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RAYMOND HILL*

Problems and Policy for Pesticide Exports To Less Developed Countries**

Pesticides are an ideal product: like heroin, they promise paradise and deliver addiction.

[Paul R. Ehrlich, 1978]

ABSTRACT

The technological revolution of the past fifty years has fostered a reliance on an increasing number of chemicals. In the agricultural field, many of the pesticides that are considered too dangerous for use in developed countries are nonetheless freely exported to developing countries. Banned and unregistered pesticides can cause severe environmental damage and therefore must be carefully regulated. This problem is examined from a national and international perspective. Current United States regulatory strategy, and international agreements and organizations regulating pesticide exports are reviewed. A new U.S. policy is developing in light of current problems. The new policy would include expansion of labeling requirements for exported pesticides, controlling exports of banned and unregistered pesticides, promoting cooperation with international organizations, and promoting the development of regulatory frameworks within developing countries.

INTRODUCTION

The Problems of Pesticide Use

The technological revolution of the last fifty years has fostered a growing reliance on a number of chemicals. In the United States, over 50,000 chemicals are used in manufacturing, many of which have been introduced in the last thirty to fifty years.¹ During the 1970s, world trade in chemical products increased from \$22 billion to \$96 billion. Export of chemical

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**Opinions expressed are those of the author and not necessarily those of Booz-Allen & Hamilton, Inc.

1. Karim Ahmed and Jacob Scherr, Poisons for Export, 40 Business & Society Rev., 4 (Winter 1981-82) ("Poisons for Export").

products to less developed countries (LDCs)² increased almost 500 percent, from \$5 billion to \$24 billion.³

This increase has resulted in a number of problems society must contend with. This article focuses on one problem—the export of pesticides⁴ from developed countries to LDCs. This problem is critical since it is linked to a major need of LDCs—food. Of all the hazardous exports, pesticides, because of their inherent toxicity and diverse application, have the greatest potential for causing widespread injury.⁵ Specifically, this article focuses on the United States policy of exporting pesticides to LDCs that are banned or unregistered for use in the United States.

During the 1960s and 1970s, Western agricultural technologies were introduced to many LDCs. The result was the “green revolution,” increasing crop yields through such capital intensive inputs as fertilizer, mechanized farming, and a variety of pesticides. Pesticides were also extensively used to control insect borne diseases such as malaria.⁶

Pesticide use in LDCs increased from \$641 million to almost \$1 billion from 1974 to 1978.⁷ By the end of that period, LDCs consumed over one third of world wide pesticide exports.⁸ Although United States pesticide production rose by half during the 1970s, exports doubled.⁹ According to a United States Government Accounting Office (GAO) study, thirty percent of all pesticides exported were not registered for use by the United States Environmental Protection Agency (EPA). Also, about a fifth of these unregistered pesticides were formerly registered but suspended or cancelled for most uses after dangers became apparent.¹⁰

2. Less developed countries include those countries traditionally grouped in the Third World, as well as countries in the middle to lower income range that lack the infrastructure to prevent the misuse of dangerous substances such as pesticides.

3. United Nations Conference on Trade and Development (UNCTAD), *Handbook of International Trade and Development Statistics*, Supp. 1979, 1980 (Feb. 1981), cited in Pills, Pesticides & Profits (Ruth Norris ed. 1982).

4. Section 136(u) of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136) defines a pesticide as 1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and 2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, 7 U.S.C. § 136(u) (1982). Pesticides include three subsets: insecticides, fungicides, and rodenticides. Unregistered pesticides have never been registered by the EPA for either a) the use for which they are being exported, or b) any use at all. Banned pesticides are those that have previously been registered for some uses by the EPA, but whose registration was subsequently cancelled for health, safety or environmental reasons.

5. F. Schulberg, *United States Export of Products Banned For Domestic Use*, 20 *Harv. Intl. L. J.* 331, 350 (1979) (“Export of Banned Products”).

6. See D. Bull, *Pesticides and the Third World Poor, a Growing Problem*, ch. 2 (1982) (“A Growing Problem”).

7. 33 *Food and Agriculture Organization, 33 Trade Year Book* (Rome, Italy: FAO-UN 1979), cited in Pills, Pesticides & Profits. These are the latest figures available.

8. *Id.*

9. United States Department of Agriculture, *The Pesticide Review* (1979), cited in Pills, Pesticides & Profits.

10. United States General Accounting Office, *Better Regulation of Pesticide Exports and Pesticide Residues in Imported Foods is Essential* (1979).

As health and environmental laws become more stringent, companies generating or distributing pesticides are faced with increasing compliance costs. Because of this, some manufacturers of dangerous, poisonous or carcinogenic substances have chosen to locate in countries with more lenient environmental regulations. According to industry estimates, United States chemical firms spent 44 percent less on pollution controls abroad than at home.¹¹ Congressman George Miller (CA), in testifying on a proposed bill to restrict export of hazardous substances, noted that:

It was not long ago in our own history that manufacturers fled from States with strong labor and safety protections to States [with more lenient requirements. Recently, some wanted] to establish Puerto Rico as an industrial "fire free zone" where no U.S. environmental, labor protection, or tax laws would apply.¹²

Some multinational industries try to circumvent regulatory control by separately shipping chemical ingredients of a banned or unregistered pesticide to an LDC. There it is manufactured in "formulation" plants, and sent to many countries free of regulation.¹³ Problems such as these exemplify the complex nature of regulating pesticides in a global market.

Many substances that are banned in developed countries may nonetheless produce benefits in LDCs. For example, using DDT to decrease vector-borne diseases may save more lives than those lost to acute and chronic pesticide poisonings. Some also claim that pesticides are essential to increase food supplies in LDCs to feed hungry people.¹⁴ This has been challenged by statistics indicating that up to seventy percent of pesticides used in LDCs are for treating export crops.¹⁵

LDCs have paid a disproportionately high price in human suffering and death in exchange for the promise of more food and freedom of

11. Export of Hazardous Products, Hearings on H.R. 6587 Before the Subcommittee on International Economic Policy and Trade of the House Committee on Foreign Affairs, House of Representatives, 96th Cong., 2d Sess. 7 (1980).

12. *Id.* at 8.

13. D. Weir & M. Schapiro, *Circle of Poison* at 41 (1981). ["Circle of Poison"]. As author J. Leonard notes though, developing countries can often use multinationals to their advantage. Multinationals tend to locate in developing countries because of decreased production and labor costs. Developing countries can frequently extract more stringent pollution controls from multinationals than from domestic companies, because of the former's decreased production costs. Developing countries stand to gain technology, capital, and jobs from multinationals at a lower cost than from domestic industry. See H. Jeffrey Leonard, *Confronting Industrial Pollution in Rapidly Industrializing Countries: Myths, Pitfalls and Opportunities*, 12 *Ecology L. Q.* 779 (1985).

