

Decreasing Dirty Dumping? A Reevaluation of Toxic Waste Colonialism and the Global Management of Transboundary Hazardous Waste

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DECREASING DIRTY DUMPING? A REEVALUATION OF TOXIC WASTE COLONIALISM AND THE GLOBAL MANAGEMENT OF TRANSBOUNDARY HAZARDOUS WASTE

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ABSTRACT

Even though the phrase “toxic waste colonialism” has fallen out of usage in the past ten years, the effective global management of transboundary hazardous waste has yet to become an out-of-date topic. Starting in the early 1980s, the international community sought to develop international agreements governing the transboundary movement of hazardous waste in order to protect developing countries from illegal “dirty dumping” practices. Over twenty years have passed since the adoption of the Basel Convention formed the foundation for other subsequent global protocols. However, the ever-increasing global quantities of hazardous waste, including the growing electronic waste issue, only exacerbate the disproportionate risks faced by developing countries in current efforts of implementation and policy of global hazardous waste management. The persistence of these issues indicates that the transboundary movement of hazardous waste and the international methods introduced to correct these problems are ripe for reevaluation. Hopefully, by considering the loopholes in the current international system and suggesting possible recommendations for future global agreements, this area of international law can be more effectively addressed.

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INTRODUCTION

In 2006, over five hundred tons of a mixture of fuel, caustic soda, and hydrogen sulfide was distributed to twelve different sites around the largest city in Côte d'Ivoire, Abidjan.¹ Now referred to as the Côte d'Ivoire

¹ See Adam Duckett, *Trafigura Story Breaks*, THE CHEMICAL ENGINEER (Oct. 13, 2009), <http://www.tcetoday.com/tcetoday/NewsDetail.aspx?nid=12188>.

toxic waste dump,² this affair became a major health crisis and a harsh reminder of the breakdowns in the global management of hazardous waste. The events leading up to the toxic waste dump actually began four years prior and involved many different countries. In 2002, a Mexican state-owned oil company, Pemex, began to accumulate large amounts of coker gasoline containing both sulfur and silica at its Cadereyta refinery.³ When the refinery reached its full storage capacity in early 2006, it sold the material to the Swiss-based, multi-national, oil and commodity shipping company, Trafigura Beheer BV, which loaded the material onto a Panamanian registered tanker, *Probo Koala*, located in the port of Brownsville, Texas, and owned by a Greek shipping company.⁴ After the caustic washing of the coker gasoline was completed on board the tanker, Trafigura sought a disposal site for the residual hazardous waste.⁵ Rather than pay the disposal charge offered by a company in Amsterdam and several other countries, the material was offloaded at the Port of Abidjan, Côte d'Ivoire.⁶ The material caused severe harm to human health; twelve people were confirmed to have died from exposure to the waste's byproducts, and at least 30,000 were injured.⁷ Presently, it seems that, at least legally and

² See, e.g., *Cote d'Ivoire Toxic Waste Dump Victims Reflect on "Small Victory,"* AMNESTY INTERNATIONAL (Nov. 10, 2009), <http://www.amnesty.org/en/news-and-updates/news/côte-d'ivoire-toxic-waste-dump-victims-reflect-quot-small-victoryquot-20091110>.

³ Duckett, *supra* note 1.

⁴ *Id.* Trafigura desired to strip the sulfurous products out of the coker gasoline to produce naphtha which could then be sold; to cut down on refinery costs, Trafigura used an experimental process onboard the ship called "caustic washing" in which the coker was treated with caustic soda. *See id.* The process worked, and the resulting naphtha was resold for a reported profit of \$19 million. *See id.* The waste resulting from the caustic washing would typically include highly dangerous substances such as sodium hydroxide, sodium sulphide and phenols. *See id.*

⁵ Philippe Bernard, Jacques Follorou & Jean-Pierre Stroobants, *How Abidjan Became a Dump*, GUARDIAN.CO.UK (October 20, 2006), <http://www.guardian.co.uk/world/2006/oct/20/outlook.development>.

⁶ *Id.* The material was then spread around the city and surrounding areas, dumped in waste grounds, public dumps, and even along roads in populated areas. *See* Duckett, *supra* note 1. As there are two sides to every story, Trafigura denied that any toxic waste was transported and that the material contained only tiny amounts of the toxic hydrogen sulfide. *See* Bernard et al., *supra* note 5. Trafigura also claimed that this exchange was performed under an agreement that guaranteed the proper treatment and disposal of the material. *See id.*

⁷ David Leigh, *How UK Oil Company Trafigura Tried to Cover Up African Pollution Disaster*, GUARDIAN.CO.UK (Sept. 16, 2009), available at <http://www.guardian.co.uk/world/2009/sep/16/trafigura-oil-ivory-coast>; see also *Ivory Coast Poisoning Scandal Death Toll Jumps to 10*, AGENCE FRANCE-PRESSE (Oct. 13, 2006), available at <http://www.reliefweb.int/rw/rwb.nsf/db900sid/KHII-6UM7M9?OpenDocument&rc=1&emid=AC-2006-000134-CIV>.

politically, the civil actions of this health crisis are finally drawing to a close; as of October 2009, Trafigura had paid \$198 million to the Ivorian government for clean-up costs and made a £30 million offer to the injured citizens.⁸ Unfortunately, the people of Abidjan may continue to feel the effects of the crisis long after other issues are resolved.

The Côte d'Ivoire toxic waste dump serves as a harsh reminder that toxic waste colonialism, where underdeveloped states are used as inexpensive alternatives for the export or disposal of hazardous waste pollution by developed states,⁹ still poses an interesting problem for the successful global management of transboundary hazardous waste. Even though it is in clear violation of the United Nations' Stockholm Declaration, the export of hazardous waste to nations with less stringent environmental standards is not an uncommon event.¹⁰ In the early 1980s, illegal dumping, such as what occurred in Abidjan, was the most common form of transboundary hazardous waste exchange.¹¹ To protect developing countries from such "dirty dumping" practices, the international community sought to develop international agreements governing the transboundary movement of hazardous waste.¹² The main international agreement in this area, the Basel Convention on the Transboundary Movements of Hazardous Wastes and Their Disposal,¹³ was adopted in 1989 and has served as the foundation for

⁸ Peter Murphy, *Trafigura to Pay \$198 Million Settlement to Ivory Coast*, REUTERS (Feb. 13, 2007), available at <http://www.reuters.com/article/idUSL1333815220070213>; David Leigh, *Greenpeace Continues Trafigura Pursuit Over Toxic Waste*, THE GUARDIAN (Sept. 20, 2009), available at <http://www.guardian.co.uk/world/2009/sep/20/greenpeace-trafigura-toxic-waste>. Despite these settlements, "Greenpeace wants Trafigura prosecuted for manslaughter and grievous bodily harm, citing documents it says demonstrate the waste's high toxicity. Trafigura also faces a Dutch prosecution for allegedly lying about the true nature of its waste." *Id.*

⁹ Tam Dalyell, *Thistle Diary: Toxic Wastes and Other Ethical Issues*, NEW SCIENTIST, July 2, 1992, at 50. See also Zada Lipman, *A Dirty Dilemma: The Hazardous Waste Trade*, HARV. INT'L REV., Winter 2002, at 67, 71.

¹⁰ See United Nations Conference on the Human Environment, Stockholm, Sweden, June 5–16, 1972, *Declaration on the Human Environment*, § II, princ. 21, U.N. Doc. A/CONF.48/14 and Corr. 1, reprinted in 11 I.L.M. 1416 (1972) [hereinafter *Stockholm Declaration*] (stating that "States have, in accordance with the Charter of the United Nations and the principles of international law . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction").

¹¹ See Jennifer R. Kitt, Note, *Waste Exports to the Developing World: A Global Response*, 7 GEO. INT'L ENVTL. L. REV. 485, 486–88 & 493–94 (1995).

¹² *Id.* at 486.

¹³ The Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal, *opened for signature* Mar. 22, 1989, 1673 U.N.T.S. 126, 28 I.L.M. 649 (4 U.N. Doc. UNEP/IG. 8013) [hereinafter *Basel Convention*].

subsequent global protocols.¹⁴ However, it has now been twenty years since the Basel Convention first addressed the issue of transboundary hazardous waste.¹⁵ Even though the illegal dumping numbers have decreased in the last few years,¹⁶ as the growing electronic waste issues and isolated events such as the Côte d'Ivoire toxic waste dump illustrate,¹⁷ the problem of disproportionate risks faced by developing countries still persists in the current efforts of implementation and the policies of global hazardous waste management. The problems associated with toxic waste colonialism seem to indicate that the transboundary movement of hazardous waste and the international methods introduced to correct these problems are ripe for reevaluation.

This reevaluation of the global management of hazardous waste must include not only a history of the transboundary movement of hazardous waste and past regulatory schemes, but also a discussion of the loopholes in the current system and possible recommendations for a new system. The first section of this article will discuss an overview of toxic waste colonialism.¹⁸ Crucial to understanding this issue is its underlying causes, and this first section will specifically address why developing countries face disproportionate risks in regards to the management of hazardous waste. The next section will discuss the development of the global management of hazardous waste.¹⁹ The international response to the transboundary movement of hazardous waste has interesting beginnings, which laid the foundation for the Basel Convention.²⁰ The Basel Convention is considered the most far-reaching international agreement, establishing a global notification and consent system for the transboundary movement of hazardous waste and prohibiting the trade of covered wastes.²¹ Following the Basel Convention, there were many forms of early implementation schemes and amendments which have been the focus of most of the

¹⁴ Kitt, *supra* note 11, at 493, 500–01.

¹⁵ *Id.* at 493.

¹⁶ UNITED NATIONS OFFICE ON DRUGS AND CRIME, TRANSNATIONAL TRAFFICKING AND THE RULE OF LAW IN SOUTH AFRICA: A THREAT ASSESSMENT 56 (July 2009).

¹⁷ Press Release, United Nations Environment Programme, Urgent Need to Prepare Developing Countries for Surge in E-Wastes (Feb. 22, 2010), *available at* <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=612&ArticleID=6471&lang=long>; Duckett, *supra* note 1.

¹⁸ See discussion *infra* Part I.

¹⁹ See discussion *infra* Part II.

²⁰ See discussion *infra* Part II.A.

²¹ See David P. Hackett, *An Assessment of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 5 AM. U. J. INT'L L. & POL'Y 291, 291–294, 312 (1990).

controversies in this area.²² These developments provide a good background for this reevaluation. The final section will reevaluate the current system for the global management of hazardous waste, focusing on the possible issues with the current system.²³ Because toxic waste colonialism is still a present threat to developing countries, this section will include some recommendations, focusing on the implementation and policy of future international responses in order to increase the effectiveness of the actions.

I. TOXIC WASTE COLONIALISM OVERVIEW²⁴

The Côte d'Ivoire toxic waste dump represents a surprisingly persistent global trend where underdeveloped states are used as disposal sites for waste rejected by developed states.²⁵ "Toxic colonialism" was the term of art created to label this activity and bring international attention to the disproportionate risks faced by developing countries in this area of international environmental law.²⁶ However, the name does not begin to illustrate all the problems associated with the transboundary movement of hazardous waste to developing countries. Because of many overlapping causes, developing countries have been targeted as hazardous waste disposal sites before the 1980s, after which the dumping activities finally garnered international legal action.²⁷ These causes have actually perpetuated and aggravated issues associated with toxic waste colonialism and are an important foundation to the reevaluation of the current international regulatory scheme.

²² See discussion *infra* Part II.B–C.

²³ See discussion *infra* Part III.

²⁴ Toxic waste colonialism has also been known as "the silent trade," Mey Jurdi, *Transboundary Movement of Hazardous Wastes Into Lebanon: Part 1. The Silent Trade*, J. ENVTL. HEALTH, Jan.–Feb. 2002 at 9, 10, "toxic colonialism," Dalyell, *supra* note 9, or "dirty dumping," Basel Action Network, BAN Statement at the Global E-Waste Forum (Dec. 1, 2006), available at http://www.ban.org/cop8/061201_ban_statement.html.

²⁵ Kitt, *supra* note 11, at 485, 487–91.

²⁶ Dalyell, *supra* note 9.

