

networks. The academic institutions cannot claim immunity from the corruption and bureaucratic inefficiencies that cripple many public institutions in Africa. It is important for the intellectual communities to face up to the inadequacies and contradictions of their own organizations and practices, not only in order to make their critiques of state policies and practices morally justifiable or credible but also to create new structures and foster a more conducive milieu for academic research and freedom.

The paper has focussed on the African migrant intellectuals (the 'aims') because their situation vividly captures many of the practices that undermine academic freedom in Africa today. The phenomenon of intellectual labour migration has also grown rapidly in the last couple of decades or so. Unfortunately, the direction has increasingly been towards the North. This needs to be arrested. However, intellectual labour mobility within Africa itself should be encouraged, for it is indispensable for the construction of Pan-Africanism, the key to Africa's development, rather than the anachronistic nation-state. The African nation-state, which was mainly created by powerful colonial fiat, has no real future in the world dominated by powerful regional and global forces. If Africa is to be a significant player in the rapidly changing global village, it cannot afford to cling to the petty luxuries of the nation-state, which as a form of organizing political and economic space, has run its historical course. Intellectual mobility in Africa can help combat parochialism and national chauvinism, which probably have grown as the nation-state has attempted to consolidate itself.

The current forms of intellectual labour migration do little to promote Pan-Africanism. The aims are latched on to a system that was mainly developed to service Western expatriate scholars, hence its discriminatory privileges are rightly resented. The 'aims' must enjoy the same rights and privileges as the local intellectuals in order to minimize antagonisms and exploitation. But this can only be achieved once the academic institutions have themselves become more democratized and the 'aims' have ceased to be nothing but 'refugees' fleeing from political and intellectual persecution and economic hardships. In Africa, one can distinguish two forms of Pan-Africanism, that of the presidents and 'refugees'. Presidential Pan-Africanism is periodically consummated at OAU and regional summits, while 'refugee' Pan-Africanism frays in the derelict camps. Pan-Africanism deserves a better fate. The African intellectual community is as well poised as any group can be to promote more meaningful and enduring forms of Pan-Africanism. Pan-Africanism and academic freedom are inseparable. Pan-Africanism will strengthen Africa's economies, while weakening the authoritarian nation-state, from which spring many of Africa's current crises. The struggle for academic freedom is ultimately part of the struggle for democracy and development in Africa.

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The Political Economy of Environmental Degradation: The Dumping of Toxic Wastes in West Africa*

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The critical point which we must note therefore is that the environmental crisis in Africa today, in particular the paucity of serious regulations and the inability to enforce them where they exist, cannot be divorced from the overall crisis of underdevelopment, dependency, foreign domination, weak and nonhegemonic state structures, the effects of corrupt and unproductive elites, bureaucratic inefficiency and ineffectiveness, declining external assistance, and general vulnerability to more powerful external forces in an increasingly hostile and exploitative global economy.¹

Introduction

International trade in toxic wastes has been a controversial issue in global politics. In recent years, the sharp increase in the dumping of hazardous wastes in a number of countries along the coast of West Africa between 1986 and 1988 has raised serious questions of morality, fairness, human dignity, and economic inequality between the third world countries and the industrialized countries in the emerging world order. Many studies have consequently been done on the dumping of toxic wastes in developing countries, some of them quite distinguished, but with the exception of a few, they fall short of perceiving the sharp increase in the dumping of wastes in the third world countries as part of the North-South dichotomy in the global political economy.² The world system is divided into two economic classes—the North and the South. The North is comprised of the prosperous and industrialized countries while the South consists of the impoverished, less developed and non-industrialized countries. More than 77 percent of the world's human population lives in the South, yet they control only 15.5 percent of the world's Gross National Product (GNP). The life expectancy of an average Southerner is 25 percent shorter than that of a Northerner. A Northerner earns at least 10 percent more than his counterpart in the South. A child born in the South is 5 times more likely to die of diseases, malnutrition, and lack of access to medical care before age 5. In general, the North-South approach focuses on morality. It is within this framework that environmental degradation in West Africa in particular, and the third world countries as a whole, can be clearly understood.

This paper analyzes the critical issues concerning the dumping of hazardous wastes in West Africa from moral and economic perspectives. First, one of our arguments is that hazardous waste materials are generated in the industrialized countries but the exportation of their potential risks to the people in the developing countries who do not share in the benefits of

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the production process that generate waste materials is immoral. This moral concern is significant in view of the increasing rates of manufacturing and industrial activities in the industrialized countries. The higher the volume of industrial productivity in the industrialized countries, the greater the volume of hazardous wastes generated, and the greater the percentage of the wastes that will be shipped to third world countries, and consequently creating more danger to public health and the environment in the developing countries in the 21st century. In 1987, the U.S. industries alone produced 275 million tons of hazardous wastes.³ At present the European Community generates about 2,200 million tons of wastes of which at least 30 million tons are considered hazardous.⁴ With increasing shortages of disposal facilities in the industrialized countries, more of these hazardous waste materials will likely be exported to Africa. Second, we also contend that environmental and economic issues are interconnected. The current deepening economic crisis in most of the developing countries is a contributing factor to the root causes of environmental degradation. But why is the dumping of toxic wastes in developing countries, particularly in West Africa, worthy of attention?

The study of hazardous waste dumping in West Africa is very significant for many reasons. In view of the lack of infrastructural facilities, environmental technology, and economic resources to manage hazardous waste in the region, one can infer that the dumping of toxic waste in West Africa has more devastating consequences than in the industrialized societies. If not properly treated, toxic waste can pose threats to human lives and cause ecological, geological and environmental damages. Contaminated soil, groundwater, and rivers can endanger public health and the environment through food chains. Like in most third world countries, most Africa people live in the rural areas and still depend on unprocessed groundwater and rivers for domestic and agricultural use. Hazardous waste dumped on land may contain some industrial solvents such as barium, cadmium, chromium, lead, asbestos, uranium, cyanide, and radioactive materials which can be carried to the rivers by the tropical rains and floods. The dumping of such hazardous waste through landfills and landdumps can also be transferred to water supply facilities and result in water and food contamination. Toxic contamination at the dumping sites can also be released into the air through incineration. Such hazardous waste can poison wildlife and humans. People who are exposed to concentrations of toxic substances may experience a variety of diseases which can lead to respiratory problems, birth defects, miscarriages, severe headache, frequent illness, irritation of the eyes and skin, cancer of various types, brain damage, intestinal illness, and harm to the immune system.⁵ In addition to health problems, the cost of cleaning up toxic wastes may put more economic burden on the receiving country governments. Toxic waste dumping on foreign land may cause diplomatic and political crises between the exporting and the receiving countries.⁶

In light of these health, economic, and political problems resulting from toxic waste trade, it may be pertinent to ask the following questions about environmental degradation from the African perspective: What factors contribute to the dumping of toxic waste in West Africa? Is international trade in toxic waste between the developed and the developing countries morally or economically justifiable? Should the industrialized countries or African countries be held more accountable for toxic waste dumping in West Africa? Will the

economic and political unification of the European community (EC), and the subsequent increase in trade volume and productive capacity intensify the dumping of toxic waste in Africa?