14. On a variant of this theme, F.J. Rarig of the Rohm and Haas Company stated that "[I]f developed countries demand the right to destroy their existing culture and to join us in the perilous adventure of exploiting high technology. . . . Those who urge the reduction of the impact of pesticides on the world environment do not speak for the lesser developed countries." Quoted in *A Growing Problem* at 147 (cited in note 6).

15. *Circle of Poison* at 32 (cited in note 13). Weir and Schapiro note that there are no precise statistics available.

disease.¹⁶ In Culican, Mexico, a large production area of United States bound tomatoes, doctors treat two to three pesticide poisonings every week.¹⁷ Similarly, in Guatemala, average DDT levels in cow's milk are ninety times that allowed in the United States. Nicaraguans and Guatemalans have thirty-one times more DDT in their blood than Americans, where DDT has been banned since 1970.¹⁸

Figures published on the level of pesticide poisonings may also be misleading. In Costa Rica, for example, the government claims there are 1,500 pesticide poisonings per year. However, a doctor who examined two hospital's records found 700 cases of poisoning there in three months, or 2,800 per year in those two hospitals alone.¹⁹

Even if the latter figures are exaggerated, information supplied by the governments of LDCs may be unreliable. In Guatemala, for example, many of the workers exposed to pesticides are migrant Indians from the highlands who work for a few months at a time. The transitory nature of this population makes it difficult to accurately determine the extent of pesticide poisonings.²⁰ Many countries may also fear that reporting poisonings will decrease tourism and exports.²¹

Infirmaries and clinics run by large cotton farms may both purposely underestimate numbers of poisonings and discourage workers from reporting illness. According to a study of the cotton growing areas in Central America, some large cotton producers maintain their own clinics to hinder public officials from determining the actual number of poisonings.²² In this situation, workers may be afraid to report illness for fear of losing their jobs.

Many LDCs are ill-equipped to properly handle pesticides. This problem is compounded by a high illiteracy rate among workers, who are often unaware of the dangerous materials they handle. In LDCs, as author David Bull noted, a number of factors combine to make pesticide use especially dangerous:

Illiteracy, lack of training and equipment, [and] lack of effective legislative controls . . . combine with the availability of highly toxic

16. Although LDCs use only 15% of the total pesticides manufactured, over half of the 500,000 reported cases of pesticide poisonings and two-thirds of the 10,000 deaths occur in LDCs. Environmental Committee Urges Community to Adopt New Rules on Exports, 5 Int'l Env't Rep. (BNA) No. 7 at 296 (1983).

17. D. Weir and M. Schapiro, Pesticide Pollution Goes Multinational, 37 Business & Society Rev. 47, 49 (Spring 1980-1981).

18. *Id.* at 50.

19. Pills, Pesticides & Profits 35 (Ruth Norris ed. 1982) ("Pills, Pesticides & Profits") quoting Roberto Chediack, pediatrician in Central America.

20. *Id.* at 16-17.

21. Circle of Poison at 14-15 (cited in note 13).

22. *Id.* at 12-13, taken from An Environmental and Economic Study of the Consequences of Pesticide Use in Central American Cotton Production, Final Report, Instituto Centro-Americano de Investigacion y Tecnologia Industrial [ICAITI] 195 (Jan. 1977).

pesticides which are often badly labelled, poorly packaged and irresponsibly promoted. In addition . . . pressures . . . may drive people to apply pesticides more often and in greater quantities than is desirable for either maximum safety or best crop yields. The result of all these factors is the regular and widespread incidence of poisoning.²³

Many developing nations have inadequate pesticide labeling regulations.²⁴ Frequently, labels are only found on the container in which a pesticide is imported. A rapidly growing practice in many LDCs is to formulate pesticides by mixing the active ingredient with emulsifiers.²⁵ This can be disastrous. A visitor to Pakistan reported that "one customer, lacking a suitable container, unwrapped his turban, poured a granular pesticide therein, and replaced it on his head for transport."²⁶ A similar story is reported in Malaysia. The herbicide 2,4,5-T was sold in unlabeled bottles next to sauce used for cooking and eating.²⁷

Even in the United States, a country considered by many to have an exemplary pesticide program, there are major concerns.²⁸ At least 84 percent of the pesticides now in use have not been tested to determine their carcinogenicity. Additionally, 90 percent have not been tested for mutagenicity, and 70 percent have not been screened as teratogens. In 1984, the National Research Council reported that only 10 percent of the currently used pesticides and their inert ingredients have sufficient health and safety data for a complete assessment of health hazards.

Dependence upon pesticides can create serious economic burdens for developing countries. Overuse of pesticides can lead to increased pest tolerance through natural selection of chemically resistant pests. This can also cause eruptions of previously minor pest species that were formerly suppressed by natural enemies.²⁹ Cotton production in Nicaragua, for example, has suffered dramatically from these problems.³⁰ This crop is a significant contributor to the nation's economy.³¹ Intensive cotton agriculture developed in the mid-1900s to supply the needs of the post

23. A Growing Problem at 40 (cited in note 6).

24. *Id.* at 88-92.

25. F. Penna, Policy Issues on Appropriate Pesticide Technology: A Briefing Paper (New York City: The Policy Sciences Center, Inc., Mar. 31, 1978), cited in Pills, Pesticides & Profits (cited in note 19).

26. E. Eckholm and J. Scherr, Double Standards and the Pesticide Trade, 77 *New Scientist* 441 (1978), cited in Pills, Pesticides & Profits.

27. Pills, Pesticides & Profits at 32 (cited in note 19).

28. The following statistics are taken from: N. Drabble, Pesticide Legislation Reform: Accord Between Industry and Environmentalists, 27 *Environment* 4 (1986).

29. See generally R. Van den Bosch, *The Pesticide Conspiracy* (1978).

30. The following discussion on cotton production in Nicaragua is taken from: Nicaragua's Revolution in Pesticide Policy, 28 *Environment* 6, 8 (1986).

31. For a discussion on cotton's impact on Nicaragua and other Central American countries, see generally R. G. Williams, *Export Agriculture and the Crisis in Central America* (1986).

World War II boom. Between 1950 and 1973, cotton cultivation rose seventeen fold. This growth fostered a dependence on imported insecticides. In 1965, Nicaragua imported over 19 million kilograms of insecticide at an annual cost of \$10 million.

After a phase of relative prosperity, cotton production fell despite extensive use of insecticides. Several pests developed resistance to increased levels of insecticides. The bollworm *Heliothis zea* developed a resistance to the pesticide methyl parathion 45 times greater than any previously recorded in scientific literature. Yields fell 30 percent from 1965 to 1969, while the number of economically significant pests increased from five to nine. Through use of integrated pest management (IPM) techniques,³² Nicaragua now claims to have reduced some of these problems.

