

The Trajectory of Illicit Waste Trade in Africa: Implications for Human Rights and Sustainable Development

Nnamdi Stanislaus Umenze

<https://orcid.org/0000-0001-8734-5279>

University of Pretoria

nnamdiumenze@gmail.com

Abstract

As globalisation intensifies, the environmental burden of economic development is being shifted to poor countries. This development manifests in waste trade involving the transboundary shipment of toxic waste from developed to developing countries. This article evaluates the strategies with which waste trade is being perpetuated to the detriment of sustainable development and human rights values in Sub-Sahara Africa. It argues that capitalism has influenced massive generation and commodification of waste, especially in industrialised countries. It has also established that globalisation has made the transboundary shipment of waste easy. Moreover, foreign investments in the waste industry in developing countries appear to be a means by developed countries to perpetuate waste shipment to developing countries, which helps waste traders to avoid stringent regulations and high costs of waste management in developed countries. Therefore, such investments in developing countries should not always be viewed as a breakthrough in attracting foreign investments. The findings made include that despite the existence of the Basel and Bamako Conventions at global and regional levels, respectively, waste trade has continued in different forms in Africa, where waste merchants exploit the low-cost facilities, cheap labour and weak regulatory frameworks. The trend includes the reckless dumping of hazardous industrial waste, electronic waste as well as ostensible investment in “dirty industries” in some African countries. It concludes by urging the states to individually establish robust mechanisms that protect the environment and enforce environmental rights. These measures will help complement the collective efforts they have made in multilateral and regional agreements.

Keywords: Africa; toxic waste trade; electronic waste; human rights; sustainable development; globalisation

Introduction

The economic globalisation witnessed over the years has led to growth in the volume of international trade and investment by enabling a freer flow of goods, services, labour and capital across transnational boundaries (Incekara and Savrul 2012, 24). These, in turn, have led to increasing industrial growth, high volume of production and consumption, and the attendant waste generation (Aja et al. 2016, 69–70). Unfortunately, international trade agreements, oftentimes, focus on liberalising trade by negotiating measures that eliminate barriers to trade and investment without setting up adequate measures for environmental protection (Harris 2004, 2). Hence the trade agreements are mostly silent on the control of the transboundary shipment of waste.

Waste traders take advantage of the under-priced facilities, cheap labour, weak regulatory rules and poverty in low-income countries. This has made transboundary waste trade flourish in the North-South route for decades (Clapp 2001). The trend has developed from dumping hazardous industrial waste to dumping commodity waste in the shores of developing countries under the guise of bringing recyclable waste or cheap reusable goods. Similarly, some Sub-Saharan African countries have struck deals to receive payments for toxic waste, or to allow investments in the recycling industry. Host countries view this as a means of attracting scarce foreign investments required for economic growth and development. However, from the perspective of industrialised countries, waste exporters aim not only to ship away their environmental burden to developing countries, but also to make economic gain. Exporting toxic waste to developing countries is a cheaper alternative for developed countries than disposing of it in their own territories (Clapp 2001; Sonak, Sonak and Giriyan 2008). The exploitative waste trade is done with no regard for the detrimental economic, ecological and human rights consequences it has on developing countries in the long-run (Knox 2010). Although there have been multilateral and regional treaties, the Basel Convention¹ and the Bamako Convention,² respectively, whose principal objective is to deal with transboundary hazardous waste shipment (Albers 2014, 133), the effectiveness of these treaties to achieve their objectives is doubtful.

This article evaluates the factors responsible for illicit waste trade in Africa by considering the role of capitalism in motivating the trade. It goes on to explore how globalisation, under development, poverty and lack of strong institutional frameworks enable the proliferation of the trade. Thereafter, it evaluates the relationship between environmental protection, human rights and sustainable development, and discusses the efforts being made to promote the integration of the concepts at the global, regional and

-
- 1 The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention, in force from 5 May 1992).
 - 2 The Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and of Hazardous Waste within Africa (Bamako Convention, in force from 22 April 1998). The Basel and Bamako Conventions are respectively multilateral and regional agreements against indiscriminate transboundary waste shipment. The challenges of these conventions to achieve their objectives will be discussed later in this article.

state levels, as well as the human rights implications of the illicit waste trade. The article also reviews some forms of waste shipment from developed to developing countries, specifically to Sub-Sahara Africa from the 1970s to the present. The review exposes the ingenious means waste traffickers use to perpetrate waste shipment to Africa. It further examines the efforts being made at global and regional levels to control toxic waste shipment.

The remaining part of this article is divided into five sections that discuss issues, such as, the motivations for increasing waste generation and transshipment of hazardous waste from developed countries to Africa; the illicit toxic waste dumping in Africa and the implications for human rights and sustainable development; the trajectory of hazardous waste trade and Africa's experience from the 1970s; the weaknesses of the global and regional agreements in curbing illegal waste shipment; and the concluding remarks.

Motivations for Increasing Waste Generation and Transshipment of Hazardous Waste from Developed Countries to Africa

Owing to growth in world population and industrialisation, waste generation is unavoidable (Adeola 2011, 3). Waste generation in human society is inevitable, but modern societies have been more concerned by the increasing rate of waste generation and the possibility of effective waste management system (Guerrero, Maas and Hogland 2013). Massive waste generation and waste management crisis are worsened by the spate of industrialisation that focuses on more production, not only for local, but also for international demand. The increase in production influences the disproportionate consumption pattern evident mostly in industrialised countries (Zimring and Rathje 2012). Unfortunately, economic growth and general welfare are often measured by the rate of production and consumption with little regard for the ensuing negative externalities, the costs of which are either neglected or poorly articulated (OECD 2014).

The growth in waste generation is linked to the dramatic increase in commodity production fuelled by capitalism, which is often employed to achieve imperialists' ends (Amin 2012, 161). Of course, capitalists invest capital for profits and seek to accumulate more capital and money (Harvey 2003; O'Hanlon 2013). Economic globalisation also influences the waste trade crisis. Trade in hazardous waste is encouraged by the elimination of barriers to transboundary commercial activities, which propels globalisation, particularly by allowing a freer movement of people, goods, services and foreign direct investments. This unrestricted flow creates grounds for industrial proliferation that results in massive waste generation. Trade in waste is also furthered by the failure of multilateral trade agreements that are responsible for ease of international trade, such as the General Agreement on Tariffs and Trade (GATT), to proscribe waste trade in clear terms (Farina 2007, 201; Westervelt and Beckham 2015; Ahmed 2020, 416). But what are the implications of these trends of capitalism and globalisation? These developments reflect on the soaring competition, especially among the industrialised countries pushing to gain as much market share as possible in the

globalised business environment. The phenomenal industrial growth results in massive commodity production as well as waste generation as emphasised by Farina:

This upsurge of global productivity fostered historical conditions favourable to dramatic changes in the landscapes of waste production and disposal. Very much like the landscapes of commodity production, the landscapes of commodity waste production and disposal were shaped according to distinctly world capitalist criteria... (Farina 2007, 88).

Generally, waste management is challenging, owing to the inherent implications of the various waste management techniques. For example, waste was primarily disposed of through surface dumping and landfilling. However, unregulated waste dumps contaminate the environment with toxic substances, which leads to the deterioration of soil quality and vegetation destruction. The substances also expose people and animals to a range of diseases. (Ali et al. 2014, 59). In the case of landfilling, landfills exude highly inflammable gases that pose fire risks and emit greenhouse gases, such as methane that is over 25 times more potent than the carbon dioxide emitted primarily through combustion. Furthermore, these toxic gases contribute to the intensity of global warming (Ferronato and Torretta 2019). Aside from the emission implication, landfills often leak. They also pollute the air and contaminate surface and ground water through leachates containing toxic chemicals (Leeden, Cerrillo and Miller 1975; Vrijheid 2000, 101; Saxena and Gupta 2009, 348). In some instances, landfills are expensive to clean up (Vaughn 2011, 134). Incineration is equally emission intensive and attracts formidable public opposition in industrialised countries (Vaughn 2011, 136). Besides, most industrial waste substances are not combustible.³

The recycling for reuse method also has its environmental implications. Waste recycling is capital intensive, and the recoverable percentage of the total waste volume is most times negligible, leaving a greater percentage as disposable waste. More so, some waste components, such as asbestos are not recyclable (Dennis and Ruston 1990; Fuller et al. 2018, 82).

Countries tend to show more concern for environmental protection as their economies grow and the general welfare of citizens improves. Accordingly, economic growth engendered by the massive capital investment and property accumulation in wealthy countries like the United States and members of the European Union (EU) influenced the growing consciousness for environmental protection, thus:

It is economic growth that has allowed developed countries to make advances in the eradication of mass poverty, ignorance, disease and as such to give high priority to environmental consideration [...] A country that has not yet reached minimum satisfactory levels in the supply of essentials is not in a position to divert considerable

3 Denison and Ruston (1990, 9) have argued that incineration is not “a waste disposal method” but rather a waste reduction technology because, although it reduces the volume of waste, it also produces toxic ashes that will then be disposed of as waste.

resources to environmental protection (The head of the Brazilian delegate at the Stockholm Conference, 1972, quoted in Ntambiweki 1991, 906; Janis 2016).

More so, public pressure against further waste dumping and landfill siting has been dominant in developed countries like the US since the 1970s. This resentment has been exemplified by the “Not-In-My-Backyard” phenomenon. Accordingly, local legislation meant to address issues posed by improper waste disposal began to emerge in developed countries during the same period. In the US, for instance, the Resource Conservation and Recovery Act (RCRA) was enacted in October 1976 “to address the increasing problems the nation faced from growing municipal and industrial waste.”⁴ The provisions of the RCRA include controlling waste from cradle to grave, prohibiting open dumping of waste and regulating landfills and other waste disposal facilities. The stringent regulations in waste disposal mounted serious challenges such as dramatic cost increases in waste management in industrialised countries, making the waste industry less lucrative and unattractive⁵ (Uva and Bloom 1989, 4; Farina 2007, 200).

Unfortunately, the legislation in industrialised countries mostly focused on the local regulation of waste disposal and in a way, created a window for waste export, particularly to developing countries where regulations were neither in existence nor effectively enforced. Even where the local legislation attempted to regulate waste shipment, the regulations were lax and waste traders violated them with impunity (Uva and Bloom 1989, 4–5; Adebayo, Olumide and Oluwaseun 2017).

It is certain that the rationale behind waste shipment to developing countries was to mitigate high local management costs. In addition, there were stringent environmental regulatory mechanisms, which made the indiscriminate disposal of waste difficult and expensive in industrialised countries (European Environmental Agency 2009). Lisa Massara, as quoted by Farina, captured the situation of the desperate search for a cheap alternative thus:

What will we do to dispose of solid and hazardous wastes without more disposal facilities being sited and constructed? What will we do to cost-efficiently comply with reams of expensive tightening government regulations? What will we do to stay in business without liability insurance? ...What will we do? (Farina 2007, 200).

Capitalists would prefer shipping away toxic waste to developing countries at reduced cost to maximise profit, which helps to actualise the overriding capitalists’ desire for financial gain and more capital accumulation. Hence, waste merchants view waste

4 See US Environmental Protection Agency (EPA). “Summary of the Resource Conservation and Recovery Act – The History of this Act.” Accessed March 19, 2019. <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>.