As the Western countries now redirect their economic aid and investments to the former Soviet Union, are African governments more likely to yield to the pressure of the international toxic waste merchants by allowing their countries to be used as refuse dump sites? What are the lessons that can be learned from such deadly trade? Are there any realistic measures that can be adopted to ensure the prevention of such practices in the future? These questions and other issues provide the point of departure from other studies. It is therefore our conviction that, if the crisis of environmental degradation is to be resolved in Africa, we must provide answers to those questions. The purpose of this paper is, first, to examine the underlying causes of toxic waste exports to West Africa, since 1980; second, to describe the operation of the toxic waste business, the risks involved, the consequences, and finally, to analyze the implications of toxic waste trade in West Africa, and the prospects for controlling such trade in the future.

Some Cases of Waster Dumps in West Africa

Trade in hazardous waste has been a legitimate business among the industrialized societies. However, the dumping of hazardous waste on the West African coast was relatively nonexistent until the 1970s.⁷ It began in the 1970s when the United States and France exported some waste to Franco-phone Africa. In 1985, the U.S. Department of Commerce released a document showing that since 1980, hazardous waste has been exported to about 35 third world countries.⁸ Prior to 1985, The *Washington Post* reported that some African countries, including Liberia, Nigeria, Senegal and Sierra Leone have issued licenses to some American companies to allow dumping of hazardous waste on their territories.⁹ In the same report, the U.S. State Department expressed concern about some American companies' involvement in such business which might lead to anti-American feelings in the Third World Countries. The report also marked the beginning of widespread concern among African people and governments about the degradation of their environment. A review of pertinent data from 1986 onward shows that individuals, private local companies, and even governments in more than ten African countries, most of them in West Africa, have openly or secretly signed contracts with foreign companies to use their countries as dump sites for poisonous waste from industrial societies.¹⁰ These countries include Nigeria, Benin, Congo, Guinea Bissau, Sierra Leone, Sudan, Guinea, Angola, Gabon, Morocco, Djibouti, South Africa, Namibia, and Mauritania. As shown in Table 1, many third world countries received industrial wastes between 1986 and 1988.

The majority of them in Africa are located in West Africa. Table 2 shows the countries that have either already received wastes between 1986 and 1988 or still contemplating receiving them. Tables 1 & 2 also show that both third world countries and developed countries receive hazardous waste. However, one can see from the tables, that most of the hazardous wastes were shipped to Africa and South America in the past six years. Several reports and case studies about how the operations in toxic waste trade were carried out in Africa have been documented,¹¹ and they need not be repeated here. However, a few cases at this point are necessary to illustrate the seriousness of this deadly trade.

Table 1: Countries that Received Waste Between 1986 and 1988, by Region

	The Americas	Asia/Middle east	Europe	South Pacific
Africa	Canada	Japan	Finland	Australia
Guinea	Brazil	Lebanon	Netherlands	Papua New Guinea
Nigeria	Haiti		Sweden	Solomon Island
S. Africa	Mexico		U.Kingdom	
Zimbabwe	Argentina		W. Germany	
Benin	Dominican Rep.	Belgium		
Gabon	Guyana		Italy	
S. Leone	Panama			
E. Guinea	Paraguay			
	Peru			
	Surinam			
	Uruguay			

Source: Greenpeace International 1989, *The International Trade in Waste: A Greenpeace Inventory*, Curled from Christoph Hilz, *The International Toxic Waste Trade*, 1992, (New York: Van Nostrand Rheinhold), p.17.

Table 2: Countries that Have been proposed for Harzardous Waste Disposal, but have not Accepted These Wastes

Africa	The Americas	Asia/Middle East	Europe	South Pacific
Benin	Argentina	South Korea	Belgium	Philipines
Congo	Bahamas	Syria	France	Papua New Guinea
Gabon	Belize	Taiwan	Spain	Solomon Island
Gambia	Bermuda	Pakistan	Sweden	Tonga
G. Bissau	Costa Rica		Greece	West Samoa
Morocco	D. Republic		Netherlands	Samoa
Djibouti	Guetamala			Hongkong
Guinea	Guyana			
Nigeria	Honduras			
Senegal	Martinique			
	N. Antilles			
	Panama			
	Paraguay			
	Chile			
	Haiti			
	Mexico			
	Surinam			
	Venezuela			
	Turks & Caicos Isl.			

Source: Greenpeace statement on the *International Export of U.S. Waste before a subcommittee of the Government Operations, House of Representatives, 100th Congress, July 14, 1988*, Washington, DC: Committee on Government Operations. Curled from Christoph Hilz, *The International Toxic Waste Trade*, 1992, p. 18.