Banned and unregistered pesticides that are exported to developing nations sometimes return to the exporting country. In the United States, about 10 percent of imported foods contain illegal residues of pesticides, according to statistics compiled by the Food and Drug Administration (FDA).³³ Despite this apparent contamination of imported food, the FDA inspectors rarely stop shipments at the border. Instead, a small sample is removed for analysis while the rest is sent to the consumer. The rationale is that the food would spoil if it is held until the test results were known.³⁴

However, the situation may be improving. According to Donald L. Houston, Administrator of the Food Safety and Inspection Service of the FDA, there were only two violations of pesticide residues in over 4,000 samples of imported meat and poultry products taken in 1982.³⁵ But many of the pesticides used on imported foods are not registered with the EPA, and hence not tested for by the FDA. It is currently unclear if this is indeed an improvement, or if the FDA is not screening for all possible pesticide residues in food.

Manufacturers in many industrialized nations have engaged in export practices known as "dumping": turning to developing nation's markets to sell products banned or not approved for sale by their government.³⁶ In the United States, the problem of pesticide dumping is exacerbated since there are few restrictions on exporting banned substances.³⁷

32. See note 134 and accompanying text.

33. Report on Export of Products Banned by US Regulatory Agencies, United States H. R. No. 95-1686, 95th Cong., 1st Sess. 28 (1978).

34. Circle of Poison at 29 (cited in note 13).

35. EPA Official Says No Changes Needed in Regulation of Pesticide Imports, Exports, 6 Int'l Env't. Rep. (BNA) No. 7, 297 (1983).

36. Pills, Pesticides & Profits at 2 (cited in note 19). A well known example of product dumping is the sale of TRIS treated children's sleepware to foreign nations. TRIS is a flame retardant material that was found to be carcinogenic. See Ban on TRIS (2,3-Dibromoprophyl) Phosphate (Chemical Flame Retardant): Hearing on S.1503 before the TRIS Hearing Panel of the Senate Committee on the Judiciary, 95th Cong., 1st Sess. 5 (1977).

37. See notes 44-62 and accompanying text.

An example of this problem is the pesticide Leptophos.³⁸ Leptophos has never been registered with the EPA, and hence is banned from domestic sale. The pesticide is exclusively produced for export by Vesicol, a Texas corporation. In 1975, Vesicol shipped over 3 million pounds of Leptophos to thirty different countries; over half of this went to Egypt. Egypt had no procedures for pesticide regulation at that time. In December 1976, the Washington Post reported that Leptophos use in Egypt resulted in illness and death in many rural families, and had killed over 1,000 water buffalo. Despite accumulating data on Leptophos' severe neurotoxicity, Vesicol continued to market the product abroad for use on grain and vegetable crops.

UNITED STATES EXPORT REGULATIONS

The problem of regulating pesticide exports from the United States to LDCs can be approached through domestic regulations (in the United States), multilateral agreements and precedents, and regulation by the importing country. The current approach both in the United States and abroad ranges from caveat emptor (let the buyer beware), to informed consent, to prior consent.

Caveat emptor places the responsibility of regulating pesticide exports on the importing country. It is their responsibility to develop the regulatory structure to control these substances. Informed consent posits that access to the exporting country's regulatory data will allow the importing country to decide if the benefits of the product outweigh its risks, based on its own political, economic, social and cultural norms. Informed consent, however, does not require the approval of the importing government before the shipment takes place. Prior consent incorporates further decisionmaking by the importing country, allowing it to decide if the import should take place *before* it occurs. The trend since 1978 is toward informed consent, or in limited instances prior consent.

Unilateral approaches to the problem of regulating pesticide exports eventually encounter problems that must be solved through international cooperation.³⁹ If a purely unilateral approach was taken, companies would simply relocate to another country.⁴⁰

There is also evidence in international law that the United States could not force a domestic firm to comply with American law in a foreign

38. The following discussion is taken from *Export of Banned Products* at 351 (cited in note 5).

39. C. D. Greenwood, *Restrictions on the Exportation of Hazardous Products to the Third World: Regulatory Imperialism or Ethical Responsibility?* 5 *Boston College Third World L. J.* 129, 140 (1985) ("Hazardous Products").

40. *Circle of Poison* at 24 (cited in note 13). For example, after Phosvel was banned, Vesicol continued to export it from Panama and Mexico. When the product was banned in Columbia, Vesicol simply moved its remaining inventory to another free trade zone and shipped it to nearby countries where Phosvel was not yet banned.

country. In *Fruehauf vs. Massardy*,⁴¹ an American owned corporation operating in France was required to honor a contract which violated an American statute and was against American policy. The United States Treasury Department had issued an order directing the Fruehauf Corporation to suspend execution of a contract, since it violated United States Transaction Control Regulations.⁴² However, the court ruled that the company must honor the contract. The United States did not dispute the matter.

Currently, a major deficiency in both unilateral and multilateral approaches is a lack of information gathering requirements. Without detailed information on the nature and quantity of exported products, it is impossible to ascertain their full health or environmental effects domestically or internationally.⁴³

There are two United States statutes that can be used to regulate the export of pesticides. The first, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) embodied the policy of informed consent to notify the importing nation that the United States is exporting a banned or unregistered substance. The second statute, the Export Administration Act of 1979, could be used to forbid export of certain substances if this furthers foreign policy objectives of the United States.

The Federal Insecticide, Fungicide and Rodenticide Act

The primary source for regulation of pesticide exports is FIFRA.⁴⁴ Generally, FIFRA governs the registration, use and manufacture of pesticides.⁴⁵ Export notification and labeling requirements were added by the 1978 Amendments to FIFRA.⁴⁶

Pesticide exports are regulated under Section 136o of FIFRA. EPA has published guidelines on the labeling requirements for exported pesticides, and procedures for exporting banned and unregistered pesticides.⁴⁷ These guidelines require that pesticides manufactured for export must bear certain minimum labeling information.⁴⁸ If the pesticide is banned or unregistered, an acknowledgement statement must be obtained from the importer stating that s/he understands the current United States registration

41. *Fruehauf v. Massardy*, 1968 D.S. Jur. 147, 1965 J.C.P. II 14,274 bis (Cour d'appel, Paris). See 5 I.L.M. 476 (1966) for an english translation.

42. 5 I.L.M. 476 (1966).

43. Export of Banned Products at 349 (cited in note 5). Quantities of pesticides exported from the United States are considered trade secret under § 136(h) of FIFRA; these figures are not available.