²⁷ Lipman, *supra* note 9, at 67–68. Lipman describes several other cases of toxic waste colonialism. In 1987, several thousand tons of toxic and radioactive wastes were exported from Italy to Koko, Nigeria, and stored in drums in a backyard. *Id.*, at 67. In 1988, Guinea-Bissau was offered a \$600 million contract to dispose of 15 million tons of toxic waste over five years, and, even though this contract was never carried out, similar arrangements were reported in other developing countries such as Namibia, Guinea, Sierra Leone, and Haiti. *Id.*

A. *What's in a Name?*

“Toxic colonialism” was a phrase originally coined by Jim Puckett of Greenpeace, describing the “dumping of the industrial wastes of the West on territories of the Third World.”²⁸ Global inequality or injustice in this area has its roots in “the production and consumption patterns” of the developed world.²⁹ Even though historical colonialism focused on the political and legal domination over an alien society, some of the characteristics of colonialism involving economic dependence, exploitation, and cultural inequality are intimately associated within the new realm of toxic waste colonialism.³⁰ While the phrase “toxic waste colonialism” represents these essential concerns regarding disproportionate risks between nation states, the phrase does not begin to articulate all the underlying risks associated with this activity.

The opportunity for human exposure in a developing nation is much greater than in a developed nation.³¹ The transboundary movement of hazardous waste is usually meant to either seek out disposal sites or achieve “resource recovery, recycling, or reuse.”³² Unfortunately, many developing countries lack the technology, “training, funding, and administrative infrastructure” to properly carry out these tasks.³³ Without the capacity to properly handle the waste, it simply is dumped in piles, either in public areas as in Abidjan or in other areas barely qualifying as landfills.³⁴ In either case, the waste results in environmental impact or human exposure.³⁵ As expected, even if humans do not directly handle the hazardous waste, improper disposal can create secondary environmental problems, such as noxious fumes or groundwater contamination, which only

²⁸ Dalyell, *supra* note 9. Jim Puckett is presently one of the coordinators of BAN (Basel Action Network) and still advocating to prevent the globalization of the toxic chemical crisis. See *About the Basel Action Network*, BASEL ACTION NETWORK, http://ban.org/main/about_BAN.html (last visited Jan. 17, 2010).

²⁹ DAVID NAGUIB PELLOW, *RESISTING GLOBAL TOXICS: TRANSNATIONAL MOVEMENTS FOR ENVIRONMENTAL JUSTICE* 32 (Robert Gottlieb ed., 2007).

³⁰ See *Colonialism*, STANFORD ENCYCLOPEDIA OF PHILOSOPHY (May 9, 2006), <http://plato.stanford.edu/entries/colonialism/>.

³¹ Kitt, *supra* note 11, at 486.

³² Lipman, *supra* note 9, at 67.

³³ Kitt, *supra* note 11, at 486.

³⁴ *Id.* at 486, 492.

³⁵ *Id.* at 486; see also JORGE E. HARDOY, DIANA MITLIN, & DAVID SATTERTHWAITE, *ENVIRONMENTAL PROBLEMS IN THIRD WORLD CITIES* 68 (1992) (discussing how many people in third world countries simply rummage through landfills filled with hazardous waste for anything useful or sellable, increasing the likelihood for detrimental exposure).

exasperate human exposure concerns and increase the negative effects on human health.³⁶

Furthermore, the lack of funding and resources in these developing nations can create other issues that are not faced by developed nations. Many of the governments of these nations simply do not have the resources to treat human victims and to clean up environmental contamination after hazardous waste has been received and later results in a toxic disaster.³⁷ A report issued by the World Commission on Environment and Development articulated that "exporting waste results in potential risks primarily to people in importing countries, who do not share in the benefits of the waste generating production processes."³⁸ In other words, these developing countries disproportionately carry the extreme costs to human health and environmental concerns without benefitting from the profits made by producing nations.

B. Causes

The increase of the transboundary movement of hazardous waste and the persistence of toxic waste colonialism in modern society have several causes, most of which are traced to the global increase of hazardous waste production and various economic pressures.

1. Global Increase of Hazardous Waste Production

Developed nations inevitably produce more hazardous substances, due in large part to the development process itself, which involves heavy industrialization in order to achieve capitalistic economic progress.³⁹ Although completely accurate quantities are hard to measure, the worldwide generation of hazardous waste in 1945 was estimated to be five million

³⁶ See Kitt, *supra* note 11, at 491–92. Kitt includes the natural environment and climate of many developing nations as another exasperating cause of negative effects, using the heavy sub-Saharan African rainfall, which causes landfill waste to leach into the groundwater much more quickly as an example. See *id.* at 491.

³⁷ See Bogonko Bosire, *UN Seeks Help to Clean up Ivorian Toxic Waste Dumps*, AGENCE FRANCE PRESSE (Nov. 23, 2006), available at http://www.terraily.com/reports/UN_Seeks_Help_To_Clean_Up_Deadly_Ivorian_Toxic_Waste_Dumps_999.html (discussing how it was unfair for one of the world's most impoverished nations to pay the cleanup costs of the Ivorian toxic waste dumps) [hereinafter *Ivorian Toxic Waste Dumps*].

³⁸ WORLD COMM'N ON ENV'T AND DEV., *OUR COMMON FUTURE* 35 (Oxford University Press 1987); see also Kitt, *supra* note 11, at 492–93.

³⁹ See PELLOW, *supra* note 29, at 99–101.

metric tons, and it had increased to an estimated four-hundred million metric tons in 2000.⁴⁰ At least three-fourths of this amount is generated in industrialized, developed nations.⁴¹ The quantity of waste is not expected to decrease either. It is estimated that by 2020, the total production of hazardous waste in the developed world will have increased by sixty percent to 194 million tons annually.⁴² Unfortunately, this ever-growing category of waste contains a wide range of substances, including such things as contaminated medical waste, industrial sludge, radioactive materials, old ships, electronic wastes, incinerator ash, and military equipment.⁴³ It is estimated that only four percent of the generated quantities of hazardous waste actually travel across international borders;⁴⁴ some scholars even suggest that most of this transboundary quantity is exchanged between developed countries.⁴⁵ However, most statistics on the transboundary movement of hazardous waste from developed countries to developing countries are based primarily on legal transfers, and the quantification of illegal transboundary exchanges of hazardous wastes is much more difficult.⁴⁶ Even though the exact number of fraudulent or illegal shipping cases remains unknown, the fact that hazardous waste quantities are continually increasing makes toxic waste colonialism an attractive disposal option even for legal transactions.⁴⁷ Interestingly enough, the reaction of citizens in developed countries to hazardous waste disposal facilities often perpetuates

⁴⁰ DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELEKE, *INTERNATIONAL ENVIRONMENTAL LAW AND POLICY* 947 (3rd ed. 2007).

⁴¹ *Id.*

⁴² See PELLOW, *supra* note 29, at 33.

⁴³ Lisa Mastny & Hilary French, *Crimes of (a) Global Nature: Forging Environmental Treaties is Difficult. Enforcing Them is Even Tougher.*, *WORLD WATCH*, Sept.–Oct. 2002, at 12, available at <http://www.worldwatch.org/node/523>. All of these materials have been disposed of in a developing country; many have been the cause of illegal dumping affairs. It is worth noting that shipments of hazardous electronic waste or “e-waste” is a growing trend and will probably need to be addressed in its own legislation due to the growing volume of those materials. See Stephanie Condon, *Congress Tackles E-Waste in the House and Nationally*, *CNET* (Feb. 11, 2009, 4:45 PM PST), http://news.cnet.com/8301-13578_3-10162214-38.html.

⁴⁴ HUNTER ET AL., *supra* note 40, at 947. *But see* Mark A. Montgomery, *Banning Waste Exports: Much Ado About Nothing*, 1 *BUFF. J. INT’L L.* 197, 200–01 (1994) (stating international hazardous waste transfer is less than one half of 1% but acknowledging the data reflects only legal transfers).

⁴⁵ Montgomery, *supra* note 44, at 200.

⁴⁶ *See id.* at 201–02 (indicating that most United Nations Environmental Programme (“UNEP”) data compilations rely upon numbers provided by Greenpeace, which sometimes bases estimates on proposals for waste disposal rather than the actual waste shipments).

⁴⁷ *Id.* at 201; PELLOW, *supra* note 29, at 33.

the desire to ship waste outside a developed nation as an “out of sight, out of mind” alternative.⁴⁸

2. Economic Pressures

Money is the key motivating factor for toxic waste colonialism; “[developed countries] want to save it, and [developing countries] want to earn it.”⁴⁹ Developed countries generally have increasingly stringent environmental regulations governing the domestic disposal of hazardous wastes.⁵⁰ When compliance costs are coupled with an increased quantity of waste and local opposition to disposal, they generally produce drastically increased disposal costs for hazardous waste.⁵¹ In contrast, developing countries lack both the strict regulations and enforcement schemes of the developed world, causing a great disparity in the costs of disposal.⁵² Cheap land and labor for landfill operations in these developing countries make hazardous waste exports a cost-effective option for hazardous waste producers in developed countries.

Furthermore, the wealth and income gaps between developing nations and developed nations have continually grown throughout the past century.⁵³ As developing nations seek to boost economic growth, the enforcement of the few hazardous waste regulations in place often fall by the wayside.⁵⁴ Many agencies in these developing countries do not have the resources to give approvals or enforce their regulations, so illegal

⁴⁸ PELLOW, *supra* note 29, at 33; *see also* Kitt, *supra* note 11, at 490. Kitt calls this the “NIMBY” phenomena, describing the “not in my backyard” mentality of many residents of the developed world. *Id.*

⁴⁹ Kitt, *supra* note 11, at 485.

⁵⁰ *Id.* at 487–88.

⁵¹ *See* Ron Chepesiuk, *How the West is Dumping on the Third World: The Toxic Trade Nightmare*, ORLANDO SENTINEL TRIB., July 8, 1990, at G1, available at http://articles.orlandosentinel.com/1990-07-08/news/9007060921_1_toxic-waste-radioactive-wastes-tons-of-waste. It is estimated that hazardous waste may cost as much as \$3000 per ton of material in a developed nation. HUNTER ET AL., *supra* note 40, at 948.

⁵² HUNTER ET AL., *supra* note 40, at 948; *see also* Chepesiuk, *supra* note 51 (noting that disposal costs in Africa can be as low as \$40 per ton).

⁵³ PELLOW, *supra* note 29, at 42; *see also* J. Timmons Roberts & Peter E. Grimes, *World-System Theory and the Environment*, in *SOCIOLOGICAL THEORY AND THE ENVIRONMENT: CLASSICAL FOUNDATIONS, CONTEMPORARY INSIGHTS* 177 (Riley Dunlap et al. eds., 2002).

⁵⁴ *See, e.g.*, Gonzalo Biggs, *Latin America & The Basel Convention on Hazardous Wastes*, 5 *COLO. J. INT'L ENVTL. L. & POL'Y* 333, 340–42 (1994) (describing how Latin America's debt crisis in the 1980s required countries to focus on economic growth, causing many natural resources to be exploited and environmental agencies to be eliminated because environmental management was not a priority when the nations were in poverty).

transactions become a quick-fix alternative solution.⁵⁵ This lack of agency resources can also cause higher quantities or more types of toxic substances to be accepted than the country can actually handle.⁵⁶ Many of these countries face large debts and require hard currency to service these debts and boost their economies.⁵⁷ With the collapse of domestic environmental enforcement schemes, hazardous waste disposal contracts that promise large amounts of foreign currency are hard to refuse.⁵⁸ This opens the door for fraudulent or illegal dumping transactions in which developing nations are tricked into accepting mislabeled or improperly classified hazardous waste.⁵⁹ Even if developing countries are informed of all the dangers associated with a waste, they usually do not have the necessary knowledge to ascertain all costs of disposal, including the long-term effects or damage to the environment.⁶⁰ When a large, cash-on-delivery payment is presented, these costs are often overlooked for the short-term gain.⁶¹

The increased trade in recyclable or reusable hazardous waste has exacerbated the other economic causes of toxic waste colonialism.⁶² Recyclable materials are “wastes that contain valuable precious metals or other residues that can be reprocessed to generate raw materials.”⁶³ Environmentally sound methods of recycling and reclamation can reduce the need to exploit other natural resources and hold tremendous potential, but most developing countries lack the capacity to properly treat these materials.⁶⁴ Unfortunately, the industrial and economic potential of recycling and reclamation has led to a growing trend of sham recycling operations, where, despite the label assigned to the operations, the receiving company, usually in a developing country, does not properly handle the exported hazardous waste.⁶⁵ Legitimate, law-abiding recycling or reclamation facilities are often

⁵⁵ Kitt, *supra* note 11, at 492.

⁵⁶ *See id.*

⁵⁷ *Id.* at 490; *see also* Anup Shah, *Third World Debt Undermines Development*, GLOBAL ISSUES, <http://www.globalissues.org/print/issue/28> (last updated June 3, 2007).

