International Technology Transfer and Environmental Impact Assessment

David A. Wirth
Boston College Law School, wirthd@bc.edu

Follow this and additional works at: https://lawdigitalcommons.bc.edu/lsfp

Part of the Environmental Law Commons, International Law Commons, and the Science and Technology Law Commons

Recommended Citation
Chapter 4
International Technology Transfer and
Environmental Impact Assessment

David A. Wirth*

I. INTRODUCTION

As the Bhopal tragedy in India tragically demonstrated, internationally transferred technologies may have grave public health and environmental risks. These hazards are particularly pronounced when unfamiliar technologies are imported into the developing world. Developing countries that receive foreign technologies often lack the legal and technical infrastructure necessary to protect their publics from the environmental threats that accompany imported hazardous substances and manufacturing processes.

Relationships between industrialized countries and the developing world involving technology transfers are numerous and complex. Legal and practical difficulties may prevent developed countries which are sources of high-risk technologies from imposing direct, substantive regulatory requirements on activities of their private multinational enterprises abroad.¹ In other situations, such as development assistance projects, developed country governments can exercise greater control over the environmental soundness of activities that have effects outside their own territories. In all these instances, however, the integration of environmental analyses into planning processes can mitigate or eliminate adverse effects.

The purpose of this chapter is to describe the application of an analytical planning methodology known as “environmental impact assessment” or “EIA” to international transfers of technology. First, the evolution of international standards concerning the content and applicability of EIA is examined.

* Senior Attorney, Natural Resources Defense Council, Inc., Washington, D.C. The author would like to thank the Center for Studies and Research of the Hague Academy of International Law, which sponsored research on this article through a resident fellowship, as well as Ellen S. Kern and Steven J. Lemon, who provided additional research assistance.

¹ See e.g. 1 Restatement (third) of the Foreign Relations Law of the United States § 414 comment c (1987) (no jurisdiction for home country to prescribe environmental and health and safety practices for foreign branches and subsidiaries of multinational corporations).
Then, requirements for EIA in cases of international technology transfer are analysed. Last, recommendations are made for expanding the applicability of EIA requirements and coordinating those requirements with other policy instruments to provide greater environmental safeguards over international transfers of technology.

II. EVOLVING INTERNATIONAL STANDARDS FOR EIA

EIA can be defined as a component of a planning process by which environmental considerations are integrated into decision-making procedures for activities that may have adverse environmental effects. The emphasis in EIA is on the collection and analysis of information relating to the environmental consequences of a proposed action. EIA is a process-oriented technique distinct from substantive environmental standards and requirements. The principal purpose of environmental impact assessment is to facilitate informed decision-making through a thorough scrutiny of anticipated environmental effects. With the assistance of this analysis, an informed decision-maker should be able to assess the advisability of proceeding with proposed actions and to modify proposals to eliminate or mitigate their adverse environmental effects.

U.S. legislation known as the National Environmental Policy Act of 1969 ("NEPA") was the first detailed national legal requirement for EIA. NEPA establishes requirements for EIA through preparation of a formal environmental impact statement ("EIS") to accompany decisions concerning "major Federal [governmental] actions significantly affecting the quality of the human environment". The requirements of the statute have been supplemented with regulations that specify that an EIS shall contain the following elements: (1) a description of the proposed action; (2) an analysis of the potentially affected environment; (3) a description of the direct and indirect potential impacts on that environment resulting from the proposed action; (4) a consideration of alternatives, including the alternative of no action, and the potential impacts of those alternatives; and (5) an analysis of mitigating measures. The regulations direct government agencies to commence consideration of the nature and extent of the environmental impacts of a proposed activity at an early stage through a process known as "scoping". Public participation in the preparation of the EIS is

---


guaranteed. The authorizing government agency must make its final resolution of environmental issues public in a document known as a “record of decision”.

Many other countries have now adopted national requirements for EIA. Some national environmental impact assessment procedures, such as those of the U.S., Canada, and the Netherlands, rely on explicit formal documentation. In other countries, such as the Federal Republic of Germany, the U.K., and most of the Scandinavian countries, EIA is implicit in the larger planning process. Criteria for application of environmental impact assessment procedures also vary. As in Australia, Canada, and the U.S., the EIA requirement may be triggered by the application of a generic standard setting a qualitative threshold of environmental harm. Alternatively, as in France, Japan, and the Netherlands, EIA procedures may apply to specified categories of activities, such as industrial projects. Although there is great variety in form, content, and applicability of national environmental impact assessment requirements, the fundamental purpose of the EIA procedures of all countries is to facilitate integration of environmental protections into planning processes.

A. HARMONIZATION OF NATIONAL EIA PRACTICE

Of several international attempts to harmonize and standardize the national EIA practices of various groups of states, potentially the most effective is a 1985 directive of the European Community on the assessment of the effects of certain public and private projects on the environment. The directive states a binding—“hard”—legal requirement for each of the twelve EC member states to adopt EIA requirements meeting specific standards by July 1988 at the latest. It specifies application of EIA procedures “before consent is given [for] projects likely to have significant effects on the environment”. EIA procedures are to apply to both public and private projects. The directive identifies certain projects—including oil refineries, nuclear and thermal power stations, facilities for the storage and disposal of radioactive wastes or other hazardous wastes, certain chemical installations, and large highways, railroads, and airports—to which EIA must be applied. A second class of projects—including many agricultural, manufacturing, and infrastructure activities—may be made subject to EIA procedures at the discretion of the member state authorizing the activity.


