

**Okafor-Yarwood, I. and Adewumi, I.J. “Toxic waste dumping in the global south as a form of environmental racism: Evidence from the Gulf of Guinea”. *African Security***

Author’s accepted version  
Manuscript accepted March 6. 2020.

**Toxic waste dumping in the global south as a form of environmental racism: Evidence from the Gulf of Guinea.**

**Abstract:**

Toxic wastes are chemical compounds that, when ingested or inhaled, can cause physiological impairment and, in extreme cases, death. They are also known for their detrimental effect on the environment when disposed of in an unsafe manner. Yet, countries in the Gulf of Guinea continue to be targeted by western waste-brokers notwithstanding the existence of laws prohibiting the transboundary disposal of such materials. There is also a rise in the export of electronic waste (e-waste) from developed countries to countries in the region purportedly as reusable electronics, much of which ends up in landfills. The primitive recycling techniques of these e-wastes undermine the health of the local populations and their environment due to inadequate care with their heavy metal and toxin content. Drawing on examples from Côte d'Ivoire, Nigeria and Ghana, this paper argues that toxic waste dumping in the Gulf of Guinea amounts to environmental racism. The paper makes recommendations which touch on peculiar issues of toxic waste dumping in the Gulf of Guinea including the need for countries to implement the provisions of the Basel and Bamako Conventions in their entirety; recognise acts of environmental racism as violations of human rights; and for young people to rise up to the occasion as “agents of change”.

**Keywords:** Bamako Convention; Basel Convention; Gulf of Guinea; Environmental Racism; Toxic Waste Dumping;

## 1. Introduction

There is no universally agreed definition for toxic waste. The inconsistency in the definition creates a loophole in the classifications of what constitutes toxic/hazardous waste, thereby making it difficult to measure and monitor the actual volume of the toxic waste trade, especially in developing countries (Meško and Klenovšek, 2011; Ovink, 1995; Saxena and Gupta, 2009; Lambrechts and Hector, 2016). Providing a detailed definition, Fisher notes that toxic waste is a combination of wastes which, by nature of their quality, and physical and chemical characteristics can:

- (a) cause, or significantly contribute to an increase in the mortality or an increase in serious irreversible, or incapacitating reversible illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (Fisher, 1980: 422).

Fisher's definition captures and highlights the environmental, as well as the physiological, implications of toxic waste. Toxic waste dumping is, however, understood here to be the transboundary export of often illegal, hazardous waste by developed and industrialised countries in developing countries (Ajibo, 2016: 267-8).

Incidences of toxic waste dumping in developing countries, such as those in the Gulf of Guinea, might highlight the lack of capacity of governments to monitor the import of such wastes into their countries. However, such incidences have been described by some scholars as a form of environmental racism and/or toxic terrorism (Park, 1998; Bullard, 2002; Ladicola and Anson, 2003; Gbadegesin, 2001; Sende 2010), toxic colonialism and garbage imperialism (Marbury 1995) and environmental injustice (Bene, 2016; Laurent, 2010; Pellow, Weinberg, and Schnaiberg, 2002; Turner et al., 2002), with a human rights undertone (Madava, 2001; Nmadu, 2013).

Defining environmental racism Chavis observes that it involves,

- Racial discrimination in environmental policymaking and enforcement of regulations and laws, the deliberate targeting of communities of colour for toxic waste facilities, the official sanctioning of the presence of life-threatening poisons and pollutants for communities of color... (Chavis, 1994: xi-xii).

Though Chavis' position characterizes the situation in the United States during the civil rights era, nonetheless it is useful for understanding the contemporary cases of toxic waste dumping in developing countries such as those in the African continent by western waste-brokers who sometimes conceal the content of such wastes without regard for the physiological and environmental impact of their actions. As Park (1998) observes, western governments and

corporations generate hazardous waste in their countries as by-products of manufacturing and pay less-developed countries to dispose of said waste; the shipment of such hazardous waste from developed to developing countries, it can be argued, therefore, amounts to environmental racism on an international scale.

While controversial, and indeed open to criticism, the fact that overzealous western waste-brokers specifically target developing countries in breach of international regulations on the transboundary movement and disposal of toxic wastes (Greenpeace; Amnesty International, 2012; Koné, 2014; UNODC, 2009; Gbadegesin, 2001) encapsulates the aptness of Chavis' and Park's views on the discriminatory nature of the practice. As the saying goes, "Nothing happens until something moves"; the dumping of toxic waste in the global south is made possible by the active involvement of government officials and local stakeholders (Rucevska et al., 2015; Nmadu, 2013). Poor government regulation has made countries in the region an attractive option for exporters of hazardous wastes from the global north (Sende, 2010).

Contributing to the argument, Pellow, Weinberg and Schnaiberg (2002) note that most of the existing research on the global form of environmental racism emphasizes legal aspects without paying attention to the driving forces behind the waste trade. They go on to identify two factors that have shifted the paradigm in the transportation of hazardous waste to countries in the global south (Pellow, Weinberg, and Schnaiberg, 2002). First, they note that the introduction of more stringent environmental regulations in nations in the north has resulted in the increase in the cost of waste treatment and disposal, which has driven waste-brokers to look to developing countries where the cost is cheaper. Second, the need for fiscal relief, rooted in a long history of colonialism and contemporary loan arrangements between developing and developed countries, has led officials in developing countries to accept financial compensation in exchange for permission to dump toxic wastes within their borders – a practice that has been described as toxic colonialism by environmentalist and African leaders (Pellow, Weinberg, and Schnaiberg, 2002).