5 For example, Puckett (1997), noted that the cost to landfill a tonne of toxic waste rose from \$15 in 1980 to \$250 in 1989, and in the United Kingdom, there was a record of over 150 percent price increase to landfill toxic waste between 1985 and 1991. Worse off was the dramatic increase in the cost of incinerating hazardous waste which rose as high as \$10,000 between 1980 and 1990.

shipment to developing countries as a cheap means of waste disposal (Gilbert 2018). In addition, poverty and underdevelopment make the offer to ship waste to various African countries, on agreed sums, attractive (Barakat 2009). The poverty-induced vulnerability that leads to the toxic waste victimisation of Africa and other developing regions of the world was exposed by a leaked internal memo Lawrence Summers⁶ wrote for the World Bank in the 1990s. Summers advised the World Bank to support the relocation of “dirty industries” and shipment of hazardous waste to poor countries, especially those in Africa (Foster 1993; Ajibo 2016). According to Summers:

I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that... I have always thought that under-polluted countries in Africa are vastly under-polluted; their air quality is probably vastly inefficiently low compared to Los Angeles... (Quoted in Enwegbara 2001, 8).

Summers’ proposal was egregious. It was justified merely on economic principles, maximising benefits at minimal cost, which, according to him, makes economic sense. But when challenged on other fronts, it is flawed on moral grounds and embodies a violation of human rights.

Poverty and underdevelopment in Africa are also responsible for poorly priced facilities and services. These include cheap portions of land and labour. Also attributable to underdevelopment is the dearth of robust waste control regulatory frameworks or weak enforcement mechanisms where such regulatory frameworks barely exist (Clapp 1994a; Koné 2014). Furthermore, developing countries hardly possess adequate skills and proper equipment to identify and manage hazardous waste in an environmentally sound manner. These factors create weaknesses that waste merchants exploit to dump waste in Africa (Puckett 1997; Park 1998; Greenpeace 2010, 12; Zimring 2012, 954; Lipman 2002; Dagne 2010, 9, Anand 2016). Illicit waste shipment to developing countries has also been referred to as “environmental racism”, “environmental injustice” and “toxic colonialism” (Marbury 2005; Hull 2010; Ajibo 2016; Falzon and Batur 2018; World Economic Forum 2020).

Waste trade requires huge amounts of money and assures traders of massive returns (Farina 2007, 203). It often involves a collaboration of foreign firms, organised crime syndicates and highly placed individuals or even government agencies. These arrangements are always concealed (Willan 2009; Greenpeace 2010; White 2015). The problem with the North-South trend of toxic waste trade is that developing countries do not possess the requisite facilities and expertise to manage such toxic waste in an environmentally friendly manner, and the imported waste ends up exposing the environment to toxic pollution (Anand 2016).

6 Lawrence Summers was at the time the chief economist of the World Bank.

Illicit Waste Dumping in Africa: Implications for Human Rights and Sustainable Development

To appreciate the impact of toxic waste dumping on human rights and sustainable development, it is imperative to understand the concept of environmental rights. Environmental pollution has a negative impact on human rights (Boyle 2012). Accordingly, environmental protection in itself concerns human rights protection (Brown 2016, 55). The concept of environmental (human) rights implies the reliance of human existence on the environment. As a result, an environmental right is a “derivative right” essential for the enjoyment of the substantive human rights. Hence, activities that degrade the environment do not only violate economic rights by affecting the sources of livelihood, but can also threaten human life and health (Leib 2011, 72). According to the UN Special Rapporteur on human rights and the environment:

All human beings depend on the environment in which we live. A safe, clean healthy and sustainable environment is integral to the full enjoyment of a wide range of human rights, including the rights to life, health, food, water and sanitation. Without a healthy environment, we are unable to fulfil our aspirations or even live at a level commensurate with minimum standards of human dignity.⁷

The foremost international bill of rights, the Universal Declaration of Human Rights, does not contain express reference to environmental rights. The two major reasons for this are: environmental issues were not a major global concern at the time and the concept of environmental rights was obscure when the bill was drafted. However, in recent time, the international community has increasingly recognised environmental rights. For example, the United Nations General Assembly first recognised the relevance of a healthy environment to the enjoyment of the basic human rights in 1968, where it expressed concern about the consequential effects of environmental degradation on “the condition of man, his physical, mental and social well-being, his dignity and his enjoyment of basic human rights.”⁸ The link between environmental protection and human rights was further made elaborate by the Stockholm Convention of 1972, which specifically emphasised that the human environment is “essential [...] to the enjoyment of basic human rights – even the right to life itself.”⁹ In this respect, Article 12 (2) (b) of the International Covenant on Economic, Social and Cultural Rights

7 UN Office of the High Commissioner on Human Rights, “Special Rapporteur on Human Rights and the Environment,” accessed 28 February 2019, <https://www.ohchr.org/en/Issues/environment/SREnvironment/Pages/SREnvironmentIndex.aspx>. See also Johnson, South and Walters (2017).

8 See UNGA Res. 2398 (XXIII), “Problems of the Human Environment,” adopted 3 December 1968.

9 See Chapter I, para. 1 of the Report of the United Nations Conference on the Human Environment, A/CONF.48/14/Rev.1 (Stockholm, 5–16 June 1972) (hereafter Stockholm Convention).

(ICESCR), also emphasises that the realisation of the rights established in the Covenant requires the improvement of all aspects of environmental hygiene.¹⁰

More recently, a series of consultations have been organised by the Independent Expert with the support of the United Nations Environmental Programme (UNEP) and the Office of the High Commissioner for Human Rights (OHCHR). In these consultations, the Independent Experts are granted the mandate to examine and report on thematic linkages between environmental protection and human rights, pursuant to Human Rights Council's Resolution 19/10 of 22 March 2012.¹¹ The reports of the consultations in their respective focus areas re-emphasised that a healthy environment is *sine qua non* for the enjoyment of the substantive human rights and suggest measures to ensure the effectiveness of environmental rights protection.

At the regional level, Article 24 of the African (Banjul) Charter¹² also recognises the peoples' right to a "satisfactory environment favourable to their development." At the state level, environmental constitutionalism has been growing globally (Boyd 2012, 59). Many countries, including some in Africa, have equally incorporated environmental rights into their constitutions.¹³ To this end, for instance, the South African

10 Over the years, the Human Rights Council of the UN has adopted several resolutions emphasising the relationship between human rights and environmental protection. These include Resolution 16/11 of 24 March 2011 relating to human rights and the environment; Resolutions 7/23 of 28 March 2008, 10/4 of 25 March 2009 and 18/22 of 30 September 2011 relating to human rights and climate change; Resolutions 9/1 of 24 September 2008 and that of 12/18 of 2 October 2009 on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights; Resolution 18/11 of 29 September 2011 on the mandate of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes; the UN Commission on Human Rights Resolutions 2003/71 of 25 April 2003 and 2005/60 of 20 April 2005 on human rights and Sustainable development.

11 Under this mandate, the UN Independent Expert on human rights has held a series of consultations on the relationship between human rights and the environment. Accordingly, the Nairobi Consultation (22–23 February 2013), espoused the procedural rights and duties relating to environmental protection, such as "access to information, effective public participation, and access to justice."; the Geneva Consultation (21–22 June 2013), explored the linkages between environmental protection, substantive human rights and extra-territorial obligation; the Panama Consultation (26–27 July 2013), focused on the area of environmental protection and the human rights obligations as relates to groups in vulnerable situations; the Copenhagen Consultation (24 October 2013), explored how best the international institutions can achieve the integration of human rights with environmental protection; the Johannesburg Consultation (23–24 January 2014), explains the need for environmental constitutionalism to guarantee environmental rights.

12 African Charter on Human and Peoples' Rights, adopted 27 June 1981, and came into force 21 October 1986.

13 According to Boyd (2013), at least 46 African countries, including Algeria, Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Cote d'Ivoire, Congo (Brazzaville), Congo (Democratic Republic), Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe, have incorporated environmental rights protection provisions in their various constitutions.

Constitutional Court has emphasised the effects of environmental right constitutionalism,¹⁴ thus:

Our Constitution, by including environmental rights as fundamental justiciable human rights, by necessary implication, requires that environmental considerations be accorded appropriate recognition and respect in administrative processes in our country. Together with the changes in the ideological climate must also come a change in our legal and administrative approaches to environmental concerns.¹⁵

The constitution of a state is the supreme legal document from which every other law draws its validity. Hence, environmental constitutionalism reflects the level of importance a country attaches to environmental protection and provides a ground for possible enactment of stronger environmental law. The incorporation of environmental rights into the constitution can also compensate for the loopholes in the statutory environmental legislation. It can also serve as a legal defence line for environmental activists in their campaign against anti-environmental policies and activities.¹⁶

Likewise, environmental protection and sustainable development are intertwined (Anton and Shelton 2011, 118; Ionescu 2016). The concept of sustainable development subsumes environmental protection, which is the basic target of the environmental human right (Musa and Bappah 2014). Emphasising the nexus between human rights, environmental protection and sustainable development, the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment reports that:

... Virtually all of the suggested methods of implementing human rights norms relating to the environment would also support achievement of the Sustainable Development Goals [...] Implementation of the Sustainable Development Goals is highly important to the promotion of human rights and environmental protection. Accordingly,

14 For example, under its Bill of Rights, Article 24 of the South African Constitution of 1996, provides that, “everyone has the right: a) to an environment that is not harmful to their health or well-being; and b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: i) prevent pollution and ecological degradation; ii) promote conservation; and iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

15 See the case of *The Director: Mineral Development, Gauteng Region and Sasol Mining (Pty) Ltd v Save the Vaal Environment and Others* 1999 2 SA 709 (SCA).

16 United Nations Environmental Programme. “Human Rights and the Environment: Regional Consultation of the Relationship between Human Rights Obligations and Environmental Protection, with focus on Constitutional Environmental Rights.” Convened by the United Nations Independent Expert on human rights and the environment with the United Nations Environment Programme, the Office of the High Commissioner for Human Rights, and the Legal Resources Centre of South Africa (23-24 January 2014, Johannesburg, South Africa).

integrating the Goals into national priorities provides an opportunity for States to advance human rights related to the environment.¹⁷

Correspondingly, the African Commission on Human and Peoples' Rights, adjudicating over the environmental pollution caused by the reckless disposal of oil waste in Ogoni, a community in the Niger Delta region of Nigeria, emphasised that Article 24 of the African Charter requires that the states should "take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources" (Lenzerini 2008, 91). The commission categorically expressed that the violation of people's rights to a clean and healthy environment also means an infringement on their economic and social rights necessary for development (Ataputtu 2007, 30–31).

According to the World Commission on Environment and Development (Brundtland Commission), sustainable development entails development that "meets the needs and aspirations of the present without compromising the ability of future generation to meet their own needs."¹⁸ The Rio Declaration further illustrates that "in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it."¹⁹ The concept of sustainable development has been broadly employed to promote every aspect of the economic, ecological and social relationships that improve the general human well-being (Anton and Shelton 2011, 87).

