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Transboundary Shipments of Toxic Waste: The Basel and Bamako Conventions: Do Third World Countries Have a Choice?

B. John Ovink*

I. Introduction

Between 1990 and 1993, 5.4 million metric tons of hazardous waste were shipped from Australia, Canada, Germany, the United Kingdom, and the United States to thirteen Asian countries.¹ Presumably, these figures represent only the officially-documented trade. Actual volumes are probably higher.

The bulk of this waste was shipped under the guise of "recycling".² Recycling of hazardous waste is allowed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal [hereinafter Basel Convention], an international treaty governing both the importation and exportation of hazardous waste.³ Because the Basel Convention authorizes recycling as a legal means for exporting hazardous waste, both the U.N. Environmental Program [hereinafter UNEP] and Greenpeace suspect that most hazardous waste exports will eventually cite recycling as a pretext for export.⁴ It is doubtful,

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1. *Greenpeace Report Says Asian Countries Being Used as Dumping Ground for Waste*, 17 Int'l Envtl. L. Rep. (BNA) No. 3, at 113 (Feb. 9, 1994) [hereinafter *Greenpeace Report*]. See also Search of Known Hazardous Waste Exports from OECD to Non-OECD Countries Database, Greenpeace, Washington D.C. (1994) [hereinafter Database].

2. See *Greenpeace Report*, *supra* note 1.

3. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 28 I.L.M. 649 [hereinafter Basel Convention]. The Convention has been signed by 116 countries and ratified by the following 62 countries: Antigua, Argentina, Australia, Austria, Bahamas, Bahrain, Bangladesh, Belgium, Brazil, Canada, Chile, China, Cyprus, Czech Republic, Denmark, Ecuador, European Community, Egypt, El Salvador, Estonia, Finland, France, Hungary, India, Indonesia, Iran, Ireland, Japan, Jordan, Korea (Republic of), Kuwait, Latvia, Liechtenstein, Luxembourg, Malaysia, Maldives, Mauritius, Mexico, Monaco, Netherlands, Nigeria, Norway, Panama, Peru, Philippines, Poland, Portugal, Romania, Saudi Arabia, Senegal, Seychelles, Slovakia, St. Lucia, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tanzania, United Arab Emirates, United Kingdom (Trinidad & Tobago), and Uruguay. Telephone interview with Representative of U.N. Treaty Section, (Mar. 20, 1994). In August 1992, the U.S. Senate agreed to ratify the Basel Convention. See *Export Ban Included in Options for Administration Basel Convention Bill*, 24 ENV'T. DAILY (BNA) No. 13, at 563 (July 30, 1993). However, Congress has not yet passed implementing legislation to ensure that the United States officially adheres to the treaty. *Id.*

4. Database, *supra* note 1. For more information on the Basel Convention's authorization of

however, that most of these "recyclables" will actually benefit the receiving countries. Furthermore, if the Basel Convention is intended to allow nations to recycle hazardous waste, then strict monitoring needs to be implemented. Indeed, as the figures demonstrate, the Basel Convention has not been effective in banning the export of hazardous waste to underdeveloped countries lacking facilities that can recycle waste in an environmentally sound manner.⁵

The figures also show the increase of regional bans on the import and transboundary movement of hazardous waste, such as the ban imposed by the Organization of African States (OAS) in its Bamako Convention on the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa [hereinafter Bamako Convention].⁶ While the exports to Asia increased, exports to Africa have decreased.⁷ This decrease may be attributed to the Bamako Convention, which effectively shields Africa from all hazardous waste exports from industrialized nations, including "recyclable" hazardous waste.⁸

The African countries are not alone in their outcry to stop "environmental terrorism." Recently, six other regions have either called for or concluded regional agreements banning the import of hazardous wastes.⁹ The increased number of regional agreements

the export of "recyclable" hazardous waste, see *infra* part IV.B.2.

5. As just a few of many examples, the governments of the Bahamas, the Congo, and Guyana have all been willing to import waste in exchange for millions of dollars. Mary Critharis, Note, *Third World Nations are Down in the Dumps: The Exportation of Hazardous Waste*, 16 BROOK. J. INT'L L. 311, 315 (1990).

6. Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movements and Management of Hazardous Wastes within Africa, Jan. 30, 1991, 30 I.L.M. 773 (1991) [hereinafter Bamako Convention]. The Bamako Convention has been signed by Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Cote D'Ivoire, Djibouti, Egypt, Guinea, Guinea-Bissau, Lesotho, Libya, Mali, Mauritius, Niger, Rwanda, Senegal, Somalia, Swaziland, Togo, and Tunisia. Jim Puckett, *Basel — Another dumping Convention?* 6.4 TOXIC TRADE UPDATE 12, 15 (4th Quarter, 1993) (providing list of Bamako signatories). However, the Bamako Convention has not entered into force because it has not been ratified by 10 countries. Puckett, *supra*, at 15. In fact, only one country, Tunisia, has ratified the Convention. *Id.*

7. See *Greenpeace Report*, *supra* note 1.

8. For more information on the Bamako Convention's ban on the importation of hazardous waste, see *infra* parts III.C, IV.B.2.