⁵⁸ *See* Mary Critharis, *Third World Nations are Down in the Dumps: The Export of Hazardous Waste*, 16 BROOK. J. INT'L L. 311, 315 (1990); *see also* Kitt, *supra* note 11, at 490 (describing the proposed Guinea-Bissau hazardous waste contract which promised an income equivalent to four times the country's gross national product or twice its national debt).

⁵⁹ *See* Kitt, *supra* note 11, at 490–91; *see also* Montgomery, *supra* note 44, at 203–04.

⁶⁰ Kitt, *supra* note 11, at 491.

⁶¹ *See id.* (“Developing countries may assess costs and risks differently than wealthy countries would because of their need to provide food, shelter, water and services to their citizens. Environmental risks may not seem as immediate as housing and disease prevention . . .”).

⁶² *See* HUNTER ET AL., *supra* note 40, at 947.

⁶³ *Id.*

⁶⁴ *See* Lipman, *supra* note 9, at 69.

⁶⁵ *See* Mastny & French, *supra* note 43.

overlooked because the illegal methods of disposal are cheaper or more prevalent in developing countries.⁶⁶ Complicated by the increased global production of hazardous waste and economic pressures, toxic waste colonialism has foundational causes that cannot be overlooked and continue to be persistent problems in the global management of hazardous waste.

II. HISTORICAL DEVELOPMENT OF THE GLOBAL MANAGEMENT OF TRANSBOUNDARY HAZARDOUS WASTE

Attempts to globally manage the transboundary movement of hazardous waste have spanned almost thirty years.⁶⁷ Domestic environmental laws regulating hazardous waste disposal began to appear in the 1970s, and backed by Principles 21⁶⁸ and 22⁶⁹ articulated in the 1972 Stockholm Declaration, problems associated with toxic waste colonialism began to gain international attention in the 1980s. Early international agreements were primarily *ad hoc* and considered “soft law,”⁷⁰ but these agreements continued to bolster awareness of the toxic waste colonialism issue, which finally culminated in the Basel Convention in 1989. The Basel Convention was entered into action in 1992 and is still considered the primary international agreement for regulating the transboundary movement of hazardous waste.⁷¹ Even though it is arguably designed more like a trade treaty, the Basel Convention represents a global recognition of the hazardous waste problem and provides a foundation for future solutions.⁷² The Basel Convention has not been the final international agreement in this area; it has been followed by several implementation agreements and amendments, which have further shaped the present state of the global management of hazardous waste.⁷³

A. *Background to Basel*

Foundations for the Basel Convention actually began almost fifteen years prior to the conference. The United States began regulating domestic

⁶⁶ See Kitt, *supra* note 11, at 488.

⁶⁷ See *id.* at 493–94.

⁶⁸ *Stockholm Declaration*, *supra* note 10, § II, princ. 21.

⁶⁹ *Id.* at § II, princ. 22. Principle 22 calls for cooperation between States in the development of international law for the compensation of victims of environmental damage caused by activities within one State to areas outside that State’s jurisdiction. *Id.*

⁷⁰ HUNTER ET AL., *supra* note 40, at 950; see also Critharis, *supra* note 58, at 321–23.

⁷¹ See HUNTER ET AL., *supra* note 40, at 952, 954.

⁷² See *id.* at 946–52.

⁷³ See *id.* at 962–64.

movements of hazardous waste in 1976 with the passage of the Resource Conservation and Recovery Act (“RCRA”), designed specifically to regulate the “collection, transport, separation, recovery, and disposal practices and systems” of hazardous waste.⁷⁴ While RCRA does exempt certain wastes such as scrap metals or household waste from regulation,⁷⁵ its main objective is to “minimize the present and future threat to human health and the environment” through its standards.⁷⁶ In 1984 the export provisions in RCRA were strengthened, requiring prior informed consent and waste tracking systems.⁷⁷ Even though these regulations do not prevent transboundary shipments to countries that may lack capacity and do not directly address issues with toxic waste colonialism,⁷⁸ these regulations would later serve as a model for international considerations, and the United States was considered a forerunner in these areas.⁷⁹

Europe also had early legislation dealing with the waste trade. The European Commission issued Directives in 1975 and 1978 much like RCRA in order to avoid harm to human health or the environment.⁸⁰ However, unlike the United States, these provisions allowed each Member State to define “hazardous waste” and develop procedures for prior notification; combined with the lack of a firm implementation scheme, the entire process ended in a complete disaster.⁸¹

Even though they were by no means all-inclusive provisions, an international response to the transboundary movement of hazardous waste began several years before the Basel Convention. Prior to the Basel Convention, disastrous incidents resulting from the improper disposal of hazardous waste in developing countries spawned public recognition of the need for international control.⁸² The Organization for Economic

⁷⁴ Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. §§ 6902(a)(8) (2006); HUNTER ET AL., *supra* note 40, at 950.

⁷⁵ See, e.g., 40 C.F.R. § 261.4(a)(13) & 261.4(b)(1) (2010); HUNTER ET AL., *supra* note 40, at 950.

⁷⁶ See RCRA, 42 U.S.C. § 6902(b). See also HUNTER ET AL., *supra* note 40, at 950.

⁷⁷ See 42 U.S.C. § 6938 (2006); 40 C.F.R. §§ 262.50–262.58 (2009); HUNTER ET AL., *supra* note 40, at 950.

⁷⁸ See HUNTER ET AL., *supra* note 40, at 950.

⁷⁹ See *id.* at 950–52.

⁸⁰ See Council Directive 75/442, 1975 O.J. (L 194) 39 (EC), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31975L0442:EN:HTML>; see also Council Directive 78/319, 1978 O.J. (L 84) 43 (EC), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31978L0319:EN:HTML>.

⁸¹ See HUNTER ET AL., *supra* note 40, at 950.

⁸² Diana L. Godwin, Comment, *The Basel Convention on Transboundary Movements of Hazardous Wastes: An Opportunity for Industrialized Nations to Clean up Their Acts?*, 22 DENV. J. INT’L L. & POL’Y 193 (1993). Some of these events included the following: an

Cooperation and Development ("OECD") responded by issuing several decisions regarding the movement of hazardous waste; first focusing on intra-OECD shipments of waste, and later extending the recommendations to the export of hazardous waste to non-OECD States.⁸³ These decisions "prohibit[ed] both the export of hazardous waste to non-OECD countries without prior consent from the receiving country or notice to transit nations and the export of hazardous waste to non-OECD States that lack the proper disposal facilities."⁸⁴ Unfortunately, the failed implementation of these recommendations again caused the breakdown of the ideal regulatory system.⁸⁵

In 1987 the United Nations Environmental Programme ("UNEP") gathered together a group of experts to develop a non-binding agreement for "environmentally sound management of [h]azardous wastes."⁸⁶ The Cairo Guidelines were designed to address specific concerns regarding the export of hazardous waste, focusing on principles to regulate the trans-boundary movement of hazardous waste.⁸⁷ They were also meant to assist developing countries in the implementation of appropriate disposal systems for the treatment of hazardous waste.⁸⁸ Even though these guidelines and

explosion at a chemical plant near Seveso, Italy, which caused a large, toxic vapor cloud to be released into the atmosphere in 1976; an explosion in Bhopal, India, where toxic gas escaped from an underground tank at a chemical manufacturing plant in 1984; a dumping event in which the *Khian Sea*, a Philadelphia ship, attempted to unload 13,000 tons of incinerator ash in Haiti and ended up dumping some of the material in an unknown location. *Id.* at 194–196.

⁸³ See OECD, *Decision and Recommendation of the Council on Transfrontier Movements of Hazardous Waste*, OECD Doc. C(83) 180 (Feb. 13, 1984), 23 I.L.M. 214 (1984) (recommending that countries responsibly manage hazardous waste situated within their borders to protect both human health and the environment); see also OECD, *Council Decision on Exports of Hazardous Wastes from the OECD Area*, OECD Doc. C(86) 64 (June 5, 1986), 25 I.L.M. 1010 (1986) (extending non-binding recommendations for intra-OECD shipments to those exporting wastes to non-OECD States); see also OECD, *1988 OECD Council Decision (Revising the Definition of Hazardous Waste), Council Decision on Transfrontier Movements of Hazardous Wastes*, OECD Doc. C(88) 90 (May 27, 1988), 28 I.L.M. 257 (1989).

⁸⁴ HUNTER ET AL., *supra* note 40, at 951; see *supra* text accompanying note 83.

⁸⁵ See HUNTER ET AL., *supra* note 40, at 951.

⁸⁶ United Nations Environment Programme, Rep. of the Governing Council, 14th Sess., June 8–19, 1987, U.N. GAOR, 42nd Sess., Supp. No. 25, A/42/25, at annex I, Dec. 14/30 (1987); see also U.N.E.P., *Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Waste*, Dec. 14/30, Jun. 17, 1987, reprinted in 1 BASIC DOCUMENTS OF INTERNATIONAL ENVIRONMENTAL LAW: THE IMPORTANT DECLARATIONS 148–56 (Harald Hohmann, ed. 1992).

⁸⁷ United Nations Environment Programme, Rep. of the Governing Council, *supra* note 86, at annex I, Dec. 14/30.

⁸⁸ See *id.*

the previous OECD decisions were not considered binding international law,⁸⁹ the global concerns sparked a desire to create a more binding agreement, and these previous decisions and agreements served as a foundation for the Basel Convention negotiations.⁹⁰

B. The Basel Convention

Using the previous laws, recommendations, and decisions as guidelines and after two years of negotiations between 116 countries, a UNEP conference held in Basel, Switzerland finally compiled a document directly addressing the transboundary movement of hazardous waste.⁹¹ The Basel Convention was signed by thirty-five countries at the conference⁹² and was designed to become effective upon ratification of twenty countries, which happened on May 5, 1992.⁹³ As of November 2009, almost 170 countries were party to the Basel Convention, and forty-nine countries had ratified it.⁹⁴ In efforts to encourage waste disposal “as close as possible to the generator of the waste,” the Basel Convention tried to promote transboundary movements of hazardous wastes only in situations where “it is the best environmental solution, and . . . disposal [is performed] in an environmentally sound manner.”⁹⁵ To further these principles, the Basel Convention established a global system for notification and prior consent, required Parties to dispose of waste in an environmentally sound manner, and

⁸⁹ See Sejal Choksi, *The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: 1999 Protocol on Liability and Compensation*, 28 *ECOLOGY L. Q.* 509, 516 (2001).

⁹⁰ See *id.*

⁹¹ Godwin, *supra* note 82, at 199. The conference ended on March 22, 1989. *Id.*

⁹² Godwin, *supra* note 82, at 199.

⁹³ Basel Convention, *supra* note 13, at art. 25, para. 1; see also *Parties to the Basel Convention*, BASEL CONVENTION, <http://www.basel.int/ratif/convention.htm> (last visited Oct. 18, 2010). Present signatories to the Basel Convention include Afghanistan, Argentina, Austria, Bahrain, Belgium, Bolivia, Canada, Chile, China, Columbia, Cyprus, Denmark, Ecuador, El Salvador, European Union, Finland, France, Germany, Greece, Guatemala, Haiti, Hungary, India, Ireland, Israel, Italy, Jordan, Kuwait, Lebanon, Liechtenstein, Luxembourg, Mexico, Netherlands, New Zealand, Nigeria, Norway, Panama, Philippines, Poland, Portugal, Russian Federation, Saudi Arabia, Spain, Sweden, Syrian Arab Republic, Switzerland, Thailand, Turkey, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United States of America, and Venezuela. *Id.*

⁹⁴ See *Parties to the Basel Convention*, *supra* note 93. As of September 2010, the United States, Haiti, and Afghanistan are the only countries who have signed but not ratified the Basel Convention, and, as such, these countries are not considered Parties to the Convention. *Id.*; see also Basel Convention, *supra* note 13, at art. 25, para. 2.

⁹⁵ Kitt, *supra* note 11, at 494–96.

prohibited the trade of covered hazardous wastes with non-Parties.⁹⁶ The specifics of certain provisions in the Basel Convention are discussed in the sections that follow.

1. Definitions

Because the Basel Convention applies to the transboundary movements of “hazardous wastes and other wastes” between Parties, the definitions of these terms become crucial to the proper implementation of the governing provisions.⁹⁷ The Basel Convention actually adopts a very broad definition of hazardous waste, including wastes from particular waste streams in manufacturing processes or hazardous constituents of materials, as well as wastes that are considered hazardous under the domestic laws of the country of export, import, or transit.⁹⁸ Furthermore, certain “other wastes” under Annex II, including household wastes or household incinerator wastes, are also covered by the Convention.⁹⁹ Article 2 also defines “wastes” as those requiring the disposal operations as defined in Annex IV, which includes recovery and recycling operations.¹⁰⁰ Discharged waste from ship operations and radioactive materials are considered to be the

⁹⁶ See Basel Convention, *supra* note 13, at art. 4, paras. 1, 2, 5. “Transboundary movement” is defined in Article 2 of the Convention as:

any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement.