Human rights grant us the protection to expand and enjoy freedom, livelihood and life itself in the natural environment, and the sustenance of these is the primary condition for our social and economic development. Hence, our prospect to enjoy human rights and development is jeopardised by any form of environmental abuse, especially in developing countries that hardly possess adequate frameworks for redress, compensation or remedy. The logic behind the principle of sustainable development is that development should take place in a protected environment.²⁰

In sum, sustainable development binds together the twin aspirations of the states to achieve long-term economic development and improvement in environmental standards necessary also for improvement in other social goals that are interdependent (Nordic Council of Ministers Staff 1996, 7–8). A healthy environment is, therefore, necessary for sustainable development. Accordingly, human rights, environmental protection and

17 United Nations, "Report of the Special Rapporteur on the Issue of Human Rights Obligations to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment," A/HRC/31/53 (28 December 2015) paras 11 and 59.

18 World Commission on Environment and Development, *Our Common Future*, 43, OUP 1987; See also Article 3 of the Report of the U.N. Conference on Environment and Development (Rio de Janeiro, 1992) (hereafter, Rio Declaration).

19 Rio Declaration, Article 4.

20 United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992 (Agenda 21), Chapter 2 para 2.19.

sustainable development reinforce one another and are inextricable (Sisay 2020, 19). It should be noted that although environmental rights have been firmly recognised in both international treaties and national legislations, serious challenges still exist in the enforcement of rights. For example, there is lack of a harmonious standard to guide nations on how to determine infringements on environmental rights or what degree of environmental damage amounts to infringement on these rights (Atapattu 2019, 17–18). Presently, the enforcement of environmental rights is mostly done by states. However, such enforcements are ineffective, because they are often hampered by weak institutional frameworks, especially in developing countries. The procedural rights such as access to information related to environmental rights, effective public participation, and access to justice against environmental harm are not adequately provided or implemented as a result of structural challenges.²¹ In addition, reparations for environmental harm are, more often than not, made through the imposition of fines that are incommensurate with the extent of damage caused. Furthermore, environmental justice processes are delayed and last for a lengthy period in most jurisdictions.²² Despite these challenges, the concept of environmental rights is gradually being understood and appreciated, and enforcement of these rights is improving (Knox 2018, 3).

The implications of toxic waste dumping on human rights and sustainable development have been brought to the fore by the growing recognition of the relationship between environmental protection and human rights. Toxic waste contains dangerous substances that are potential pollutants of the biophysical and human environment. These substances can directly cause death, disabilities and a range of diseases when they are improperly released to the environment (Madava 2001, 288). Environmental pollution can equally affect the right to life indirectly. For instance, the 2006 waste dump incident in Abidjan claimed at least eight lives, and more than 69 people were hospitalised (Leigh 2009; Koné 2014). In South Africa, at least three fatal cases resulted from spent mercury pollution from Thor Chemicals.²³ In Nigeria also, the Koko waste dumping incident caused a miscarriage epidemic among pregnant women, respiratory and skin diseases to some people exposed to the contaminated environment. In Somalia, there were reports of environmental havoc caused by the toxic waste exposed by the 2004 tsunami that washed ashore containers of the illegally dumped waste on the Somalian Coast. According to Nick Nuttal, a UNEP spokesperson:

21 See for example, UNEP. “Human Rights and the Environment: Procedural Rights Related to Environmental Protection.” (22–23 February 2013, Nairobi, Kenya).

22 UNEP. “Human Rights and the Environment: Environmental Protection Related to Groups in Vulnerable Situations.” Convened by the United Nations Independent Expert on human rights and the environment with the United Nations Environment Programme, the Office of the High Commissioner for Human Rights (26–27 July 2013, Panama City, Panama).

23 As reported by Carnie (2019), the casualties included, “Peter Cele, who died in an emaciated condition in King Edward VIII Hospital in Durban in 1993... Engelbert Ngcobo, Frank Shange and Felix Mhlanga. Scores of other workers also fell ill. [While] Petrus Mkhize had his left foot amputated after it turned back and numb.”

The health impact was extensive... “[The] problems range from acute respiratory infections to dry, heavy coughing, mouth bleedings, abdominal haemorrhages, what they described as unusual skin chemical reactions... So there are a whole variety of ailments that people are reporting from these villages” (quoted in Singer and Erickson 2011, 520).

Moreover, toxic waste dumps can also contaminate nearby water bodies,²⁴ the food chain and harm sea animals and other wildlife. It can destroy vegetation and agricultural lands, biodiversity and the effects can last for decades. The destruction also contributes to a food shortage crisis in the affected area, which intrudes upon the right to access to food and drugs of the people living in the polluted environment (Clapp 2001, 38; Rosenfeld and Feng 2011; Environmental Justice 2014). Waste trade may appear lucrative, and seem to make economic sense, but it lacks moral and social values, and in the long run, the grievous consequences of toxic waste dumping, in no mean measures, will outweigh the perceived economic gains (Ajibo 2016, 271; Marshall and Farahbakhsh 2013; Oteng-Ababio, Arguello and Gabbay 2013).

In recognition of these implications of reckless dumping of toxic waste, the Human Rights Council has affirmed that the illicit transboundary movements, as well as dumping of hazardous waste, can adversely affect “human rights, including the right to life, the enjoyment of the highest attainable standard of physical and mental health, food, adequate housing and work, access to information, and to safe drinking water and sanitation.”²⁵ It is logical to argue that the illegal shipment of waste violates Principle 2 of the UN 1992 Rio Declaration on Environment and Development that places the responsibility on the states to ensure that activities within their territories do not result in environmental damage beyond the areas of their jurisdiction or in other states.

Hazardous Waste Trade: The Trajectory and Africa’s Experience from the 1970s

Inappropriate waste disposal leading to environmental health risks frustrates the enjoyment of a healthy environment and further limits the ability of the affected people to meet their various economic and social needs. For example, it has been noted elsewhere that most chemical waste substances are carcinogenic and capable of causing respiratory diseases that directly threaten human life. This section will cover the dumping of toxic industrial waste, obsolete pesticides, electronic waste, and the relocation of dirty industries into Africa.

24 Some life-threatening diseases such as “cholera, typhoid, jaundice, hepatitis and skin disorder” are mostly caused by polluted water. See Jose (2019, 196).

25 See Human Right Council Resolution 9/1 of 24 September 2008 on the adverse effects of the movements and dumping of toxic and dangerous products and waste on the enjoyment of human rights. See also the Commission on Human Rights Resolutions 1995/81 of 8 March 1995; 2004/17 of 16 April 2004 and 2005/15 of 14 April 2005.

Transboundary Toxic Waste Shipment to Africa

Hazardous wastes in this category include industrial wastes, such as toxic industrial muds, cyanides, solvents, pesticides, nuclear waste, pharmaceutical waste, chemical waste, radioactive waste, incineration ash, etc. The waste is collected and shipped to developing countries, especially Africa, for disposal.²⁶ For instance, in the 1980s, one Luciano Spada, an Italian politician and waste merchant entered into agreements with the governments of some African countries, including Western Sahara, Congo and Guinea to ship 1 million tonnes of toxic waste to each of the countries. In 1988, he facilitated the shipment of 15, 274 tonnes of toxic waste from the US to Guinea and the waste was dumped in Kassa Island near Conakry in February 1988 (Greenpeace 2010).

Often, the perpetrators of hazardous waste trade disguise toxic waste substances as commodities, humanitarian aid or forge shipping documents to bypass regulatory measures (Ladicola and Shupe 2013, 129; Koné 2014). For example, in 1978, two US nationals, Charles Colbert and Jack M Colbert – the Colbert brothers, shipped hazardous waste to Zimbabwe under the guise of “cleaning fluid” (James 1996). In 1987, two Italian nationals, Gianfranco Raffaeli and Renato Pent dumped 8000 drums of toxic waste disguised as industrial chemicals intended for a locally registered company, Irukepe Construction Company, in the Koko community in the Niger Delta area (Usman 2017, 180). The dumpsite behind a residential building was only leased for about US\$100 per month. The unprotected labourers engaged to unload the waste were oblivious of its toxicity and were each paid a daily wage of N10 (about US\$2.5 at the time). Writing in 1989, Mayer emphasised that it would have cost between 200 and British £1000 to dispose of a tonne of the waste in Europe and America using high-temperature incineration (Mayer 1989). The toxic substance subsequently began to leak and contaminated the surrounding vegetation and the stream providing potable water to the community. The incident led to the death of Sunday Nana, the owner of the leased dumpsite, and the people exposed to the toxic waste suffered various degrees of ailments, including skin burns and nausea. It also led to many instances of premature births, birth deformities, brain damage, etc. (Adeola, 2016; Anand 2016).

From the 1970s through the 1980s, some African countries embraced waste dumping contracts as lucrative means to ease their heavy financial burdens. For example, Angola was offered US\$2 billion by a Swiss waste merchant for a five million-tonne waste import contract into the country. The merchant also promised job creation and infrastructural development (Greenpeace 2010). Also in 1987, Liberia and Sierra Leone received waste from Europe and America respectively. In 1988, Guinea-Bissau signed a five-year waste dumping contract that would allow the importation of 15 million tonnes of hazardous waste at a total charge of US\$600 million spread over five years. In defence of the waste dumping contract, the government of Guinea-Bissau simply said: “We need money” (Puckett 1997; Anand 2016). The entire contract sum was more

26 The targeted developing regions for toxic waste shipment by the OECD countries include Africa, Asia, Latin America and the Caribbean (Uva and Bloom 1989; Adeola 2016, 13 – 14; Anand 2016).

than two times the country's debt and four times more than its Gross Domestic Product (GDP), making the waste dumping offer irresistibly attractive. The charge was less than five per cent the amount it would cost to discharge the same waste in Europe and America (Wynne 1989). The Republic of Benin equally accepted waste dumping offers from Europe (especially, France, its former colonial master) and the USSR in 1988. The contracts enabled European countries to discharge millions of tonnes into the country at about US\$2.5 per tonne. France once made an advance payment of US\$1.6 million to the government of Benin to receive toxic wastes. In addition to the enormous payment, the country was promised job creation and infrastructural development for the following 30 years (Koné 2014; Asante-Duah and Nag 2002). Congo was paid US\$84 million in 1988 to accept one million tonnes of toxic chemical waste from Europe (Brook 1988). There were also toxic waste shipments from industrialised countries to Congo-Brazzaville, Equatorial Guinea, Guinea-Bissau, Mozambique, Djibouti and Somalia (Koné 2014).

Dumping of Obsolete Pesticides in Africa

It is estimated that across the globe, about 500,000 tonnes of obsolete pesticides²⁷ are stockpiled in developing countries, and 50,000 tonnes of this toxic hazard are in Africa (World Bank 2010, 7). Pesticides are formulated with thousands of chemical properties, some of which constitute persistent organic pollutants (POPs), and some have toxic substances that bioaccumulate in humans and animals, and leave long-lasting traces in plants. These toxic pesticides have been banned in industrialised countries in Europe and America, and internationally by the 2001 Stockholm POPs Convention due to their potential environmental hazard; however, they are either sold or donated to developing countries as pesticides for agriculture (Manyilizu 2019, 117).