9. Regions that have called for regional agreements include the Association of South East Asian Nations' Interparliamentary Organization; the South Pacific Forum; the South East Pacific Coastal States of Latin America (CPPS); and the U.N. Economic Commission on Latin America and the Caribbean (ECLAC). See Puckett, *supra* note 6, at 12, 15; *Greenpeace Report*, *supra* note 1. Other regions have already established regional agreements similar to the Bamako Convention, including the following: (1) the Central American Agreement on Transboundary Movements of Hazardous Wastes; and (2) the Barcelona Convention (Mediterranean nations). Puckett, *supra* note 6, at 12, 15.

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indicates that nations, particularly underdeveloped nations, are not satisfied with the achievements of the Basel Convention.¹⁰ Accordingly, this article will compare the provisions of the Basel Convention, an international treaty, and these new regional agreements, using the Bamako Convention as a case study. Specifically, this article analyzes whether the Basel Convention sufficiently serves the needs of underdeveloped nations or whether underdeveloped nations should opt for regional agreements to solve their most immediate hazardous waste-dumping problems. As such, Part II will first describe the lucrative trade of hazardous waste. Part III will trace the African dissatisfaction with the Basel Convention and the establishment of the Bamako Convention. Part IV will compare the two Conventions, specifically focusing on their definitions of hazardous waste and their provisions concerning waste dumping. Finally, in Part V, this article concludes that underdeveloped nations should follow the African example and form regional agreements regarding hazardous waste importation, at least until the developed nations are ready to ban all exports of hazardous wastes, or until underdeveloped nations establish environmentally sound disposal sites.¹¹

II. The Lucrative Trade of Hazardous Waste

In 1990, the members of the Organization for Economic Cooperation and Development (OECD) produced between 300 and 400 million metric tons of hazardous wastes, which, at that time, accounted

10. To cope with the rising demand for the total ban on all transboundary exports of hazardous waste, the members of the Organization for Economic Cooperation and Development [hereinafter OECD], at the Second Meeting of the Conference to the Basel Convention in Geneva in March 1994 [hereinafter Second Meeting], recently announced a phasing out of all exports of hazardous wastes to non-OECD nations by December 31, 1997. Telephone Interview with Jim Vallette, Greenpeace (Mar. 28, 1994) [hereinafter Interview with Jim Valette]. However, at present, it remains to be seen what the immediate effect of this proposal will be. The OECD nations include the following nations: Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Greece; Iceland; Ireland; Italy; Japan; Luxembourg; the Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; the United Kingdom; the United States. These nations are generally considered the richest, most developed countries of the world.

Prior to the Second Meeting, the OECD Nations had also issued earlier decisions regarding the transfrontier movement of waste destined for recovery operation. *See, e.g.*, OECD Council Decision and Recommendation on Transfrontier Movements of Hazardous Waste, Feb. 1, 1984, 23 I.L.M. 214 (1984); OECD Council Decision on the Transfrontier Movement of Wastes, May 27, 1988, 28 I.L.M. 257 (1989).

11. Until recently, with the advent of the Bamako Convention and other regional agreements, the "sinister seven" nations — Australia, Canada, Finland, Germany, Japan, the United Kingdom, and the United States — were successful in delaying efforts to create a total ban on the export of hazardous wastes. *See* Puckett, *supra* note 6, at 15.

for approximately ninety-eight percent of the world's estimated annual hazardous wastes production.¹² To dispose of a metric ton of waste in 1992 would have cost 160 to 1000 dollars in Europe and 450 to 1500 dollars in the United States.¹³ In contrast, the estimated cost of waste disposal was a mere 40 dollars per metric ton in Africa in 1992.¹⁴ Thus, developed nations soon realized that even considering the cost of shipping hazardous waste, it was still easier to export it to underdeveloped nations, rather than disposing of it within their own borders.¹⁵ Moreover, receiving 40 dollars per metric ton also created a strong incentive for underdeveloped nations to accept hazardous waste, even if they had no environmentally sound disposal sites available.¹⁶

Aside from cost, the decrease in the number and capacity of disposal sites in many developed countries counts heavily in favor of exporting the wastes.¹⁷ Unfortunately, however, most underdeveloped nations are not equipped with the technology to effectively monitor landfill sites. That is, they are unable to check and control what exactly is being disposed at the site.¹⁸ This, in turn, makes it easier for the exporting country to circumvent the local rules that may exist in the country of import.

III. African Dissatisfaction with the Basel Convention

On March 20-22, 1989, representatives from 116 nations met in Basel, Switzerland and eventually approved the Basel Convention.¹⁹

12. Interview with Jim Vallette, *supra* note 10. This figure does not take into account the waste produced in Eastern Europe.