Id. at art. 2, para. 3.

⁹⁷ See *id.* at pmb. (reciting concerns regarding “hazardous wastes and other wastes”).

⁹⁸ See *id.* at art. 1, annex I, annex III. Article I, paragraph 1, states:

[t]he following wastes that are subject to transboundary movement shall be “hazardous wastes” for the purposes of this Convention: (a) Wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III; and (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 import, export, or transit.

Id.; see also Kitt, *supra* note 11, at 494–95.

⁹⁹ See Basel Convention, *supra* note 13, at art. 1, para. 2 (stating “wastes that belong to any category contained in Annex II that are subject to transboundary movement shall be ‘other wastes’ for the purposes of this Convention”); see also *id.* at annex II.

¹⁰⁰ See Basel Convention, *supra* note 13, at art. 2 (defining “[w]astes” as “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law,” and defining “[d]isposal” as “any operation specified in Annex IV to this Convention.”); see also *id.* at annex IV.

subject of other international control systems, so they are not covered by the Basel Convention.¹⁰¹

2. Basic Obligations

The Basel Convention does not expressly ban the export of hazardous waste to certain countries, but rather it seeks to control these movements through a system of prior informed consent, strict notification, and tracking requirements.¹⁰² Under the basic obligations of the Convention, exports and imports of hazardous and other wastes to and from non-Parties to the Convention are generally prohibited.¹⁰³ Similarly, if a Party adopts import bans for certain hazardous wastes into their national territory beyond the provisions of the Convention, the other Parties are expected to honor the ban.¹⁰⁴ Furthermore, if Parties have reason to believe an exported or imported hazardous waste will not be disposed of in an “environmentally sound manner,” they are prohibited from making this shipment.¹⁰⁵ Generally, the transboundary movement of waste is only authorized when the exporting country does not have the capacity to dispose of the material “in an environmentally sound and efficient manner” or the waste is required in the importing county as a raw material or for recycling or recovery.¹⁰⁶ These provisions are designed to encourage the proximity principle: the disposal of wastes should occur as close to the generator as possible.¹⁰⁷ Along these same lines, all Parties are required to manage and dispose of waste within their own territories in an environmentally sound manner by implementing national control systems and adopting

¹⁰¹ Basel Convention, *supra* note 13, at art. 1 paras. 3–4. Radioactive wastes are controlled by the International Atomic Energy Agency. *Pillars of Nuclear Cooperation*, IAEA.ORG, www.iaea.org/OurWork/SS/index.html (last visited Oct. 18, 2010). Ocean dumping is covered by the Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, art. 1, *opened for signature* Dec. 29, 1972, 26.2 U.S.T. 2403, 1046 U.N.T.S. 120.

¹⁰² See Lipman, *supra* note 9, at 68. A total ban is in place for the shipment of waste to Antarctica under the Basel Convention, which specifies, “[t]he Parties agree not to allow the export of hazardous wastes or other wastes for disposal within the area south of 60° South latitude, whether or not such wastes are subject to transboundary movement.” Basel Convention, *supra* note 13, at art. 4, para. 6.

¹⁰³ See Basel Convention, *supra* note 13, art. 4, para. 5.

¹⁰⁴ See *id.* at art. 4, paras. 1–2.

¹⁰⁵ *Id.* at art. 4, paras. 2, 8.

¹⁰⁶ *Id.* at art. 4, para. 9.

¹⁰⁷ See Kitt, *supra* note 11, at 495; Basel Convention, *supra* note 13, at pmb., art. 4, para. 2.

technologies and methods that meet international standards for the management and disposal of the wastes.¹⁰⁸

Transboundary movements of hazardous wastes that are not prohibited under the Convention's basic obligations still must meet the requirements of prior notification and informed consent.¹⁰⁹ Essentially, before any waste shipment is made, notification must be given to transit and importing countries; this notification must include all the information specified under Annex V(A) of the Convention and clearly indicate the effects of the proposed movement on human health, the environment, and the States of transit.¹¹⁰ Additionally, in response to this notification requirement, transit and importing countries must give their written consent to the shipment before the movement of the waste takes place; written consent is assumed for transit States if the written requirement is expressly waived.¹¹¹ If this prior informed consent is not received by the exporting country from each State involved, the transboundary movement is considered illegal under the Basel Convention.¹¹² Parties are also required to re-import wastes from a receiving country in instances of illegal traffic.¹¹³

3. Party to Non-Party Ban

Even though the Basel Convention generally prohibits Parties from exporting or importing hazardous or other wastes with non-Parties, this is only a limited ban.¹¹⁴ The Convention allows such movements to be authorized for countries that have entered into bilateral, multilateral, or regional agreements for waste treatment or disposal that provide no less environmental protection than the Basel Convention itself.¹¹⁵ Similarly, agreements that predate the Basel Convention may be continued if they are compatible with the provisions of the Basel Convention; however, if

¹⁰⁸ See Basel Convention, *supra* note 13, at art. 4, paras. 2, 7. The international standards are to be set by the Conferences of the Parties, which adopt the appropriate technical guidelines for each waste stream. *Id.* at art. 4, para. 8, and art. 15, para. 5.

¹⁰⁹ See *id.* at art. 4, paras. 2, 7, & art. 6.

¹¹⁰ *Id.* at art. 4, para. 2 & art. 6, annex V(A); see also Jurdi, *supra* note 24, at 10.

¹¹¹ See Basel Convention, *supra* note 13, at art. 6, paras. 3–4.

¹¹² See *id.* at art. 9; see also Kitt, *supra* note 11, at 496–97.

¹¹³ See Basel Convention, *supra* note 13, at art. 8 & art. 9, para. 2; see also discussion *infra* Part II.B.5.

¹¹⁴ The general prohibition is in the Basel Convention, *supra* note 13, at art. 4, para. 5. However, the Convention allows for entry into agreements with non-Parties for the import and export of covered wastes. *Id.* at art. 11.

¹¹⁵ *Id.* at art. 11. The agreements must “not derogate from the environmentally sound management of hazardous waste” set out by the Basel Convention. *Id.*

an agreement is concluded after May 5, 1992, the agreement must not derogate from the environmental standard laid out by the Convention.¹¹⁶

4. Waste Minimization and Waste Management

Another, less discussed goal of the Basel Convention is to minimize the amount of wastes produced and globally promote the proper management of wastes.¹¹⁷ As one of the primary causes of toxic waste colonialism,¹¹⁸ it is easy to see why reduction of waste generation was incorporated into the provisions of the Basel Convention. Several articles directly address this goal and include pledges of the Parties to minimize the generation of hazardous waste, establish proper domestic disposal facilities within their borders, and minimize transboundary shipments of hazardous waste.¹¹⁹ Along these same lines, the Convention tries to encourage international cooperation to achieve these goals, considering the technological, social, and economic factors that could affect Parties' methods of achieving waste minimization and proper waste management.¹²⁰ The Convention encourages countries to cooperate and offer technological transfer and assistance for developing countries that do not have the resources to dispose of hazardous wastes properly.¹²¹

5. Illegal Trafficking

To directly address issues involving illegal or fraudulent transboundary movements of hazardous waste, especially those to developing countries, the Basel Convention adopted specific provisions regarding

¹¹⁶ *Id.* at art. 11. The derogation standard is higher than the compatibility standard. *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: Hearing Before the S. Comm. on Foreign Relations*, 102nd Cong. 47–48.

¹¹⁷ See Basel Convention, *supra* note 13, at pmb. “Aware of the need to continue the development and implementation of environmentally sound low-waste technologies, recycling options, good house-keeping and management systems with a view to reducing to a minimum the generation of hazardous wastes and other wastes.” *Id.*

¹¹⁸ See *supra* Part I.B.1 for a discussion of the increase in the global production of hazardous wastes and the concomitant externalities that this generates.

¹¹⁹ See Basel Convention, *supra* note 13, art. 4, para. 2, & art. 10.

¹²⁰ See *id.* art. 4, para. 2(a); see also Kitt, *supra* note 11, at 497.

¹²¹ See Basel Convention, *supra* note 13, art. 10, para. 2(d) (“Co-operate actively, subject to their national laws, regulations and policies, in the transfer of technology and management systems related to the environmentally sound management of hazardous wastes and other wastes. They shall also co-operate in developing the technical capacity among Parties, especially those which may need and request technical assistance in the field.”).

illegal trafficking.¹²² Any transboundary movement of hazardous waste made without the prior informed consent of the importing or transit countries or made with consent obtained “through falsification, misrepresentation, or fraud” is considered illegal trafficking.¹²³ Similarly, any deliberate disposal of waste made in contravention of the Basel Convention or of international customary law is also considered illegal trafficking.¹²⁴ Even though such transfers garner the label of illegal, the Convention does not provide any enforcement provisions for illegal trafficking, and instead requires Parties to adopt domestic legislation for the prevention and punishment of these activities.¹²⁵ There is no requirement for state action or omission in these provisions, so a Party must take direct responsibility for the illegal actions of their citizens in these situations.¹²⁶ Usually, this involves either ensuring the illegal waste is disposed in an environmentally sound manner or retrieving an illegal shipment which originated in the Party’s country.¹²⁷

C. *Amendments and Other International Agreements*¹²⁸

The Basel Convention was only the first step towards the global management of transboundary hazardous waste. Subsequent implementation issues, amendments, and other international agreements have also shaped the current framework for the global management of hazardous waste.

1. The Basel Ban Amendment

Because toxic waste colonialism sparked most of the initial international negotiations, a total ban on the movements of hazardous waste between developed and non-developed countries has been of constant

¹²² See Basel Convention, *supra* note 13, at art. 4, para. 2, art. 9 & art. 12.

¹²³ See *id.* art. 9, para. 1.

¹²⁴ *Id.*

¹²⁵ See *id.* art. 9, para. 5.

¹²⁶ See *id.* art. 9, paras. 2, 3.

¹²⁷ See *id.* art. 8 & art. 9, paras. 2, 3.

¹²⁸ This section covers some of the more well-known agreements regarding implementation, amendments, or other international agreements governing the transboundary movements of hazardous waste. Even though they are not discussed in this paper, there are a number of bilateral agreements usually made between neighboring states and several regional agreements, such as the Barcelona Convention and the Waigani Convention. UNITED NATIONS ENVIRONMENT PROGRAMME, THE HAZARDOUS CHEMICALS AND WASTES AND CONVENTIONS 4 (2002), available at <http://www.basel.int/pub/threeConventions.pdf>.

debate in subsequent conferences and decisions. The Basel Convention did not initially establish a total ban, but instead it adopted a compromise, settling on a prior informed consent requirement and tabling the option of a total ban for future conferences of the Parties (“COPs”).¹²⁹ Several attempts were made at early COPs requesting such movements to be absolutely prohibited, but these requests fell short of the goal.¹³⁰ The 1995 COP decided that a total ban, based not upon the OECD/non-OECD distinctions of previous COPs but rather an explicit listing of the countries, should be developed as an amendment to the Basel Convention to give it greater legal standing.¹³¹ Known as the “Basel Ban Amendment,” the new Article 4A would prohibit all exports of wastes between developed and non-developed countries if ratified.¹³² The amendment is still viewed as highly controversial; proponents argue that the strict ban would eliminate toxic waste colonialism,¹³³ but opponents of the ban argue it acts as a disincentive for fair trade and sound methods of recycling and reclamation.¹³⁴ The Ban Amendment needs sixty-two ratifications, representing three-fourths of the Parties present at the Third Meeting of the Conference of the Parties, to come into effect, and to date, sixty-three have officially ratified the Amendment.¹³⁵ However, because of the harsh controversy regarding the Ban Amendment, its entry into force is still questionable at this time.¹³⁶

2. Protocol on Liability and Compensation

The Basel Convention required that the Parties create and adopt a protocol on liability.¹³⁷ On December 10, 1999, after more than six years

¹²⁹ HUNTER ET AL., *supra* note 40, at 963.