6 28 O.J. Eur. Comm. (No. L 175) 40 (1985) [hereinafter cited as EC directive]. The directive is a binding instrument that must be implemented through member state action. Treaty Establishing the European Economic Community, Mar. 25, 1957, art. 189,298 U.N. T.S. 11. The member states of the EC are Belgium, Denmark, France, the Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the U.K.
The preamble of the EC directive articulates "the need to take effects on the environment into account at the earliest possible stage in all the technical planning and decision-making processes". The EIA must contain at a minimum the following information: (1) a description of the proposed project; (2) an analysis of significant effects on the environment, including the human population, flora and fauna, soil, water, air, climate, the landscape, materials, and architectural and archeological features; (3) an enumeration of alternatives to the proposed project and their environmental effects in appropriate cases; and (4) a description of proposed measures for mitigating the environmental effects of the project. The authorizing state must give the public an opportunity to comment on the proposed project and must inform the public of the final decision on the project. The content of the final decision and any conditions on its approval are to be made public.

Several recommendations adopted by the Organization for Economic Cooperation and Development ("OECD") have established non-binding—"soft"—requirements for EIA. A 1974 recommendation on the analysis of the environmental consequences of significant public and private projects encourages member governments to "[e]stablish procedures and methodologies for forecasting and describing the environmental consequences of significant public and private projects likely to have a major impact on the quality of the environment." A 1979 recommendation on the assessment of projects with significant impact on the environment reaffirms and elaborates the earlier requirements by specifying that OECD member governments should "[i]ntegrate substantive environmental considerations into arrangements for regional and land-use planning and, using environmental assessment procedures as appropriate, into the planning and decision-making process of all projects having potentially significant impact on the environment." Other provisions of the recommendation encourage member governments to begin the EIA process at an early stage of planning, to consider alternatives to proposed actions, and to arrange for public participation in the EIA process. A significant number of other OECD instruments have stated requirements for member states to apply EIA procedures in specific contexts, including energy installations, chemicals, the protection of coastal areas, and ocean dumping of radioactive wastes.

7 OECD Doc. C(74)261 § 1(1), repr. in Organization for Economic Cooperation and Development, supra n. 5, at 69, Organization for Economic Cooperation and Development, OECD and the Environment, 28 (1986) [hereinafter cited as OECD and the Environment]. Recommendations express non-binding undertakings for those OECD members that agree to them. Convention on the Organization for Economic Cooperation and Development, Dec. 14, 1960, art. 5(b), 12 U.S.T. 1728, T.I.A.S. No. 4891, 888 U.N.T.S. 179. The Organization can also adopt decisions which are binding on member states that agree to them. Ibid. art. 5(a). The members of the Organization are Australia, Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the U.K., and the U.S. For the legal significance of non-binding international instruments in the environmental field, see generally Wirth, 79 Proc. Am. Soc'y Int'l'L. 310 (1985).


The United Nations Environment Programme ("UNEP") has adopted a set of non-binding Goals and Principles of Environmental Impact Assessment\(^\text{10}\) which apply to considerably more countries than either the EC or OECD undertakings. The UNEP instrument identifies desirable elements of EIA practice, including the following: (1) preparation of environmental impact assessments for any proposed activity that may significantly affect the environment; (2) examination of environmental effects prior to governmental authorization; (3) consideration of environmental effects at an early stage of the planning process; (4) inclusion in the EIA of a description of the proposed action, a description of the potentially affected environment, possible alternatives to the proposed action, a description of the environmental impacts of the proposed action and alternatives, and a consideration of mitigating measures; (5) provision for public participation; and (6) a publicly available explanation of the final decision on the proposed project describing how environmental concerns were taken into account.

Legal principles for environmental protection and sustainable development proposed by the World Commission on Environment ("WCED") assert that "[s]tates shall make or require prior environmental assessments of proposed activities which may significantly affect the environment or use of a natural resource".\(^\text{11}\) The United Nations Economic Commission for Europe ("ECE") has also undertaken a programme on harmonization of EIA practice. The ECE's work has focused on exchange of information and the examination of case studies.\(^\text{12}\)

**B. EIA AND TRANSBOUNDARY POLLUTION**

Efforts in the EC, the OECD, UNEP, and the ECE have fostered a developing international consensus concerning the utility and necessity for EIA at the national level for activities occurring within a state's own jurisdiction. An important outgrowth of this process has been the development of a body of binding—"hard"—and non-binding—"soft"—legal standards requiring states to perform environmental impact assessments before undertaking actions with potential transboundary environmental effects.\(^\text{13}\) A typical example is the

---


\(^{12}\) *See generally* Task Force on the Application of Environmental Impact Assessment, *supra* n. 5. The ECE's work on EIA was undertaken pursuant to an instruction in the Helsinki Final Act. Final Act of the Conference on Security and Cooperation in Europe, Aug. 1, 1975, 14 *Int'l Legal Materials* 1292, 1309 (1975) [hereinafter cited as UNEP Goals and Principles of EIA].

\(^{13}\) *See generally* Wirth, *Environmental Impact Assessment for Activities with Extraterritorial Effects* (Nov. 15, 1985) (prepared for Center for Studies and Research in International Law and International Relations of Hague Academy of International Law).
siting of an industrial installation that may cause pollution in a neighbouring country.