Nigeria, twice the size of California, with 88 million people, and often described as the "giant of Africa" is the most populated black country in the world. Nigeria's per capita income is estimated at about \$300. It's average caloric intake is less than 91% of FAO minimum. Its inflation rate is more than 70% and its unemployment rate has reached a record level in Nigerian history. Although described as an oil rich country, the majority of Nigerians live in abject poverty.¹² With this background in mind, the dumping of over 3,800 tons of chemical waste in Koko, Nigeria, between August 27, 1987 and May 19, 1988 by an Italian contractor did not come as a surprise to many students of the Nigerian political economy. The deal was exposed on June 1988 by the Nigerian students in Italy who wrote to the Nigerian press that toxic waste had been dumped in Nigeria.¹³ Koko, is a small rural community located on the Niger River Delta in Nigeria. The main occupation in the community is fishing. In 1987, a German registered ship, *The Line*, was earlier refused entry into its original destination at the Romanian Port of Sulina because it was detected to be carrying highly poisonous chemical waste. The ship finally made its way to Koko, Nigeria, without the notice of the Nigerian customs officials and other security agencies. The drums and sacks containing the toxic waste were temporarily stored in the backyard of an elderly Nigerian man, Sunday Nana, for \$100 a month,¹⁴ waiting to be landfilled. By the time the waste was discovered, about 4,000 drums were already swelling, leaking and rusting due to excessive heat. Scientists found that 150 tons of the waste contained toxic waste with polychlorobyphe Nile (PCB), fluorosilicate, erocitus, rheoe 53, and radioactive substances which are highly poisonous.¹⁵ Some of the containers were labeled with the letter R, an international symbol indicating toxic and poisonous materials, but nobody in the community was aware of what it meant. In fact, some of the drums had been emptied and were being used for domestic purposes such as storing drinking water by some residents.¹⁶ The dealer responsible for the dumping of toxic waste in Koko was an Italian businessman, Gianfranco Raffaelli, who had resided in Nigeria for more than 20 years. In order to carry out his deadly business in Nigeria without suspicion, he collaborated with a small Nigerian construction company, Iruerken, who falsified documents in order to obtain an import license from the Nigerian government for the importation of toxic waste under the pretense of importing building materials as stated in his application form. Four years after the toxic waste was removed from Koko, the consequences of the toxic dump are still felt by the community. There have been reports of 19 deaths including Mr. Sunday Nana, and many cases of premature births as a result of toxic contamination.¹⁷ Some of the dockworkers who repackaged the wastes on the Italian ship were observed to have vomited blood. One of the crew members who reloaded the waste was reportedly paralyzed as a result of toxic contamination while some suffered from severe chemical burns.¹⁸

The dumping of toxic waste in Nigeria tells a great deal about the government and people of Nigeria prior to the time of the incident. First, the dumping of toxic waste in Nigeria for almost two years without the knowledge of the federal government and its security agencies shows how weak the Nigerian government was in protecting the Nigerian people against external threat. Second, prior to the discovery of the waste, one could conclude that Nigeria had low level public awareness on environmental issues like hazardous materials. Despite the fact that every drum had toxic warnings inscribed on it, the Nigerian security agencies

either had no expertise in toxicology to identify international symbols for detecting toxic materials or probably they were bribed by the toxic waste dealers to allow clearance of the ships. Third, the dumping also demonstrates low level patriotism of some Nigerians in the face of economic hardships. Corruption and bribery became a way of life for economic survival. The few Nigerians who collaborated with the international merchants in dumping toxic waste in their country would probably have declined to poison their own countrymen for financial gains if they were patriotic and economically stable. There are many similarities between the Nigerian case and other West African countries.

Benin is a small West African country with a population of about four and half million people and just about the size of the state of Pennsylvania. It has a 28% literacy rate and has only one national newspaper. Its per capital income is \$374 with an increasing rate of unemployment. With this type of economic crisis, it was no accident that the Benin government engaged in toxic waste trade as a means of alleviating domestic problems. In 1988, a CAF 4-billion-a-year contract was signed by the government of Benin, to give SESCO, a British firm, exclusive right to dump 50 million tons of hazardous waste in Benin over a period of ten years.¹⁹ The imported highly toxic waste materials were falsely described by the company as just ordinary industrial waste which posed no danger to the public, animals or to the environment. However, scientists found that the waste contained high toxic materials. In addition to the financial benefits, the company promised to build a plant to recycle the waste, create about 200 jobs and contribute about \$0.50 per ton to agricultural development in Benin. These short term economic gains became irresistible offers to the government in spite of the long term deadly effects of such contracts.²⁰

In Guinea, a deal was made in early 1988 between Bulkhandling, a subsidiary of the Norwegian Group Klaveness and a local firm, Guinomar, a company jointly owned by the German and Norwegian Governments to dump on Kassa Island, Guinea 14,500 tons of contaminated ash from Philadelphia in the United States and Norway.²¹ The government of Guinea which was not directly involved in this deal, arrested those involved in the scandal including the Norwegian Consul General in Conakry, who forged the import license to enable the company to import the waste. The waste was falsely labelled as sand for building materials.

Guinea Bissau is one of the poorest countries in Africa. It has a population of about 932,000 people with an annual growth rate of 2.2% and a GNP of US\$150 million a year. Its external debt in 1991 was more than US\$300 million with debt service rising to about 19 percent.²² In 1991, its exports were \$16 million while its imports were \$63 million.²³ On February 9, 1988, about 15 million tons of industrial and chemical waste was contracted to be dumped at Binta, Guinea Bissau, for a five years period at \$40 per ton and approximately \$600 millions. The sum was far greater than the gross national product and could eliminate the country's foreign debt. Given the desperate economic conditions in Guinea Bissau, the contract was signed between the government of Guinea Bissau and Intercontract SA, a Norwegian Company based in Fribourg. Additionally compensation for the waste dumps included: a refuse truck, which would be used in Bissau capital, and also, a plant which would be built in the countryside to recycle the waste. The exporting company also pledged

to provide Guinea Bissau infrastructural facilities and to generate badly needed employment opportunities.²⁴ The secret deal was exposed by the Portuguese News Agency.

Finally, in June of 1988, a private Senegalese Company named Societe de Development Industrial de Louga, signed a contract with Intercontract Company of Switzerland to dump toxic waste in the northern part of Dakar for landfill in Senegal. However, before the first shipment of waste arrived, the deal was leaked and the embarrassed government quickly cancelled the contract. In December 1988, it was alleged by ten citizens of the Equatorial Guinea that President Teodoro Obiang Nguema had entered into agreement with a British company to dump ten million barrels of mixed chemical waste as landfill on Annoban Island.²⁵ The government made no official denial of the alleged contract. These are just a few among several cases of toxic dumping in other parts of Africa since 1986.