¹³⁰ *See id.*

¹³¹ *See id.*

¹³² *See* Decision III/1 Amendment to the Basel Convention, Third Meeting of the Conference of the Parties to the Basel Convention on the Control of Transboundary Shipments of Hazardous Wastes and Their Disposal, Sept. 18–22, 1995, U.N. Doc. UNEP/CHW.3/35, available at <http://cop8.basel.int/meetings/cop/cop1-4/cop3dece.pdf>. The Basel Ban Amendment was passed by a consensus of the eighty-two Parties present at the Third Meeting of the Conference of the Parties of the Basel Convention (“COP-3”) on September 22, 1995, and the decision established a new Article 4A and Annex VII to the Basel Convention. *Id.*

¹³³ *See* Rebecca A. Kirby, Note, *The Basel Convention and the Need for United States Implementation*, 24 GA. J. INT’L & COMP. L. 281, 296 (1994).

¹³⁴ *See id.*

¹³⁵ *See Ban Ratification Deposit Box*, BASEL ACTION NETWORK, http://www.ban.org/Deposit_Box.html (last updated June 20, 2010). Seventy-one countries in total have actually implemented or ratified the ban. *Id.*

¹³⁶ *Id.*

¹³⁷ *See* Basel Convention, *supra* note 13, art. 12; *see also* Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes

of heated negotiations, 115 nations endorsed the Protocol on Liability and Compensation.¹³⁸ This protocol is designed to assign appropriate liability procedures when the transboundary movements of hazardous wastes result in damages to human health and the environment.¹³⁹ Essentially, the Protocol establishes guidelines for both strict and fault-based liability.¹⁴⁰ The Protocol imposes strict liability for damages in situations involving Parties to the Basel Convention, but only while they maintain control of the hazardous waste through their respective notifying, transporting, or disposing entities.¹⁴¹ In efforts to extend the reach of the Protocol, any person can be subject to fault-based liability under the general principals of tort law, and compliance with the provisions of the Basel Convention is a foundational duty of persons transporting hazardous waste between countries.¹⁴² Furthermore, the Protocol imposes financial minimums on damages to further protect claimants, leaving it up to individual nations to impose domestic caps on liability.¹⁴³ In order to ensure adequate monetary coverage in potential liability situations, Parties must also carry some form of financial guarantee.¹⁴⁴ Unlike its predecessors, the Protocol appropriately assigns liability and provides compensation for damages to human health and the environment resulting from the transboundary movements of hazardous waste, and as such, it is heralded as a breakthrough in international environmental law.¹⁴⁵ However, as of August 2010, only thirteen countries had signed the Protocol, and only ten countries are considered Parties to it.¹⁴⁶ The Protocol's entry into force is pending upon the ratification of the agreement by twenty Parties.¹⁴⁷

and their Disposal (Dec. 10, 1999), <http://www.basel.int/meetings/cop/cop5/docs/prot-e.pdf> [hereinafter Basel Protocol].

¹³⁸ Press Release, Daniel Pruzin, Hazardous Waste Agreement on Liability Protocol Reached at Basel Conference of Parties (Dec. 10, 1999), *available at* http://www.ban.org/ban_news/hazardous3.html. The Protocol, which is a very crucial enforcement mechanism, will enter into force when twenty countries ratify its provisions. *Id.*

¹³⁹ *See id.*

¹⁴⁰ *Id.*

¹⁴¹ Choksi, *supra* note 89, at 522–23; *see also* Basel Protocol, *supra* note 137, art. 4.

¹⁴² Choksi, *supra* note 89, at 523; Basel Protocol, *supra* note 137, art. 5.

¹⁴³ *See* Basel Protocol, *supra* note 137, art. 5, annex B; *see also* Choksi, *supra* note 89, at 523.

¹⁴⁴ Basel Protocol, *supra* note 137, art. 14.

¹⁴⁵ Choksi, *supra* note 89, at 522.

¹⁴⁶ *Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal*, BASEL CONVENTION (Dec. 10, 1999), <http://www.basel.int/ratif/protocol.htm>.

¹⁴⁷ *Id.* Chile, Colombia, Costa Rica, Denmark, Finland, France, Hungary, Luxembourg, Monaco, Sweden, Switzerland, the former Yugoslav Republic of Macedonia, and the United Kingdom of Great Britain and Northern Ireland are all Signatories the Basel Protocol.

3. The Bamako Convention

Dissatisfied with the results of the Basel Convention, some developing nations in Africa met in 1991 to develop a regional ban on the import of hazardous waste into their countries.¹⁴⁸ The Organization of African Unity (“OAU”) convened at The Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa,¹⁴⁹ and all fifty-three members signed Bamako, which was entered into force on April 22, 1998.¹⁵⁰ As a departure from the Basel Convention, Bamako essentially bans the import of all hazardous waste generated outside of the OAU for disposal or recycling and deems any import from a non-Party to be an illegal act.¹⁵¹ Bamako allows bilateral and multilateral agreements among Parties and non-Parties, but these are limited to waste produced within Africa.¹⁵² The scope of Bamako is also much broader than that of the Basel Convention; Bamako includes any wastes outlawed in the exporting country and radioactive wastes, but not waste derived from ship operations.¹⁵³ Bamako requires Parties to develop domestic means of regulation and enforcement and establish a liability system for possible damages.¹⁵⁴ Despite these strong provisions and political support, Bamako countries simply lacked the capacity to effectively implement the provisions and domestically prevent toxic waste colonialism within their borders; as a result, the application of Bamako became quite limited.¹⁵⁵

Id. See also *Ivorian Toxic Waste Dumps*, *supra* note 37. In fact, after the Côte d’Ivoire toxic waste dump, the executive secretary of the Basel Convention, Sachiko Kuwabara-Yamamoto, actually professed, “we have a serious problem with enforcement,” and urged Basel signatories to ratify the Protocol to help with these issues. *Id.*

¹⁴⁸ See Kitt, *supra* note 11, at 500–01.

¹⁴⁹ Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement of Hazardous Waste within Africa, *opened for signature* Jan. 30, 1991, 30 I.L.M. 773 [hereinafter Bamako].

¹⁵⁰ African Union, *List of Countries which Signed, Ratified / Acceded to the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement of Hazardous Waste within Africa*, AFRICAN UNION, available at <http://www.africa-union.org/root/au/Documents/Treaties/List/Bamako%20Convention.pdf> (last visited Jan. 17, 2011).

¹⁵¹ Bamako, *supra* note 149, at art. 4, para.1.

¹⁵² See *id.* at art. 11, para. 1.

¹⁵³ See *id.* at art. 2, paras. 1(d), 2, 3.

¹⁵⁴ See *id.* at art. 4, para 3.

¹⁵⁵ See Kitt, *supra* note 11, at 501.

4. Lomé IV Convention and Cotonou Agreement

Shortly before the Bamako Convention, the African, Caribbean and Pacific States ("ACP") signed the Lomé IV Convention with the European Economic Community.¹⁵⁶ The Lomé IV Convention actually interacts with the Basel Convention and is considered a supplement to it, prohibiting the export of hazardous wastes from the European Community to ACP States.¹⁵⁷ The ACP States, in return for this concession, agreed not to accept waste import from any other State outside the European Community.¹⁵⁸ The agreement also contains a chapter specifically on protection of the environment and conservation of natural resources.¹⁵⁹ The agreement uses strong language to condemn international corporations involved in hazardous waste dumping activities in Africa; furthermore, these actions are even labeled as criminal, and the agreement demands prompt remediation of contaminated areas.¹⁶⁰ This agreement essentially eliminates European shipments to developing ACP states without placing the European Community at a competitive disadvantage.¹⁶¹ The Lomé IV Convention expired in February 2000, and the European Community and seventy-nine ACP countries entered into a new treaty known as the Cotonou Agreement.¹⁶² Cotonou actually departs from the hazardous waste trade ban and instead encourages "[c]ooperation on environmental protection and sustainable utilisation and management of natural resources . . . [t]aking into account issues relating to the transport and

¹⁵⁶ The Fourth African, Caribbean, and Pacific States-European Economic Community Convention of Lomé, *opened for signature* March 22, 1990, 29 I.L.M. 783 [hereinafter Lomé IV Convention].

¹⁵⁷ See KATHARINA KUMMER, INTERNATIONAL MANAGEMENT OF HAZARDOUS WASTES 111–12 (1995).

¹⁵⁸ Lomé IV Convention, *supra* note 156, at art. 39, para. 1; *see also* Hugh J. Marbury, *Hazardous Waste Exportation: The Global Manifestation of Environmental Racism*, 28 VAND. J. TRANSNAT'L L. 251, 267 (1995).

¹⁵⁹ Lomé IV Convention, *supra* note 156, at pt. II, title I.

¹⁶⁰ Rozelia S. Park, Note, *An Examination of International Environmental Racism Through the Lens of Transboundary Movement of Hazardous Wastes*, 5 IND. J. GLOBAL LEGAL STUD. 659, 694 (1998).

¹⁶¹ See, e.g., David J. Abrams, Note, *Regulating the International Hazardous Waste Trade: A Proposed Global Solution*, 28 COLUM. J. TRANSNAT'L L. 801, 840 (1990).

¹⁶² *About the ACP Group*, THE SECRETARIAT OF THE AFRICAN, CARIBBEAN AND PACIFIC GROUP OF STATES, http://www.acpsec.org/en/about_us.htm (last visited Jan. 17, 2011); *see generally* Partnership Agreement between the Members of the African, Caribbean and Pacific Group of States of the One Part, and the European Community and its Member States, of the Other Part, 2000 O.J. (L 317) 3 [hereinafter ACP-EC Partnership Agreement].

disposal of hazardous wastes.”¹⁶³ Without the total ban, the agreement is considered much weaker; still, Cotonou recognizes the existence of disproportionate risks in developing countries and desires to protect against inappropriate hazardous waste shipments to these countries.¹⁶⁴

III. THE REEVALUATION

The current international agreements, both the widespread, legally binding agreements and the *ad hoc* agendas among smaller groups of countries, have not been as successful at eliminating toxic waste colonialism as proponents would have hoped.¹⁶⁵ Some are hoping that once the stronger agreements, such as the Basel Ban, are entered into legal force, the flow of toxic waste colonialism will not only be slowed but also eradicated.¹⁶⁶ However, such ratification seems unlikely due to continued opposition.¹⁶⁷ This opposition to the current system of global hazardous waste management seems to indicate the system may not be the most effective means of global regulation.¹⁶⁸ Because several years have passed since the first steps towards a global management system were attempted, a reevaluation analyzing the loopholes in the current system and possible recommendations for future improvement are necessary.

A. *What Are the Loopholes in the Current System?*

Even though the dangers associated with improper disposal of hazardous waste are obvious in both developed and developing countries, the international regulations currently in place do not adequately address issues associated with toxic waste colonialism. The international laws designed to protect against reckless, transboundary disposal of hazardous wastes tout high ideals and goals, but most of the goals are never attained

¹⁶³ ACP-EC Partnership Agreement, *supra* note 162, at art. 32, para. 1.

¹⁶⁴ *See id.* at title I, art. II.

¹⁶⁵ *See* Mastny & French, *supra* note 43.

¹⁶⁶ *See id.*

¹⁶⁷ *See id.*

¹⁶⁸ For example, the most recent Basel hazardous waste conference, held in Bali, Indonesia in 2008 discussed how to manage the transboundary traffic of hazardous waste, despite the many agreements since 1992 trying to do just that. This conference focused on the importance of health and waste management for global development strategies such as reducing poverty. *Hazardous Waste Conference Opens in Bali*, THAIINDIAN NEWS (June 23, 2008, 9:00:26 AM), available at http://www.thaindian.com/newsportal/enviornment/hazardous-waste-conference-opens-in-bali_10063459.html [hereinafter *Basel in Bali*].

and improper disposals continue.¹⁶⁹ Furthermore, even though a preventative framework is desired, most widespread agreements are shrouded by controversy.¹⁷⁰ Such discrepancies beg to be addressed. Clearly articulating the loopholes in the current global management system for hazardous waste hopefully can help the international community reach better solutions in the future.

1. Fraudulent Concealment and Illegal Shipments

Even though illegal dumping and under-the-table waste disposal contracts are no longer as prevalent in the hazardous waste market, the fraudulent concealment of hazardous waste shipments either by the generator, carrier, or receiver of the hazardous waste continues to be a loophole in the system.¹⁷¹ The Basel Convention and other agreements do not wipe out the illegal waste trade.¹⁷² Oftentimes, hazardous waste is simply moved under false permits, bribes, improper labels, or even the pretext of "recycling," which is a growing trend.¹⁷³

Efforts to combat fraudulent concealment of such shipments have not been very successful. As the subsequent agreements to the Basel Convention have shown, "broadening the definition of what constitutes 'illegal' waste trade will not make it any easier for the international community to monitor or control illegal transboundary movements" of hazardous waste that violate these provisions.¹⁷⁴ Most of the shipments flagged as examples of toxic waste colonialism would be deemed "illegal" under the Convention, but such a label does not make the shipments any easier to eliminate.¹⁷⁵ Furthermore, many countries lack any legislative means for preventing and punishing such illegal activities, and the absence of coordinated global methods of enforcement only exacerbate the futility of domestic efforts to control the illegal trade of hazardous waste, due to the disparity between enforcement resources and regulation uniformity.¹⁷⁶

¹⁶⁹ See Mastny & French, *supra* note 43.