In Africa, toxic pesticides are stockpiled in dilapidated storage facilities for decades. As a result, the obsolete pesticides leak and contaminate the surrounding environment, including surface and ground waters through leaching, posing environmental health risks to people, plants and animals exposed to the contaminated environment (FAO 2002; World Bank 2010). African countries battling with stockpiles of POPs pesticides include South Africa, Mali, Tanzania, Tunisia and Ethiopia²⁸ (World Bank 2013). The danger associated with the stockpiled obsolete pesticides in Africa is critical, because developing countries lack the capacity to handle toxic chemicals. As a result, the ecological destruction continues to persist.

27 To understand what obsolete pesticides are and why there is a serious concern for their stockpile, the Food and Agriculture Organisation (FAO) has defined obsolete pesticides to include "all pesticide products not in current use because they have been banned, have deteriorated or are damaged, have passed their expiry date, cannot be used for any other reason, or are wanted by the current owner" (World Bank 2010, 8).

28 In Ethiopia for example, it has been stated that a dilapidated storage facility housing the leaking stockpile of toxic obsolete pesticides is located very close to the Tesfa Secondary School in Addis Ababa, and has caused inimical health effects on school children and their teachers (World Bank 2013).

To provide adequate measures for proper management, evacuation, disposal and to prevent further accumulation of the toxic obsolete pesticides in Africa, the Africa Stockpile Programme (ASP) was launched in September 2005 (World Bank 2016, 2). The programme was planned to last between 12 and 15 years and was estimated to cost at least US\$250 million (Global Environmental Facility 2010). Although some volumes of the obsolete pesticides in African countries are said to have been removed through the implementation of the ASP, stockpiles of hundreds of thousands of tonnes of the toxic obsolete pesticides are not yet removed (Manyilizu 2019).

Dumping of “Commodity Waste”: The E-waste Menace in Africa

“Commodity waste” trade is not limited to used electronic gadgets, but includes other unusable second-hand products such as industrial equipment, automobiles and their spare parts which are shipped to developing countries ostensibly disguised as reusable goods (Czaga and Fliess 2004). Over the years, low-income earners from developing countries, especially in Africa, have mostly relied on the fairly used commodities from the industrialised countries as cheap alternatives to new products (Czaga and Fliess 2004). Apart from providing a cheap alternative to low-income earners, reusing fairly used goods is more advantageous in terms of good environmental and resource management standards. It is more rational than scraping and discarding them into the environment. But the lingering issue has been the mix-up between reusable and unusable second-hand products. The second-hand products being shipped to developing countries have nearly or totally outlived their functional lifespans and contribute no value but add to the spiralling volume of waste gargets (Kojima 2013; Frey, Hauser and Rufener 2016, 2).

The expanding market for used electronic gadgets in developing countries has made the trade in the e-waste category of commodity waste the fastest growing toxic waste stream in recent years (Zafar 2016; Scherr 2018). It is rising at an annual rate of 24 per cent and it is likely to increase further. (Blade, Wang and Kuehr 2016; Vidal 2013). E-waste covers every non-functional electrical or electronic appliance, including refrigerators, radios, televisions, cameras, electric cooking appliances, computers, phones and their accessories. According to the UN, over 50 million tonnes of electronic waste are being generated annually; however, only 15 to 20 per cent of the entire global e-waste is recycled and the rest makes its way to dumpsites in various developing countries (Vidal 2013; Zafar 2016). The Interpol has also noted that:

Much is falsely classified as ‘used goods’ although in reality, it is non-functional...A substantial proportion of e-waste exports go to countries outside Europe, including West African countries. Treatment in these countries usually occurs in the informal sector, causing significant environmental pollution and health risks for local populations (Vidal 2013; Magdoff and Williams 2017, 114).

The pertinent question is: why the massive increase in the e-waste stream? Like the industrial toxic waste, commodity waste production is attributed to economic growth,

population increase and poor implementation of industrial ecology safety necessary to control the rate of waste generation from increasing production through the consumption chain, recycling and waste management (Singh et al. 2014). Unfortunately, industrialists view sustainable processes as constituting additional production costs that undermine their competitive advantage. In addition, rapid technological development is an undeniable factor. Innovations in every aspect of human endeavour have ensured that new products are invented and the existing ones altered in quick succession to make them obsolete as soon as possible. The situation is exacerbated by increasing competition faced by businesses in the globalised business environment (Smart 2010, 96). Since people are obsessed with trailing fashion and new designs, mostly to chase class ego, slight changes stimulate the urge to buy new products (Gershon 2017), hence, less attention is paid to quality. This is a deliberate act in production design to ensure that products wear out easily. These strategies are used in “planned obsolescence,” a strategy in product design that induces consumers to acquire something “a little newer, a little better and a little faster than was necessary” (Pope 2017, 51). One of the common excuses in defence of planned obsolescence has been that, “if goods do not wear out faster, factories will be idle, and people will be unemployed” (Erdil and Tacgin 2017). Planned obsolescence is inspired by the capitalist ideology whose primary target is to make more money, thus:

Our whole economy is based on planned obsolescence... We make good products, we induce people to buy them, and then next year we deliberately introduce something that will make these products old fashion, out of date, obsolete... We do that for the soundest reason: to make money (Smart 2010, 95).

Poor quality leads to quick exhaustion of the durability of products and prompts their early disposal, thereby causing an increase in the volume of discarded products. Since consumers have been strategically made to face exorbitant repairs and maintenance costs by the industrialists who hope to increase the rate of turnover, they are left with the options that are most reasonable and make more economic sense, which often include the “disposal and replacement of the obsolete products” with new ones (Pope 2017, 57). With all these gimmicks in production design, the short-lived gargets end up in dumps and pollute the environment (Spinks 2015). Apart from the eco-degrading consequences such as emission during the recycling process and the piling heaps of non-recoverable components, managing e-waste is labour intensive and it is costly to recover the remainder of the precious metals like copper and gold as well as other valuable cum reusable materials. The best option seems to be allowing them to be shipped away to developing countries (McIntire 2015, 78).

Furthermore, the low-income profile in developing countries is a fuelling factor. Dealing with e-waste seems to place developing countries in a dilemma since used but cheaper goods serve the means of bridging the digital and class difference gaps. Restricting importation of relatively cheap second-hand products would result in denying people access to some necessary electronic gadgets in the modern world. Yet,

by allowing such goods, they pay the environmental price. Equally, there exists, a perceived reluctance to prohibit e-waste import in developing countries, especially in Africa. This is apparently a strategic policy measure not to compound the rising unemployment problem since such a prohibition would force e-waste merchants out of the market and render some local recyclers jobless. As noted by Li et al., only 11 per cent of African countries had regulated e-waste import by 2013, and the rest of the countries have either permitted e-waste import or they have not provided any regulation.(Li et al. 2013).

Many cities in Africa have become notorious for e-waste dumps. The examples of these cities are Agbogbloshie in Accra, Ghana (Ottaviani 2015; Greenpeace 2008), and the city of Lagos in Nigeria (Basel Action Network 2011; Ogungbuyi et al. 2012). Hazardous substances, such as brominated, cadmium, chromium, heavy metal, lead, mercury and other toxic chemicals are found in the scraped gadgets in e-waste dumpsites that contaminate the environment. These chemicals can cause health challenges and also affect the nervous system and brain development, especially in children exposed to them. (Brigden et al. 2008; Vidal 2013). Despite these dire implications, there are hardly well-enforced legislations in these African countries to ensure that e-waste is recycled in an environmentally friendly manner. Hence, women and children expose themselves to health risks while recycling e-waste using informal and improvised means (Schmidt 2005; Heacock et al. 2015; McIntire 2015, 7).

Relocation of the “Dirty Industry” to Developing Countries

There are tresses of relocation of “dirty industries” to Africa and other developing countries from the industrialised countries, especially through foreign investment in toxic waste generation and recycling industries that are prohibited in industrialised countries (Clapp 2001, 5). This is often aided by the lopsided trade and investment agreements developing countries always intend to leverage on for foreign revenue, economic and social benefits. These agreements may also include benefits, such as pecuniary donations,²⁹ job creation and infrastructural development (Tladi 2000; Martinez-Alier 2012). Of course, the merits of the establishment of recycling industries include job creation, material conservation and reduction of the total volume of waste. However, the recycling firms have relocated to developing countries that hardly possess efficient regulatory rules for safety standards to avoid stiff regulatory measures in their countries of origin (Clapp 1998; Kojima 2013, 9). A typical case of relocation of dirty industry to developing countries is the South African experience with Thor Chemicals, which was a British mercury recycling firm whose operation was banned in Britain for high environmental risks (Ward 2002; Euripidou and Peek 2007). The firm relocated to South Africa in 1986, where it built the world’s largest mercury recycling factory in Kwazulu-Natal. Thor Chemicals imported mercury waste from industrialised countries

29 For example, the German government in 2017 pledged to invest US\$20 million in the e-waste recycling industry in Ghana. Ghana is already battling with an e-waste crisis and Germany is one of the leading countries from which e-waste is being imported into Ghana. See Kaledzi (2017).

for recycling using the same inadequate method prohibited in the UK (Ward (2002). The high risk associated with the method of recycling mercury waste and poor implementation of safety measures and environmental health standards led to a fatal environmental hazard, which included the death of three workers exposed to the mercury waste. In addition, it led to human injuries and serious contamination of the surrounding environment (Clapp 2000, 114 – 115; Papu-Zamxaka, Harphams and Mathee 2010). Decades after the disaster, drums of over 3000 tonnes of mercury waste are still stockpiled in the Thor Chemicals' firm, which constitutes an environmental hazard and would require a huge amount of capital to evacuate³⁰ (Carnie 2012). To date, protests are still being held intermittently by the threatened communities agitating for the evacuation of the stockpile of the mercury waste at the Thor factory yard.³¹ Despite the casualties and injuries, Thor Chemicals was only fined R13 500 after its managers pleaded guilty for breach of a set of safety rules and the charge of culpable homicide was later dropped (Carnie 2018).

The Weakness of Global and Regional Agreements on Illegal Waste Shipment

The social and economic implications of increasing waste dumping in the African soil were worrying, which led to an outcry by governments of some African countries, international environmental NGOs and the media. This protest led to the termination of waste dumping contracts entered into by some African states. The outcry also galvanised the events leading to the negotiation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal – Basel Convention (Clapp 1994b). The Basel Convention was adopted in March 1989 and it came into force in May 1992.³² Article 1 of the Basel Convention provides for the categories of hazardous waste that are subject to certain control measures as listed in the Annexes.³³ The Basel Convention does not prohibit shipment of waste, but provides for control in the shipment of hazardous waste to developing countries. Thus, it allows the shipment of hazardous waste to any part of the world except Antarctica, for recycling, recovery or disposal in an environmentally sound manner.³⁴ Under Article 6,

30 It should be noted that mercury contamination has a long-lasting effect on the environment and the organisms exposed to it. A more recent empirical study has revealed that two decades after the Thor mercury waste incident, traces of mercury contamination were still found in humans, fish and some sediment samples with the level of concentration that exceeded 50 µg/g, far more than the severe effect level (SEL) of 2 µg/g. (Papu-Zamxaka, Harpham and Mathee 2010).