The dumping of toxic waste in West Africa has generated heated reactions from different sources. The discovery of toxic waste in Nigeria, for instance, aroused a lot of anger, frustration and emotion among some Nigerians. And as more toxic dumps were discovered in different parts of Africa, some Africans condemned the practice as "toxic terrorism" and "garbage imperialism" while some described the dumping as part of a concerted attempt by the industrialized countries to "exterminate" Africans:

There was the transatlantic slave trade, there was colonialism, as if the current debt crisis with obvious implications of neo-colonialism were not enough, now there is conspiracy to poison and maim men, women and children of their beloved continent.²⁶

The dumping of toxic waste in Koko, Nigeria reached crisis proportions on the international level and between the Nigerian and Italian governments. The embarrassed General Babangida, the then Nigerian Head of State, took the incident seriously as he expressed his anger and embarrassment to other African Heads of State and threatened to execute any perpetrators in his country. He angrily demanded the Italian government to remove the waste immediately and also ordered the withdrawal of Nigerian Ambassador to Rome. An Italian cargo ship docking at Lagos Harbour at that time was seized by the federal government in order to send the toxic waste back to Italy.²⁷ In 1988, Nigeria passed a decree which made it very tough for any Nigerian to negotiate a contract with any foreign company dealing with toxic waste. The Ivory Coast passed laws that provided up to 20 years imprisonment plus 1.6 million U.S. dollars for anybody caught dealing in toxic waste trade with the Ivory Coast.²⁸ It is doubtful if these measures could serve as deterrence to the dumping of toxic waste in Africa in the face of economic crisis. More about these measures will be discussed later. The question at this point is, who are the exporters and importers responsible for this type of international covert operation in toxic waste?

It is very important to know that international trade in hazardous waste is a legitimate trade among the industrialized societies who have the environmental technology and expertise for the treatment of hazardous waste. Since the 1970s, however, the business of hazardous waste with West Africa has been conducted by some dubious contractors, agents, middlemen, and "ghost companies" who would register their businesses in places that could not be located or easily identified. In several instances, they falsify documents, bribe

government officials in the receiving countries, and falsely labeled the contents of their hazardous waste cargo in order to succeed in these attempts. Some of the dealers and agents in hazardous waste are incompetent in toxic waste management and have no expertise in toxicology. The business is very secretive, as the contracts and agreements are usually marked "highly confidential." What actually attracted dealers to the business of disposing waste was that the business was very profitable, regardless of who was hurt in the process. Before we examine the implications of dumping toxic waste for West Africa, it is appropriate at this juncture to explore from the developed countries' perspective the forces behind the exportation of hazardous waste.

Factors Influencing the Exportation of Toxic Wastes

As indicated earlier, the exportation of hazardous waste to West Africa has sharply increased between 1986 and 1988. The reasons for this include: the increase in the industrial productivity and the acute shortage of disposal facilities in the Western countries including North America and Japan, an increase in educational awareness about toxic waste, an increase in the number of environmental pressure groups and activists, tougher environmental laws and regulations, higher costs of waste disposal in the exporting countries, and, the willingness of the third world countries to receive hazardous waste due to their economic predicaments.

The shortage of facilities for industrial waste disposal is one of the greatest consequences of the technological advancement that afflict most of the industrialized countries today. The rapid industrial growth and increase in production in Western Europe, North America, and Japan since 1945 has led to various environmental problems such as air pollution, water pollution, global warming, the "green house effect" and many other ecological, climatological and atmospheric problems. Compared to developed countries, there is low level of hazardous waste awareness in many African countries. This is not to suggest that here is no public awareness about other forms of environmental degradation in Africa. In fact, Africa is becoming increasingly aware of water pollution, air pollution, oil pollution, indiscriminate dumping of refuse and human wastes, unregulated fishing, uncontrolled tree felling for fuel, widespread bush burning, uncontrolled use of chemicals, fertilizers and pesticides and many other forms of environmental degradation, but the levels of awareness vary.²⁹ However, the problem of toxic waste dumping as a result of industrial growth is most serious in Western societies especially in the United States of America. According to Seth Shulman, the U.S. Defense Department is one of the worst violators of hazardous waste laws in the world. For example, the most toxic square mile on earth lies in the middle of a vast U.S. military installation at "the base of the majestic Rocky Mountains" in the United States.³⁰ It contains the nation's most toxic military chemical waste including the byproducts of the production of nerve and mustard gas. In a recent meeting of the Western Governors' Association of the United States held in Las Vegas, Nevada the governors declared that "the federal government should not be allowed to use the Western States as a dumping ground for nuclear wastes."³¹ Unlike the U.S., small industrialized countries like Denmark, have decided that they could no longer afford landfills as an effective method of disposing hazardous waste. As a result of the scarcity of waste disposal facilities in Western

countries, a lot of hazardous waste is being shipped to Africa.

Another major factor contributing to the rise in the exportation of hazardous waste to West Africa is the rise in the number of environmental activists in the industrialized countries. Because of the devastating effects of toxic waste on public health, environmental activists are strongly against the building of more facilities for waste disposal near population centers. For example, in the United States, particularly in Arizona state, the public sensitivity to hazardous waste materials and their environmental awareness about the threats that such waste could pose to public health, has often led to protests and strong public opposition against the construction of new disposal facilities near populated areas and the suburbs. The Regional Landfill Siting Committee in Arizona State has argued that "the farther away from population centers the landfill is built, the more it will cost to transport garbage there."³²

One of the major factors influencing the exportation of toxic waste to third world countries is the increasingly tough and expensive anti-dumping and environmental legislation in the industrialized countries.³³ The increase in legislation of tougher laws against pollution makes the standard for waste management in the industrialized countries more difficult to be met by industrialists. The environmental pressure groups and activists often lobby for legislation and influence consumption patterns in order to improve public health and to conserve natural resources.³⁴ The exorbitant costs of meeting the strict new disposal requirements imposed on American industries by the U.S. Government have led to increased waste material export to third world countries that have weaker environmental laws, less restricted regulations, weak administrative and institutional infrastructures.

Profit making is the main motive behind the exporting companies. Waste disposal is a more than \$12 billion business annually in the industrialized countries. It is a business to which poor countries are more susceptible; it is characterized by deception, dubious brokers and middlemen, falsification of documents, forged import licenses, fraud, corruption, and fake companies such as the Intercontract Company based in Switzerland, which has exploited the ignorance of many African governments and their economic predicament in order to do deadly business with them. In other words, waste disposal is a lucrative business if the waste merchants can prey successfully on their victims. It costs more money to process and dispose waste in developed countries than in Africa. In fact, it cost over \$70 per ton in the US in 1987 and \$200-\$2,500 per ton by 1990, depending on the contents of the waste materials, to dispose waste either by landfill or by incinerator. It costs \$3 to \$37 per ton to dispose such waste in West Africa.

