dispose of the waters of an international river. Article X of the Rules provides that a state must prevent new and abate existing forms of water pollution. A state found violating Article X shall be required to cease the wrongful conduct and compensate the co-basin state for any injury it suffers.⁷⁴

A treaty in 1910 between the United States and the United Kingdom relating to the "Boundary Waters Between Canada" provided, inter alia,

⁶⁷Mattes, The Right to a Humane Environment: A Seminar, 1 Envt'l Pol'y & L. 86, 90 (1975).

⁶⁸H. Steiger, On the Establishment of Constitutional Rights to the Environment, (Berlin, 1976); Mattes, supra note 67, at 86.

⁶⁹Barros and Johnston, supra note 16, at 74-5.

⁷⁰⁽¹⁹⁴⁶⁾ I.C.J. 1, at 22.

⁷¹ Barros and Johnston, supra note 16, at 31.

⁷²G.A. Res. 2997.

⁷³International Law Association, Report of the Fifty-second Conference, Helsinki, 1966.

⁷⁴**I**d.

⁷⁵Barros and Johnston, supra note 16, at 83.

that the boundary waters shall not be polluted on either side to the injury of health or property of the other. It also established an International Joint Commission to adjudicate cases involving matters arising under the treaty.

The Commission adjudicated the matters of pollution of Rainy River and Lake of the Woods. Finding the waters to be polluted, it proposed the adoption by the Governments of minimum water-quality objectives. In 1970, the Commission, finding that the waters of Lake Erie, Lake Ontario, and the International Section of the St. Lawrence River were seriously polluted by municipal and industrial wastes, proposed water-quality objectives. Pursuant to these findings, the United States and Canada entered into a series of pollution control agreements.

The International Boundary Commission between the United States and Mexico was extended in 1944 to apply to water use. A protocol between France, Belgium, and Luxembourg established a Tripartite Standing Committee on Polluted Waters. Belgium, and Luxembourg established a Tripartite Standing Committee on Polluted Waters. The Boundary Waters Treaty between West Germany and the Netherlands provides for a Permanent Boundary Water Commission, and, in case of disputes, for an Arbitral Tribunal. Tribunal. In Indus Water Treaty concluded between India and Pakistan in 1960 provides that neither country shall undertake measures adversely affecting the other, and each shall agree to prevent undue river pollution in the drainage basin of the eastern and western rivers. Each party is obliged to appoint a Commissioner to comprise the Permanent Indus Commission to facilitate consultation and dispute settlement.

The single significant precedent with regard to international adjudication of air pollution is the *Trail Smelter Arbitration*.⁸³ It involved

⁷⁶Id. at 93.

⁷⁷Id. at 107.

 $^{^{78}}Id.$ at 119. In 1972 a Great Lakes Water Agreement was entered into. Id. at 127.

⁷⁹Id. at 154.

⁸⁰Id. at 155.

⁸¹Id. at 155, 157.

⁸²Id. at 165.

⁸³Trail Smelter Arbitration (United States v. Canada), 3 U.N.R.I.A.A. 1911 (1938). See, Hasset, Air Pollution: Possible International Legal and Organizational Response, 5 N.Y.U. J. Int'l L. & Pol. 1 (1972); Lee, International Legal Aspects of Pollution of the Atmosphere, 21 U. of Toronto L.J. 203 (1971); Rubin, Pollution by Analogy: The Trail Smelter Arbitration, 50 Ore. L. Rev. 259 (1971).

hearings by an ad hoc tribunal, established by special agreement, to hear and decide a dispute between the United States and Canada involving damage from pollution to the State of Washington caused by sulfur dioxide emitted by a Canadian smelter plant. As noted by the tribunal, no case of air pollution had been previously dealt with by an international tribunal. United States Supreme Court air and water pollution decisions were used as precedents. The tribunal found that, "no state has the right to use or permit the use of its territory in such manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence."84 Further, it found Canada responsible for the damage caused by the Trail Smelter, that the damage was such as would be recoverable under United States court decisions in suits between private individuals, that the smelter's operation should be regulated, and that the parties should make provision for future indemnification.