44. The Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. § 136 (1982).

45. See note 4 for the definition of a pesticide.

46. Federal Pesticide Act of 1978, 7 U.S.C. §§ 136-136(y) (1982).

47. Statement of Policy on the Labelling Requirements for Exported Pesticides, Devices, and Pesticide Active Ingredients and Procedures for Exporting Unregistered Pesticides, 45 Fed. Reg. 50,273 (1980).

48. Labeling requirements are listed in 7 U.S.C. §§ 136(p); 136(q)(1) (A), (C), (D), (E), (G), (H); 136(q)(2) (A), (B), (C)(i) and (iii), and (D) (1982).

status of the pesticide.⁴⁹ Additionally, producers of pesticides are required to comply with registration and record keeping requirements of FIFRA.⁵⁰

Labeling Information

All exported pesticides must bear labels which: do not make false representations; are not an imitation of other products; bear EPA establishment numbers, and the name and address of the producer or registrant; have ingredient statements; have a statement of net weight or measure; include warning and caution statements; if highly toxic, bear skull and crossbones, and statements regarding practical treatment; and in the case of unregistered pesticides, bear the statement "Not Registered for Use in the United States of America."⁵¹ All of this information must be conspicuous and readable. Of the requirements listed above, the ingredient, warning and caution, toxicity and not registered statements must be listed in the language of the importing country.⁵² These bilingual requirements are meant to communicate basic information about the product to as many users as possible.⁵³ If the labeling requirements conflict with the laws of the importing country, exporters must attach supplemental labeling to comply with the laws of the importing country.⁵⁴

Acknowledgement Statement

Exporters of certain pesticides must also obtain an acknowledgement statement from the importer. These pesticides include those with active ingredients that are not federally registered, or labeled for a use which is currently subject to denial or cancellation of registration, or are not similar in composition to a federally registered pesticide.⁵⁵

Before an unregistered or banned pesticide can be exported, the foreign purchaser must acknowledge in writing that s/he understands the registration status of the pesticide, and that it cannot be sold in the United States.⁵⁶ This acknowledgement must be received before the product is released for shipment. The acknowledgement statement is transmitted to EPA within seven days of receipt by the exporter, or the date of export, whichever comes first. EPA then gives the statement to the Department of State, who transmits it to the appropriate official in the importing country.

49. 7 U.S.C. § 136o(a)(2).

50. 7 U.S.C. § 136o(a)(1). Sections 136e and 136f of FIFRA concern record keeping requirements.

51. 45 Fed. Reg. 50,275 (1980) (to be codified at 40 C.F.R. pts 162-80), taken from 7 U.S.C. § 136(q)(1)(A), (C), (D), (E), (G), (H), and § 136(q)(2)(A), (B), (C)(i) and (iii), and (D).

52. *Id.*

53. *Id.* at 50,278.

54. *Id.* at 50,275.

55. 7 U.S.C. § 136o(a)(2).

56. *Id.*

Acknowledgement statements must only be filed for the first shipment of the unregistered or banned pesticide. The acknowledgement statement is not required for subsequent shipments of the pesticide.⁵⁷ However, any change in the product shipped, purchaser in the importing country, or a different importing country requires a new acknowledgement statement.

When a pesticide's registration is cancelled or suspended, EPA is required to notify the State Department. The State Department in turn notifies the foreign government and international agencies.⁵⁸

Registration and Record Keeping Requirements

Pesticide exporters must comply with Sections 7 and 8 of FIFRA.⁵⁹ Section 7 governs registration of establishments, while Section 8 covers books and records. Section 7 of FIFRA requires the pesticide manufacturer to annually inform EPA of the types and amounts of pesticides, including active ingredients which s/he: is currently producing, has produced during the last year, and has sold or distributed during the last year.⁶⁰ The manufacturer is allowed to mark data other than the names of the pesticides, active ingredients, environmental, health or safety data as trade secret.⁶¹ Information marked in this manner may not be released to the public.⁶²

The Export Administration Act of 1979

The Export Administration Act of 1979 (Export Act)⁶³ can prohibit the export of banned or unregistered pesticides. The Export Act authorizes the President to prohibit or curtail export of any goods, technology or other information subject to United States jurisdiction, or exported by any person subject to United States jurisdiction.⁶⁴ This action may be done to the extent necessary to significantly further United States foreign policy, or to fulfill declared international obligations.⁶⁵ This authority is exercised by the Secretary of Commerce⁶⁶ in conjunction with the Secretary of State and other such departments and agencies as the Secretary of Commerce considers appropriate.

The Export Act requires a number of items to be taken into account when imposing export controls, including the likely effects on the com-

57. 45 Fed. Reg. 50,276 (1980) (to be codified at 40 C.F.R. pts 162-80).

58. 7 U.S.C. § 136o(b).

59. 7 U.S.C. § 136e and 136f.

60. 7 U.S.C. § 136e(c)(1)(A)-(C).

61. Pesticide names and active ingredients are exempted from 7 U.S.C. § 136h under 7 U.S.C. § 136e(d); health and safety data are exempted under 7 U.S.C. § 136h(d).

62. 7 U.S.C. § 136h(b).

63. 50 U.S.C. app. § 2401-20 (1979).

64. 50 U.S.C. app. § 2406(a)(1).

65. 50 U.S.C. app. § 2402(2)(B).

66. Exec. Order No. 12,002, 3 C.F.R. 133 (1977).

petitive position of the United States.⁶⁷ The legislative history of the Export Act, however, indicates that these criteria "are to be taken into consideration, but they are not conditions that must be met."⁶⁸

When the Carter Administration considered using the Export Act as part of a unified hazardous export policy, the Deputy Assistant Attorney General indicated that the President may control the export of hazardous substances to further the foreign policy of the United States under the Export Act.⁶⁹ This action would be subject to the conditions presently imposed by other statutes regulating the export of hazardous substances.

A Note on Failed Legislative and Executive Attempts

Since 1980, several bills have been introduced in Congress, and one Executive Order has been enacted in response to the problem of hazardous exports. The bills include:

- The Barnes Bill (introduced 1980, 1981, 1985);
- The Pesticide Import/Export Act (introduced 1983, 1985); and
- The FIFRA Reform Act (introduced in 1985, 1986).

None of these bills have made it out of committee. The Barnes Bill (introduced by Michael Barnes, Md.) "represented unprecedented attempts to formulate a uniform policy governing the export of hazardous substances from the United States."⁷⁰ The most recent version of this bill is HR 638 (1985). The Bill prohibits exports of hazardous products unless three conditions are met. First, the importing government must request the product. This is consistent with the prior consent approach. Second, it must be informed of current United States restrictions on the product and the risks entailed. Third, the benefits of the product must outweigh its risks, as determined by United States officials. The bill would also make it illegal to export an ingredient of a banned product to manufacture the same product in another country.⁷¹

A few days before leaving office, former President Carter issued an Executive Order to strengthen controls on the export of pesticides and other dangerous substances.⁷² The Order took over two years to be drafted

67. 50 U.S.C. app. §§ 2405(b)(1)-(6).