The EC directive on environmental impact assessment states an explicit binding requirement for EIA in the case of projects that may have effects on other EC member states:

Where a Member State is aware that a project is likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests, the Member State in whose territory the project is intended to be carried out shall forward the information gathered pursuant to [the EIA process] to the other Member State at the same time as it makes it available to its own nationals. 14

The assessment analysing effects outside the authorizing state must meet the same standard and include the same information as an assessment of impacts occurring within the authorizing state’s jurisdiction.

The U.N. Convention on the Law of the Sea contains a binding obligation for states to perform environmental impact assessments when they “have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment”, 15 including the environment outside the jurisdiction of the authorizing state. Several regional seas agreements negotiated under the auspices of UNEP 16 contain similar binding requirements. The Association of South East Asian Nations has also concluded a regional agreement on the conservation of nature and natural resources 17 which has a binding general provision specifying the performance of environmental impact assessments for activities that may significantly affect the natural environment, as well as particular requirements for actions that may have transboundary impacts or effects on shared natural resources. Bilateral instruments also contain “hard” legal requirements for EIA for planned activities likely to have adverse transboundary environmental impacts. 18

14 EC directive, supra n. 6, art. 7.
The UNEP Goals and Principles of Environmental Impact Assessment\(^\text{19}\) provide that when an EIA indicates that the environment within another state is likely to be significantly affected by a proposed action, the state planning the activity should notify, consult, and exchange information with the affected state. Several other non-binding UNEP guidelines and principles\(^\text{20}\) specify that states should apply EIA procedures to certain activities—regulation of industrial facilities causing water pollution, offshore mining and drilling, weather modification, and management of shared natural resources—that are particularly likely to have adverse effects on the environment of other countries. The 1979 OECD recommendation concerning EIA\(^\text{21}\) and a 1978 recommendation for strengthening international cooperation on environmental protection in frontier regions\(^\text{22}\) articulate a “soft” law standard encouraging member states to address transboundary impacts in planning processes. The WCED’s proposed principles would require that states perform environmental impact assessments for any planned activity that may have significant transboundary effects.\(^\text{23}\) The ECE has recently undertaken to elaborate a framework agreement on environmental impact assessment in a transboundary context.\(^\text{23a}\)

The impressive number and scope of these instruments, both “hard” and “soft”, are representative of a larger body of law establishing substantive standards for interactions between states with respect to environmental hazards. These include the following general principles: (1) notification of environmental risks to potentially affected states; (2) consultation between authorizing and potentially affected states; (3) cooperation between states to mitigate or prevent adverse transboundary impacts; and (4) substantive obligations on the part of authorizing states to reduce or eliminate harmful environmental effects to other

\(^\text{19}\) UNEP Goals and Principles of EIA, supra n. 10, principle 12.


\(^\text{21}\) 1979 OECD Recommendation, supra n. 8 §I(8).


\(^\text{23}\) WCED Report, supra n. 11, principle 16, at 350.

III. EIA AND INTERNATIONAL TECHNOLOGY TRANSFER

Interactions between states that may have adverse environmental effects are large in number and diverse in character. As described above, the category of transboundary pollution has already received a significant amount of legal attention. Many other international relationships, however, can also involve damage to health and the environment. Transboundary shipments of industrial chemicals, pesticides, and hazardous wastes are an everyday occurrence. Bilateral and multilateral development assistance can have the unintended consequence of environmental harm. Multinational corporations control many overseas manufacturing facilities that can cause pollution, suffer industrial accidents, or injure the health of workers.

Governments and populations of developing countries are often ill-prepared to cope with the negative environmental impacts of these relationships with the developed world. Governments of countries that import hazardous substances may not have the expertise to evaluate the safety of these materials or may lack the resources to stop undesired shipments. Countries receiving development assistance for projects in their territories may not have the capacity to evaluate long-term impacts on natural resources. Health and safety standards for industrial installations may be non-existent or not enforced.

The term "technology transfer" is often used to describe the process of transmitting technologies from the industrialized world to developing countries. Because of the great variety of mechanisms by which the environmental effects of modern technologies make their way abroad, technology transfer for present purposes will be considered to include a broad category of "exported products, industrial processes, plants, or skills needed to apply technical

24 See e.g. Report of the U.N. Conference on the Human Environment, principle 21, U.N. Doc. A/CONF.48/14 (1972), reprinted in 11 Int'l Legal Materials 1416 (1972) ("States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."); WCED Report, supra n. 11, principles 10, 14-18, at 349–50 (obligations to notify, consult, cooperate, exchange information, and prevent and abate transboundary effects). See generally Wirth, supra n. 13 (citing examples of binding and non-binding instruments).

25 See e.g. International Law Association, Report of the Sixtieth Conference Held at Montreal 157, 174 (1983) (resolution concerning legal aspects of the conservation of the environment) (arguing that "the necessity for an environmental assessment is a consequence of [other] substantive and procedural duties" of environmental law); Handl, The Environment: International Rights and Responsibilities, 74 Proc. Am. Soc'y Int'l L. 223, 226 (1980) (arguing that substantive duties to mitigate pollution "might . . . have to be viewed as implying a duty on the part of states to devise domestically a general environmental assessment procedure"). See also Wirth, supra n. 13 (discussing nature and scope of customary international legal duty for EIA in cases of potential transboundary pollution).
ideasm This definition includes commodities and substances, equipment, manufacturing specifications, and know-how. It recognizes that governments as well as private industry can originate transfers of environmentally harmful technologies.