A more serious factor which motivates the foreign companies to engage in illegitimate trade in toxic waste with West African countries is that most West African countries have little or no effective environmental laws against toxic waste. The few African countries that have such laws have no economic resources to implement them. Moreover, the widespread poverty and corruption among government officials in Africa give loopholes to the waste dealers to operate their business in West Africa. In addition to that, Africa's lack of technical know-how and managerial capacity in dealing with toxic waste of chemical contents on the cargo ships, and lack of equipment to monitor effectively the activities of the exporting countries, are favorable conditions for the dealers in toxic waste business. The economic factor is discussed in the next segment.

Political Economy and Environmental Degradation

In this segment, we explore the linkages between economic factors and environmental degradation in West Africa. The primary argument here, is that contrary to the industrialized nations' support for the international trade in hazardous waste as a legitimate trade motivated by market forces and which benefits both parties, the forces behind the willingness of some West African governments and individuals to let their territories be used as dump sites for hazardous waste is mainly due to the deterioration of their political and economic systems. The sharp increase in negotiated dumping of hazardous waste in West Africa between 1986 and 1988 correlates with the time when these countries were experiencing decline in agricultural production, massive unemployment, retrenchment, increasing rate of inflation, deepening economic misery, poverty, external indebtedness, widespread corruption, declining external assistance, reduction in foreign aid, closure of credit lines, ineffective Structural Adjustment Program (SAP), policies of devaluation, and ethnic and political instability. Some of these economic factors are treated in a comparative analysis across national boundaries in West Africa.

Environmental and economic issues are inseparable, and any valid analysis of toxic waste dumping in West Africa cannot be separated from the global economic systems characterized by economic dependency, neo-colonialism and imbalance in trade relationship between the North and South. Therefore, it is very important to understand that one of the contributing factors to environmental degradation in West Africa is the legacy of colonialism and imperialism. During the 70 years of colonial rule, the economies of West African states were molded to the advantage of the imperialists and designed to produce raw materials such as cash crop and mineral resources for the European markets. The colonial economic policies encouraged migrant labor, production of cash crops at the expense of food production of local consumption, made the farmers dependent on the European economy, and caused uneven development. Since attaining independence in the 1960s, West African environment continued to face intensive environmental deterioration and resource depletion for the benefits of external factors. The fragmentation of West Africa into several states has led to individual economic dependency on the former colonial powers with a neo-colonialist system. The attainment of political independence in West Africa has not brought about economic and political development; instead, it has intensified economic dependency on the industrialized countries. Thirty years after attaining political independence, the raw materials produced and exported by West African countries continue to receive low prices on the world market, while the prices of the manufactured goods imported from industrialized countries to West Africa continue to rise. The increase in the production of raw materials in West Africa and exported to Western countries has led to intense utilization of non-renewable natural resources resulting in environmental degradation. The economic role of West African states still remains subordinate to the economic role of the industrialized societies. The international division of labour has resulted in trade imbalance between the industrialized and developing countries. It is true that West Africa has economic growth potential because of its richness in natural resources but unfortunately, these rich resources are not exploited primarily for the interests of the African masses but for the few African elites and the rich industrialized states. Nigeria, for example, produces more than sufficient

oil for its own consumption. Yet it has been more affected by high domestic prices and unreliable supplies of oil through local distribution. Africa exports twice as much food as it imports; consequently there has been famine and starvation in some parts of Africa.³⁵ According to Timothy Shaw, Africa has sufficient uranium ore to meet all its conceivable technological and energy needs, but unfortunately these resources are rapidly exploited and exported to the industrialized nations.³⁶ As long as West Africa remains dependent on the developed countries and is unable to develop its technological capability to utilize its natural resources to its own advantage, the region will not only remain ground for the industrialized countries to dump their hazardous refuse, but its economic potential will remain dependent on the mercy of the industrialized countries.

Table 3 shows the sharp price increases in consumer goods and food items within a two-week period in Lagos in March, 1992. A comparison of Table 3 with Table 4, shows much difficulty if not an impossibility for a Nigerian university graduate whose average wage was N420 per month to afford a new car which costs an average of N200,000 or an average priced colour television at N7,500. It is also difficult to imagine a high school drop-out with an

Table 3: Market Prices of Selected Consumer Goods and Food Items
In Lagos, Nigeria

	Old Price: 3 March, 1992 (In Naira)	New Price: 20 March, 1992 (In Naira)
2 Horse power airconditioner	8,000.00	11,500.00
14 Inch color TV	3,000.00	6,000.00
20 Inch color TV	4,000.00	7,500.00
14 Inch black & White TV	1,200.00	2,000.00
Mini office fridge	2,500.00	4,000.00
Medium size fridge (2 doors)	4,000.00	7,000.00
Video machines (multi system)	4,000.00	7,000.00
Peak milk powder (450 kg)	32.00	45.00
Similac	45.00	54.00
NAN	49.00	56.00
Bournvita medium size	21.00	25.00
Custard	14.00	15.00
Carnation milk (large)	33.00	35.00
SMA	47.00	56.00
Omo medium pack (detergent)	8.00	8.50
Dano (powder milk)	30.00	35.00
Milo (powder milk) medium	27.00	38.00
Milo (large)	45.00	75.00
Corn flakes	13.00	13.00
LUXOL Emulsion Paint	142.60	212.00
LUXOL Gloss Paint	166.00	273.00
A bundle of Iron Sheet	800.00	1200.00

Source: Modified and Curled from African Concord, Lagos: Nigeria, 30 March 1992, p.28.

average monthly salary of N125 to afford three meals a day and still meet other necessary economic needs such as paying rent, buying clothes, and taking care of his immediate and extended families. The Nigerian economic standing is a representation of other West African countries. The reduction in national revenue is due to decline in export commodities, and has ultimately led some West African States to engage in the international waste trade.