68. 125 Cong. Rec. S10,123 (daily ed., July 21, 1979) (statement of Senator Stevenson introducing S 737). See also Export Administration Act of 1979, S. Rep. No. 96-169, 96th Cong., 1st Sess., 9 (1979).

69. 45 Fed. Reg. 53,767 (1980) (Memorandum from Leon Ulman, Deputy Assistant Attorney General, Office of Legal Council to Esther Peterson, Special Assistant to the President for Consumer Affairs (Apr. 11, 1980).

70. Any Place But Here: A Critique of the U.S. Hazardous Export Policy, 7 Brooklyn J. Intl. L. 329, 331-32 (1981), cited in K. A. Goldberg, Efforts to Prevent Misuse of Pesticides Exported to Developing Countries: Progressing Beyond Regulation and Notification, 12 Ecology L. Q. 1025, 1036 (1985) (Misuse of Pesticides).

71. House Panel Scores U.S. Opposition to UN Listing of Hazardous Products, Int'l Env't Rep. (BNA) 32 (Feb. 13, 1985).

72. Exec. Order No. 12,264 3 C.F.R. pts. 86-93 (1981).

and signed. It improved existing procedures for notifying foreign governments that banned or restricted substances had been exported. One of the most controversial items of the Order was establishment of a Commodity Control List. This list was comprised of substances that "represent a substantial threat to human health or safety or to the environment."⁷³ Items on the list would require a license before being exported.⁷⁴ President Reagan promptly revoked the Carter Order shortly after his inauguration.⁷⁵ The Reagan administration was concerned that the Carter Order would hinder American trade, and control a greater number of products than was necessary. Fueling this concern was a list of items circulated within the Carter administration of potential candidates for the Commodity Control List. Reportedly, the list included bicycles without reflectors, pacifiers without ventilation holes, and pesticides accounting for as much as 25 percent of the total dollar value of United States pesticide exports.⁷⁶

A general conclusion is that the issue of pesticide exports has traditionally enjoyed little support, and has been given a low priority. Pesticide exports do not directly affect Americans except through manufacturing exposure, and importing contaminated food. Many, therefore, feel that it is not our responsibility to regulate these substances. The issue is a moral one: is the current standard of exporting pesticides too dangerous for domestic use something we can live with?

MULTILATERAL AGREEMENTS AND INTERNATIONAL ORGANIZATIONS

Several international organizations are also concerned with regulating pesticide exports. International regulations are inherently difficult to enforce.⁷⁷ Even so, they still have significant uses. Even nonbinding agreements can be useful. As one commentator on international compacts noted:

As long as they do last, even nonbinding agreements can be authoritative and controlling for the parties. . . . [One should] recognize that nonbinding agreements may be attainable when binding treaties are not and seek to reinforce their moral and political commitments when they serve the ends we value.⁷⁸

73. Order Regulates Exports From U.S. of Banned, Restricted Substances, *Int'l Env't Rep.* (BNA) 621 (Feb. 11, 1981).

74. *Id.*

75. Exec. Order No. 12,290 3 C.F.R. pt. 127 (1981).

76. Reagan Revokes Hazardous Export Order, Barnes Plans to Reintroduce Legislation, *Int'l Env't Rep.* (BNA) 679 (Mar. 11, 1981).

77. See generally A. L. Springer, *The International Law of Pollution: Protecting the Global Environment in a World of Sovereign States* (1983) for a discussion of these problems.

78. O. Schachter, *The Twilight Existence of Nonbinding International Agreements*, 71 *Am. J. Int'l. L.* 296, 304 (1977), cited in P. Alston, *International Regulation of Toxic Chemicals*, 7 *Ecology L. Q.* 397, 409 (1978).

Major international organizations concerned with regulating pesticide exports include the United Nations (UN), the Organization for Economic Cooperation and Development (OECD), the European Economic Community (EEC), and Non-Governmental Organizations (NGOs).

The United Nations

The UN was one of the first international organizations to address world trade in hazardous substances.⁷⁹ Bound by its charter,⁸⁰ member states have agreed to promote "solutions of international economic, social and health related problems, and international cultural and educational cooperation."⁸¹

The United Nations Environmental Program (UNEP) is an agency within the UN. Among other things, UNEP promotes international environmental cooperation and guidance for UN environmental programs.⁸² Its resolutions are not binding on member states, but are merely recommendations.⁸³

The UNEP governing council recently adopted two principles providing for information exchange between exporting and importing countries of banned and restricted chemicals.⁸⁴ The first principle is that exporting nations should provide notification to importers when significant regulatory action is taken on a chemical. Second, the exporting nations should provide notification on exports following the control action, when substantially new information develops.⁸⁵

A significant development in international chemical information exchange is the International Registry of Potentially Toxic Chemicals (IRPTC). The Registry had its genesis in the UN Conference on the Human Environment, held in Stockholm in 1972.⁸⁶ An ambitious undertaking, the Registry was to be based on:

a collection of available scientific data on the environmental behavior of the most important man-made chemicals and containing production figures of the potentially most harmful chemicals, together with pathways from factory via utilization to ultimate disposal or recirculation.⁸⁷

79. Misuse of Pesticides at 1025 (cited in note 70).

80. Ratified by Congress on June 26, 1945, 59 Stat. 1301, T.I.A.S. No. 993, cited in *Export of Banned Products* at 372 (cited in note 5).

81. UN Charter, art. 1, Para. 3 (1945).

82. *Export of Banned Products* at 365 (cited in note 5).

83. *Id.*

84. Provisional Plan for Information Exchange on Chemicals Recommended by UNEP Council, *Int'l Env't Rep.* (BNA) 180 (June 13, 1984).

85. *Id.*

86. P. Alston, *International Regulation of Toxic Chemicals*, 7 *Ecology L. Q.* 397, 419 (1978) ("Regulation of Toxic Chemicals").

87. *Report of the United Nations Conference on the Human Environment, Recommendation 74(e)*, UN Doc. A/Conf. 48/14 (1972), cited in *Regulation of Toxic Chemicals* at 418-19 (cited in note 86).

The IRPTC, a part of the United Nations World Health Organization, agreed to share the responsibility of creating the list with the International Program on Chemical Safety.

The Registry's objective is to reduce health and environmental hazards posed by chemicals through access to existing scientific and regulatory data.⁸⁸ One problem is defining the standard of risk to use. Different countries have differing standards of risk; what one country deems a risk may be completely acceptable to another country. Hence the IRPTC may only be useful as a comparative guideline on existing scientific and regulatory data for each chemical.