Technology transfer is conceptually distinct from transboundary pollution. The government of a country receiving transferred technologies in theory could require mitigating measures or reject those technologies altogether. By contrast, transboundary pollution harms a "victim" state which is a passive recipient of undesired harm. From a strictly legal point of view, technology transfers might seem less compelling candidates for EIA than cases of transboundary pollution. Moreover, legal impediments may prevent a transferor state's exercise of substantive jurisdiction over activities that, unlike those causing transboundary pollution, can be anticipated to have no impacts in that state.

The Bhopal catastrophe, however, demonstrates that environmental safeguards for transferred technologies should be a high moral and ethical priority. Moreover, disasters such as Bhopal can have serious adverse foreign policy consequences for the government of the transferor state, whether or not that government was involved in the transaction. The need for strict standards is particularly acute when recipients of transferred technologies are developing nations which may not have a sophisticated governmental and regulatory infrastructure for protection of public health and the environment. International standards for EIA in cases of transferred technologies have none the less developed at a much slower pace than those for transboundary pollution. This is as true for technologies, such as agricultural techniques, that are ordinarily not considered to present exceptional risks, as it is for technologies, such as certain chemical industries, often considered especially hazardous.

For the purposes of analysis, technology transfers fall into three categories according to the character of the entity initiating the transfer: (1) national governments; (2) international organizations; and (3) private firms. Environmental risks from transferred technologies are independent of the identity of the transferor. A pesticide exported to a developing country presents the same environmental hazards whether it is provided through a project financed by a foreign government, underwritten by a loan made by one of the multilateral development banks, or shipped by a private company headquartered in a developed country. The status of these entities under international law, however, is quite different. Accordingly, requirements to perform environmental impact assessments must be examined separately for each category.

A. TRANSFERS BY NATIONAL GOVERNMENTS

Government-sponsored transfers of technologies are often in the form of development assistance. Aid grants may be made for projects or programmes whose designs are approved in advance by the donor government. Altern-

27 See supra n. 1.
attively, funds may be made available to the recipient country specifically for the purchase of certain specified commodities, such as pesticides. In either case donor governments can perform environmental impact assessments before approving an aid package. Although development assistance is a principal cause for concern, other government-sponsored activities, such as the establishment of military bases and the construction of embassies, may also involve transfers of technologies whose environmental impacts can be analysed by EIA procedures.

Bilateral development assistance can have substantial adverse environmental impacts. Until four environmental organizations brought suit28 to compel the adoption of comprehensive EIA procedures,29 the U.S. Agency for International Development ("A.I.D.") indiscriminately supported purchases of pesticides by developing countries. Other relationships between governments can involve the supply of extremely hazardous technologies and materials. For example, the U.S. has entered into agreements with numerous developing countries to cooperate in providing them with nuclear materials, equipment, and technologies.30 U.S. government agencies such as the Export-Import Bank and the Overseas Private Investment Corporation underwrite transfers of hazardous substances and technologies to developing nations.

The direct applicability of NEPA to impacts occurring abroad is an unsettled area of the law.31 Instead of specifying that an EIA must meet all the standards of NEPA, the U.S. government requires only a minimal analysis as set out in a 1979 executive order on the environmental effects abroad of major federal

---


The executive order allows a sweeping exemption assuming that even its attenuated requirements do not apply to situations in which the foreign nation affected by the action participates with the U.S. It specifically excludes from its scope all votes in international organizations and export licensing proceedings except those involving nuclear technologies. The 1979 executive order has been widely criticized for weakening the scope of environmental impact assessments for activities of the U.S. government with effects abroad.33

On the international level, the OECD in 1985 adopted a non-binding recommendation on environmental assessment of development assistance projects and programmes which provides that “[d]evelopment assistance projects and programmes which, because of their nature, size and/or location, could significantly affect the environment, should be assessed at as early a stage as possible and to an appropriate degree from an environmental standpoint.”34 The recommendation lists categories of projects and programmes most in need of environmental assessment, including those involving such hazardous technologies as chemical production and disposal of toxic wastes. The recommendation singles out dangerous substances and processes for special treatment by exhorting member governments “to seek ways to promote the integration of the best techniques of prevention and protection and the best manufacturing processes in projects in which they and their industrial enterprises are involved.”35

A 1986 OECD recommendation on measures required to facilitate the environmental assessment of aid projects and programmes36 elaborates the earlier recommendation by establishing standards for the preparation and content of the EIA. This second recommendation specifies that (1) EIA should be initiated and the content of an assessment determined at the earliest possible stage; (2) the

---


34 OECD Doc. C(85)104 § 1(a), repr. in OECD and the Environment, supra n. 7, at 30.

35 Ibid., § 1(c).

assessments should identify alternatives and their impacts; (3) possible mitigation measures should be included in the assessment; (4) the assessment should provide for monitoring during and after construction and operation; and (5) the government and affected public in the recipient country should be consulted in the EIA process.

Donor governments—transferors in the case of bilateral development assistance—have a long way to go in implementing the two OECD recommendations. As of early 1989, only four countries had procedures in place for implementing the recommendations. However, nine more OECD member states, as well as the EC, were in the process of adopting formal standards. Recipient—transferee—governments also have an important role to play in assuring the environmental soundness of development assistance projects undertaken in their countries. Indeed, OECD case studies have shown that in several cases recipient country governments have requested donor agencies to undertake environmental impact assessments in connection with proposed projects. This extremely significant finding contradicts a widely held attitude in development aid circles that the biggest constraint to carrying out EIA in developing countries is the indifference of recipient countries themselves.