31 For example, in 1990 and 1993, there were protests against the environmental contamination of the Thor Chemicals' mercury recycling activities at Cato Ridge, Kwazulu-Natal (Leonard and Pelling 2010). Also, in August 2019, a fire outbreak was reported in the Thor Chemicals' warehouse containing the stockpile of the mercury waste. This led to a fresh protest in the surrounding community for the evacuation of the toxic waste (SABC 2019; Carnie 2019).

32 Currently, there are 188 members of the Basel Convention. Haiti and the United States of America are signatories to the Convention, but they are yet to ratify it. See Basel Convention <http://www.basel.int/Countries/StatusofRatifications/PartiesSignatories/tabid/4499/Default.aspx>.

33 Annex I provides for the categories of wastes to be controlled; Annex II contains a list of hazardous wastes that require special consideration; and Annex III contains the list of hazardous characteristics.

34 See Article 4 (9) (a) and (b) of the Basel Convention.

the Basel Convention requires exporting countries to notify and obtain consent from the importing country, and countries of transit before hazardous waste can be exported. However, in reality, the toxic waste merchants exploit the loopholes in the Basel Convention to continue shipping waste to poor countries under the pretext that it is intended for recycling. In all, the Basel Convention failed to achieve its objectives owing to its glaring loopholes and non-compliance from the waste exporting countries (Clapp 2000; Luken and Clarence-Smith 2020).

Annex VIII of the Basel Convention (which was first added through subsequent amendments and came into force on November 6, 1998),³⁵ lists hazardous waste materials to include those containing substances such as lead, mercury, selenium, cadmium that are generally found in e-waste. It could, therefore, be argued that although the original text of the Basel Convention did not envisage the control of the transboundary movement of e-waste, it has been made to also regulate e-waste shipment through subsequent amendments that have allowed for the inclusion of the toxic substances commonly found in e-waste components. However, as argued by the Ban Action Network (2020, 14), the prohibition of transboundary shipment of e-waste runs contrary to the provision of paragraph 31 of the new Guideline on the Transboundary Movement of Electronic Wastes, which allows the shipment of non-functional electronic equipment for recycling. The classes of hazardous waste specifically prohibited by the Convention are not exhaustive. But to compensate for this loophole, the Basel Convention allows states to define or consider other classes of wastes not covered by the Convention as hazardous waste in their local legislation.³⁶ However, member states have no uniform list in their ranges of hazardous wastes, consequently, some types of waste classified as hazardous by one country may not be classified as hazardous by another, and this could generate confusion.³⁷ Also, note that the amendment to the Basel Convention (Basel Ban) was negotiated to address the weaknesses of the Basel Convention by providing for a total ban of toxic waste shipment from the OECD, EU and Liechtenstein (as contained in Annex VII of the Basel Convention), to developing (non-Annex VII) countries. Accordingly, the Basel Ban was

35 It is pertinent to emphasise that Annex VIII of the Basel Convention has had two further amendments that came into force on 20 November 2003, and 8 October 2005, respectively to accommodate more hazardous substances. See note 7 on the text of the Basel Convention at <http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>.

36 See Article 1(3) of the Basel Convention.

37 For example, a ship that has reached the end of its lifespan was adjudged to be hazardous waste in Denmark, but was considered otherwise in India. See Galley (2014, 137-140).

adopted in September 1995, and only came into force in December 2019.³⁸ This has the effect of binding the parties to the Basel Convention in prohibiting transboundary movement of waste as encapsulated in Article 1 and Annex VII of the Basel Convention,³⁹ irrespective of the reason or purpose of shipment. In other words, by prohibiting the export of hazardous waste from developed countries to developing countries, the amendment has placed a huge responsibility on developed countries to ensure that toxic waste is not illegally exported from their territories.

Some governments of African countries were not satisfied with the control approach of the Basel Convention. Instead, they preferred an approach that completely prohibits waste shipment to developing countries. As a result, they negotiated the “Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Waste within Africa” – Bamako Convention, under the auspices of the then Organisation of African Unity, now the African Union (AU). The Bamako Convention was adopted by some African countries in 1991 and it came into force in 1998.⁴⁰

The Bamako Convention did away with the control approach and adopted an outright prohibition of hazardous waste shipment into Africa, irrespective of the purpose. Accordingly, the need for prior informed consent from the importing countries no longer

38 Generally, developing countries supported the Ban Amendment, but some influential OECD countries and powerful toxic waste-generating multi-nationals objected to complete prohibition of toxic waste shipment to the non-OECD countries (Clapp 1994a, 514-515; Puckett 1997; DeSombre 2015, 144; Portas 2016). The reluctance of these industrialised states to ratify the Basel Ban Amendment contributes to the reason why it took over 25 years for it to come into force and exposes the persistent sabotage against international efforts to make industrialised countries take responsibility for their massive waste generation and to save the Global South from Western waste dumping. Currently, only 90 states have ratified the Basel Ban Amendment. Nevertheless, some of the countries opposed to this amendment include developed countries notorious for toxic waste shipment. These countries include the US, Australia, Canada and Japan and they have not ratified the Basel Ban Amendment. See UNEP, Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, adopted September 22, 1995, accessed November 30, 2020, <http://www.basel.int/Countries/StatusofRatifications/BanAmendment/tabid/1344/Default.aspx>.

39 See UNEP. “Basel Convention Ban Amendment.” Accessed December 1, 2020. <http://www.basel.int/Implementation/LegalMatters/BanAmendment/Overview/tabid/1484/Default.aspx>.

40 Currently, the Bamako Convention has been ratified by only 28 countries. See African Union. “List of Countries which have Signed, Ratified/Acceded to the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa.” (2019). Accessed December 1, 2020. https://au.int/sites/default/files/treaties/7774-sl-bamako_convention_on_the_ban_of_the_import_into_africa_and_the_control_of_transboundary_movement_and_management_of_hazardous_wastes_within_africa.pdf.

arises.⁴¹ It equally incorporated more categories of hazardous waste left out in the Basel Convention.⁴²

Despite the multilateral and regional agreements to regulate the illicit transboundary movement of hazardous waste from industrialised countries to developing ones, there are indications that waste trade has continued to persist, but more covertly (Koné 2014; Anand 2016). In Somalia, for example, the eco-mafia syndicates are taking advantage of weak institutional frameworks to dump toxic waste in the coast of Somalia (Collings 2016; Weldemichael 2019, 27–30). Somalia is located in the Horn of Africa, which has a long stretched coast. The topography of the region is easy for waste merchants to exploit and dump toxic waste in the coastal region and the hinterland at low cost (Herring et al. 2020).

The illegal waste trade in Somalia contributes to the degeneration of armed conflicts in the country, because various armed groups receive money for toxic waste dumping and channel it to illegal arms purchases. Besides fuelling conflicts, it has aided and abetted corruption, crime, piracy, violence, loss of livelihood and violation of human rights (Environmental Justice 2014; 201). According to the UNEP, the range of waste illegally being dumped in Somalia includes, “uranium radioactive waste [...] lead, and heavy metals like cadmium and mercury. There is also industrial waste, and there are hospital wastes, chemical wastes – you name it”⁴³ (Dagne 2010, 9; Hari 2011; Herring et al. 2020).

Consider also that the 2006 fatal waste dumping incident in Ivory Coast took place after the Conventions had come into force and despite the fact that Ivory Coast is a member of both the Basel and the Bamako Conventions. In July 2006, *Probo Koala*, a cargo ship engaged by Trafigura, a Dutch-based multinational company, dumped 500 tonnes of hazardous chemical waste in Abidjan, Ivory Coast. The waste had been transported from the Netherlands (Bernard et al. 2006). Trafigura declined an offer to manage the waste for US\$1250 per cubic metre in Amsterdam, before a local company lacking adequate equipment and capacity in waste management was hurriedly registered to accept the waste (Leigh 2009; VOA 31 October 2009). The pollution resulted in a serious environmental havoc that claimed more than eight lives and caused a range of health issues to the community and others exposed to the waste dump. Legal action was

41 See generally, Article 4 of the Bamako Convention.

42 For example, the Basel Convention does not apply to radioactive waste and waste generated in the normal operation of a ship.

43 It should be noted that Somalia has been a member of the Basel Convention since 2010. The country is also a signatory to the Bamako Convention, although it has not ratified the Bamako Convention African Union (2014). List of Countries which have Signed, Ratified/Acceded to the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa.” Accessed 1 December.
https://au.int/sites/default/files/treaties/7774-sl-bamako_convention_on_the_ban_of_the_import_into_africa_and_the_control_of_transboundary_movement_and_management_of_hazardous_wastes_within_africa.pdf.

initiated against Trafigura, but the Ivorian government agreed not to pursue the case after accepting a payment of 100 billion CFA franc (an equivalent of US\$236 million) from Trafigura for compensation to the victims. In addition, the firm made an undertaking to clear the waste (Murphy 2007; Greenpeace 2010; Anand 2016).

Concluding Remarks

The article demonstrates that population and industrial growth have led to massive waste generation, and the embrace of the capitalist ideology justifies the commodification and shipment of toxic waste to developing countries. The shipment is eased by globalisation that is intensified by the spate of bilateral, regional and multilateral treaties, especially trade agreements that hardly consider environmental implications of trade. From the trajectory of waste trade, Sub-Saharan African countries have been the major targets owing to their poverty, poor environmental regulatory frameworks and the dearth of knowledge and skills in waste management. There is also lack of awareness about the social and ecological implications of toxic wastes. It is a reminder to governments of African countries of the need to continue making efforts to combat the illicit toxic waste trade that affects the enjoyment of the right to a clean and healthy environment and poses a challenge to sustainable development.

It could be said that the spate of toxic waste import into Africa for dumping has subsided, unlike during the 1970s to the 1990s, yet it has not stopped. The streams of commodity waste import, especially the electronic waste stream and relocation of dirty industries to Sub-Saharan African countries, have continued to increase. The present trends buttress the fact that the multilateral and regional environmental agreements, including the Basel and Bamako Conventions, respectively, may have come a long way, however, they have not succeeded in decisively dealing with the menace of transboundary waste shipment into Africa.

Although the Basel Ban Amendment has just come into effect, it would be too early to assess its effectiveness. With that said, inter-state collaborations in building a formidable institution, such as the Bamako Convention, to tackle illicit waste import remains the best approach in dealing with the illicit waste import into Africa. With such an institution, the states can easily share information among themselves, develop and exchange capacities in waste management and monitoring, and collectively shoulder the financial burden. However, there is an obvious lack of commitment among African countries to the Bamako Convention. For instance, 28 years after the Convention was adopted, it has attracted barely 35 signatories and only 28 out of 55 member countries have ratified the Convention.⁴⁴ Nevertheless, it behoves African countries to protect their respective territories from becoming monuments of waste dump to the western

44 African Union, "Bamako Convention on the Ban into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa – Status List," accessed January 12, 2019, <https://au.int/en/treaties/bamako-convention-ban-import-africa-and-control-transboundary-movement-and-management>.

world, and they can improve individually to complement their collective efforts via the multilateral and regional agreements. The remedy lies in showing more commitment to international environmental protection agreements and establishing robust local environmental protection mechanisms in these countries. In this light, states should establish strong environmental crime monitoring mechanisms to combat illicit waste dumping. They should ensure that they render adequate support to the prosecution of cases that involve the violation of the environment. Furthermore, they must ensure that perpetrators are appropriately punished rather than accepting mere monetary compensation or meagre fines as was done in the Trafigulra and Thor Chemicals incidents respectively. More so, states should consider, the long-term environmental effects of the trade and investment treaties they subscribe to. Finally, the establishment of waste management institutes and adequate funding in this area of study will improve knowledge and skills in waste management.