Another problem facing the Registry is a lack of support and access to data from the United States. The United States cast the only vote against a December 1984 UN resolution for further development of the IRPTC.⁸⁹ United States officials stated that so much work was already under way in other agencies that the list would be duplicative.⁹⁰ The United States has been the only nation to publicly state that it sees no need for the IRPTC. However, the United States is one of the largest sources of information on banned and significantly restricted substances. The Registry will be substantially diminished without access to this information.⁹¹

Other recent developments include the UN Commission on Transnational Companies.⁹² The Commission attempts to identify companies that produce products that are considered dangerous by other UN agencies.

European Economic Community

The European Economic Community (EEC) is a twelve member group of countries⁹³ seeking to improve living and working conditions in its member nations. Currently, the EEC has no regulations requiring informed or prior consent for pesticide exports. However, labeling requirements were adopted in 1978.⁹⁴ EEC's policy on pesticide exports has changed dramatically in the last five years. In October 1982, the EEC had no plans to ban exports of products prohibited for sale in the EEC. Karl-Heinz Narjes, European Community Industrial Commissioner stated

88. Regulation of Toxic Chemicals at 419 (cited in note 86).

89. Work on Consolidated List of Chemicals by IRPTC Progresses Toward March Deadline, Int'l Env't Rep. (BNA) 406 (Dec. 11, 1985).

90. *Id.*

91. Two UN Agencies to Work Together to Keep Track of Banned Substances, Int'l Env't Rep. (BNA) 97 (Mar. 9, 1983).

92. Hazardous Products at 146 (cited in note 39).

93. EEC members include Belgium, Denmark, France, the Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom.

94. Council of European Communities Directive on Classification, Packaging and Labeling of Pesticides, 78/631/EEC-OJ L206 (July 29, 1978) (as amended).

that "[t]he Commission's view is that it should be for the importing country to lay down its own rule for trade in these products."⁹⁵ Importing countries, according to Narjes, can best obtain the information they need to evaluate pesticides through international agencies such as the UN.⁹⁶

In 1985, the idea of legislation regulating exports of banned products began to pick up support within the EEC.⁹⁷ In July 1986 the Council discussed a draft proposal for regulating imports and exports of banned and restricted chemicals.⁹⁸ The proposal would have required the exporter to notify an official in his country of any export of a banned or restricted chemical. This person would in turn notify the EEC. The EEC would tell the importing country that a shipment of banned or restricted chemicals has taken place. The importing country would be given a summary of the regulatory restrictions relating to the chemical. The EEC has also given consideration to developing a prior consent notification system.

The driving force behind these proposed regulations has been the Netherlands, during its January-June 1986 presidency of the EEC. The Netherlands wanted to "seriously promote the idea [of restrictions on exports] over the next six months so that such a proposal becomes law as soon as possible."⁹⁹

Recently, the European Economic Community has adopted a more lenient regulation on the import and export of dangerous chemicals. The regulation, which covers about 20 pesticides, chemicals and fertilizers banned in the European Community, only requires that the importing country be notified that the shipment will take place. Clinton Davis, the European Community Environmental Affairs Commissioner, commented that although he favored a prior consent system, such a strong policy would not be accepted by member states.¹⁰⁰

The Organization for Economic Cooperation and Development

The most prominent international organization actively concerned with the issue of hazardous exports is the Organization for Economic Coop-

95. Commissioner Says EEC Has No Plans to Prohibit Exports of Banned Products, *Int'l Env't Rep.* (BNA) 438 (Oct. 13, 1982).

96. *Id.*

97. Draft Export Notification Regulation Expected to be Proposed Before End of Year, *Int'l Env't Rep.* (BNA) 303 (Sept. 11, 1985).

98. European Community Commission Proposal for a Council Regulation Concerning Export from and Import into the Community of Certain Dangerous Chemicals, COM(86) 362 Final (July 2, 1986), reprinted in *Int'l Env't Rep.* (BNA) 300 (Aug. 13, 1986).

99. Dutch to Push Export Notification During Six-Month Community Presidency, *Int'l Env't Rep.* (BNA) 6 (Jan. 8, 1986), quoting Dr. M. Enthoven, member of the Dutch Ministry for Housing, Physical Planning and the Environment.

100. Environment Ministers Adopt Rule on Chemicals, Reject Prior Informed Choice, *Int'l Env't Rep.* (BNA) 639 (Dec. 9, 1987).

eration and Development (OECD).¹⁰¹ OECD is comprised of most of the free market nations,¹⁰² and the free world's largest chemical manufacturing countries are members of OECD.¹⁰³ The thrust of OECD's work has been in the area of information exchange.

In 1982, OECD's Expert Group on Information Exchange Related to Export of Hazardous Chemicals reported that information needs to be gathered on banned and restricted chemicals.¹⁰⁴ This resulted in a two step notification process designed to aid importing countries.¹⁰⁵ The first step gives the importing country enough information to alert it to the restrictions placed on the chemical in the exporting country. The second step allows the importing country to obtain more information if it desires. This information would be supplied on a one time basis at the time of the first export following a control action in the exporting country. Unregistered pesticides would not be covered by this information exchange process, since domestic use has not been banned or restricted. The principle behind the process, which was adopted on April 4, 1984 by the OECD, is to allow an importing country receiving a banned or restricted chemical to "make timely and informed decisions concerning that chemical."¹⁰⁶

OECD recently discussed a move to the prior consent approach.¹⁰⁷ The idea was unfavorably viewed by one source within OECD. "Primary responsibility is on the importing country . . . because chemicals, unlike hazardous wastes, are 'wanted' by the importing country, and it is not up to the exporting country to deny them."¹⁰⁸

Non-Governmental Organizations

As in other environmental issues, non-governmental organizations (NGOs) can play an important role in bringing important issues to light and forcing or modifying policy decisions. Three NGOs active in this area are described below.

101. Misuse of Pesticides at 1039 (cited in note 70).

102. Current members of the OECD include Australia, Belgium, Austria, Denmark, the Federal Republic of Germany, Finland, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States, and Yugoslavia (as an associate member).

103. Regulation of Toxic Chemicals at 423 (cited in note 86).

104. Report of OECD Expert Group on Information Exchange Related to Export of Hazardous Chemicals, OECD Doc. Env/Chem/MC/82.1 (1982), reprinted in Int'l Env't Rep. (BNA) 197 (May 12, 1982).

105. Id. (information in this paragraph is taken from this report).

106. OECD Council Adopts Recommendation on Exports of Banned, Restricted Chemicals, Int'l Env't Rep. (BNA) 100 (Apr. 11, 1984).

107. CEFIC Official Says Export Proposal Could Hurt Industry's Competitiveness, Int'l Env't Rep. (BNA) 392 (Nov. 12, 1986).