Although the OECD has taken some tentative first steps in the case of development assistance, those efforts are far from an all-encompassing approach to EIA requirements for government-sponsored technology transfers. The one government that has attempted to deal with this issue in a comprehensive manner—the U.S.—has consciously adopted a weaker standard for activities occurring overseas. International standards for environmental impact assessment for transfers of technology initiated or approved by governments must rise considerably before they approach those for the same activities undertaken within a state’s borders.

B. TRANSFERS BY INTERNATIONAL ORGANIZATIONS

International organizations such as the multilateral development banks (“MDBs”) also sponsor activities that can have harmful environmental consequences. Unlike many bilateral aid agencies, the MDBs make funds


available to developing countries as loans rather than outright grants. As in the case of bilateral development assistance, MDB funds may be provided for projects approved in advance by the lending institution. Alternatively, the World Bank and some of the regional development banks provides non-project assistance in the form of "structural adjustment" or "sector" lending. In either case, these institutions can perform an environmental impact assessment or its equivalent as part of the loan approval process and can attach substantive safeguards to protect health and the environment as loan conditions. Other international organizations, such as the United Nations Development Programme ("UNDP") and the United Nations Food and Agriculture Organization ("FAO"), also support the international transfer of hazardous technologies, such as pesticides.

The MDBs lend substantial sums to support dissemination of hazardous technologies. For example, in December 1987 the World Bank approved a controversial $85 million credit to the Sudan for the purchase of dangerous chemical insecticides and herbicides, despite the existence of clear Bank policy directing that every effort should be made to encourage alternative pest management techniques. The Bank has also come under criticism for delays in reviewing the use of asbestos and other toxic substances in projects it finances. Several other projects supported by the World Bank’s annual lending portfolio of over $19 billion, although not involving hazardous technologies, have none the less been notorious for adverse environmental consequences. The Bank-funded “Bura” irrigation and resettlement project in Kenya, which experienced severe cost overruns necessitating the expenditure of $40,000 to $50,000 per family resettled, resulted in the destruction of tropical forest, pesticide contamination of drinking water supplies, and rampant disease among settlers. The Bank’s own mid-term evaluation declared the project an environmental disaster and concluded that “[l]arge-scale irrigation schemes as a means to promote settlement are costly and questionable.” The World Bank-supported “Polonoroeste” tropical forest colonization project in northwest Brazil, whose eventual cost of $1.6 billion was supported by Bank loans totalling $436 million, has also caused massive tropical forest destruction and devastating rates of disease among native Indians. The Bank’s president has admitted that in designing this

40 World Bank, Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit of SDR 64.4 Million to the Republic of the Sudan for the Agricultural Rehabilitation Project III (1987).
41 World Bank, Guidelines for the Selection and Use of Pesticides in Bank Financed Projects and their Procurement when Financed by the Bank (1985).
project "[the Bank misread the human, institutional and physical realities of the jungle and the frontier."

In 1985 the Bank approved a loan of $11 million to support a cattle development project in Botswana, despite the conclusion of the Bank's own consultants that a previous project in that country based on the same assumptions as the new project had "no ability to halt or reduce damage to range resources—if anything, the reverse... [W]ithout the benefit of the doubt it seems unlikely that any African livestock development project would ever be funded." 43a

In 1980 six MDBs—the World Bank, the African Development Bank, the Asian Development Bank, the Inter-American Development Bank, the Arab Bank for Economic Development in Africa, and the Caribbean Development Bank—along with UNDP, the EC, UNEP, and the Organization of American States signed a declaration of environmental policies and procedures relating to economic development in which they formally pledged to "[i]nstitute procedures for systematic examination of all development activities, including policies, programmes and projects, under consideration for financing to ensure that appropriate measures are proposed" to mitigate or eliminate adverse environmental effects. 44 Since then, the World Bank has adopted substantive standards for Bank-financed projects to prevent industrial accidents at hazardous installations. 45 The Bank's environmental guidelines 46 establish standards for hazardous industries, such as offshore oil drilling and some chemical manufacturing sectors.

Guidelines, such as those the World Bank has in place, are not substitutes for comprehensive environmental impact procedures, including a description of the affected environment, an analysis of alternatives and their impacts, and consultation with the affected public. There has consequently been continuing international concern about the environmental standards applied by the MDBs in their operations. 47 As a result, the Asian Development Bank has adopted an environmental assessment procedure requiring a statement in connection with

44 Feb. 1, 1980, § II(1), 19 Int'l Legal Materials 524 (1980). The signatories to the 1980 declaration continue to meet periodically and are known collectively as the Committee of International Development Institutions on the Environment ("CIDIE").
47 See, e.g., 22 U.S.C. §§ 262m to 262m–6 (Supp. V 1987) (directing U.S. representatives to MDBs to promote improved environmental performance, including adoption of EIA procedures). See also Subcomm. on International Development Institutions and Finance of the House Comm. on Banking, Finance and Urban Affairs, 98th Cong., 2d Sess., Multilateral Development Bank Activity and the Environment (Comm. Print 1984) (recommendations to U.S. government and MDBs concerning improved environmental performance, including consultation with affected public in project preparation); Statement by Dr Mostafa K. Tolba, Executive Director, United Nations Environment Program, to the Sixth Meeting of the Committee of International Development Institutions on the Environment (June 3, 1985) ("CIDIE has not yet truly succeeded in getting environmental considerations firmly ingrained in development policies. There has been a distinct lack of action by several multilaterals.")
proposed projects that describes significant adverse environmental impacts and measures to reduce them.\textsuperscript{48} As of mid-1989, the World Bank was considering adoption of an environmental assessment procedure as well. The significance of these steps, however, depends on the adequacy of the institutions’ generic policies and the quality of their implementation.