13. *Basel Convention Parties End Meeting Without Call for Total Ban on Toxics Trade*, 15 Int'l Envtl. L. Rep. (BNA) No. 25, at 807 (Dec. 16, 1992).

14. *Id.*

15. *Id.*

16. Many developing nations find the waste trade an attractive means to obtain income necessary to accomplish their domestic agenda. For example, Guinea Bissau consented to the import of 15 million tons of waste for \$600 million. That figure is twice its foreign debt and more than 35 times the value of its total annual exports. C. Russel H. Shearer, Note, *Comparative Analysis of the Basel and Bamako Conventions on Hazardous Waste*, 23 NORTHWESTERN ENV'T L. 141, 144 n.14 (1993).

17. See Pollock, *Mining Urban Wastes: The Potential for Recycling*, in WORLDWATCH PAPER 76, 15 (1987) (stating that according to the Institute for Local Self Reliance, over 50% of American cities will deplete their existing landfills by 1990).

18. Indeed, many underdeveloped nations lack the technical expertise and money to develop environmental controls. Critharis, *supra* note 5, at 314. As such, environmental controls are often nonexistent in these nations. *Id.*

19. While one of the first international agreements governing the transnational transport of hazardous waste, the Basel Convention was preceded by other regional regulation. For example, in 1984, the European community adopted the Council Directive on the Supervision and Control Within the European Community of the Transfrontier Movement of Toxic Waste, 27 O.J. Eur.

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Thirty-nine members of the Organization of African Unity were present in Basel. However, they were notably absent from the signing and ratification of the treaty.²⁰

Although the Basel Convention is praised for its regulation of hazardous waste, African nations have expressed serious doubts as to its effectiveness. Primarily, these doubts center on the Basel Convention's limited ban on hazardous waste exportation and its failure to address concerns of underdeveloped nations.

A. *Basel Convention's Limited Ban*

Drafters of the Basel Convention favored a limited ban, as they believed a total ban would prohibit the movement of waste from a locus of generation without environmentally sound management to another location better-equipped to safely dispose of waste.²¹ Nevertheless, the Convention still calls for Parties to monitor transboundary movements of hazardous waste, namely to "[e]nsure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects".²²

Comm. (No. L 326) 31, *amended by* 29 O.J. Eur. Comm. (No. L 181) 13 (1986).

Additionally, in 1984, the U.S. Congress addressed the exportation of hazardous wastes and passed the Hazardous and Solid Waste amendments, Pub. L. No. 92-616, 98 Stat. 3224 (1984) (codified as amended at 42 U.S.C. §§ 6901-91 (1988)), to the Resources Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-991 (1988). With these amendments, the RCRA directs that no person may export hazardous wastes before (1) notifying the importing country; (2) receiving the importing country's consent to accept the hazardous wastes; (3) attaching a copy of the importing country's written consent to the hazardous wastes shipment; and (4) conforming the hazardous waste shipment to the terms and conditions of the importing country's consent. 42 U.S.C. § 6938 (1988). *See also* Exports of Hazardous Waste Regulations, 40 C.F.R. § 262.53 (1993). With respect to U.S. agreements with foreign nations to export hazardous waste, the United States currently has two such agreements in force, one with Canada and the other with Mexico. Both these agreements have been incorporated in the North American Free Trade Agreement, Dec. 17, 1992, 32 I.L.M. 289 [hereinafter NAFTA].

The Basel Convention was preceded by other international agreements as well. Such agreements include (1) The London Dumping Convention, Nov. 13, 1972, 11 I.L.M. 1291; (2) the Stockholm Conference on the Human Environment, 11 I.L.M. 416; and (3) The World Charter for Nature, Nov. 9, 1982, 22 I.L.M. 455. In fact, all are mentioned in the preamble of the Basel Convention. Basel Convention, *supra* note 3, pmb1.

20. Nigeria (March 13, 1991), Senegal (Nov. 10, 1992), Mauritius (Nov. 24, 1992), Egypt (Jan. 8, 1993), Tanzania (April 7, 1993) and the Seychelles (May 11, 1993) are the only members of the Organization of African States (OAS) to have ratified the Basel Convention. Puckett, *supra* note 6, at 12.

21. Shearer, *supra* note 16, at 151. This intent is evidenced in the Convention's preamble, which states that hazardous waste should be disposed of in the state where generated, but only "as far as [such disposal] is compatible with environmentally sound and efficient management." Basel Convention, *supra* note 3, pmb1.