Air pollution in the Detroit-Windsor area was considered by a commission appointed by the United States and Canada.⁸⁵ The commission issued a report in 1971 recommending that abatement programs be accelerated, that both Governments establish uniform air-quality standards, and that annual progress reports be made to the commission regarding compliance with those standards.⁸⁶

A series of multi-lateral marine pollution treaties has been adopted. The International Convention for the Prevention of Pollution of the Sea by Oil (1954) provides for common action by governments to prevent pollution by oil discharged from ships, with the cooperation of the Inter-Governmental Maritime Consultative Organization.⁸⁷ The Convention provides for regulations and requires the contracting governments to undertake relevant measures and provide facilities for oil unloading. A Convention protocol sets tanker building specifications, and requires ships to bear compliance certificates.

⁸⁴³ U.N.R.I.A.A. 1911, 1965 (1938).

⁸⁵Barros and Johnston, supra note 16, at 196.

⁸⁶*Id*.

⁸⁷International Convention for Prevention of the Sea by Oil, 1954 (as amended 1973). See Barros and Johnston, supra note 16, at 200.

The International Convention on Civil Liability for Oil Pollution (Brussels, 1969)⁸⁸ imposes absolute liability upon ship owners for oil-discharge pollution damage to coastal territory (including seas) of states. However, such liability is not imposed if the damage is caused by acts of war or God, third parties, or governmental negligence in maintaining navigation aids. The Convention also establishes a damage compensation fund to be supported by ship owners.

The London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter⁸⁹ obligates the contracting states to promote the effective control of all sources of pollution of the marine environment,⁹⁰ designate a permitting authority, keep records of the quality and quantity of dumping by those vessels and aircraft registered, loading or situated in their territories, and undertake dispute settlement procedures for dumping damage.

The Baltic,⁹¹ Northeast Atlantic,⁹² and Mediterranean states⁹³ have concluded regional conventions to control marine pollution.

The Geneva Conventions on the Law of the Sea (1958), the High Seas,⁹⁴ the Territorial Sea and the Contiguous Zone,⁹⁵ the Continental

⁸⁸Barros and Johnston, supra note 16 at 213, 222. For application in Britain, see Brown, Enforcement of Oil Pollution Legislation — A Practitioner's View, 39 Mod. L. Rev. 162 (1976); Dickens, Law Making and Enforcement — A Case Study, 37 Mod. L. Rev. 297 (1975); in Israel see Kling, The Ship Owners Liability for Sea Pollution, 4 Tel Aviv U. L. Rev. 542 (1975, in Hebrew with English summary). Cf. Schacter and Serever, Marine Pollution Problems and Remedies, 65 Am J. of Int'l L. 84 (1971).

⁸⁹Barros and Johnston, supra note 16, at 250.

⁹⁰Id. at 228.

⁹¹U.N. Doc. A/CONF. 62/C 3/L. 1 Conv. 1, July 22, 1974 (Mimeographed only).

⁹²Current Legal Developments — Marine Pollution, 23 Intl. & Comp. L. Q. 884 (1974). Efforts are also being made to preserve islands of vegetation and wildlife north of Holland in the North Sea area. Haaretz, Jan. 25, 1976, at 13.

⁹³ Jeresalem Post, Feb. 17, 1976; Ardon, Med. Sea Pollution to be Outlaws in a Few Years, Jerusalem Post, March 1, 1976, at 7. The Convention was signed by 12 states, including Israel and six Arab states and provides for concerted control measures and scientific and technical cooperation and sets forth rules of procedure and compensation for pollution damage. Technical protocols were signed calling for cooperation by the Mediterranean States on combatting pollution from ships and shores. A regional anti-pollution center was established in Malta and proposals are to be considered as to a center in the Eastern Mediterranean. The Barcelona Conference had been preceded in 1974 by an Inter-Parliamentary Conference in Rome. U.N. Doc. CONF/MED/74 — which was convened by the Inter-Parliamentary Union and the Italian Chamber of Deputies.

⁹⁴U.N. Doc. A/CONF. 13/L 53.

⁹⁵U.N. Doc. A/CONF. 13/L 52.