¹⁷⁰ See *id.*

¹⁷¹ See *id.*

¹⁷² See *id.*

¹⁷³ *Id.* Mastny and French point out that no port in the world can check every transboundary shipment; such inspections are even less likely in developing countries. *Id.*

¹⁷⁴ Montgomery, *supra* note 44, at 207.

¹⁷⁵ *Id.* Montgomery compares the international transboundary movement of hazardous waste to the United States illegal drug trade. "Despite their high moral tone, policies of 'zero tolerance' have not been at all effective in reducing the flow of illegal drugs into the United States." *Id.*

¹⁷⁶ See Mastny & French, *supra* note 43, at 18–19.

Unfortunately, under the current system, developing countries fall prey to illegal activities more often than developed countries despite international agreements designed to prevent such exchanges.¹⁷⁷

2. Definitional Issues

One major issue with the Basel Convention is its failure to provide clear definitions regarding wastes. There are good arguments for and against the use of broad definitions. Broad definitions prevent exporting countries from simply classifying a waste as non-hazardous for transboundary shipment to avoid international obligations, and they leave room for the inclusion of wastes that may become hazardous if improperly managed during disposal.¹⁷⁸ However, many recyclable materials and non-hazardous materials fall under the broad reach of the Basel Convention.¹⁷⁹ Also, the international laws fail to keep pace with changes in the waste disposal industry; more substances are being identified as possibly hazardous, but the testing and listing of these wastes simply are not included in the laws.¹⁸⁰

Similarly, vague definitions do not help countries implement the international agreement. “The lack of distinction between ‘waste’ and ‘products’ in the convention and its vague criteria for ‘hazardous’ allowed the continued export of hazardous waste” under the label of commodities or raw materials, despite the fact that these wastes still present environmental and health risks to developing countries.¹⁸¹ This discrepancy highlights conflicts that may occur when developing countries actually depend on a viable recyclable commodity for economic growth; such recyclables are a category of commodities that have yet to be clearly classified under the Basel Convention Annexes.¹⁸² Vague definitions also allow countries to develop their own categories and classifications; when the domestic categories do not agree, managing transboundary shipments becomes increasingly difficult.¹⁸³ Again, over-broad and ambiguous definitions appear to only cause more problems with the international agreements, and the

¹⁷⁷ Montgomery, *supra* note 44, at 199.

¹⁷⁸ Kitt, *supra* note 11, at 494–95.

¹⁷⁹ *See id.* at 495.

¹⁸⁰ *See* Kate O’Neill, *Out of the Backyard: The Problems of Hazardous Waste Management at a Global Level*, 7 J. ENV’T & DEV. 138, 143 (1998) (discussing the current difficulties in establishing consistent waste identification and classification systems between nations).

¹⁸¹ Lipman, *supra* note 9, at 68–69.

¹⁸² *See id.*

¹⁸³ *See id.* at 69.

foundational question regarding what should be regulated never seems to be properly answered under the current system.

3. Issues with a Total Ban

Probably the most controversy surrounding the global management of hazardous waste involves the debate regarding a total ban on transboundary shipments between developing and developed countries. A total ban on transboundary shipments between developing and developed countries sounds like the best way to eradicate toxic waste colonialism, but, unfortunately, such a ban would only exacerbate issues of environmental sustainability and disproportionate risks.¹⁸⁴ A total ban would drastically weaken recycling and reclamation operations which are performed correctly and effectively.¹⁸⁵ These operations, by decreasing global waste quantities and promoting the conservation of natural resources, promote environmental sustainability more than hazardous waste landfill alternative.¹⁸⁶ Even though “sham recycling” operations do exist, “legitimate recycling” operations do not violate the objectives of the Basel Convention, and a total ban would prohibit these activities from fully developing.¹⁸⁷

Furthermore, a total ban unnecessarily and inappropriately labels countries. Not all developing or “[n]on-OECD [c]ountries [a]re [a]like.”¹⁸⁸ The label of “developing” “does not necessarily mean that the environment or human health will be at risk” when it comes to the management of transboundary hazardous waste.¹⁸⁹ Several countries, such as Chile, Singapore, and Brazil, have rising economies and recycling facilities at capacities which can ensure the safety of recycling and reclamation operations.¹⁹⁰

¹⁸⁴ See Andrea Giampetro-Meyer, *Captain Planet Takes on Hazard Transfer: Combining the Forces of Market, Legal and Ethical Decisionmaking to Reduce Toxic Exports*, 27 *UCLA J. ENVTL. L. & POL'Y* 71, 74–75, 75 n.17 (2009).

¹⁸⁵ See Montgomery, *supra* note 44, at 210–11.

¹⁸⁶ *Id.* at 210.

¹⁸⁷ *Id.* at 211–12.

¹⁸⁸ *Id.* at 213.

¹⁸⁹ *Id.* at 212.

¹⁹⁰ See WORLD ECONOMIC FORUM, GLOBAL COMPETITIVENESS REPORT 2010–2011, at 31, 50 (Klaus Schwab ed., 2010), available at http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf; Seng Eng Ong, RESEARCH CONSERVATION DEP'T, SING. NAT'L ENV'T AGENCY, 3R PORTFOLIO—GOOD PRACTICES TO PROMOTE THE 3RS—COUNTRY: SINGAPORE 1 (2005), http://www.env.go.jp/recycle/3r/en/info/05_13.pdf; Eva Medalla, *Recycla Reaches 4,000t/y Waste Separation Capacity*, BUS. NEWS AMERICAS (Aug. 9, 2010, 14:50 (GMT-0400)), http://www.bnamericas.com/news/waterandwaste/Recycla_reaches_4,000t_y_waste_separation_capacity; *Novelis to Expand Aluminum*

Interestingly enough, imposing a complete ban on countries such as these “suggest[s] [a certain level of] paternalism” and “infringes on the sovereign[ty]” of these nations to consent to the import of hazardous waste for economic benefit.¹⁹¹ There certainly is an interesting philosophical issue between “banning hazardous waste exports that [may] cause harm” to human health in a developing country and the possibility “that doing so may endanger the [same people’s] very livelihood.”¹⁹²

4. Cross-National Regulatory Differences

An interesting problem with the current international system is that it leaves a majority of the implementation issues and enforcement issues in the hands of individual governments; therefore, cross-national regulatory differences often cause the international system to be undermined.¹⁹³ As stated before, most countries characterize hazardous wastes in radically different ways, and even though international environmental law addresses the transboundary movements of hazardous waste, it does little to establish an “international clearinghouse for information” regarding the movements of wastes, countries of origins, ultimate destinations, and treatment operations.¹⁹⁴ Also, “there is a lack of fit between [the] domestic and . . . international policy agendas in this area.”¹⁹⁵ Most industrialized nations have well-developed, domestic regulations in areas of hazardous waste management, and “widening the scope of these regulations adds one more task to already overburdened domestic agencies.”¹⁹⁶ Problems can also arise when countries that have a largely public-controlled hazardous waste disposal industry attempt to transfer with countries that have privatized the waste disposal industry, as the regulations and governance of the two systems are extremely different.¹⁹⁷

Furthermore, the Basel Convention, while professing an interest in decreasing waste generation and proper domestic waste management,

Recycling Capacity, COMMODITY ONLINE (May 21, 2010, 10:50:00), <http://www.commodityonline.com/commodity-stocks/Novelis-to-expand-aluminium-recycling-capacity-2010-05-21-28393-3-1.html>.

¹⁹¹ See Lipman, *supra* note 9, at 71; see also Montgomery, *supra* note 44, at 217.

¹⁹² Lipman, *supra* note 9, at 71.

¹⁹³ See O’Neill, *supra* note 180, at 142–43.

¹⁹⁴ *Id.* at 143.

¹⁹⁵ *Id.* at 143–44. O’Neill notes that “some of the most successful international environmental agreements” were in areas that did not have much domestic legislation, such as ozone layer protection or “the prevention of transboundary air pollution.” *Id.*

¹⁹⁶ *Id.* at 144.

¹⁹⁷ *Id.* at 148.

downplays these activities in subsequent agreements.¹⁹⁸ “[D]isposal of a certain type of waste may be more ‘environmentally sound’” in another country, and by limiting the movements of these wastes, domestic disposal problems in certain countries continue.¹⁹⁹ As developing countries experience economic growth, their hazardous waste generation will only increase, and the international regulations do not address the need for these nations to adopt sound hazardous waste management techniques before this happens.²⁰⁰ Some scholars have even suggested that by making exporting countries responsible for their waste shipments, international regulations actually decrease the responsibility of developing nations to ensure no waste enters their borders and develop their own waste control laws.²⁰¹ Even though the international regulations are meant to protect developing countries from toxic waste colonialism activities, they “may actually retard . . . environmental awareness and responsibility” in the development of domestic regulations in many countries.²⁰²

5. United States Ratification

As one of the largest global generators of hazardous wastes and a major industrialized nation, the United States is a powerful force in the global management of hazardous waste, but it has not yet ratified the Basel Convention. Instead it exercises its option to enter into bilateral and multilateral agreements with other parties.²⁰³ Even though the United States was one of the first nations to adopt domestic legislation requiring prior notice and consent for hazardous waste shipments, it has been slow to adopt legislation showing intent to ratify the Basel Convention, an act surrounded by heated controversy.²⁰⁴ Unknown to most, the United States has domestic laws that require exporters of hazardous waste to notify the Environmental Protection Agency (“EPA”) at least 60 days prior to shipment.²⁰⁵ The EPA in turn gives notice to the importing and transit

¹⁹⁸ *Id.* at 143.

¹⁹⁹ *See* Kitt, *supra* note 11, at 508 (citation omitted).

²⁰⁰ *See* O'Neill, *supra* note 180, at 143.

²⁰¹ *See* Montgomery, *supra* note 44, at 209.

²⁰² *Id.*

²⁰³ *See, e.g.,* Kirby, *supra* note 133, at 282 (noting that “[t]he United States was one of the first signatories to the Basel Convention,” but it still has not become a party to the international agreement).

²⁰⁴ *See* Montgomery, *supra* note 44, at 210.

²⁰⁵ 40 C.F.R. § 262.53 (2009); *see also* Jeffrey B. Gracer, *Protecting Citizens of Other Countries*, in *THE LAW OF ENVIRONMENTAL JUSTICE: THEORIES AND PROCEDURES TO ADDRESS DISPROPORTIONATE RISKS* 777 (Michael B. Gerrard & Sheila R. Foster eds., American Bar Association 2008).

companies and requires written consent from the importing country before the shipment may occur, much like what is required under the Basel Convention.²⁰⁶ Exporters of hazardous waste must also comply with domestic regulations for manifests, exceptions, and annual reporting requirements.²⁰⁷ Furthermore, the EPA can impose a fine of up to \$50,000 per day for violations of these regulations or other international agreements between the United States and an importing country.²⁰⁸ However, these regulations do not give the EPA authority to stop shipments to consenting countries, even if there is an indication the waste will not be disposed of in an environmentally sound manner.²⁰⁹ The United States recognizes the need for the global management of hazardous waste, but it questions the implementation system of the international agreements. Full implementation of the Basel Convention would give the United States government more power to control transboundary hazardous waste shipments leaving its borders and would show the global community its support of hazardous waste management efforts.²¹⁰ There are also arguments that ratification of the Basel Convention would increase international respect for the United States and decrease the occurrences of toxic waste colonialism.²¹¹ However, the government is often split on what enabling legislation would look like for ratification, and problems with the Basel Ban Amendment have delayed ratification even further.²¹² The lack of United States ratification has had a strong negative impact on the effectiveness of the current global system.²¹³

B. *Possible Recommendations*

As with many international environmental issues, a quick-fix solution to the problem of toxic waste colonialism is simply not possible.

²⁰⁶ See 40 CFR § 262.53(e), 262.52 (2009).

²⁰⁷ See 40 CFR § 262.54–56 (2009).

²⁰⁸ 42 U.S.C. § 6928(d)(6) (2006).