C. TRANSFERS BY MULTINATIONAL CORPORATIONS

Transfers of technology to developing nations by multinational corporations ("MNCs") based in industrialized countries are simultaneously compelling and difficult cases for international standards. There is the widespread conviction that accidents like the poison gas leak from the Union Carbide plant in Bhopal, India that killed more than 2,000 people in December 1984 occur because MNCs do not adhere to environmental and health and safety standards comparable to those of the home country when constructing industrial facilities or engaging in commerce in hazardous commodities.\textsuperscript{49} The World Health Organization estimates that pesticides kill 5,000 to 20,000 people a year and poison a total of approximately a million, most of them in the developing world.\textsuperscript{50} A recent explosion in the number and amount of shipments of hazardous wastes to the developing world has focused increased attention on the environmental records of MNCs.\textsuperscript{51} According to a United Nations report,

\[\text{few transnational corporations have attempted to develop a consistent set of corporate environmental safety objectives and standards applicable to worldwide operations... Products which are banned, or restricted, for health or ecological reasons in one or a few countries have been freely sold by many transnational corporations in other markets.}\]

Many developing countries simply do not have the regulatory infrastructure to

\textsuperscript{48} Asian Development Bank, Environmental Planning and Management and the Project Cycle (Environment Paper No. 1, 1987).


prevent the entry of undesired commodities into their territories or to control the impacts of hazardous technologies.

Policy responses to the double standard in technology transfer by private companies have generally taken two forms: (1) notification requirements for exports of hazardous substances; and (2) non-binding codes of conduct for industrial operations outside the home country. Although environmental impact assessments can be prepared before MNCs engage in either category of technology transfers, EIA procedures have rarely been required for private business transactions of any kind.

1. Exports of Hazardous Substances

The approach to reducing risks from international trade in dangerous substances favoured by most exporting industrialized country governments has been notification to importing country governments. These notifications can take two forms: (1) information about the risks to health and the environment from the product or substance; and (2) information concerning an anticipated shipment.

a. U.S. Law

Legislation in effect in the U.S. sets out several variations on these basic strategies. For example, exporters of domestically banned or regulated industrial chemicals must report to the government on or before their first shipment of the calendar year to a particular country. The U.S. government then communicates information concerning the anticipated shipment to the government of the country of import with a summary of the basis for the U.S. regulatory action. Although not required by law, the U.S. also informs international organizations and other governments of its regulatory actions on chemicals at the time they are taken, whether or not international shipments are anticipated.53 Similar requirements are in place for exports of domestically prohibited or controlled consumer products,54 flammable fabrics,55 and certain other hazardous substances.56

Requirements for exports of pesticides unapproved for use in the U.S. are slightly more elaborate. Notices are sent to all governments and international organizations worldwide explaining the scientific basis for decision each time the government takes a major regulatory action, such as cancellation or suspension of a pesticide’s registration. The second type of communication is an export-specific notice triggered the first time a pesticide unregistered for use in the U.S. is exported to a particular foreign purchaser in a calendar year. Before that export can occur, the foreign purchaser must sign a statement acknowledging that the pesticide is not permitted to be used in the U.S. The exporter must

then inform the U.S. government, which transmits the information to the
government of the country of import. Shipments of unapproved pesticides
must be marked "Not Registered for Use in the United States of America", as
well as satisfying other labelling requirements. As in the case of exported
chemicals, consumer products, and flammable fabrics, there is no guarantee that
the notice will reach the importing country government before the shipment
does. Indeed, exporters of regulated chemicals and pesticides need not transmit
notices to the U.S. government until the date of shipment, which virtually
guarantees that the notice cannot arrive before the shipment.

Hazardous wastes are subject to additional, more stringent requirements
known as "prior informed consent". The importing country must consent to
receipt of shipments of hazardous wastes before those shipments may com-
mence. The U.S. government, after receiving information from the exporter,
transmits a projection of anticipated shipments over a period of up to twelve
months and requests the consent of the government of the country of import.
The notice summarizes the U.S. regulatory requirements that would apply to
the treatment, storage, and disposal of the wastes. The government of the
importing country may waive the option of consent through a bilateral agree-
ment with the U.S.

The U.S. does not prepare environmental impact assessments in connection
with notices of impending shipments of domestically banned or regulated
chemicals, pesticides, hazardous wastes, consumer products, flammable
fabrics, or other hazardous substances. The reason presumably is that transmit-
ting a notification to a foreign government is not considered a "major federal
action" within the meaning of NEPA or the 1979 executive order. However,
substantive export authorizations, under which the exporting country govern-
ment must approve departing shipments of certain commodities, involve more
complicated decision-making processes than the transmission of notifications.
For this reason, export approval processes might present a better practical
opportunity than notification schemes for performing environmental impact
assessments.

A licensing process for exports of pharmaceuticals unapproved for use in the
U.S. went into effect several years ago. Exports of drugs not approved in the
U.S. previously were totally prohibited. New legislation, however, permits
the shipment of an unapproved pharmaceutical to twenty-one industrialized
countries, provided the country of import has approved the drug for use, after the
grant of an export application. Environmental impact assessments designed
to analyse the effects of proposed shipments on health and the environment in
the country of import could readily be incorporated into this approval process.