Shelf% and the Convention on Fishing Conservation of the Living Resources of the High Seas 97 deal with the protection of the marine environment. The Third Law of the Sea Conference at Caracas and the Conference at New York are of particular significance, as they relate to the control of the sea bed, the delimitation of the territorial sea and the setting of fishing zones. 98

States have entered into bilateral and regional agreements to protect the environment. The United States and the Soviet Union entered into an agreement on cooperation in the field of environmental protection in 1972.99 The agreement calls for the exchange of scientists, experts, and research scholars, organization of bilateral conferences, exchange of scientific and technical information, joint development and implementation of projects, facilitation of direct contact between institutions and organizations, and the establishment of a Joint Committee to approve annually programs of cooperation. The Joint Committee has formulated joint programs with regard to various aspects of the environment. 100

The Nordic Convention on the Protection of the Environment established a unique system whereby the authorities of one contracting state, when considering the licensing of an environmentally harmful activity, are obligated to take into account the environmental interests of other contracting states. 101 Article 3 of the Convention provides that any person of a contracting state, who is or may be affected by an environmental nuisance emanating from another contracting state, may institute proceedings before the appropriate administrative or judicial authority of the harming state to challenge the permitting of the activity or to present a damage claim. Alternatively, Article 4 provides for the bringing of action by a supervisory authority. Appeal may be presented to a mixed commission.

⁹⁶U.N. Doc. A/CONF. 13/L 55.

⁹⁷U.N. Doc. A/CONF. 13/L 54.

⁹⁸See generally, S. Oda, The International Law of Ocean Development, Basic Documents, (2 Vols.) (Leiden, 1972, 1975); Rosene, The Third United Nations Conference on the Law of the Sea, 11 Israel L. Rev. 1 (1976); Schneider, The New York Session of the 3rd UN Law of the Sea Conference: Progress or Stagnation?, 2 Envi'l L. & Pol'y 60 (1976).

⁹⁹Agreement on Cooperation in the Field of Environmental Protection Between the United States of America and the USSR, May 23, 1972.

¹⁰⁰Barros and Johnston, supra note 16, at 335

¹⁰¹²³ Int'l & Comp. L.Q. 886 (1974).

The Stockholm Declaration on the Environment, adopted at the United Nations Conference on the Human Environment in 1972, represents a take-off point in the development of international environmental law. The Declaration calls for governmental and international cooperation to protect the environment. Twenty-six basic principles were cnunciated. The First Principle of the Declaration asserts a human right to a quality environment:

Man has the fundamental right to freedom equality and adequate conditions of life, in an environment of quality which permits a life of dignity and well being, and bears a solemn responsibility to protect and improve the environment for present and future generations....¹⁰³

The Declaration further calls for safeguarding of natural resources and wildlife; 104 preventing the future exhaustion of nonrenewable resources; 105 halting the release of heat and discharge of toxic substances in such quantities or concentrations as to exceed the capacity of the environment to render them harmless (including the effects of nuclear weaponry); 106 supporting "the just struggle of the peoples of all countries against pollution"; 107 and, requiring states to take preventive measures to protect the marine environment.

The influence of the developing countries on the Declaration is evident by provisions both asserting the necessity of economic and social development¹⁰⁸ and calling for economic and technological assistance,¹⁰⁹ price stability,¹¹⁰ adequate earnings for primary commodities and raw material,¹¹¹ environmental policies not adversely affecting the present or future development of developing countries,¹¹² and development planning

¹⁰²J. Barros and R.M. Johnston, The Results from Stockholm 299 (Berlin, 1973).

¹⁰³Id.

¹⁰⁴ld., Principle 2.

¹⁰⁵Id., Principle 5, at 320.

¹⁰⁶Id., Principle 6.

¹⁰⁷*ld*.

¹⁰⁸¹d., Principle 8.

¹⁰⁹Id., Principle 9.

¹¹⁰¹d., Principle 10.

¹¹¹*Id*.

¹¹²Id., Principle 21.

applied to human settlements and urbanization with a view toward both avoiding adverse effects on the environment¹¹³ and abandoning projects of "colonialist and racist domination." ¹¹⁴

Principle 16 calls for demographic policies which are without prejudice to basic human rights and which should be applied in those regions where the rate of population growth or density is either excessively high or low and is likely to have adverse effects on the environment or development.

The principles further: (1) assert the obligation of state responsibility with regard to the environment;¹¹⁵ (2) obligate states to develop the international law of liability and compensation for damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction;¹¹⁶ (3) provide for adjusting international environmental protection criteria with national value systems;¹¹⁷ and (4) call for international unity in environment protection.¹¹⁸

Also adopted at Stockholm were General Guidelines and Principles for the Preservation of the Marine Environment, 119 which apply the essential commitments of the Stockholm Declaration to the marine environment. In addition, coastal states have the responsibility both to protect adjacent areas from damage that may result from the exploration and exploitation of the seabed resources within their national jurisdictions, and to ensure that vessels under their regulation comply with international rules and standards relating to ship design and construction, operating procedures and other relevant factors. 120 Additionally, these states should cooperate in developing international standards. 121

¹¹³Id., Principle 13.