The implication of toxic waste dumping on the spread of coronavirus disease is recommended for further study.

References

- Adebayo, A. Williams, Adeniyi A. Olumide and Adebayo A. Oluwaseun. 2017. "Environmental Law and the Challenges of Hazardous Wastes and Substances in the World: Making the Legal Safeguards Effective." *EKSU Law Journal* 1–22.
- Adeola, Francis O. 2016. "Environmental Injustice and Human Rights Abuse: The State, MNCs and Repression of Minority Groups in the World System." In *Environmental Rights*, edited by Steve Vanderheiden, Chap.1. New York: Routledge
<<https://doi.org/10.4324/9781315094427-1>>
- Adeola, Francis O. 2011. Hazardous Waste, Industrial Disasters, and Environmental Health Risks: Local and Global Environmental Struggles. Palgrave Macmillan
<<https://doi.org/10.1057/9780230339538>>
- Ahmed, Ishtiaque. 2020. "The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: A Legal Misfit in Global Ship Recycling Jurisprudence." *Washington International Law Journal* 29(2): 412–453.
- Aja, Chikere O, Hussain H. Al-Kayiem, Mesfin G. Zewge and Meheron S. Joo. 2016. "Overview of Hazardous Waste Management Status in Malaysia." In *Management of Hazardous Waste*, edited by ElDim M. H. Saleh, and Rehab A. Rahman, Chap. 5. InTech Open <<https://doi.org/10.5772/63682>>
- Ajibo, Kenneth I.2016. "Transboundary Hazardous Wastes and Environmental Justice: Implications for Economically Developing Countries." *Environmental Law Review* 18(4) 267–283 <<https://doi.org/10.1177/1461452916675538>>
- Ali, Syeda O, Aroma Pervaiz, Beenish Afzal, Naima Hamid, and Azra Yasmin. 2014. "Open Dumping of Municipal Solid Waste and its Hazardous Impacts on Soil and Vegetation Diversity as Waste Dumping Sites of Islamabad City", *Journal of King Saud University – Science* 26(1) 59–65 <<https://doi.org/10.1016/j.jksus.2013.08.003>>
- Amin, Samir. 2012. "Capitalism, Imperialism, Globalisation." In *The Political Economy of Imperialism: Critical Appraisals*, edited by Ronald M Chilcote, 157–168. Springer
<https://doi.org/10.1007/978-94-011-4409-4_9>
- Anand, Ruchi. 2016. "Environmental Justice: National and International Dimensions." In *The Ashgate Research Companion: Ethics and International Relations*, edited by Patrick Hayden, Chap. 21. N.p.: Ashgate Publishing.
- Anton, Donald K. and Dina L Shelton. 2011. *Environmental Protection and Human Rights*. Cambridge University Press.
- Asante-Duah, Kofi D and Imre V Nagy. 2002. *International Trade in Hazardous Waste*. Routledge, 2002.

- Atapattu, Sumudu. 2007. *Emerging Principles of International Environmental Law: International Law and Development*. New York: Transnational Publishers
<<https://doi.org/10.1163/ej.9781571051820.i-536>>
- Atapattu, Sumudu. 2019. “Environmental Rights and International Human Rights Covenants: What Standards are Relevant?” In *Environmental Rights: The Development of Standards*, edited by Stephen J Turner, Dinah L Shelton, Jona Razaque, Owen McIntyre and James R May, 17–40. USA: CUP <<https://doi.org/10.1017/9781108612500.002>>
- Ban Action Network. 2020. *The Entry into Force of the Basel Can Amendment: A Guide to Implications and Next Steps*. BAN.
- Barakat, Shima. 2009. “Transboundary Movement of Hazardous Waste.” In *Conventions, Treaties and other Responses to Global Issues*, edited by Gabriela M Kütting, 146 – 164. EOLSS and UNESCO.
- Barry, Smart. 2010. *Consumer Society: Critical Issues and Environmental Consequences*. London: Sage, 2010.
- Basel Action Network. 2013. “Hazardous Waste Recycling: No Justification for Toxic Trade.” *Basel Action Network*, Briefing Paper 7.
- Basel Action Network. 2011. “The Digital Dump: Exporting Re-Use and Abuse to Africa.” *Basel Action Network*. Published 2011. Accessed October 23, 2018, www.archive.ban.org/BANreports/10-24-05/index.htm.
- Bernard, Phillipe, Jacques Follorou and Jean-Pierre Stroobants. “How Abidjan Became a Dump.” *The Guardian*, Published October 20, 2006. Accessed April 6, 2019. <https://www.theguardian.com/world/2006/oct/20/outlook.development>.
- Blade, CP, F Wang and R Kuehr. 2016. *Transboundary Movements of Used and Waste Electronic and Electrical Equipment*, Bonn, United Nations University Press.
- Boyd, R Davis. 2012. *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment*. Toronto. UBC Press.
- Boyd, R David. 2013. “The Status of Constitutional Protection for the Environment in other Nations” *David Suzuki Foundation* 4: 1–39.
- Boyle, Alan. 2012. “Human Rights and the Environment: Where Next?” *European Journal of International Law* 23(3): 613–642 <<https://doi.org/10.1093/ejil/chs054>>
- Brigden, Kevin, Iryna Labunska, David Santillo and Paul Johnston. 2008. *Chemical Contamination at E-waste Recycling and Disposal Site in Accra and Korforidua, Ghana*. Greenpeace.

- Brook, James. 1988. "Waste Dumpers Turning to Waste Africa." *New York Times*. Published July 7, 1988. Accessed October 4, 2018. <https://www.nytimes.com/1988/07/17/world/waste-dumpers-turning-to-west-africa.html>.
- Brown, Gordon. 2016. *The Universal Declaration of Human Rights in the 21st Century: A Living Document in a Changing World*. Open Book Publishers
<<https://doi.org/10.11647/OBP.0091>>
- Bullard, Robert D. 1993. "Anatomy of Environmental Racism and Environmental Justice Movement." In *Confronting Environmental Racism: Voices from the Grass Roots*, edited by Robert D Bullard Boston, 15 – 40. Massachusetts: South End Press.
- Carnie, Tony. 2012. "Decades of Toxic Waste not Cleared Up." *The Mercury*. Published February 6, 2012. Accessed March 6, 2019. <https://www.iol.co.za/mercury/decades-of-toxic-waste-not-cleared-up-1227577>.
- Carnie, Tony. 2018. "Doubts over Thor's Pledge to Clean Up." *Sunday Times*. Published November 24 2018. Accessed November 24 2020. <https://www.timeslive.co.za/sunday-times/business/2019-11-24-doubt-over-thor-pledge-to-clean-up/>.
- Carnie, Tony. 2020. "Thor Chemicals' Toxic Waste goes up in Flames." *New Frame*. Published September 2, 2019. Accessed 2 December 2020. <https://www.newframe.com/thor-chemicals-toxic-waste-goes-up-in-flames/>.
- Clapp Jennifer. 1994. "Africa, NGOs and the International Toxic Waste Trade." *Journal of Environment and Development* 3: 217–246
<<https://doi.org/10.1177/107049659400300204>>
- Clapp, Jennifer. 2000. "Africa and the International Toxic Waste Trade." *The Environment and Development in Africa*, edited by Moses K Tesi, 103–124. Lexington Books.
- Clapp, Jennifer. 1998. "Foreign Direct Investment in Hazardous Industries in Developing Countries: Rethinking the Debate." *Environmental Politics* 7 (4): 92–113
<<https://doi.org/10.1080/09644019808414424>>
- Clapp, Jennifer. 1994. "The Toxic Waste Trade with Less-Industrialized Countries: Economic Linkages and Political Alliances." *Third World Quarterly* 15(3): 505–518
<<https://doi.org/10.1080/01436599408420393>>
- Clapp, Jennifer. 2001. *Toxic Export: The Transfer of Hazardous Wastes from Rich to Poor Countries*. New York: Cornell University Press.
- Collings, Victoria E. 2016. "Somalis Fight Back: Environmental Degradation and the Somali Pirate." In *Environmental Crime and Social Conflict: Contemporary and Emerging Issues*, edited by Avi Brisman, Nige South l. and Rob White, Chap. 7. Routledge.
- Czaga, Peter, and Barbara Fliess. 2004. "Used goods trade: A growth opportunity." *OECD Trade Directorate* 246/247: 12

- Dagne, Ted. 2010. Somalia: Current Conditions and Prospects for Lasting Peace. Congressional Research Service.
- Denison, Richard, and Ruston, John. 1990. *Recycling and Incineration: Evaluating the Choices*. City. Island Press.
- DeSombre, Elizabeth R. 2015. "Domestic Sources of U.S. Unilateralism." In *The Global Environment: Institutions, Law, and Policy*, edited by Regina S. Axelrod and Stacy D. VanDeveer, 133–156. Sage.
- Environmental Justice. 2014. "Somalia Toxic Waste Dumping, Somalia." *Environmental Justice*. Last modified April 8, 2014. Accessed May 1 2019. <https://ejatlas.org/conflict/somalia-toxic-waste-dumping-somalia>.
- Enwegbara, Basil. 2001. "Toxic Colonialism: Lawrence Summers and Let Africa Eat Pollution." *The Tech* 121(16)
- Erdil, Aysenur and Erturul Tacgin. 2017. "A Historical Approach of Sustainability to Economics, Ethics, Environment, and Quality of Life Cycle Time of Production." *Global Journal of Business, Economics and Management* 7(1): 49–61 <<https://doi.org/10.18844/gjbem.v7i1.1516>>
- European Environmental Agency. 2009. Report No1/2009. "Waste Without Borders in the EU? Transboundary Shipment of Waste." *EEA*. Accessed February 26, 2019, <https://www.eea.europa.eu/publications/waste-without-borders-in-the-eu-transboundary-shipments-of-waste>.
- Euripidou, Rico and Bobby Peek. 2007. "Still Nothing Happening at Thor: The Fate of the Contaminated Thor Chemicals is still not Decided." *Groundwork* 9(3) 281–300.
- Falzon, Danielle and Pinar Batur. 2018. "Lost and Damaged: Environmental Racism, Climate Justice, and Conflict in the Pacific." In *Handbook of the Sociology of Racial and Ethnic Relations*, edited by Pinar Batur and Joe R. Feagin, 401–412. Cham: Springer <https://doi.org/10.1007/978-3-319-76757-4_22>
- Farina, Blaise.2007. "A Portrait of World Historical Production and World Historical Waste after 1945." *Review* 30(3): 177 – 213
- Ferronato, Navarro and Torretta Vincenzo. 2019. "Waste Mismanagement in Developing Countries: A Review of Global Issues." *International Journal of Environmental Research and Public Health* 16 (6):1–28 <<https://doi.org/10.3390/ijerph16061060>>
- Food and Agriculture Organisation of the United Nations (FAO). 2002. "Stockpiles of Obsolete Pesticides in Africa Higher than Expected." *FAO*. Published 2002, access March 14, 2019. <http://www.fao.org/giii/english/newsroom/news/2002/9109-en.html>.