²⁰⁹ See Gracer, *supra* note 205, at 777–78.

²¹⁰ See Kirby, *supra* note 133, at 301.

²¹¹ See *id.* at 300–01, 301 n.85.

²¹² See Kitt, *supra* note 11, at 512–13 (discussing historical difficulties in passing ratifying legislation in Congress; the Bush administration submitted a bill in the 1990s to implement the Basel Convention that was never enacted, the Clinton administration also announced principles for implementation and introduced a bill that never became law, and the most recent Bush administration also failed to ratify the Basel Convention).

²¹³ The United States is the largest producer of waste in the world; therefore, non-support renders it a non-Party, causing other countries with which it is doing business to lack an incentive, and perhaps have disincentives, to ratify the treaties themselves. See Choksi, *supra* note 89, at 512, 515, 519.

However, there is a growing interest in the pursuit of environmental justice,²¹⁴ and by adjusting the focus of international negotiations, there might be a way to address the loopholes in the current system and create a more effective system for the global management of transboundary hazardous waste in the future. In an effort to correct the problem of disproportionate risks faced by developing countries, these recommendations mainly explore possible changes in implementation and policy in the context of principles of international environmental law.

1. Focus on Implementation

Many of the loopholes in the global management of hazardous waste seem to be caused by implementation problems in international agreements.²¹⁵ Even though the Basel Convention presents lofty ideals in its preamble about reducing hazardous waste generation, limiting transboundary hazardous waste shipments, and promoting waste management in an environmentally sound manner, the Convention fails to provide a good framework for implementing these ideals.²¹⁶

First of all, the foundational question of what exactly should be regulated needs to be addressed. The problems associated with definitional differences indicate that the international regulatory scheme needs to be adjusted to account for the changes in the past twenty years. Not only do the definitions regarding hazardous waste need to be clarified and narrowed in scope to ease in implementation efforts and correct cross-national regulatory differences, but some kind of mechanism needs to be in place to determine future hazardous thresholds and materials.²¹⁷ Even though countries should be able to completely ban certain wastes under domestic law, including the varied domestic definitions of hazardous wastes²¹⁸ appears excessive and overbroad in the international context. Allowing these substances to be handled under specific local law would promote a much-needed consensus in the international system.

A portion of negotiations regarding the global management of hazardous waste should be devoted to the areas of recycling and reclamation.

²¹⁴ See O'Neill, *supra* note 180, at 149.

²¹⁵ See Choksi, *supra* note 89, at 524–26 (listing a handful of the loopholes drawing criticism).

²¹⁶ See Basel Convention, *supra* note 13, at pmb1.

²¹⁷ See Mastny & French, *supra* note 43. The growing issue of e-waste illustrates this need. The Basel Convention did not foresee the problems associated with the transboundary shipments of electronic materials, and thus the provisions simply do not provide a framework for this growing problem. *Id.*

²¹⁸ See Basel Convention, *supra* note 13, at art. 3.

However, such considerations are seemingly absent from the current system. Proper recycling and reclamation of hazardous waste promotes the principle of intergenerational equity, as it limits the disposal amounts of hazardous waste and increases the sustainability of limited natural resources.²¹⁹ While legitimate recycling operations do not violate current international agreements, these operations are not considered a valuable alternative in the hazardous waste disposal system. Even in its provisions seeking better domestic waste management practices, references to recycling and reclamation options are surprisingly absent.²²⁰ The current agreements actually prohibit the economic development and utilization of these activities in the international arena.²²¹ International standards could be developed to allow these legitimate operations to continue and to eliminate the possibility of illegitimate operations, especially in developing countries. The current system does not allow developing nations to pursue these types of activities as an alternative to landfill disposal, and it unnecessarily prevents the possible export of hazardous waste from these developing states to developed countries for recycling purposes.²²² Additionally, a system that embraces recycling and reclamation rather than just disposal could possibly encourage United States ratification, as this is a developing attitude of United States' industries.²²³

Even though the current system establishes an elaborate system of duty to notify and prior informed consent, two very important international environmental principles,²²⁴ the agreements do little to express means of implementing these systems. Recognizing that countries have differing levels of economic and social means of implementation, the principle of "common but differentiated" responsibilities needs to be explored.²²⁵ Developing threshold requirements for enforcement of the implementation provisions based upon a country's government capabilities could be very

²¹⁹ See Chris O'Brien, *Global Manufacturing and the Sustainable Economy*, 40 INT. J. PROD. RES. 3867, 3867–69 (2002); see also United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, *Rio Declaration on Environment and Development*, UN Doc. A/CONF.151/26 (Vol. I), 31 I.L.M. 874 (1992), available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=78&ArticleID=1163>. Principle 3 states, "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations." *Id.*

²²⁰ See Basel Convention, *supra* note 13, at art. 4, para. 2, art. 10.

²²¹ See Choksi, *supra* note 89, at 536–37.

²²² *Id.* at 536.

²²³ See *id.* at 535–37.

²²⁴ See *Rio Declaration on Environment and Development*, *supra* note 219, at princ. 18–19.

²²⁵ See *id.* at princ. 7 ("In view of the different contributions to global environmental degradation, states have common but differentiated responsibilities.").

beneficial. Providing the means for developing countries to protect themselves through proper enforcement can only help decrease issues of toxic waste colonialism.²²⁶ Illegal dumping activities will continue in areas where the national government can do nothing to stop them.²²⁷ Furthermore, even though they may not have the same resources, developing countries still have some duty to implement effective environmental laws.²²⁸ Even if this duty is limited by economic and social costs, the international agreements enacted need to provide some means of helping developing nations achieve this principle.

Finally, where developing nations need to be held to some minimum standard regarding implementation of effective environmental laws, developed countries need to focus on pollution prevention in areas of implementation. The principle of pollution prevention focuses on the need to anticipate environmental harm and to act in ways that would avoid these harms.²²⁹ This means developed countries need to seek out waste minimization plans, promote domestic recycling and reclamation operations, and develop means for an overall reduction of hazardous waste in production.²³⁰ Currently, waste disposal facilities in developed countries are extremely congested, and there are few attempts by private companies or national agencies to enact new waste-reduction measures.²³¹ The idea of waste minimization, although a goal of the international agreements, is not wholly pursued or developed in negotiations.²³² If toxic waste colonialism is truly going to be eradicated, the international pressure resulting from the

²²⁶ See Choksi, *supra* note 89, at 519; Kitt, *supra* note 11, at 511.

²²⁷ See Mastny & French, *supra* note 43.

²²⁸ See *Rio Declaration on Environment and Development*, *supra* note 219, at princ. 11 (“States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.”).

²²⁹ See *Stockholm Declaration*, *supra* note 10, pt. I, princ. 6 (“The discharge of toxic substances or of other substances . . . in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems.”).

²³⁰ See O'Neill, *supra* note 180, at 149 (discussing the new waste management systems of Britain, France, Germany, and Australia to illustrate the importance of governments in adopting strategies for hazardous waste management including “fiscal measures to change the incentives for choosing certain disposal techniques, the reorganization of waste regulation responsibilities, the development of waste minimization programs, and research into new, and potentially greener, disposal technologies”).

²³¹ *Id.* at 143, 145.

²³² See *Basel Convention*, *supra* note 13; *Rio Declaration on Environment and Development*, *supra* note 219; *Stockholm Declaration*, *supra* note 10.

global increase of hazardous waste production must also be addressed. The “midstream” regulation of the hazardous waste life cycle, controlling transboundary shipments, does little to actually prevent pollution at the outset and eliminate disposal problems like toxic waste colonialism.²³³

2. Focus on Policy

Other problems in the current global management system for hazardous waste can be linked to the underlying policies that are not taking priority in international discussions. Essentially, there are some principles of international law that provide a good course of action with regard to this particular issue and should be pursued in the formation of future international agreements. These policy recommendations should take a more prominent role in future discussions on the global management of hazardous waste.

First, the obligation not to cause environmental harm²³⁴ arguably includes not only a State’s responsibility to those outside its jurisdiction, but also to the substantial harm that might occur within its territory.²³⁵ Even though this principle overlaps and impedes on State sovereignty rights, the ecological interdependence of all nations suggests that State responsibility must include at least some obligation to promote environmental protection and sustainable development while properly managing environmental harm within State borders.²³⁶ In the discussion regarding the transboundary movement of hazardous waste, the origins of the waste seemingly have become more important than the management of the waste itself.²³⁷ However, hazardous waste can be extremely harmful, regardless of where it is produced and where it is disposed.²³⁸ As such, it should be addressed in the context of sustainable development and managed properly

²³³ See Choksi, *supra* note 89, at 520.

²³⁴ See *Stockholm Declaration*, *supra* note 10, princ. 21. See also *Rio Declaration on Environment and Development*, *supra* note 219, princ. 2.

²³⁵ See HUNTER ET AL., *supra* note 40, at 506. This argument departs from the traditional “do no harm” principle expressed in the Stockholm Declaration and the Rio Declaration. See *Stockholm Declaration*, *supra* note 10, princ. 21; *Rio Declaration on Environment and Development*, *supra* note 219, princ. 2. It seems well-suited to the problems associated with hazardous waste; in order for international agreements to be successful in this area, some degree of State responsibility has to be allotted for environmental harm caused within State jurisdiction. See HUNTER ET AL., *supra* note 40, at 506.

²³⁶ See HUNTER ET AL., *supra* note 40, at 506.

²³⁷ Montgomery, *supra* note 44, at 214–15.

²³⁸ See *id.* at 215.

to “insure [sic] protection of human health and the environment.”²³⁹ As the developing world experiences economic growth and subsequently continues to increase its production of hazardous waste, this principle needs to provide a foundation for international agreements. Simply banning transboundary shipments does not ensure hazardous waste is properly managed in these regions. Rather than continually force unattainable environmental regulations on these nations, it might prove a better foundation to build on the provisions that empower these nations to assert their own environmental standards. Future discussions on the global management of hazardous waste need to focus on ways to enable developing nations to prevent environmental harm, not only from outside their territories, but also from harm created within their borders.²⁴⁰ Even though all States carry this responsibility, the “do no harm” policy also implicates the importance of non-discrimination of environmental harms.²⁴¹ States should not shift the burden of environmental harms caused by their hazardous waste to other States which may have little control in the country of origin.²⁴² The vulnerability of some countries to this type of exposure is apparent,²⁴³ and in order to eliminate toxic waste colonialism, all aspects of the obligation not to cause harm need to be addressed.

Probably the most under-utilized principle of international environmental law applicable to this area is the right of public participation.²⁴⁴ Public participation, coupled with the related principles of access to information and access to justice in environmental decision-making, encourages public awareness and information sharing in order to achieve

²³⁹ *Id.* at 215. See *Basel in Bali*, *supra* note 168. It appears that this idea is becoming more popular in the hazardous waste discussion: Indonesia’s Environment Minister Rachmat Witoelar said the 2009 Basel Hazardous Waste Conference “will emphasize the strong and mutually dependent relationship between environmentally sound waste management and sustainable development.” *Id.* Witoelar also mentioned that “the Basel Convention [was] meant to [address] . . . risks of the environmental degradation caused by transboundary movement[s] of hazardous waste,” but also “it is a part of [a] larger framework for ensuring environmental sustainability.” *Id.*

²⁴⁰ See Montgomery, *supra* note 44, at 215–16.

²⁴¹ See HUNTER ET AL., *supra* note 40, at 506; *Stockholm Declaration*, *supra* note 10, at princ. 21; *Rio Declaration on Environment and Development*, *supra* note 219, at princ. 2.

²⁴² See Lipman, *supra* note 9, at 68–69, 71.

²⁴³ See *id.* at 67 (discussing examples of specific developing nations targeted for waste disposal, and the attendant consequences of that disposal).

²⁴⁴ See, e.g., *Stockholm Declaration*, *supra* note 10, at rec. 97(1)(a); 42 U.S.C. § 6794(b)(1) (“Public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States.”).

environmental protection and sustainable development at all levels—local, regional, national, and international.²⁴⁵ There are at least three different areas where public participation in the global management of hazardous waste could be very beneficial, namely partnering between States and private industries, cultural carry-over, and citizen complaints and tort remedies.