108. Id. (source not identified in article).

Pesticide Action Network (PAN) is a network of 200 participating organizations created in 1982.¹⁰⁹ The organization was founded jointly by the International Organization of Consumer Unions, and Friends of the Earth-Malaysia. The group claims membership of over one million in Africa, Latin America, Europe, Asia, Australia, and the United States. PAN's aims include documenting worldwide pesticide trade and establishing an early warning system on newly developed pesticides indiscriminately marketed in the Third World.¹¹⁰ PAN stresses that it does not advocate immediate withdrawal of all pesticides because of economic burdens, but rather is working toward a final end of the use of hazardous pesticides.¹¹¹

The Coalition Against Dangerous Exports (CADE) was formed in 1985 from seven consumer and environmental groups, including PAN.¹¹² CADE seeks meaningful controls on the export of dangerous products, especially pesticides and pharmaceuticals to developing countries. The group feels that since "Europe leads the world in selling and exporting [pesticides,] it is reasonable to expect European governments and the EEC to take the lead in the provision of adequate controls over their marketing."¹¹³

The Brussels based International Group of National Associations of Agrochemical Manufacturers (GIFAP) is a trade group comprised primarily of pesticide manufacturers.¹¹⁴ GIFAP believes that the importing country must bear the brunt of the responsibility for protecting human health and the environment against the dangers of pesticides.¹¹⁵

DEVELOPMENT OF A NEW UNITED STATES POLICY

Current United States policy can best be summarized by the phrase "informed consent."¹¹⁶ This policy is substantially inadequate for a number of reasons. First, there are no stringent advertising or labeling codes since labeling requirements under FIFRA are minimal.¹¹⁷ Second, even if dangerous substances were marketed with complete safety data and stringent advertising codes, there is no guarantee that this information

109. Pressure Grows on Pesticide Industry to Tighten Controls on Third-World Exports, *Int'l Env't Rep.* (BNA) 159 (Apr. 13, 1983) ("Pressure Grows").

110. *Id.* at 160.

111. Misuse of Pesticides at 1047 (cited in note 79).

112. Coalition Seeks 'Meaningful Controls' on Exports of Products to Third World, *Int'l Env't Rep.* (BNA) 339 (Oct. 9, 1985).

113. *Id.* at 340, quoting Chitley, *Cleared For Export: An Examination of the European Community's Pharmaceutical and Chemical Trade* (Coalition Against Dangerous Exports publication).

114. *Environment Ministers* (cited in note 100).

115. *Id.*

116. See notes 44-62 and accompanying text.

117. See notes 51-54 and accompanying text. For a summary on the problems of advertising, labeling and promotion of pesticides in the Third World, see *A Growing Problem* at 92-122 (cited in note 6).

will reach the user of the pesticide. There is still the problem of remixing pesticides¹¹⁸ and poor enforcement in developing countries. Third, informed consent does not adequately inform the receiving country of the nature of the dangerous substances being imported until after the shipment is made. Finally, some substances are so dangerous that exports to developing countries should be banned, since these countries frequently lack the infrastructure to adequately handle such dangerous substances.

As a leader in world affairs, the United States has a moral obligation to assist in controlling the potentially adverse effects of exporting banned and unregistered pesticides. This will affect the health and safety of individuals worldwide.

It is important to remember, however, that nations differ substantially in their definition of acceptable risk. In some countries the use of DDT is considered acceptable, while in the United States it has been banned since 1970. These decisions require extensive economic and social information which may be difficult for United States regulators to obtain. Except in exceptional circumstances (outlined below), the United States should not decide what risks are acceptable for an importing country.

Yet, unrestrained United States exports of substances considered too unsafe to use at home could have a long term adverse effect on United States trade, undermining confidence in the "made in the United States of America" label. This could lead to adverse relations with some countries if they believe the United States is dumping unwanted products in their country.¹¹⁹ It is equally undesirable to place United States firms at a competitive disadvantage through excessive export restrictions. These two contending factors must be balanced against each other.

There also is no guarantee that other industrialized nations will restrict their exports. Western Europe accounts for nearly two-thirds of the world's exports, or four to five times that of United States exports.¹²⁰ Development of a United States policy must include considerations for the actions of other countries that export banned and unregistered pesticides, encouraging international participation. Successful elements of a new policy include amending FIFRA, using the Export Administration Act of 1979,

118. See notes 25-27 and accompanying text.

119. Third World countries have pleaded with the United States for a number of years to develop more formal arrangements regulating international trade in dangerous substances. In December 1978, the Central American Non-Governmental Conservation Societies Conference asked its member organizations to send a message to President Carter, urging him to control exports: "Seriously alarmed by the abuse and increasing use in our countries of chemical substances . . . which are prohibited by legislation in the United States . . . [w]e request in the name of human principle, that authorization be denied to the exportation of such products to our countries for use at the cost of our health and the lives of . . . thousands of our fellow men." Quoted in *A Growing Problem* at 148 (cited in note 6).

120. *Pressure Grows* at 159 (cited in note 109).

promoting cooperation with international organizations, and promoting the development of regulatory frameworks within Developing Countries.

Amend FIFRA

Section 136(q) of FIFRA should be amended to increase labeling requirements for exported pesticides. Section 136(o) of FIFRA should also be amended to include a prior consent notification system, and production of an annual summary of regulatory actions for use by developing countries.

Increase Labeling Requirements

Advertising and labeling codes should be further developed to prevent misrepresentation of dangerous substances. FIFRA requires that labels contain caution and warning statements, and not be misleading.¹²¹ These statements should be expanded into a definite set of guidelines which United States manufacturers would follow.

A number of new labeling ideas have been proposed to make pesticides safer to use. Environmental risk ratings on pesticide labels would allow the user to voluntarily select the product which has the lowest environmental risk.¹²² The rating could weigh factors such as chronic and acute toxicity, methods of application, persistence in the environment, and pest resistance. A simple numerical rating system could be developed which would be understandable to all literate people. Since this system would be based on a risk rating developed by the United States, one may argue that the United States is imposing its safety standards on importing countries. This is not the case. Since all pesticides would have the risk rating, the scale is arbitrary. Pesticides can easily be compared to one another to determine the relative toxicity of each pesticide. The user could therefore determine the appropriate level of risk to endure, regardless of United States regulatory policy.

Another idea is to use picture labels to promote proper pesticide use in developing countries.¹²³ Pictures could explain safe ways to handle dangerous substances. Although it is impossible to fully describe all necessary precautions for use and application, picture labels, when used in conjunction with other labeling requirements, would have a number of advantages over conventional practices, especially in areas where illiteracy is high. Representatives of the United States agricultural chemical industry recently agreed to guidelines on labeling. Among the recom-

121. 7 U.S.C. § 136(q)(1)(A) and (G) (1982).