- Frey, Beat, Andre Hauser and Simonne Rufener. 2016. *Exporting Consumer Goods: Second-hand Articles or Wastes?* 2nd ed. FOEN.
- Fuller, Shelly, Dan N King, Sue Bruning and Mike O'Donnell. 2018. "The Mechanics of HHW Collection and Management." In *Handbook on Household Hazardous Waste*, edited by Amy D. Cabaniss, 77–102. London: Bernan Press.
- Gershon, Livia. 2017. "The Birth of Planned Obsolescence" *JSTOR Daily*, April 10, 2017, accessed December 15, 2018, www.daily.jstor.org/the-birth-of-planned-obsplscence/.
- Gilbert, Neil. 2018. *Modernizing the Korean Welfare State: Towards the Productive Welfare Model*. New York: Routledge 2018 <<https://doi.org/10.4324/9781351323086>>
- Global Environmental Facility (GEF). 2010. "The Africa Stockpile Programme" *GEF*, published 2010, accessed March 20, 2019. <https://www.thegef.org/news/africa-stockpiles-programme>.
- Greenpeace. 2010. *The Toxic Ship: The Italian Hub, the Mediterranean Area and Africa*. Greenpeace.
- Guerrero, Lilliana A, Ger Maas and Willian Hogland, 2013. "Solid Waste Management Challenges for Cities in Developing Countries." *Waste Management* 33 (1) 220–232 <<https://doi.org/10.1016/j.wasman.2012.09.008>>
- Hari, Johann. 2011. "Somalia: "Pirates" or Struggling Fishermen?" *Voltaire Network*. Published February 18, 2011. Accessed April 30, 2019. <https://www.voltairenet.org/article168525.html>
- Harris, Jonathan M. 2004. *Trade and the Environment*. Global Development and Environment Institute, Tufts University.
- Harvey, David. 2003. *The New Imperialism*. New York. Oxford University Press <<https://doi.org/10.1093/oso/9780199264315.001.0001>>
- Heacock, Michelle, Carol Kelly, Kwadwo Asante, Linda Birnbaum, Åke Bergman, Marie-Noel Bruné, Irena Buka, David Carpenter, Aimin Chen, Xia Huo, Mostafa Kamel, Philip Landrigan, Federico Magalini, Fernando Diaz-Barriga, Maria Neira, Magdy Omar, Antonio Pascale, Mathuros Ruchirawat, Leith Sly, Peter Sly, Martin Berg, and William Suk. 2015. "E-Waste and Harm to Vulnerable Populations: A Growing Global Problem." *Environmental Health Perspectives* 124 (5): 550–555 <<https://doi.org/10.1289/ehp.1509699>>
- Herring, Eric, Latif Ismail, Tom B Scott, and Velthuis, Jaap. 2020. "Nuclear Security and Somalia." *Global Security: Health, Science and Policy* 5 (1): 1–16 <<https://doi.org/10.1080/23779497.2020.1729220>>
- Hugh J. Marbury. 1995. "Hazardous Waste Exportation: The Global Manifestation of Environmental Racism," *Vanderbilt Journal of Transnational Law* 28(2): 251–294.

- Hull, Eric. 2010. "Poisoning the Poor for Profit: The Injustice of Exporting Electronic Waste to Developing Countries" *Duke Environmental Law and Policy* 21(1): 1–48.
- Incekara, Ahmet and Mesut Savrul. 2012. "The Effect of Globalization on Foreign Trade and Investment." *Contribution to the International Conference on Eurasian Economies*, Almaty, Kazakhstan Republic, October 11–13, 2012
<<https://doi.org/10.36880/C03.00485>>
- Ionescu, Georgiana-Florina. 2016. "The Fundamental Human Right to a Healthy Environment." *International Journal of Academic Research in Business and Social Sciences* 6 (9): 377–383 <<https://doi.org/10.6007/IJARBS/v6-i9/2326>>
- James, Valentine Udo. 1996. "Hazardous Waste Management and Problems in Developing Countries: An Examination of Africa." In *Sustainable Development in Third World Countries: Applied and Theoretical Perspectives*, edited by Valentine Udo James, 89–101. Greenwood.
- Janis, Mark Weston. 2016. *Aspen Treatise on International Law*. 7th ed. New York: Wolters Kluwer Law and Business.
- Foster, John B. 1993. "Let Them Eat Pollution: Capitalism and the World Environment" *Monthly Review* 44(8): 10 – 20 <https://doi.org/10.14452/MR-044-08-1993-01_2>
- Johnson, Hope, Nigel South and Reece Walters. 2017. "Environmental Crime, Human Rights and Green Criminology." In *The Routledge International Handbook of Criminology and Human Rights*, edited by Leanne Weber, Elaine Fishwick and Marinella Marmo. Routledge <<https://doi.org/10.1093/acprof:oso/9780199677771.003.0005>>
- Johnson, Ian. 2014. "Towards a Contemporary Understanding of Limits to Growth." In *Is the Planet Full?* Edited by Ian Goldin, Chap. 5. UK: Oxford University Press.
- Jose, Robinson K. 2019. *Human Rights Violations in Post-Independent India: Kerala Scenario*. United States: Lulu Publications.
- Kaledzi, Isaac. 2017. "Germany Supports E-waste Disposal in Ghana." *Deutsche Well*. Published March 19, 2017. Accessed March 15, 2019. <https://www.dw.com/en/germany-supports-e-waste-disposal-in-ghana/a-38015011>.
- Knox, John. 2010. "Diagonal Environmental Rights." In *Universal Human Rights and Environmental Obligations*, edited by Mark Gibney and Sigrun Skogly, 82–103. University of Pennsylvania Press <<https://doi.org/10.9783/9780812204841.82>>
- Knox, John. 2018. *Framework Principles on Human Rights and the Environment*. UNEP.

- Kojima, Michikazu. 2013. "Issues Relating to the Peter International Trade of Second-hand Goods, Recyclable Waste, and Hazardous Waste." In *International Trade in Recyclable and Hazardous Waste in Asia*, edited by Michikazu, Kojima and Etsuyo Michida. Edward Elgar Publishing <<https://doi.org/10.4337/9781782547860>>
- Koné, Lassana. 2014. "The Illicit Trade of Toxic Waste in Africa: The Human Rights Implications of the New Toxic Colonialism." *SSRN Electronic Journal*: 1–6 <<https://doi.org/10.2139/ssrn.2474629>>
- Kovacs, William L and Anthony A Anderson. 1988. "States as Market Participants in Solid Waste Disposal Services -Fair Competition or the Destruction of the Private Sector?" *Environmental Law* 18(4): 779–816.
- Ladicola, Peter and Shupe, D Anson. 2013. *Violence, Inequality, and Human Freedom*. Rowman and Littlefield.
- Leeden, Frits, Lawrence A Cerrillo and David W Miller. 1975. *Ground-water Pollution Problems in the Northwestern United States*. National Environmental Research Canter.
- Leigh, David. 2009. "How UK Oil Company Trafigura Tried to Cover up African Pollution Disaster." *The Guardian*. Published September 16, 2009. Accessed April 3, 2019. <https://www.theguardian.com/world/2009/sep/16/trafigura-african-pollution-disaster>.
- Lenzerini, Federico.2008. "The Trail of Broken Dreams: The Status of Indigenous People in International Law." In *Reparations for Indigenous People: International and Comparative Perspective*, edited by Federico Lenzerini. 73–116. New York: OUP <<https://doi.org/10.1093/acprof:oso/9780199235605.003.0004>>
- Leonard, Llewellyn and Pelling Mark. 2010. "Mobilisation and Protest: Environmental Justice in Durban South Africa." *Local Environment: The International Journal of Justice and Sustainability* 15(2): 137–151 <<https://doi.org/10.1080/13549830903527654>>
- Leib, Linda L.2011. *Human Rights and the Environment: Philosophical, Theoretical and Legal Perspectives*. Leiden: Brill NV.
- Li, Jinhui, Brenda N. Lopez , Lili Liu, Nana Zhao, Keli Yu, and Lixia Zheng. 2013. "Regional or Global WEEE Recycling. Where to Go?" *Waste Management* 33 (4): 923–34 <<https://doi.org/10.1016/j.wasman.2012.11.011>>
- Lipman, Zada. 2002. "A Dirty Dilemma: The Hazardous Waste Trade." *Harvard International Review* 23 (4): 67–71.
- Luken, Ralph and Edward Clarence-Smith. 2020. *Greening Industrialisation in Sub-Sahara Africa*. NY: Routledge <<https://doi.org/10.4324/9781003004714>>
- Madava, Tinashe. 2001. "Illicit Dumping of Toxic Wastes Breach of Human Rights." *Review of African Political Economy* 28 (88): 288–90 <<https://doi.org/10.1080/03056240108704535>>

- Madu, Christian N.2001. “Sustainable Manufacturing: Strategic Issues in Green Manufacturing” *Handbook of Environmentally Conscious Manufacturing*, edited by Christopher N Madu, 1–26. Springer <https://doi.org/10.1007/978-1-4615-1727-6_1>
- Magdoff, Fred and Chris Williams. 2017. *Creating an Ecological Society: Toward a Revolutionary Transformation*. New York: NYU Press
<<https://doi.org/10.2307/j.ctt1bpmbq3>>
- Manyilizu, Wilber B. 2019. “Pesticides, Anthropogenic Activities, History and the Health of Our Environment: Lessons from Africa.” In *Pesticides: Use and Misuse and Their Impact in the Environment*, edited by Marcelo L Larramendy and Sonia Soloneski, 111–123. UK: InTechOpen.
- Marshall, Rachael E and Khosrow Farahbakhsh. 2013. “System Approaches to Integrated Solid Waste Management in Developing Countries.” *Journal of Waste Management* 33 (4): 988–1003 <<https://doi.org/10.1016/j.wasman.2012.12.023>>
- Martinez-Alier, Joan. 2012. “Mining Conflicts, Environmental Justice and Valuation.” In *Just Sustainabilities: Development in an Unequal World*, edited by Julian Agyeman, Robert D Bullard and Bob Evans, 201 – 228. London: Earthscan.
- Mayer, Marek.1989. “Poisoning the Earth.” In *Toxic Terror: Dumping of Hazardous Waste in the Third World*. Penang. Third World Network.
- McIntire, Erin. 2015. “The International Tribunal for E-waste: Ending the Race towards Lethal Fallout.” *Seattle Journal of Environmental Law* 5 (1): 75–108.
- Murphy, Peter. 2007. “Trafigura to Pay \$198 Mln Settlement to Ivory Coast.” *Reuters*. Accessed 10 December 2020
- Musa, Ajiya and Habibu Y Bappah. 2014. “Issues and Challenges on Environmental Rights: The Nigerian Experience.” *American International Journal of Social Science* 3 (5): 143–152.
- Nordic Council of Ministers Staff. 1991. *The Effectiveness of Multilateral Environmental Agreements: A Report from the Nordic Project*. Nordic Council of Ministers.
- Ntambiweki, John.1991. “The Developing Countries in the Evolution of an International Environmental Law.” *Hasting Int’l and Comp L Rev* 14(3): 905–928.
- O’Hanlon, Carmella.2013. “An Analysis of the Relationship between Capitalism and Imperialism through Adam’s The Wealth of Nations.” *Collage of the Holy Cross*: 1–9.
- Ogungbuyi, Olakitan, Innocent Chidi Nnorom, Oladele Osibanjo, and Mathias Schluep.2012. *E-Waste Country Assessment Nigeria*. UNEP and EMPA.