By partnering with the private waste industry, States gain a valuable advantage in addressing transboundary movements of hazardous waste. These discussions promote a more positive connection between public and private sectors, encouraging information sharing and developing a more complete view of the environmental and economic issues surrounding hazardous waste management.²⁴⁶ Additionally, the persistent occurrence of disastrous hazardous waste releases has led to a surprising increase in voluntary programs focused on “corporate environmental responsibility.”²⁴⁷ Along these same lines, corporations are more sensitive to allegations of human rights violations and transboundary harm, and these concerns form the foundation for project design and policy implementation worldwide.²⁴⁸ Many private corporations, at least in the United States, have recognized these management issues and many have sought to avoid tortious liability and environmental justice violations by implementing personal safeguards for international shipments, despite the shortcomings or total lack of domestic regulations.²⁴⁹ Even though many of these corporate responses have been voluntary, some of the ways States can promote such voluntary responses are by providing fiscal incentives for activities that promote proper disposal operations, by reorganizing administrative agencies to promote a closer relationship between the government and private waste industries, by developing new disposal techniques, or by simply developing effective waste minimization policies.²⁵⁰ Promoting such partnering techniques between States and private industry increases the chances of public participation in the hazardous waste problem.

²⁴⁵ See *Stockholm Declaration*, *supra* note 10, at pt. I, 7, rec. 97(1)(a).

²⁴⁶ O’Neill, *supra* note 180, at 156.

²⁴⁷ Gracer, *supra* note 205, at 784.

²⁴⁸ See *id.* at 785. According to Gracer, these new corporate policies include several components including, “aggressive outreach to affected communities, increased opportunities for consultation during project planning, creation of an appropriate infrastructure to support the project, ongoing monitoring of project commitments, and public reporting of monitoring results.” *Id.*

²⁴⁹ See *id.* at 784–85.

²⁵⁰ See generally O’Neill, *supra* note 180, at 150–55 (discussing strategies used by Britain, France, Germany, and Australia that have implications for international waste regulation).

Another area of public participation that is under-utilized in the global management of hazardous waste is cultural carry-over and technological exchange. The Basel Convention included provisions that encouraged the transfer of technology for hazardous waste management purposes.²⁵¹ However, very few of these exchanges have taken place, despite the fact that “much of the technology . . . is portable.”²⁵² Providing international investment and technology exchange for environmentally safe recycling and disposal methods for developing countries can help alleviate the economic pressures to accept foreign hazardous waste and promote proper internal environmental standards.²⁵³ Allowing foreign exporters to implement disposal technologies that “adhere to global environmental standards” in developing countries can “upgrade [the] environmental performance” of hazardous waste disposal.²⁵⁴ Furthermore, there is high potential for profits for companies that perform these exchanges.²⁵⁵ This act of public participation is especially crucial in countries with rising economies and disposal capacities.

Currently, it appears that fears of toxic waste colonialism have overshadowed the possibility of equipping developing nations with proper disposal options from the outset. International environmental policies should pursue means to achieve these technological transfers.

Finally, adopting policies that provide for citizen complaints and tort remedies in areas of transboundary movements of hazardous waste can also be a beneficial means of addressing problems with toxic waste colonialism and encourage public participation.²⁵⁶ Currently, the World Bank, the Export-Import Bank of the United States, and the Overseas Private Investment Corporation have systems in place for accepting citizen complaints regarding projects financed through these companies.²⁵⁷ Even though these environmental review systems are considered a major advance in areas of public participation and are designed to promote environmentally responsible projects, such actions are shrouded with controversy and questions of effectiveness.²⁵⁸ Furthermore, these environmental review

²⁵¹ Basel Convention, *supra* note 13, art. 10, para. 2(d).

²⁵² O'Neill, *supra* note 180, at 156.

²⁵³ See Lipman, *supra* note 9, at 71.

²⁵⁴ *Id.*

²⁵⁵ O'Neill, *supra* note 180, at 156.

²⁵⁶ See Noah Sachs, *Beyond the Liability Wall: Strengthening Tort Remedies in International Environmental Law*, 55 UCLA L. REV. 838, 844–45; *Stockholm Declaration*, *supra* note 10, at princ. 22.

²⁵⁷ See Gracer, *supra* note 205, at 780–84.

²⁵⁸ *Id.* at 781–84.

systems only apply to projects funded by the organizations. The international community should consider enacting such a review system for the transboundary movements of hazardous waste as well. Not only would such provisions empower the local people, who are most likely to be affected by shipments, to respond, but these types of actions put an increased pressure on both the importing and exporting governments to respond to the concerns of their citizens.

Furthermore, expanding the opportunity for civil recourse might also encourage public participation in this area. Tort law not only serves as a preventative measure by discouraging possible unlawful conduct but also can be developed as a “regulatory mechanism [or] compensatory function.”²⁵⁹ In situations involving toxic waste colonialism, all three of these results of tort law could be beneficial; however, most efforts in this area are mainly concentrated selectively in the United States.²⁶⁰ Exploring other means of holding multinational corporations responsible for tortious acts under international agreements might prove to be a valuable tool in preventing, regulating, and compensating for toxic waste colonialism activities.

CONCLUSION

Approximately twenty years have passed since the major international agreement in this area, the Basel Convention, was developed by the international community. However, toxic waste colonialism is still a confounding problem which limits the success of the global system for the management of transboundary hazardous waste. Admittedly, the Basel Convention provides a much needed foundation in this arena, but the problem of disproportionate risks still persists in current implementation and policy efforts. The global management of hazardous waste needs to be reevaluated and adjusted to better address these issues.

Toxic waste colonialism represents an activity where the hazardous waste pollution from developed countries is exported to developing states as an inexpensive alternative for disposal. Because of the lack of technology, capacity, training, funding, or administrative infrastructure

²⁵⁹ Nicola M.C.P. Jägers & Marie-José van der Heijden, *Corporate Human Rights Violations: The Feasibility of Civil Recourse in the Netherlands*, 33 BROOK. J. INT’LL. 833, 836 (2008).

²⁶⁰ *See id.*; *see also* Alien Tort Claims Act, 28 U.S.C. § 1350 (2006). The United States has enacted the Alien Tort Claims Act (“ATCA”), a unique legislative measure that allows individuals and corporations, regardless of their location, to be held responsible in the United States for violations of international law. *Id.*

in developing nations, the opportunity for human exposure in a developing nation is much greater than in a developed nation. Also, many of these nations simply do not have the resources to treat the resulting harms of toxic waste colonialism.²⁶¹ There are two main causes of the prevalence of toxic waste colonialism, namely the global increase of hazardous waste production and harsh economic pressures.²⁶² Toxic waste colonialism should garner the attention of the international community due to the increased likelihood of harm to human health and the environment and these exacerbating underlying causes.

The international response to the transboundary movement of hazardous waste includes several agreements. In the late 1970s, the domestic legislation in the United States and the European Community laid the foundation for broader international agreements. The Basel Convention is considered the most far-reaching international agreement establishing a global notification and consent system for the transboundary movement of hazardous waste and prohibiting the trade of covered wastes.²⁶³ Even though they are the primary source of controversy, the subsequent amendments and other ad hoc agreements, including the Basel Ban Amendment, the Protocol on Liability and Compensation, the Bamako Convention, and the Lomé IV Convention and Cotonou Agreement, have widened the scope and application of the Basel Convention.²⁶⁴

Even with all these agreements covering the transboundary movements of hazardous wastes, there are still loopholes in the current system that allow problems associated with toxic waste colonialism to continue. First, illegal hazardous waste shipments continue to be a loophole in the system, and broadening the scope of international agreements to include more "illegal" transactions have not made it any easier to monitor or control movements of transboundary hazardous waste that violate these provisions.²⁶⁵ Second, even though there are good arguments for the broad definitions regarding hazardous wastes in international provisions, the international laws have failed to keep pace with the changes in the waste disposal industry, and the vague definitions only perpetuate problems with implementation.²⁶⁶ Definitions in the international agreements do not adequately address recycling or reclamation usage of hazardous waste either.

²⁶¹ See discussion *supra* Part I; see also *Ivorian Toxic Waste Dumps*, *supra* note 37.

²⁶² See discussion *supra* Part I.B.

²⁶³ Basel Convention, *supra* note 13, at art. 4, para. C.; see Lipman, *supra* note 9, at 68.

²⁶⁴ See discussion *supra* Part II.C.

²⁶⁵ See discussion *supra* Part III.A.1.

²⁶⁶ See discussion *supra* Part III.A.2.

Third, the debates over a total ban on transboundary shipments between developing and developed countries have revealed an interesting philosophical problem.²⁶⁷ Even though this ban sounds like the best way to eradicate toxic waste colonialism, a complete ban on transboundary hazardous waste movements that may cause harm may also unnecessarily result in the destruction of the livelihood of the very same people it is trying to protect.²⁶⁸ Labeling countries for the purposes of the ban does not necessarily promote environmental sustainability or the protection of human health and the environment.²⁶⁹ Fourth, because most implementation and enforcement of international agreements in these areas are left to domestic legislation, cross-national regulatory differences also are a loophole in the current system.²⁷⁰ There is no international compilation of information regarding the movements of wastes, countries of origins, ultimate destinations, and treatment operations. Furthermore, the differing environmental policies of nations have resulted in a retardation of environmental awareness and responsibility in some countries and the development of over-burdening domestic laws in others. Unfortunately, these differences cause substantial problems with international implementation. Finally, the lack of United States ratification of the international agreements has continued to be a controversial loophole in the current hazardous waste management system.²⁷¹ As a powerful, developed nation, the United States' support would only bolster efforts against toxic waste colonialism, but disagreements in implementation procedures and questions regarding the domestic enabling legislation have resulted in a continued lack of support from the United States for the international system.

Once again, there is no quick solution to problems in this area. Most international agreements take years to negotiate and even longer to go into effect. However, as this article has recommended, by exploring possible changes in implementation and policy, in the context of principles of international environmental law, a future international agreement in this area might be able to increase the effectiveness of the current system.²⁷²

The international community should focus on ways to correct implementation issues and ways to promote proper implementation worldwide. The foundational question of what exactly should be regulated needs

²⁶⁷ See discussion *supra* Part III.A.3.

²⁶⁸ Lipman, *supra* note 9, at 71.

²⁶⁹ See discussion *supra* Part III.A.2–3; see also Montgomery, *supra* note 44, at 212–13.

²⁷⁰ See discussion *supra* Part III.A.4.

²⁷¹ See discussion *supra* Part III.A.5.

²⁷² See discussion *supra* Part III.B.

to be addressed. The problems associated with definitional differences indicate that the international regulatory scheme needs to be adjusted to account for the changes in the past twenty years and to address the areas of recycling and reclamation.²⁷³ Also, developing possible threshold requirements for enforcement of the implementation provisions based upon a country's governmental capabilities could be very beneficial. Providing the means for enabling developing countries to protect themselves through proper enforcement can only help decrease issues of toxic waste colonialism, and the international agreements enacted need to provide some means of helping developing nations achieve this goal. Developed countries need to anticipate environmental harm and focus on pollution prevention in areas of implementation to prevent these harms because regulating the mid-stream of the hazardous waste life cycle does little to eradicate toxic waste colonialism altogether.

The other problems in the current global management system for hazardous waste can be linked to the underlying policies that are not taking priority in international discussions. These policy recommendations should take a more prominent role in future discussions on the global management of hazardous waste.²⁷⁴ Because hazardous waste can be extremely harmful regardless of where it is produced and where it is disposed, it should be addressed in the context of sustainable development and proper management to ensure protection of human health and the environment. Future discussions on the global management of hazardous waste need to focus on ways to empower developing nations to prevent environmental harm, not only from outside their territories but also from harm created within their borders. Developed States' focus should be to promote the importance of non-discrimination of environmental harm and to avoid shifting the burden of hazardous waste to countries that do not share in the production benefits. The international environmental law principle of public participation is also under-utilized in the global management of hazardous waste. Partnering between States and private industries helps generate a more complete view on the environment and cultivates a positive relationship that can exist between environmental protection and economic activity. Cultural carry-over between developed and developing countries can help alleviate the economic pressures to accept foreign hazardous waste, promote proper internal environmental standards, and upgrade the environmental performance of hazardous waste disposal in developing

²⁷³ See discussion *supra* Part III.B.1.

²⁷⁴ See discussion *supra* Part III.B.2.

countries. Finally, adopting policies that provide for citizen complaints and tort remedies would empower the local people, who are most likely to be affected by hazardous shipments, to respond to this issue and would pressure both the importing and exporting governments to respond to the concerns of their citizens. These policies, possibly, could also prove to be a valuable tool in preventing, regulating, and compensating for toxic waste colonialism activities.

These recommendations only reflect upon a few of the possible changes to the current focus of the international system. The law of environmental justice calls for this area of international law to be more effectively addressed. Hopefully, in the next twenty years, the international community will have more success managing the global transboundary movements of hazardous waste and preventing toxic waste colonialism.