122. *Agrichemical Age* 27 (Aug. 1986).

123. *Picture Labels Described at Conference on Promoting Safety in Third World Nations*, Int'l Env't Rep. (BNA) 314 (July 13, 1983).

mendations adopted were communicating information through symbols, pictures, or color codes in areas with high illiteracy.¹²⁴

Prior Consent Notification System

Countries should be informed of what materials are being shipped to them, and agree to the export before the shipment occurs. Current policy requires informing the purchaser, not the importing government prior to shipment. By the time the importing government is notified, the shipment has probably occurred. Under the prior consent notification system, the exporter would obtain a written statement from the appropriate government representative in the importing country. It would state that s/he understands the substance is banned or unregistered in the United States, and that it may have significant adverse effects if used improperly.

The statement would also include an acknowledgement that the representative has been told how to obtain further information on the substance, if s/he desires. The statement would be obtained annually from the importing country for each substance that is banned or unregistered for use by the EPA. Unless the substance is further restricted, the EPA would approve the shipment.

Produce an Annual Summary of Regulatory Actions

As a complement to the prior consent notification system, an annual summary of regulatory actions on pesticides should be produced. This would summarize all proposed and final regulatory actions by EPA on pesticides. It would also indicate additional information that is available to interested parties, and how to obtain it. A summary of all important regulatory actions affecting pesticides would be valuable to LDCs that are developing their own regulatory policy to control pesticide use.

Use The Export Administration Act of 1979

The Export Administration Act of 1979 should be used to control a limited number of substances. In certain circumstances, it may be necessary to impose export controls on some substances. If the United States does not exercise special vigilance, relations with importing countries could be jeopardized. As described previously, such control could be achieved through the Export Administration Act.¹²⁵

The EPA would prepare a list of banned and unregistered pesticides that are exported. Only substances falling in this category would be candidates for control. These substances would be screened by EPA to

124. Guides on Labeling Exported Pesticides Adopted by Industry-Environment Coalition, Int'l Env't Rep. (BNA) 124 (Apr. 10, 1985).

125. See notes 63-69 and accompanying text. This possibility was thoroughly discussed in the Interagency Working Group on a Hazardous Substances Export Policy, 45 Fed. Reg. 53,753 (Aug. 12, 1980).

determine candidates for inclusion on a Commodity Control List.¹²⁶ At any one time, there would only be a dozen or so items on the Commodity Control List. This list would be analogous to the listing developed in conjunction with the draft EEC proposal to regulate imports and exports of dangerous substances.¹²⁷

When an importing country requests a substance on the Commodity Control List, United States officials would be required to weigh the risks and benefits of using that substance before approving the export. If a favorable decision is not reached, the export would be denied.

Promote Cooperation with International Organizations

The United States should also play an active role in assisting and participating with international organizations in controlling pesticides and other dangerous exports. As noted before, it is important to convince other nations to adopt similar restrictions, or United States firms may be placed at a competitive disadvantage.

The United States should seek the adoption of a binding resolution for OECD and EEC members to regulate trade of these substances. Such an agreement would incorporate the concepts of prior consent and labeling codes, as described above. The United States should also actively participate in the creation and adoption of worldwide hazard alert and data collection systems, such as the IRPTC.¹²⁸

United States policy should encourage the use of import/export dialogues. It is important for both groups to have open channels of communication to explore and resolve disputes as they arise. The institutional, political and moral ramifications of trade in dangerous substances could be discussed at annual meetings attended by interested parties both in the developed and developing world.¹²⁹

Promote the Development of Regulatory Frameworks within LDCs

United States regulation and international actions alone will not remedy the problem. Importing countries must develop their own regulatory structures. This is essential because many companies will simply relocate to a free trade zone when faced with stringent domestic regulations.¹³⁰

Developing countries should make producers meet minimum labeling and advertising requirements within their own country. Advertising and promotion play a large role in influencing people to buy pesticides. If the advertisement says the pesticide is safe and profitable to use, a person

126. This is more fully examined in the Interagency Working Group on a Hazardous Substances Policy (cited in note 125).

127. See note 98 and accompanying text.

128. See notes 86-91 and accompanying text.

129. Chemical Exporters, Importers Meet to Discuss Need for Information Exchange, *Int'l Env't Rep.* (BNA) 833 (May 13, 1981).

130. See note 40.

may often buy it on this basis alone.¹³¹ People in rural areas with high illiteracy may be able to understand the simple message of the advertisement, but not the complex message of the label.¹³² Clearly, advertising codes are essential to proper and safe use of pesticides. Uniform labeling laws would also decrease the dangers caused by using unlabeled pesticides from domestic remixing operations.¹³³

International development programs should stress the use of integrated pest management (IPM). This technique can significantly reduce the potential hazards of pesticide use, while maintaining high quality yields at reduced cost.¹³⁴ IPM relies on integration of a number of techniques to decrease pest predation on crops. Biological predators, sterile males, and pheromones are used to decrease pest numbers. Monoculture cropping is reduced, and pesticides are used very selectively to kill off pests. One of the major differences between current farming practices and IPM is that current practices rely heavily on pesticides to control pests, while IPM uses only limited applications of pesticides in small quantities. IPM accepts that some of the crop will be lost to the pests. This is exchanged for decreased crop production costs and an improved ecosystem. IPM, a labor intensive practice, is also especially suited for developing countries since capital is typically scarce, but labor is plentiful.

CONCLUSIONS

The problems of pesticide abuse in less developed countries will pose a significant challenge to developed and developing countries alike through the next century. As authors Karim Ahmed and Jacob Scherr noted, our error in the past was to view the problem of hazardous exports on a regional or national scale.¹³⁵ As with many environmental problems, the time has come for us to examine the problem on a global scale. Our actions will have a direct effect on the lives of people throughout the world; a regional or national view is inconsistent with this fact.

The United States would be in a position of world leadership in this area. By adopting a policy of prior consent, limited export controls, international cooperation, and regulatory development within LDCs, the United States could force our allies in the EEC and OECD to carefully reconsider their position in world trade of hazardous exports. Such development would ultimately lead to a safer environment.

131. A Growing Problem at 92 (cited in note 6).

132. *Id.*

133. See notes 25-27 and accompanying text.

134. See generally Pest Control: Cultural and Environmental Aspects (D. Pimentel and J. H. Perkins eds. 1979); R. L. Metcalf, Changing Role of Insecticides in Crop Protection, 25 *Ann. Rev. Ent.* (1980); Integrated Pest Management (J. L. Apple and R. F. Smith eds. 1976).

135. Poisons for Export at 8 (cited in note 1).