- Organisation of Economic Co-Operation and Development.2014. *Green Growth Studies: Green Growth Indicators 2014*. OECD Publishing.
- Organisation of Economic Co-Operation and Development. 2013.“Municipal Waste Generation and Treatment, 1995-2011”, in *Environment at a Glance 2013*: OECD Indicators, OECD Publishing, Paris, Accessed March 18, 2019. <https://stats.oecd.org/Index.aspx?DataSetCode=MUNW>.
- Oteng-Ababio, Martin, Jose EM Arguello and Offira Gabbay. 2013. “Solid Waste Management in African Cities: Sorting the Facts from the Fads in Accra, Ghana” *Habitat International* 39: 96–104 <<https://doi.org/10.1016/j.habitatint.2012.10.010>>
- Ottaviani, Jacopo. 2015. “E-waste Republic.” *Aljazeera*. Published 2015. Accessed February 28, 2019. <https://interactive.aljazeera.com/aje/2015/ewaste/index.html>.
- Papu-Zamxaka, Vathiswa, Harpham Trudy and Mathee Angela. 2010. “Environmental Legislation and Contamination: The Gap between Theory and Reality in South Africa.” *Journal of Environmental Management* 91 (11): 2275–2280 <<https://doi.org/10.1016/j.jenvman.2010.06.014>>
- Park, Rozelia S.1998. “An Examination of International Environmental Racism through the Lens of Transboundary Movement of Hazardous Wastes.” *Indian Journal of Global Legal Studies* 5 (2): 659–709.
- Poole, CJM and S Basu. 2017. “Systematic Review: Occupational Illness in the Waste and Recycling Sector.” *Occupational Medicine* 67 (8): 626 – 636 <<https://doi.org/10.1093/occmed/kqx153>>
- Pope, Kamila. 2017. *Understanding Planned Obsolescence: Unsustainability through Production, Consumption and Waste Generation*. Kogan Page Publishers.
- Portas, Pierre.2016. “Recycling and Resource Recovery under the Basel Convention: Historical Analysis and Outlook.” In *Waste Management and the Green Economy: Law and Policy*, edited by Katharina Kummer Peiry, Andreas R Ziegler and Jorun Baumgartner, 56–79: Edward Elgar Publishing <<https://doi.org/10.4337/9781783473816.00012>>
- Puckett, Jim.1997. “The Basel Ban: A Triumph Over Business-As-Usual” *Basel Action Network*. Published 1997. Accessed March 25, 2019. [http://wiki.ban.org/The Basel Ban: A Triumph Over Business-As-Usual#cite note-21](http://wiki.ban.org/The%20Basel%20Ban%20-%20A%20Triumph%20Over%20Business-As-Usual#cite_note-21).
- Ramirez, Z Jose Pablo.2012. “Pollution.” In *Handbook on International Political Economy*, edited by Ralph Pettman, 375–394. New Jersey: World Scientific <https://doi.org/10.1142/9789814366984_0022>
- Rosenfeld, E Paul and Feng Lydia. 2011. *Risk of Hazardous Waste*. USA: William Andrew Publishing <<https://doi.org/10.1016/B978-1-4377-7842-7.00013-1>>

- Saxena, AK and Yogesh Gupta. 2009. "Environmentally Sound Management of Hazardous Wastes." In *Hazardous Waste Management*, edited by Dominico Grasso and Timothy M Vogel, 333–382: EOSS Publications
- Scherr, Lydia A. 2018. "The Scourge of E-Waste and Potential Remedies" *EcoMENA*, April 9, 2018, accessed March 2, 2019. <https://www.ecomena.org/e-waste/>.
- Schmidt, Charles. "Unfair Trade: E-Waste in Africa." *Environmental Health Perspective* 114(4): A232–A235 <<https://doi.org/10.1289/ehp.114-a232>>
- Singer, Merrill and Pamela I. Erickson. 2011. "As the Future Explodes into the Present: Emergent Issues and the Tomorrow of Medical Anthropology." In *A Companion to Medical Anthropology*, edited by Merrill Singer and Pamela I Erickson, 515 – 532. UK: John Willey and Sons Ltd.
- Singh, Jagdeep, Rafael Laurenti, Rajib Sinha and Bjorn Frostell. 2014. "Progress and Challenges to the Global Waste Management System." *Waste Management and Research* 32 (9): 800–812 <<https://doi.org/10.1177/0734242X14537868>>
- Sisay, Yonas T. 2020. "Human Rights and Development in Ethiopia: Taking the Constitutional Right to Development Seriously." In *Insight into Policies and Practices on the Right to Development*, edited by Carol C. Ngang and Serges D. Kanga, 15–48. UK: Rowman & Littlefield.
- Sonak, Sangeeta, Mahesh Sonak and Asha Giriyan. 2008. "Shipping Hazardous Waste: Implications for Economically Developing Countries." *International Environmental Agreements* 8 (2): 143–159 <<https://doi.org/10.1007/s10784-008-9069-3>>
- South African Broadcasting Corporation. 2019. "Residents Protest over Removal of Mercury Waste." *SABC* (2019). Accessed 24 November 2020. <https://www.youtube.com/watch?v=HF1xEJBMRcI>.
- Spinks, Rosie. 2015. "We are All Losers to a Gadget Industry Built on Planned Obsolescence." *The Guardian*. Published March 23, 2015. Accessed January 25, 2019. <https://www.theguardian.com/sustainable-business/2015/mar/23/were-are-all-losers-to-gadget-industry-built-on-planned-obsolescence>.
- Tladi, Dire. 2000. "The Quest to Ban Hazardous Waste Import into Africa: First Bamako and Now Basel." *The Comparative and International Law Journal of Southern Africa* 33 (2): 210–226.
- Udeze, Bona. 2009. *Why Africa? A Continent in a Dilemma of Unanswered Questions*. Philadelphia: Elibris Corporation.
- United Nations Development Programme. 1998. *Human Development Report 1998*. New York. OUP.

- United Nations Environmental Programme. 2013. *Global Environment Outlook 2000*. Routledge.
- United Nations Environmental Programme. 2015. Universality in the Post 2015 Sustainable Development Agenda.” UNEP.
- United Nations. 2015. “Report of the Special Rapporteur on the Issue of Human Rights Obligations to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment.” A/HRC/31/53 (28 December 2015) para 11.
- United States Environmental Protection Agency (EPA). “Summary of the Resource Conservation and Recovery Act – The History of this Act.” EPA. Accessed March 19, 2019. <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>
- Usman, Adamu K. 2017. *Theory and Practice of International Economic Law*. Lagos: Malthouse.
- Uva, Mary Deery and Jane Bloom. 1989. “Exporting Pollution: The International Waste Trade.” *Journal of Environmental Science and Policy for Sustainable Development* 31 (5): 4–44 <<https://doi.org/10.1080/00139157.1989.9928938>>
- Vaughn, Jacqueline. 2011. *Environmental Politics: Domestic and Global Dimensions*. 6th ed. Wadsworth: Cengage Learning.
- Vidal, John. 2013. “Toxic E-Waste Dumped in Poor Nations, Says United Nations” UN. Published December 16, 2013. Accessed February 2, 2019. <https://ourworld.unu.edu/en/toxic-e-waste-dumped-in-poor-nations-says-united-nations>.
- Voice of America. 2009. “Ivory Coast Government Panel Releases Toxic Waste Findings.” VOA. Published October 31, 2009. Accessed April 1, 2019. <https://www.voanews.com/a/a-13-2006-11-23-voa22/319097.html>.
- Vrijheid, Martine. 2000. “Health Effects of Residence Near Hazardous Waste Landfill Sites: A Review of Epidemiologic Literature.” *Environmental Health Perspectives* 108(1): 101–112 <<https://doi.org/10.1289/ehp.00108s1101>>
- Ward, Halina. 2002. “Corporate Accountability in Search of a Treaty? Some Insights from Foreign Direct Liability.” *The Royal Institute of International Affairs, Sustainable Development Programme*. Accessed 20 November 2020. <http://www.chathamhouse.org.uk/publications/papers/view/-/id/56/>.
- Weldemichael, Awet T. 2019. *Piracy in Somalia: Violence and Development in the Horn of Africa*. Cambridge University Press, Cambridge <<https://doi.org/10.1017/9781108683425>>
- Westervelt, Sarah and Whitney Beckham. 2015. “Externalizing the Costs of Hazardous waste from the United States.” *Vermont Journal of Environmental Law* 16(4): 636–661 <<https://doi.org/10.2307/vermjenvilaw.16.4.636>>

White, Rob. 2015. "Crime and Natural Environment" *Oxford Handbooks Online Scholarly Research Reviews*. Published 2015.

<<https://doi.org/10.1093/oxfordhb/9780199935383.013.84>>

Willan, Phillip. 2009. "Establishment Hit by Fresh Accusations in Toxic Waste Scandal." *The Herald*. Published September 2, 2009. Accessed December 22, 2018, <https://www.heraldscotland.com/news/12613554.establishment-hit-by-fresh-accusations-in-toxic-waste-scandal/>.

World Bank. 2013. "Obsolete Pesticides Stockpiles: An Unwanted Legacy of the African Landscape." *World Bank Group*. Published 2013. Accessed March 20, 2019. <http://www.worldbank.org/en/news/feature/2013/08/05/obsolete-pesticide-stockpiles-an-unwanted-legacy-of-the-african-landscape>.

World Bank. 2016. Project Performance Report: Ethiopia, Mali, Morocco, South Africa, Tanzania, Tunisia – Africa Stockpile. World Bank.

World Bank. 2010. Reducing the Human and Environmental Risks of Obsolete Pesticides. GEF and World Bank.

World Commission on Environment and Development. 1987. *Our Common Future*. Oxford. OUP.

World Economic Forum. 2020. "What is Environmental Racism." Accessed 20 November 2020. <https://www.weforum.org/agenda/2020/08/what-is-environmental-racism-pollution-covid-systemic/>.

Wynne, Brian. 1989. "The Toxic Waste Trade: International Regulatory Issues and Options." *Third World Quarterly* 11(3): 120–146 <<https://doi.org/10.1080/01436598908420177>>

Zafar, Salman. 2016. "Significance of E-Waste Management" *EcoMENA*. Published December 18, 2016. Accessed March 3, 2019. <https://www.ecomena.org/ewaste-management/>.

Zimring, Carl A and Rathje I William. 2012. *Encyclopedia of Consumption and Waste: The Social Science of Garbage*. Sage Publishing <<https://doi.org/10.4135/9781452218526>>