22. Basel Convention, *supra* note 3, art. 4, ¶ 2(a). *See also* ENVIRONMENTAL LAW AND INSTITUTIONS UNIT (ELIU) ENVIRONMENTAL LIBRARY, THE BASEL CONVENTION ON THE CONTROL

The Basel Convention allows Parties to export waste, but only if (1) the exporting state does not have the technical capacity and necessary facilities to dispose of the waste in an environmentally sound manner; or (2) the wastes to be exported are required as raw material for recycling or recovery industries in the importing state.²³ In either case, the written consent of the importing nation is also required before any export of waste is transmitted.²⁴ When a nation does export waste, it has the obligation of ensuring that such waste is disposed of in an environmentally sound manner.²⁵ More specifically, exporters of hazardous waste must verify that the importing countries have adequate

OF TRANSBOUNDARY MOVEMENTS OF HAZARDOUS WASTES AND THEIR DISPOSAL 34-37 (U.N. Environmental Program, 1990).

23. Basel Convention, *supra* note 3, art. 4. Article 4, ¶ 9 provides in pertinent part: Parties shall take the appropriate measures to ensure that the transboundary movement of hazardous wastes and other wastes only be allowed if:

- (a) The State of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the wastes in question in an environmentally sound and efficient manner; or
- (b) The wastes in question are required as a raw material for recycling or recovery industries in the State of import;

Id.

24. Article 4, ¶ 1 affords nations the explicit right to prohibit the import of hazardous wastes into their countries. As stated by article 4, ¶ 1:

- (a) Parties exercising their right to prohibit the import of hazardous wastes or other wastes for disposal shall inform the other Parties of their decision
- (b) Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes to Parties which have prohibited the import of such wastes, when notified pursuant to subparagraph (a) above.
- (c) Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes if the State of import does not consent in writing to the specific import, in the case where that State of import has not prohibited the import of such wastes.

Id. art. 4, ¶ 1.

Exporting nations must also notify and receive written consent from all "States of transit," those countries through whom a movement of hazardous waste will take place en route from the State of export to the State of import. *Id.* art. 6, ¶ 4. Exporting nations *may not* allow the export of waste until it receives written permission from all States of transit. *Id.*

25. Basel Convention, *supra* note 3, art. 4, ¶ 2(g); art. 4, ¶ 8. For example, article 4, ¶ 2(g) provides that:

- 2. Each party shall take the appropriate measures to:
 - (g) Prevent the import of hazardous waste and other wastes if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner.

Id. art. 4, ¶ 2(g). Further, article 4, ¶ 8 mandates that "[e]ach Party shall require that hazardous wastes or other wastes, to be exported, are managed in an environmentally sound manner in the State of Import or elsewhere." *Id.* art.4, ¶ 8. As a result, while the Convention allows Parties to prohibit the import of hazardous wastes, it merely requires that the exporter ensures that wastes are managed in an "environmentally sound manner." It seems highly illogical to ask certain Parties (underdeveloped nations) to ban imports while at the same time not ask other Parties (developed nations) to ban all exports to them. *See generally* Database, *supra* note 1.

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disposal facilities available and that persons involved in the management of hazardous wastes in the importing country take the requisite steps to prevent pollution arising from hazardous waste management.²⁶ The Basel Convention explicitly articulates that this obligation to ensure the environmentally sound management of exported wastes rests with the exporting nation and that obligation “*may not under any circumstances be transferred to the States of import or transit.*”²⁷

B. Basel Convention's Failure to Address Underdeveloped Nations' Concerns

Faced with increasing imports of hazardous waste, the African nations challenged that the Basel Convention was merely aimed at regulating movement of hazardous waste from one nation to another.²⁸ Thus, even though the Convention provided for the legal import of hazardous wastes and such wastes could provide African nations with economic benefit, the African nations realized that they lacked environmentally sound disposal sites and thus, anticipated the environmental dangers that could result from such imports.²⁹ Additionally, the African nations contended that in addition to the Basel Convention's limited ban of hazardous waste, the Convention failed to adequately address other specific concerns of underdeveloped nations, in

26. Basel Convention, *supra* note 3, art. 4 ¶ 2(c). Article 4, ¶ 2(c) provides that Parties exporting hazardous waste to another shall:

ensure that persons involved in the management of hazardous wastes or other wastes within it take such steps as are necessary to prevent pollution due to hazardous wastes and other wastes arising from such management, and if such pollution occurs, to minimize the consequences thereof for human health and environment.

Id.

27. *Id.* art. 4, ¶ 10 (emphasis added).

28. Wordsworth Filo Jones, *The Evolution of the Bamako Convention: An African Perspective*, 4 *COLO J. INT'L ENVTL L. & POL'Y* 324, 335 (1993).

29. *Id.* Most underdeveloped nations have considerable difficulties in effectively managing waste, including the following:

First, the forces of nature conspire to thwart environmentally sound management. For example, in the tropics' heavy rains, wastes leach into soil under landfills, causing the contamination of water supplies. Second, landfills are usually located near the residences of the poorest people. In fact, the poorest neighborhoods may be located *in* waste disposal sites. As a result, of the proximity of the disposal sites and the neighborhoods, groundwater is often contaminated, and residents frequently bathe, drink, grow food, and cook with it. Children play with hazardous wastes, and adults view them as raw materials for projects or as talismans of good luck. Third, developing nations often do not have competent administrative agencies or administrators to regulate waste disposal. Finally, developing nations are attractive disposal sites because of their need for capital, even though they lack environmentally sound disposal sites and adequate land-use planning strategies.