^{114/}d.

¹¹⁵Id., Principle 21.

¹¹⁶Id., Principle 22, at 321.

¹¹⁷Id., Principle 23.

¹¹⁸¹d., Principle 24.

¹¹⁹Barros and Johnston, supra note 16, at 323. The contention has been made that despite the rising tide of marine contamination, effective controls appear dubious because of conflicting national and economic interests. Patterson, Marine Pollution and Law of the Sea, Bull. of Atomic Scientists, Dec. 1975, at 49.

¹²⁰Barros and Johnston, Id. at 325-6.

^{121/}d.

The General Assembly, in response to the Stockholm Declaration, established the Governing Council for Environmental Programmes, to promote and implement international cooperation and policies for environmental programs within the United Nations system.¹²²

The Resolution also calls for the submission of an annual report to the General Assembly by the governing council and the establishment of an Environment Fund to finance environmental programs and the Governing Council.

The United Nations Environmental Programme (UNEP), in accordance with the General Assembly Resolution, has come into operation and is based in Nairobi.¹²³ It has participated in such major U.N. conferences as the World Food Conference, the World Population Conference, the Third U.N. Conference on the Law of the Sea, and the Conference on Human Rights, whose theme is "the maximization of the welfare of mankind on a long-term and sustainable basis." It also facilitates a convergence among environmental, developmental, and peaceful progress generally. UNEP has presented the concept of qualitative development as opposed to reliance on quantitative measures of growth.¹²⁴

UNEP has followed a three-level orientation in assisting environmental programs. First, it identifies issues and priorities and relates them to activities planned or in progress. Second, it develops objectives and strategies regarding each area included in the program. Lastly, it helps fund the programs.

Its projects have included an International Register of Potentially Toxic Chemicals, the protection of the Mediterranean, initiation of efforts to improve the ecology of desert lands, progress in developing the International Referral System and the Global Environmental Monitoring System (GEMS), and the creation of the U.N. Habitat and Human Settlements Foundation. 125 Its priority subject areas are Human Settlements and Human Health; Terrestrial Eco-systems, Their Management and Control; Environment and Development; and The Oceans. The functional tasks include environmental assessment, environmental law, and supporting measures. 126

¹²²B Resolution No. 2997 (XXVII).

¹²³Zalob, The U.N. Environmental Programme (Four Years After Stockholm), 2 Env'l Pol'y & L. 50 (1976).

¹²⁴*Id*.

¹²⁵Id.

¹²⁶¹d

UNEP developed the concept of "Earth Watch" as a program for environmental assessment, encompassing four functional components: review, research, monitoring, and information exchange. 127 GEMS is a coordinated monitoring effort by the world community to gather environmental data. Involved are the United Nations agencies, national governments, and concerned groups. GEMS monitors human health pollution and factors necessary for understanding and forecasting disaster.

UNEP indirectly contributes to the development of world environmental law through the development of standards. Although to be effective these standards require voluntary compliance, they are likely to aid in the development of legally binding obligations as reliance upon them becomes customary. It also participates at law-making conferences in a consulting capacity.

Other United Nations and Regional organizations have been involved in matters relating to the environment, including the World Health Organization and the Food and Agriculture Organization. The International Civil Aviation Organization has adopted standards for acoustical certification of different aircraft and the setting of air field noise requirements¹²⁸ to combat noise pollution. Within the North Atlantic Treaty Organization, the Committee on the Challenges of Modern Society promotes cooperation among member countries in their environmental policies. Penvironmental control pilot studies have been undertaken. The Council for Mutual Economic Assistance, comprised of Communist-bloc countries, has established a Committee for Scientific and Technological Cooperation which also functions as a coordinator for environmental activities. 130

The Council of The Organization for Economic Cooperation and Development (OECD) has adopted a resolution calling for equal right of access in relation to transnational pollution.¹³¹ Such a system is comprised of "rights recognized by a country in favour of persons who are affected or likely to be affected in their personal and/or proprietary interests by

¹²⁷ Martin and Sella, Earthwatch on a Macroscale, 10 Envt'l Sci. & Tech. 230 (1976).

¹²⁸Goy, La Lutte de l'OACI Contre le Bruit des Aeronejs, 2 Envt'l Pol'y & L. 72 (1976).

¹²⁹Sudarskis, NATO and the Environment: A Challenge for a Challenger, 2 Envi'l Pol'y & L. 69 (1976).