There is a connection between the decline in agricultural production and toxic waste trade in West Africa. Agriculture, in the 1950s and 1960s was not only the main source of revenue for West African countries, but it also provided more than 80 percent of employment opportunities, and provided enough food to feed the teeming population in the urban areas. However, since the 1980s food production has declined in many West African States thus, resulting in the reduction of foreign revenue and increased importation of foods. The decline in productivity in agriculture, decrease in foreign revenue, and increase in foods. The decline in productivity in agriculture, decrease in foreign revenue, and increase in food importation has caused many African leaders to become desperate for hard currency to run their economies. As a result, many African leaders have signed agreements with toxic waste merchants to use parts of their land for dumping toxic waste. In Nigeria, for example, lack of effective public policy has led to rural neglect, urban decay, and declining agricultural production. The average Nigerian standard of living is worse today than 10 years ago, due to ineffective agricultural policies. The country now faces potential problems of famine and starvation. Prices of staple foods have been skyrocketing and are now beyond the reach of common people. A laborer now has to work more than a day to buy loaves of bread to feed his family.³⁷

Table 4: Comparative Earnings in Some West African Countries

	Minimum Wage (Per Month)		
	N	C.F.A.	US Dollars
Nigeria	125	12,500	30
Gabon	364	30,000	90
Cameroon	364	30,000	90
Cote D'Ivoire	364	30,000	90

	Graduate Salary (Per Month)		
	N	C.F.A.	US Dollars
Nigeria	420	35,000	105
Gabon	1620	35,000	405
Cameroon	1560	130,000	390
Cote D'Ivoire	1560	130,000	390

Source: Nigeria Labor Congress Research and Economic Survey. Modified and curled from S. Ogoh Alubo, "Crisis, Repression and the Prospects for Democracy in Nigeria" *Scandinavian Journal of Development Alternative*, Vol. 8, No. 4, 1989, p.107.

In West Africa, weak economies are exacerbated by large foreign debts which make them more prone to accepting waste imports in order to obtain badly needed foreign exchange. Servicing their debts has become a major burden. For example, Nigeria's external debt increased from \$15 billion in 1986 to over \$37 billion in 1992. The country now spends over 30 percent of its foreign exchange earnings on debt servicing.³⁸ West Africa's foreign debts to the World Bank and International Monetary Fund (IMF) has allowed foreign institutions to "recolonize" West Africa by extracting even more surplus capital from their economies and has allowed them dictate financial decisions. Since 1985 most West African countries have become net exporters of capital to some industrialized countries. The debt burdens have resulted in significant drains on West African economies and development; for example, they have led to the depreciation of West African currencies, reduction in the governments' food subsidies, cut in the public investment, reduction in the government hiring leading to retrenchment and mass unemployment, decline in the support for social and welfare services such as health care, education, and transportation services.

Any international dealers in toxic waste, many Nigerians are still prepared to receive waste or work in toxic waste environment as long as they are well paid. In an interview, a Nigerian dockworker had this to say shortly after the Koko toxic episode:

Let us face reality. If a ship with toxic waste comes here right now, and I am well paid for it, I will off-load it. Do you know how much a chicken costs now? Do you know the price of a frozen fish or a bag of *gari*? My landlord just doubled my rent and it has become hell for me to manage. I must tell you the truth, I even think of suicide at times. Yet, I earn more than most dockworkers here. When you preach this message of environment and do so on, many of us cannot survive without doing exactly those things you preach against. In any case, what options do we have? The government has no concern for the poor. Inflation is killing all of us. Life is hard, very very hard.⁴⁰

According to Table 5, the West African currencies no longer enjoy international recognition as they did in early 1986. The devaluation of West African currencies has also aggravated the countries' financial problems. The currency devaluation has made the importation of foreign goods less affordable. Despite the deteriorating economic conditions, some West African countries must keep their obligations to their creditors. For example social spending in Senegal fell by 48 percent in 1980-85 due to debt servicing.³⁹ The capital outflow from West African countries to the developed countries through debt service exacerbate human sufferings, poverty, and starvation. In fact, the capital outflow has become such a drain on foreign exchange that most African governments can no longer afford to import parts necessary to fix their capital and infrastructural projects; import food to feed their teeming populations, or pay employees' salaries.

Table 5: The Value of Naira Versus Other Currencies:
July 1986-March 1992

Date & Year	US Dollar	British Pound	German-Deutsche	French Franc	Dutch Guilder	Japanese Yen	Swiss Francs	W. African CFA Franc
July 1986	0.77	1.96	0.63	0.19	0.55 09	.008	0.73	0.003
Sept 1986	4.62	6.63	2.30	0.69	2.00	0.030	2.78 0	.014
July 1987	4.21	6.21	2.09	0.63	1.85	0.021	2.52	0.011
July 1988	4.72	8.11	2.57	0.77	2.28	0.041	3.01	0.015
July 1989	7.20	11.89	3.83	1.14	3.41	0.052	4.45	0.022
July 1990	7.95	14.74	4.98	1.49	4.42	0.054	5.85	0.029
Dec. 1990	9.00	16.69	5.64	1.69	5.00	0.061	6.62 0	.033
July 1991	11.62	19.01	6.39	1.89	5.67	0.083	7.38	0.037
Mar. 1992	18.06	31.32	10.87	3.201	9.6645	0.1377	10.60	0.037
Value	4.3%	6.3%	5.8%	5.9%	5.7%	5.8%	6.9%	4.7%

Source: Modified and curled from African Concord, Lagos, Nigeria, 30 March 1992.

Widespread abject poverty in West Africa is a major factor contributing to individual engagement in toxic waste as a business. Mass unemployment and retrenchment of workers are major contributory factors to political instability. Lack of employment opportunities has resulted in many individuals in West Africa willing to do anything in order to survive hard economic times. For example, after the toxic waste scandal episode in Nigeria, and despite the federal government's threat of death penalty for any Nigerian caught collaborating with Because of widespread poverty, it is much easier for the waste dealers to find accomplices through bribery and corruption. Table 6 shows that the majority of West African countries are ranked very low on Human Development Index (HDI). Niger is the lowest in rank with 0.116 points while Ghana has 0.360 points. The general economic conditions seem to be getting worse instead of better.