Shearer, *supra* note 16, at 146-47.

particular, issues such as: (1) how to control shipments of general waste mixed with hazardous substances; (2) how to address instances where nations lack facilities to adequately dispose of waste once the nation has accepted the waste for disposal; and (3) how to prevent forged, or bribed, signatures on import documents.³⁰

C. The African Nations' Adoption of the Bamako Convention

Dissatisfied with the Basel Convention's limited ban and failure to address significant concerns of underdeveloped nations, the fifty-one members of the OAU met in Bamako, Mali, in January 1991 to adopt the Bamako Convention.³¹ The Bamako Convention mandates that Parties prohibit *all* imports of hazardous waste into Africa.³² Moreover, the Bamako Convention endorses a preventative approach.³³ That is, Parties to the Convention must strive to both prevent the release of harmful substances into the environment³⁴ and to promote clean production methods for raw materials.³⁵

30. See *Corrupt Officials Are Targets for Exporters Trying to Unload Their Toxic Wares*, 135 CONG. REC. at E1949-50 (daily ed. May 31, 1989).

31. Puckett, *supra* note 6, at 12. The lone absentee was South Africa, which is not yet a member of the OAU, and as such, not a signatory to the Bamako Convention. *Id.*

32. Bamako Convention, *supra* note 6, art. 4., ¶ 1. As enunciated by article 4, ¶ 1:

All Parties shall take appropriate legal, administrative and other measures within the area under their jurisdiction to prohibit the import of all hazardous wastes, *for any reason*, into Africa from non-Contracting Parties. Such import shall be deemed illegal and a criminal act.

Id. (emphasis added).

33. *Id.* art. 4.

34. Article 4, ¶ 3(f) provides the following:

Each party shall strive to adopt and implement the preventative precautionary approach to pollution problems which entails, inter-alia, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm. The Parties shall co-operate with each other in taking the appropriate measures to implement the precautionary principle to pollution prevention through the application of clean production methods, rather than the pursuit of a permissible emissions approach based on assimilative capacity assumptions.

Id. art. 4, ¶ 3(f).

35. Article 4, paragraph 3(g) provides:

Parties shall promote clean production methods applicable to entire product life cycles including:

- raw material selection, extraction and processing;
- product conceptualisation [sic], design, manufacture and assemblage;
- materials transport during all phases;
- industrial and household usage;
- reintroduction of the product into industrial systems or nature when it no longer serves a useful function.

Clean production shall not include end-of-pipe pollution controls such as filters and scrubbers, or chemical, physical or biological treatment. Measures which reduce the

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Absent a strong commitment by the industrialized nations to cease all hazardous waste exports, a regional ban such as that imposed by the Bamako Convention can be effective only if a monitor system is implemented to actually check and enforce the provisions of the regional ban. At present, the Bamako Convention's enforcement provisions include (1) having each Party establish a national body to act as a Dumpwatch; and (2) making the illegal traffic of hazardous waste a criminal offense by stipulating that "all persons who have planned, carried out, or assisted in such illegal imports" shall be subject to criminal sanctions.³⁶

Enforcement of such criminal sanctions is largely the responsibility of each member nation, however. Specifically, the member states are required to enact national legislation that imposes criminal penalties for illegal imports.³⁷ The Central Authority of the Convention, the Secretariat, merely assists the Parties in identifying cases of illegal traffic and disseminates information concerning such violations.³⁸ As such, its function is purely administrative and lacks any inspection or investigation powers.³⁹

Funding is also necessary to ensure the integrity of the Convention. Nonetheless, the Bamako Convention makes only a brief reference to funding for transfers of technology, a key issue for underdeveloped nations that lack the resources and expertise required to manage the problems of hazardous waste.⁴⁰ The funding mechanism that is provided by the Convention is entirely voluntary, and presumably, is to be established at a later date.⁴¹

volume of waste by incineration or concentration, mask the hazard by dilution, or transfer pollutants from one environmental medium to another, are also excluded.

Id. art. 4, ¶ 3(g).

36. Bamako Convention, *supra* note 6, art. 9, ¶ 2.

37. *Id.* art. 9, ¶ 2. As provided in article 9, ¶ 2:

Each Party shall introduce appropriate national legislation for imposing criminal penalties on all persons who have planned, committed, or assisted in such illegal imports.

Such penalties shall be sufficiently high to both punish and deter such conduct.

Id. (emphasis added). One of the more notable examples of nations who have imposed criminal penalties is Nigeria, which has assured the world that anyone guilty of illegally importing hazardous wastes into their jurisdiction will be executed. *See* Critharis, *supra* note 5, at 317.