¹³⁰ CMEA Works for Environmental Protection, 1 Envt'l Pol'y & L. 104 (1976).

¹³¹The Resolution appears in full at 2 Envt'l Pol'y & L. 104 (1976).

transfrontier pollution originating in such country and whose personal and/or proprietary interests are situated outside such country."¹³² Such affected persons would have the same rights as affected citizens of the polluting country with respect to: obtaining information concerning projects, new activities and courses of conduct which may give rise to a significant pollution risk; participating in hearings and preliminary inquiries; and gaining standing in administrative and judicial proceedings, including emergency procedures.¹³³

Radiation hazards are protected by the Statute of the International Atomic Energy Agency¹³⁴ which empowers that Agency to establish safeguards with regard to nuclear reactors. A number of treaties and conventions have been adopted.¹³⁵

WORLD HABEAS ECOLOGICUS

The basic problem of ecomanagement is the enforcement of environmental legislation. Accordingly, an international mechanism is required to assure the implementation of standards.

World Habeas Ecologicus (WHE) contemplates such a mechanism. An International Tribunal and international and national Commissions would be established, with panels geographically situated around the globe. The Commissions, at both the national and international levels, would be comprised of teams of experts in the natural and social sciences and lawyers. Commissions would function as ombudsmen with a right to information of existing and proposed activities affecting the environment, and to make their views known at public hearings and before administrative tribunals in the course of decision-making processes. They would also have standing in judicial proceedings, and, where appropriate, to invoke emergency proceedings within designated states.

Where, despite persuasion and attempts at negotiation, a governing authority either undertakes a project or fails to take environmentally protective measures, thereby endangering the international environment, the Commission would be authorized to invoke a writ of WHE before muni-

^{132/}d.

¹³³Id. For comment, see Van Hoogstraten, DuPuy, & Smets, L'egalite d'Acces: Pollution Transfrontiere, 2 Envt'l Pol'y L. 77 (1976).

¹³⁴Barros and Johnston, supra note 16, at 404.

¹³⁵Id. at 418.

cipal administrative or judicial authorities to seek injunctive relief. Where the governing authority has failed to take affirmative action, such as the issuance of a regulation to implement a statute, convention or international standard, the Commissioners would seek mandatory relief through a cease and desist order.

Where municipal remedies are exhausted, the Commission would appeal the Writ to an International Tribunal. At this stage there would also be provision for persuasion and negotiation prior to adjudication. In applying international standards, the Tribunal would balance the interests in preserving the environment with those of the polluting state, including the needs for economic and energy development.

WHE would function as an adjunct to, and in cooperation with, existing international organizations dealing with the environment. It could be integrated as part of UNEP. The Earth Watch Program and GEMS would provide data to the Commission. WHE would be the means for assuring implementation of the Stockholm Declaration and enforcement for ecomanagement.

Conclusion

With rapid demographic growth and technical revolution, an awareness of the finiteness of the earth's natural resources has developed. A group of experts, the Club of Rome, took the position that human resources were so limited that, in effect, further economic development had to be drastically limited with a commensurate thrust towards zero-population growth.¹³⁶

A humane environment, essential for the development and perpetuation of civilization, requires proper, effective, and competent ecomanagement.

Clearly, ecomanagement cannot mean an impediment of human betterment and development, particularly in developing countries. The world community cannot accept the proposition for zero-economic or zero-population growth. The goal, however, must be rational development allowing for a humane environment. This will entail a new economic order.

The energy crisis does not negate the need for ecomanagement. In some instances, energy scarcity aids conservation and adds incentive to

¹³⁶D.H. Meadows, The Limits to Growth (1972); see also, Meserouvic and Pestel, Mankind at the Turning Point (1974).

the exploration of environmentally sound energy sources. However, the exploitation of petroleum, the use of sulfur-producing coal for electricity and the utilization of nuclear power give rise to environmental problems. These problems may, however, be resolved by the proper application of pollution-control techniques.

In recent years there has been a world-wide trend toward legislation enactment and agency establishment to control the ecology. At the same time, an international law of the environment has emerged with a world community consensus for assuring a humane environment. Significant international precedents have affirmed international cooperation and state responsibility. These events have culminated with the Stockholm Declaration and the establishment of UNEP.

The proposal for World Habeas Ecologicus emerges as a logical complement to the world commitment for control of the biosphere. It bridges the enforcement gap and constitutes a breakthrough for the furtherance of international law.