57 Federal Insecticide, Fungicide, and Rodenticide Act §§ 17(a), (b), 7 U.S.C. §§ 136o(a), (b)
pesticides, devices, and pesticide active ingredients and the procedures for exporting unregistered
pesticides).

C.F.R. §§ 262.50–57 (1988) (implementing regulations). See also Agreement Concerning the
informed consent requirement).

The U.S. government, however, has no plans to perform EIAs in connection with the grant of these authorizations.

In the last days of his administration President Carter promulgated an executive order on federal policy regarding the export of banned or significantly restricted substances containing procedures for placing export licensing controls on extremely hazardous substances that represent a substantial threat to human health or the environment. Before licensing requirements could be established for a substance, the Carter executive order would have required an analysis of (1) the nature of the substance’s detrimental effects; (2) the ability of foreign countries to avoid or mitigate those effects; and (3) the availability of alternatives to the substance. President Reagan revoked these procedures just thirty-three days after Carter approved them. Legislation now provides explicit authority for export licensing controls on goods and substances hazardous to public health and the environment and banned or severely restricted in the U.S. That authority, however, has never been exercised.

b. International Instruments

There has recently been progress in establishing stricter standards for exports of hazardous industrial chemicals, pesticides, and wastes through the adoption of both “soft” and “hard” principles in multilateral fora. These regulatory approaches supplement existing mechanisms for exchange of information on the public health and environmental risks of dangerous products and substances in international commerce.

Amendments to UNEP’s non-binding London Guidelines for the Exchange

62 Export Administration Act of 1979, §§ 2(10), 3(13), 50 U.S.C. app. §§ 2401(10), 2402(13) (Supp. V 1987). Shipments of some strategically important hazardous chemicals and chemical manufacturing equipment to certain countries require export licences for security reasons. See 15 C.F.R. § 399.1 Supp. 1, Groups 1, 6, 7 (1988). The U.S. government does not prepare or require EIAs in connection with the grant of these licences.
of Information on Chemicals in International Trade negotiated in February 1989 set out a modified form of prior informed consent. The revised London Guidelines specify that each potential country of import should be notified of control actions with respect to banned and severely restricted chemicals and pesticides. In addition, those countries should be provided with the opportunity to state that they have decided (1) to permit use and importation of the chemical or pesticide; (2) to prohibit use and importation; (3) to permit imports only under specified conditions; (4) to request further information or assistance in evaluating the health and safety implications of the substance; or (5) to permit or prohibit importation, with or without conditions, on an interim basis until a final decision is made. To date, however, the new scheme has not been implemented either by UNEP or by any of its member countries. The FAO is expected to adopt similar amendments to its International Code of Conduct on the Distribution and Use of Pesticides in late 1989. Despite the fact that both frameworks contemplate the imposition of substantive export controls by countries from which shipments of banned and severely restricted chemicals and pesticides originate, neither the UNEP nor the FAO scheme mentions the desirability of analysing effects on health and the environment in the country of import prior to authorization of overseas shipments.

The binding Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal was concluded under UNEP auspices in March 1989. The Basel Convention specifies (1) a prohibition on exports and imports of hazardous and other wastes to and from non-party states; (2) a ban on shipments of hazardous and other wastes to parties that have prohibited imports; (3) a prior informed consent procedure for parties that have not prohibited waste imports; (4) a requirement that states of export prohibit shipments of hazardous and other wastes if there is reason to believe that the wastes will not be managed in an environmentally sound manner in the country of import; and (5) an obligation for states of export to ensure that international shipments of wastes are accepted for re-import if those shipments do not conform to the terms of export. Although it establishes a stricter regime for managing waste exports than is currently in place in any country, the Basel Convention has nonetheless been criticized for legitimizing commerce in wastes and for failing to respond to the magnitude of the problem in such areas as control of illegal trade, liability and compensation, and the establishment of minimum international waste management standards. As a consequence of these concerns, no African country signed the agreement at the time of its conclusion. The Basel Convention’s requirements for a prior analysis of the importing country’s ability to manage exported wastes imply that exporting states should perform an assessment of environmental impacts in the importing

country as part of their national decision-making processes.  No country, however, has yet systematically implemented this principle.

2. Exports of Equipment, Processes, and Know-How

International transfers by MNCs of industrial plants, processes, and know-how are typically unregulated by the home country. Private business transactions involving the export of equipment, designs, specifications, and skills ordinarily lack even the slight governmental involvement on the part of the country of export implicit in the international notification schemes for hazardous substances such as those in place in the U.S. Moreover, when multinational corporations establish industrial installations abroad, exercise of substantive home country jurisdiction is often more difficult than for products and substances exported from that country's territory. Direct imposition of regulatory requirements by the home country over activities occurring outside its borders can conflict with the host country's jurisdiction over environmental, health, and safety matters. For these reasons, there has been little opportunity for national governments to apply EIA to most international transfers of equipment, processes, and know-how by MNCs.

The international response to this regulatory vacuum has been to encourage private industry voluntarily to evaluate the environmental consequences of technology transfers through codes of conduct addressed directly to MNCs. In 1985 the OECD adopted a clarification to its existing non-binding Guidelines for Multinational Enterprises stating that MNCs should

assess and take into account in decision-making the foreseeable consequences of their activities which could significantly affect the environment [and] co-operate with [governmental] authorities ... by providing adequate and timely information regarding the potential impacts on the environment and on environmentally related health aspects of all their activities.