38. Bamako Convention, *supra* note 6, art. 16, ¶ 1.

39. *Id.* The other functions of the Secretariat include: (1) arranging for Convention meetings; (2) preparing and transmitting reports pertaining to Convention information; (3) communicating with the authorities established by each Party to implement the terms of the Convention; and (4) conveying to the Parties technical and scientific information concerning the environmentally sound management of waste. *Id.* art. 16.

40. *Id.* art. 14, ¶ 4.

41. *Id.*

IV. Comparison of the Basel and Bamako Conventions

One of the primary problems in drafting a convention governing transfrontier movements of hazardous waste is defining what constitutes hazardous waste and the environmentally sound management of such waste. Additionally, because many underdeveloped nations lack technical expertise, they are especially susceptible to illegal dumping and dumping under the guise of recycling. Thus, it is also imperative that hazardous waste treaties adequately address the topic of waste dumping. What follows therefore is a comparative analysis of the Basel and Bamako Conventions' treatment of how to define hazardous waste and how to prevent waste dumping.

A. *The Definition of Hazardous Waste*

1. *Definition of Hazardous Waste.*—The Basel Convention distinguishes hazardous wastes from other wastes. Specifically, hazardous wastes are defined in article 1, as follows:

- (a) Wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III;⁴² and

42. Annex I lists 45 categories of waste, including wastes contaminated by radionuclides; clinical wastes from medical care in hospitals or medical centers; wastes from production or preparation of pharmaceutical products; waste pharmaceuticals, drugs, and medicines; wastes from the production, formation and use of phytopharmaceuticals; wastes from production, formulation and use of wood preserving chemicals; wastes from the production, formulation and use of organic solvents; wastes from heat treatment and tempering operations containing cyanides; waste mineral oils unfit for their originally-intended use; waste oils/water, hydrocarbons/water mixtures, emulsions; waste substances and articles containing polychlorinated biphenyls and/or polychlorinated terphenyls and/or polybrominated biphenyls; waste tarry residues arising from refining, distillation, and any pyrolytic treatment; wastes from production, formulation and use of inks, dyes, pigments, paints, lacquers, or varnish; wastes from production, formulation and use of resins, latex, plasticizers, glues/adhesives; waste chemical substances arising from research or development which are not identified or are new and whose effects on man and/or the environment are not known; wastes of an explosive nature not subject to other legislation; wastes from production, formulation and use of photographic chemicals and processing materials; wastes resulting from surface treatment of metals and plastics; residues arising from industrial waste disposal operations; wastes collected from households, including sewage and sewage sludges; residues arising from the incineration of household wastes; wastes having as constituents metal carbonyls, beryllium compounds, hexavalent chromium compounds, arsenic compounds, selenium compounds, cadmium compounds, antimony compounds, tellurium compounds, mercury compounds, thallium compounds, lead compounds, inorganic fluorine compounds, inorganic cyanides, acidic solutions, basic solutions, asbestos, organic phosphorous compounds, organic cyanides, phenol compounds, ethers, halogenated organic solvents, congeners of polychlorinated dibenzo-furan or dibenzo-p-dioxin and organohalogen compounds. Basel Convention, *supra* note 3, ann. 1.

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(b) Wastes that are not covered under paragraph (a) but are defined as, or are considered to be, hazardous wastes by the domestic legislation of the Party of export, import, or transit.

This provision is replete with loopholes. If a waste is not directly defined by the Convention, it is left to the national legislature of a country to define. Additionally, some countries, such as the United States, have several pieces of legislation that vary in their definitions of hazardous substances.⁴³ Whether the Basel Convention provisions would allow the United States to choose which list is applicable is an open question. Furthermore, many underdeveloped countries have little or no existing environmental legislation.

Conversely, the Bamako Convention not only adopts the definition of hazardous waste used in the Basel Convention, but expands that definition to describe hazardous waste as that which includes (1) "substances which have been banned, cancelled, or refused registration by governmental regulatory action, or voluntarily withdrawn from registration in the country of manufacture, for human health or environmental reasons";⁴⁴ (2) radioactive materials;⁴⁵ and (3) discharge from ships not covered by another international instrument.⁴⁶

The advantage of the Bamako Convention definition is evident when considering the problem of vessel-generated waste discharges. While not a large percentage of the total amount of hazardous waste, vessel-generated waste can produce significant environmental problems. Vessel-generated wastes are not defined as waste in the Basel Convention. Thus, unless vessel-generated wastes are imported into a state that specifically prohibits the import of such waste,⁴⁷ the Basel Convention allows vessel-generated waste. Yet, because the Bamako Convention defines hazardous waste as those derived from normal operations of a ship, such wastes may not be disposed of in Africa.⁴⁸

2. Definition of Environmentally Sound Management of Hazardous Waste.—One of the major shortcomings of both the Basel and Bamako

43. For example, both the RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9657 (1988), have two different definitions of hazardous waste.

44. Bamako Convention, *supra* note 6, art. 2, ¶ 1(d).

45. *Id.* art. 2, ¶ 2.