Many West African governments have adopted several monetarist policies prescribed by the IMF, apparently to resolve the economic crisis. Some lending policy conditions laid down by the international financial institutions, such as the IMF include: devaluation in the domestic currency, reduction of import controls, and reliance on the markets for the

Country	Human Development Index (HDI)
Niger	0.116
Mali	0.143
Burkina Faso	0.150
Sierra Leone	0.150
Chad	0.157
Somalia	0.200
Mauritania	0.208
Benin	0.224
Burundi	0.235
Malawi	0.250
Sudan	0.255
Central African Republic	0.258
Senegal	0.274
Ethiopia	0.282
Zaire	0.294
Rwanda	0.304
Nigeria	0.322
Liberia	0.333
Togo	0.337
Uganda	0.354
Ghana	0.360
Cote d'Ivoire	0.360
Congo	0.393
Tanzania	0.395
Madagascar	0.413
Cameroon	0.440
Kenya	0.474
Zambia	0.481
Morocco	0.481
Egypt	0.489
Lesotho	0.501
Algeria	0.580
Botswana	0.609
Tunisia	0.646
	0.657

Source: United Nations Development Program (1990). Human Development Report, 1990, New York: Oxford University Press.

allocation of resources. The implementation of these policies, generally known as Structural Adjustment Programmes (SAP), has created riots in many West Africa countries.⁴¹ Rather Table 6: Data On Human Development Index in Africa than providing solutions, the SAP has caused more hardships. Its implementation has been described as an obstacle to human development. For example, the Nigerian economy since 1987 has been characterized by high rates of unemployment, high rates of inflation, negative growth rates, declining productivity, massive retrenchment of millions of workers, and deteriorating social services.⁴²

Finally, the end of the cold war has had adverse effects on many African countries. As the political relations between the East and West has improved in the post cold war era, the economic disparities and technological gaps between the North and South seem to be widening. Since the Second World War, much of the economic assistance to Africa has been inspired by the ideological rivalry between the East and West. However, the end of ideological struggle has also come to mean reduction in foreign aid to Africa. As the Western nations are increasingly diverting investments and economic resources to the countries in the former Soviet Union, African countries are receiving less attention and economic assistance from the West, hence, many African countries have resorted to trade in toxic waste.⁴³

Conclusion and Policy Implications

Our objective in this study has been to highlight the major issues concerning environmental degradation in West Africa. We have emphasized the sharp increase in the dumping of toxic waste in West Africa since 1986 and shown a correlation with West African countries' deepening economic crisis. As a result of West Africa's economic vulnerability, the international toxic waste dealers have exploited their economic hardships in order to use their lands as dump sites for hazardous waste. The study also validated that in view of the lack of environmental facilities available in West Africa for toxic waste treatment, the risks of dumping hazardous waste in West Africa are far more devastating than in the shipment of hazardous waste to West Africa is unfair even if the individuals or governments involved allowed their countries to be used as dump sites as a result of their desperate economic survival.

An important conclusion to be drawn from this study is that dumping of toxic waste in Africa continues despite some steps taken by the African Governments, the ECOWAS, the Organization of African Unity (OAU), and the United Nations Environmental Protection (UNEP) Agency to stop the trade. For example, in October 1992, the *West Africa* reported an alleged dumping of 500,000 tons of toxic waste in Somalia by an Italian firm. Somalia is currently a crisis ridden country with bloody civil war, starvation, and no national government to protect its national sovereignty against the international merchants of toxic waste. Also, in November 1992, the *West Africa* reported that a Nigerian company based in Lagos had allegedly colluded with European firms to dump toxic waste in Nigerian again.⁴⁴ Unless serious collective efforts are made to stop the practice, it is likely that West Africa will be turned into dump sites of hazardous waste and the environmental consequences will hurt the future generations of Africa. The solution to West Africa's precarious environmental degradation must therefore be found in the formulation of effective public policies directed towards the dealers in the toxic waste trade, technology to monitor the trade, training of personnel to manage the trade operation, more effective legislation and international laws backed by effective implementation policies, and collective efforts by African countries to combat international trade in toxic waste.

Some policy interventions to stop the dumping of toxic waste in Africa have been made but the likelihood of these measures to achieve their stated goals is minimal. Unlike air, water, and other forms of transboundary pollution, the export of toxic waste is a deliberate practice

that can be controlled and regulated by laws. An environmental crisis such as this is transboundary in nature and requires the collective actions by the member nations of the ECOWAS and OAU in general to respond.

As a direct response to the dumping of toxic waste in Koko in 1987-88, the Nigerian military government promulgated decree No. 58 of September 30, 1988. The Decree prescribed a penalty of N100,000 (about \$9,000), or 10 years imprisonment or both for individuals involved in toxic waste trade, and a fine of N500,000 (about \$40,000) for corporate formations caught in shipping toxic waste to Nigeria.⁴⁵

At regional level, efforts were made to stop the dumping of toxic waste in Africa. The ECOWAS leaders made it a criminal offense for any groups, individuals or organizations in West Africa to facilitate the dumping of dangerous waste in West Africa.⁴⁶ In response to a sharp increase in toxic waste dumping in Africa, and West Africa in particular, the reactions of the Organization of Africa Unity (OAU) was quick. On May 25, 1988, African foreign Ministers pledged to stop the dumping of foreign waste in Africa. It passed a resolution against toxic waste dumping on any African soil. However, the ministers failed to reach a unanimous agreement to adopt an effective mechanism to monitor waste movements throughout Africa. At the global level, the United Nations Environmental Protection (UNEP) agency, formulated a universal standard policy for trade in toxic waste.⁴⁷ It called for a ban on the large scale export of toxic waste from Europe to developing countries.

The main barrier in combating toxic waste dumping in Africa is the divergence of opinions on whether trade in toxic waste is a legitimate trade or not. The industrialized countries favoured free trade in waste because, they argue, a total ban on such trade would be impossible to enforce. In contrast, the third world countries demanded a total ban on such trade in toxic waste across borders, pointing out the differences in disposal technological and environmental infrastructures between the north and the south. They support the ban also because such trade cannot be monitored or controlled effectively by the developing countries.⁴⁸

In conclusion, it can be said that it is very doubtful if any of the measures above will stop the dumping of toxic waste in Africa and West Africa in particular as long as economic hardships continue in such crisis proportions. The growing debt problems throughout this region of the world must be resolved before African countries can safeguard their sovereignties. The increasing involvement of West African governments in the debt crisis makes it more difficult for them to make effective decisions about how to regulate toxic waste.⁴⁹ Most importantly, policy interventions which enforce policies on environmental degradation present West African governments with a number of problems: the implementation of many environmental policies and regulations to control the disposal of hazardous, and, environmentally safe toxic waste disposal requires funding which African countries lack; the lack of adequate trained staff with international knowledge of toxic waste prevention, governmental agencies and personnel free of corruption to perform their duties must be established.