For more than a decade a Code of Conduct on Transnational Corporations has been under negotiation in the U.N. Drafts state that MNCs should provide information to host country governments on the environmental, health, and safety hazards of their products and processes and should disclose restrictions and regulatory measures applied to similar products and processes in other

---


70 See supra n. 1.

71 OECD Sales No. 21-86-03-1 (1986).

72 OECD Doc. IME(85)37, repr. in OECD and the Environment, supra n. 7, at 191, noted OECD Doc. C(85)717.

73 See U.N. Doc. ST/CTC/SER.A/4 Annex I, at 29 (1986) (current negotiating draft). The portions of the draft Code dealing with environment, health, and safety have been accepted by all parties to the negotiation.
countries. Although the draft code does not explicitly address EIA, it specifies that transnational corporations should choose suitable technologies that will not result in environmental damage. The adequacy of these non-binding codes for assuring that MNCs perform environmental impact assessments is highly questionable. It is unrealistic to assume that a self-interested business firm will comprehensively implement crucial EIA requirements such as a thorough objective consideration of alternatives and consultation with the local public without governmental supervision of the process.

Substantive export controls have been established for security reasons for limited categories of strategically important hazardous industries. For example, approval of an export application must precede shipments by a private party of certain nuclear materials, equipment, and technologies from the U.S. 74 Although the principal purpose of these controls is not to protect health and the environment, the export licensing process provides an obvious opportunity for the application of EIA procedures. In practice, however, no significant evaluation of environmental impacts in the recipient country is conducted. 75

IV. CONCLUSION

Requirements for environmental impact assessment for international technology transfers have lagged behind other national and international applications of this useful tool for facilitating informed environmental decision-making. The U.S., for example, which otherwise has the most exacting EIA requirements in the world, tolerates a two-tiered approach which is far less stringent for exported technologies than for the same activities undertaken domestically. These discrepancies between application of EIA domestically and abroad arise from considerations other than the efficacy of environmental impact methodologies. The basic principles of EIA are just as valid for analysing the potential consequences of exported technologies as they are when applied to actions undertaken within a state's own territory.

This double standard is indicative of a general laissez-faire attitude on the part of the international community toward reducing environmental risks from transferred technologies. For instance, it would be difficult to identify an international legal norm requiring states to mitigate or eliminate adverse environmental effects associated with technology transfers. The general rule is caveat emptor—let the buyer beware. By contrast, the legal principles requiring states to prevent or reduce transboundary pollution are well established. 76

EIA is not an end in itself, but should be seen as part of a larger relationship between transferor and transferee. For example, current international standards do no more than encourage voluntary application of EIA when a multinational corporation negotiates a contract with a private firm in a developing country to sell the rights to a hazardous manufacturing process. The influence of an


76 See supra text accompanying n. 24.
environmental impact assessment on the terms of this contract would be greatly enhanced if a public authority, such as the government of the exporting or receiving country, could specify not only standards for EIA, but also requirements for the terms of the contract itself. The very low quality of EIA practice when technologies are transferred by private parties is unlikely to improve until governments make a much more aggressive commitment to imposing substantive environmental standards in these cases. Until then, additional voluntary requirements are likely to be a second best solution for the very large category of currently unregulated transfers of technology by MNCs.

In other situations in which governments already exercise some degree of control over the transferor–transferee relationship, EIA requirements still fail to measure up to the internationally recognized minimum. In spite of agreement in UNEP, the OECD, and FAO that the consent of governments of countries of import should be confirmed before shipments of waste and banned or restricted chemicals and pesticides are permitted to leave the territory of the country of origin, governments of exporting countries still pay little attention to the anticipated effects of those shipments in the country of import. Explicit EIA requirements should be added to existing notification schemes for hazardous exports to correct this situation. Governments and international organizations continue to provide development assistance without adequate safeguards to assure sustainable use of natural resources or minimum protections to prevent environmental harm. The World Bank, the regional development banks, and bilateral aid agencies should adopt and implement comprehensive standards for EIA immediately. UNEP should undertake an active and comprehensive programme to bring recipient and exporting country governments together to determine the needs of the latter and to encourage needed policy reforms by the former.

Needless to say, developing country governments have an important role to play in improving standards for EIA in cases of transferred technologies. Occasionally, however, the sovereignty of recipient countries is raised as an objection to applying comprehensive EIA requirements to international transfers from technology-exporting states. Environmental impact assessment supervised by the government of the country from which a transferred technology originated is a process-oriented approach involving strictly the collection and analysis of information. When applied to exported technologies it does not imply the imposition of regulatory requirements in conflict with principles of international legal jurisdiction and does not infringe the sovereignty of other states. EIA is, moreover, an extremely useful method of analysis that can identify ways for countries which are exporters of technologies to implement improved standards for reducing environmental and public health risks in developing countries.

International technology transfer should no longer be a stepchild when it comes to environmental impact assessment. Rapidly evolving international standards for EIA in other contexts, such as domestic activities and transbound-

---

77 See e.g. Natural Resources Defense Council, Inc. v. Nuclear Regulatory Comm'n, 647 F.2d 1345, 1356–7 (D.C. Cir. 1981) (application of NEPA to export licensing proceeding not extraterritorial application of U.S. law, but could raise practical and political difficulties).
ary pollution, reflect growing world-wide recognition of the utility and effectiveness of EIA. Those standards should apply with equal force to transferred technologies. The consequences of activities that pose risks to public health and the environment are no less severe merely because the technology involved is intended for foreign shores.