46. *Id.* art. 2, ¶ 3.

47. See Basel Convention, *supra* note 3, art. 4, ¶ 1.

48. Chemicals used for cleaning are usually highly toxic. If no import ban exists on vessel-generated waste, the Basel Convention does not prevent dumping these chemicals while the vessel is in a port. On the other hand, the Bamako Convention forces vessels to keep these chemicals on board, unless prior arrangements have been made with the importing country.

Convention, however, is the absence of a definition of environmentally sound management. Both the Basel and the Bamako Convention require that waste be disposed in an "environmentally sound manner."⁴⁹ Although working groups have met, no explicit definition for such management has been generated. Part of the problem is the reluctance of certain industrialized nations to do so, as they believe that in doing so, they will be left to dispose their hazardous wastes at home.⁵⁰ Recognizing that no environmentally sound disposal facilities existed in Africa, the OAS nations created a total ban on the import of hazardous waste into Africa.⁵¹ Because a total ban on the intra-African movement of waste might have counter-productive consequences, the Bamako Convention does allow, but severely limits and regulates transboundary shipments between African nations.⁵²

B. The Provisions Regarding Waste Dumping

Many developed nations attempt to avoid the requirements for legal hazardous waste disposal by either (1) illegally dumping the waste or (2) sending the waste under the pretext that it is recyclable waste.

1. Illegal Dumping.—Both Conventions define illegal dumping as transboundary movements of hazardous waste that (1) are sent without the prior notification and consent of the states concerned; (2) do not conform in a material way to the terms and conditions set forth in the importing country's consent to the shipment; or (3) are shipped with consent obtained by fraud, misrepresentation, or falsification.⁵³ Underdeveloped nations often lack technical expertise and administrative

49. Basel Convention, *supra* note 3, art. 4; Bamako Convention, *supra* note 6, art. 4, ¶ 3(i), (j), (k).

50. *Basel Convention Working Group Says Progress Made on Waste Disposal Guidelines*, 16 Int'l Env'tl. L. Rep. (BNA), No. 197 (Feb. 23, 1994).

51. Shearer, *supra*, note 16, at 145 n.15. Ironically, the only African non-signatory of the Bamako Convention, South Africa, may be the first nation on the continent to have the technology available to dispose of certain hazardous wastes in a technologically sound manner. In February, 1994, South African cement manufacturer PPC announced that it is introducing a process that destroys hazardous wastes while producing cement more efficiently. *Industry Produces About Two Million Tons of Hazardous Waste Annually, Report Says*, 16 Int'l Env'tl. L. Rep. (BNA), No. 20, at 742 (Oct. 6, 1993). About 1.8 million tons of hazardous wastes are produced annually by the local industry in South Africa, according to the results of an investigation into hazardous wastes issues by South Africa's Department of Environment Affairs. *Id.*

52. Bamako Convention, *supra* note 6, art. 4, ¶ 3(i)-(u). Creating environmentally sound disposal sites and recycling plants is very expensive, and may well exceed the national budgets of some nations. It is therefore advisable to create regional sites, accessible to a group of (neighboring) countries, rather than have each country create its own.

53. Basel Convention, *supra* note 3, art. 9, ¶ 1; Bamako Convention, *supra* note 6, art. 9, ¶ 1.

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capabilities and are therefore, especially susceptible to illegal dumping.⁵⁴ In the same manner, because underdeveloped nations often lack the equipment to extensively patrol their coastal and territorial waters, they are prone to illegal dumping not only within their nation, but at sea.⁵⁵

The Basel Convention makes illegal traffic punishable according to national laws.⁵⁶ However, where reimportation by the state of export is impracticable, the Basel Convention allows disposal, provided that the importing country has the capability to dispose of such waste in an environmentally sound manner.⁵⁷ With few underdeveloped nations possessing such disposal sites, this provision has an empty ring, for once the hazardous waste has been transported to an underdeveloped nation, most likely, developed nations will always assert that the waste is "impracticable" to reimport. Thus, potentially the waste could remain in the underdeveloped nation, despite its lack of appropriate waste facilities. In stark contrast, the Bamako Convention prohibits *all* imports of hazardous waste, *for any reason*.⁵⁸

Furthermore, because many underdeveloped nations lack technology, they often lack the equipment to extensively patrol their coastal and territorial waters, thereby making them susceptible to illegal dumping not only within their nations, but at sea.⁵⁹ Whereas the Basel Convention relies on other existing treaties to address the problem of illegal dumping at sea, the Bamako Convention explicitly proscribes all dumping of hazardous wastes at sea, including the high seas.⁶⁰

2. *Waste Dumping Under the Guise of Recycling.*—Much hazardous waste is shipped to underdeveloped nations under the guise of recyclables.⁶¹ Although these substances would be considered "waste" in their country of origin, under the Basel Convention, their export is permitted as "recyclables."⁶²

54. See Shearer, *supra* note 16 and accompanying text. Examples of such illegal dumping include toxic waste labeled as fertilizer that was sent to Liberia, where it was used where crops were grown. Critharis, *supra* note 5, at 316. Additionally, in Nigeria, leaking chemical drums that were exported from Italy polluted a river that emptied into a Koko port. *Id.* The result caused chemical burns and paralysis to dockworkers working at the port. *Id.*

55. Bamako Convention, *supra* note 6, art. 4, ¶ 2(a).

56. Basel Convention, *supra* note 3, art. 9, ¶ 5.

57. *Id.* art. 9, ¶ 2.