End notes

1. For an intriguing analysis on toxic waste dumping in Koko, Nigeria, see Julius O. Ihonvbere, "Environmental Degradation and Community Response: A Study of Environmental Consciousness in Koko, Nigeria" page 3. A paper presented at the Workshop on "Whose Knowledge Counts: Relations Between Formal and Informal Institutions and Resource Users" co-hosted by the Social Science Research Council, New York and the Council for Economic and Social Research in Africa, Dakar, January 18-21, 1992.
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3. "Dirty Jobs, Sweet Profits" *U.S. News & World Report*, November 28, 1988, p.54.
4. See Christoph Hilz, *The International Toxic Waste Trade*, New York: Van Nostrand Reinhold, p. 20; See also "Environment: The Danges Ahead" *Newswatch* vol. 11, (24) June 11, 1990, Special Issue.
5. See S. Ogunseitan "Nigeria: The Drums are Gone but the Poison Remains" *Panoscope* (9): 13-17; see also Julius O. Ihonvbere, op., cit., p.11; see also Christoph Hilz, op., cit., pp. 55-61.
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9. "Anti-American backlash Feared: U.S. Fights Export of Hazardous Waste" *The Washington Post*, Saturday, January 26, 1980, p.A4: See also *West Africa*, 11 February, 1980, pp. 242-243.
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11. For useful analysis on this subject, see Ihonvbere op., cit.,; Christoph Hilz, op., cit.,; Howard Schissel, op., cit.,
12. See Jeff Ramsay, *Global Studies: Africa*, 4th edition, Guilford: the Dushkin Publishing Group, 1991, p.47.
13. A.K. Vir, "Toxic Trade With Africa" *Environmental, Science and Technology*, (23):23-25, 1989.
14. See *U.S. News & World Report*, November 28, 1988, p.55.
15. "Toxic Outrage" *West Africa*, June 6, 1988, p. 1011.
16. See Julius O. Ihonvbere, op., cit., p.9.
17. S. Ogunseitan, "Nigeria: The Drums are Gone but the Poison Remains" *Panoscope* (9):13-17, 1989; See also "Dirty Jobs, Sweet Profits" *U.S. News & World Report*, 1988, p.55.
18. A.K. Vir, "Toxic Trade With Africa" *Environment, Science and Technology*, 23 (1):23-25.
19. See Baffour Ankomah, "Africa Wasteland" *Index On Censorship*, 677, 1989, p.34; see also Adewale Maja-Pearce, "Waste and Rumors of Waste" *Index on Censorship*, 6 & 7, 1989, p.32.
20. Baffour Ankomah, op., cit., p.34.
21. See "Toxic Terrorism" *West Africa*, June 20, 1988, p.1108.
22. See Christoph Hilz, op., cit., p.49.
23. Jeff Ramsay, op., cit., 1991, p. 35.
24. Baffour Ankomah, op., cit., 1989, p.34.
25. Ibid, p.39.
26. "Bribery and Destruction" *West Africa*, June 20, 1988, p. 3696.
27. See "Toxic Terrorism" *West Africa*, June 20, 1988, p. 1108.
28. Phil O'Keefe, "Toxic Terrorism" *Review of African Political Economy*, No. 42, 1988, p.85.
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43. See Ali Mazrui, *Cultural Forces in World Politics*, Portsmouth: Heinemann, 1990, pp. 1-3.
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Environment Protection in Nigeria: Problems and Prospects

A.E. Davies*

Introduction

Environment pollution has been causing much concern in many parts of the world. In some countries in Europe the search for solution, to environmental pollution has intensified while the need to have a clean environment at all times has been raised to a level of political discourse. Indeed, European political parties have now made the problem of conserving the environment a political issue. Similarly, governments in Europe, North America and parts of Asia have increased their budgetary allocations in order to be able to cope with natural environmental hazards such as floods, drought, earthquakes etc. or man-made hazards such as air pollution from air-crafts, motor-cars, contamination of water by chemical and industrial waste. Much more illuminating is the positive attitude of policy-makers in the developed countries who have not only formulated pragmatic policies for managing hazardous waste but also made elaborate institutional arrangements for effective monitoring of the activities of polluters. All these have been informed by the close relationship between developmental activities and environmental problems. For instance, indices of development include a high level of industrialization, urbanization and improved standard of living¹ But these cannot be achieved, it seems, without extensive exploration followed by exploitation of the natural resources, while at the same time developmental efforts all undermined by environmental degradation resulting from rapacious exploitation of the resources of a country and the socially undesirable behaviour of private and corporate littler bugs²

However, the situation is different in most developing countries, especially those in Africa, where the regular occurrence of natural disasters engages the attention of the governments more than the need to control and manage environmental waste. The developing countries have had, for example, to deal more with the problems of natural disasters with their meagre resources and the trickles of foreign aid they receive than they have formulated national policy which seeks to protect their citizens from man-made environmental hazards.

This is not to suggest that the developing countries do not know that serious threats to their environment occur more often through the activities of individuals and corporate bodies than natural disasters take place, and that man-made environmental hazards cause as much damage as the natural disasters do. The problem as Burton et al, (1978) have noted, is that formulating policies and establishing effective institutions to protect the environment from pollution caused by industrial waste, harmful chemical substances and indiscriminate littering by individuals remain a remote goal³ Where environmental policies have been formulated at all, their implementation has been bogged down by many problems ranging from lack of funds to inertia.

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46. Howard Schissel, op., cit., 198, p.47.

47. For a comprehensive review of the environmental regulations made at international level against the indiscriminate dumping of toxic waste in third world countries, see UNEP, *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal-FINAL ACT*, 1989; See also Roger Batstone et al (eds) *The Safe Disposal of Hazardous Waste - The Special Needs and Problems of Developing Countries, Volumes I, II, and III* (Washington, D.C.: The World Bank, 1989).

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49. David Goodman and Michael Redclift, *Environment and Development in Latin America: The Politics of Sustainability*, New York: Manchester University Press, 1991, pp. 15-18.

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