58. Bamako Convention, *supra* note 6, art. 4, ¶ 1(a).

59. See Shearer, *supra* note 16 and accompanying text.

60. *Id.* art. 4, ¶ 2.

61. Illegal Traffic in Toxic and Dangerous Products and Wastes, Report of the Secretary General, U.N. GAOR, 44th Sess., Item 83(f), U.N. Doc. A/44/362 (1989).

62. Basel Convention, *supra* note 3, art. 4, ¶ 9(b). For example, pharmaceutical refuse mixed

Conversely, the Bamako Convention creates a total ban on the import of hazardous wastes into Africa from nonparties for any reason. While such a ban is understandable in light of the many hazardous wastes that are exported under the guise of being recyclables, in the long run this provision might prove to be imprudent. As more nations begin to realize that recycling can be a financially attractive alternative, in addition to being environmentally sound, this provision effectively prohibits the African nations to import recyclables from industrialized nations. It might also prevent private industries from erecting recycling plants in African nations and from exporting and sharing recycling techniques.

V. Conclusion

Despite having been hailed as a milestone in the regulation of transboundary waste shipments, the Basel Convention has failed to adequately address some of the most critical hazardous waste problems underdeveloped nations now confront. Alternatively, regional agreements such as the Bamako Convention provide a means for underdeveloped nations to decrease their import of hazardous wastes. Unfortunately, even the Bamako Convention fails to effectively address the two essential issues of enforcement and funding. Yet, this is not uncommon in international agreements. It is particularly important for underdeveloped nations to address such issues, however, as they often lack the modern, centralized, computerized databases and inter-governmental cooperation networks used by developed nations to track violators that illegally dump waste.⁶³

Despite its shortcomings, the Bamako Convention sends a strong signal that the developed nations must either share their technology to dispose of waste in an environmentally sound manner or be forced to dump their waste at home. Faced with the problems of being recipients of hazardous wastes without sharing the benefits of the products that generated the waste, underdeveloped nations need to send such a signal. One drawback from regional agreements like the Bamako Convention is that developed nations may in turn refuse to import any hazardous waste generated in underdeveloped nations or have no incentives to assist these

with corn and fish was labeled as cattle feed and sent to the Dominican Republic. Critharsis, *supra* note 5, at 316. Toxic waste labeled as fertilizer was sent to a dump site in Liberia where crops were grown. *Id.* In Nigeria, leaking chemical drums from Italy polluted a river emptying into the port of Koko, causing chemical burns and paralysis among dock workers. *Id.*

63. One suggestion to establish greater enforcement of the Bamako Convention is to create a strong central organization with powers to act independent of any particular Party state.

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nations in developing the technology necessary for environmentally sound treatment and disposal facilities within the underdeveloped nations. This issue is very critical, as presumably underdeveloped nations already have insufficient disposal facilities to dispose of the little waste their own industries create.⁶⁴

Nevertheless, the drafters of the Bamako Convention established the agreement with the intent to ban, not to regulate the import of hazardous wastes. As such, the signatories realized that as long as no adequate disposal sites are available, only an outright ban on imports will send a strong signal to the hazardous waste producers. Moreover, as the Bamako drafters realized, by merely signing the Basel Convention, the underdeveloped nations leave their waters and soils open for illegal dumping and will not be able to effectively stop the dangers surrounding the "recycling" of hazardous wastes. Accordingly, as long as no "environmentally sound" disposal sites are available, underdeveloped nations would be well-served to follow the African example and opt for regional agreements that establish a total ban on the imports of hazardous wastes.

64. Incentives for technique-sharing with industries from developed nations have to be created. Neither Convention addresses this issue, and it may be advisable to include in future regional agreements a provision that allows some import of recyclables. Such a provision should ideally be coupled with the assurance that the exporter guarantees that technology is or will be made available for environmentally sound management of recycling plants and disposal sites. This could be established through financial incentives to the industry from the World Bank, or from the governments of developed countries through tax incentives. Of course, strict arrangements also need to be made to provide for the regulation and monitor of such recyclable imports, perhaps through independent analysts stationed in the importing countries.

Another suggestion may be to require industries wishing to establish production plants in underdeveloped nations to ensure environmentally sound disposal of the hazardous wastes they generate, either by establishing disposal sites in the underdeveloped country, or through requiring export to a country with adequate disposal facilities.