The foregoing holds true for the case studies reviewed in this paper, as the introduction of stringent environmental regulations in the United States and Europe, and the subsequent willingness of officials of countries in West and Central Africa to accept such wastes, albeit without knowing their true content, in exchange for millions of dollars, has led to a rise in transboundary transportation of hazardous wastes into the region. Bullard affirms that such transboundary shipment of hazardous wastes and 'risky technologies' from countries like the United States, where regulations and laws are more stringent, to nations with weaker infrastructure and regulations, demonstrates a high degree of duplicity (Bullard, 2004). The unequal interests and power arrangements described above, seemingly, have allowed toxins of the rich to be offered as short-term "remedies" for the poverty of the poor (and sometimes these

harmful wastes are disguised as unarmful). The disingenuous and lucrative nature of the transnational waste trade is considered herein as part of the reason for the continued moves by these “foreign powers” to resist agitations for environmental justice by local and international Non-Governmental Organisations, indigenous environmental movements, and pressure groups (for example, the Movement of the Survival of the Ogoni People) (Pellow, Weinberg, & Schnaiberg, 2002).

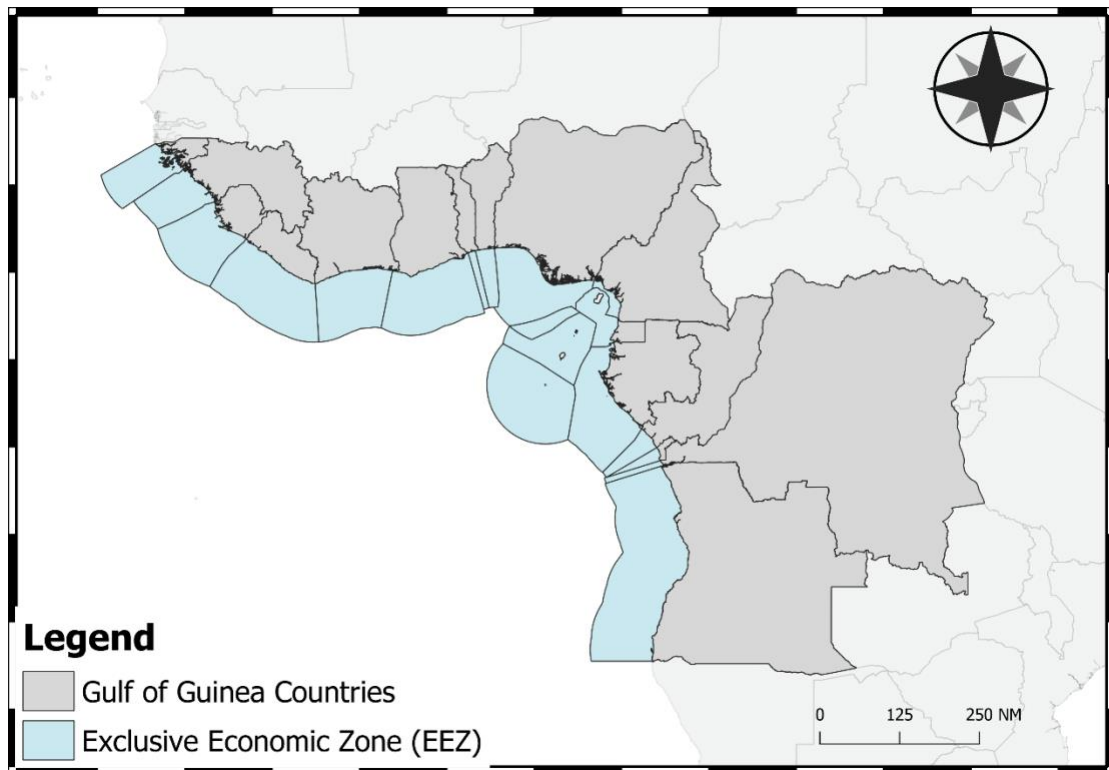
Following these methods, this paper sets the background in the third section with a historical overview of toxic waste dumping and case studies of contemporary incidents from across the Gulf of Guinea. What follows is the fourth section which reviews the provisions of the Basel Convention on Managing Transboundary Movement of Hazardous Wastes; the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa that followed. The paper concludes with recommendations on the need for implementing the provisions of the Basel and Bamako Conventions so as to end the cycle of indiscriminate dumping of hazardous wastes in the region.

## **2. Methodology**

The present paper is based on a desk review of scholarly literature, including regional and international regulations on transboundary movement and disposal of toxic waste such as the Bamako and Basel conventions.<sup>1</sup> Given the clandestine nature of the toxic waste industry, this paper has also analysed documentary evidence from newspaper articles and publications by International Nongovernmental Organisations such as the United Nations Environmental Program (UNEP) and Amnesty International, as well as documents from advocates of local organisations that write about environmental issues in the Gulf of Guinea region. While the Gulf of Guinea region has been defined more broadly to include coastal states stretching from Senegal to Angola (Okafor-Yarwood, 2015), as represented in Figure 1, the region is defined herein as coastal states within the Guinea Current Large Marine Ecosystem (LME) stretching from the Bijagos Islands (Guinea-Bissau) through Cape Lopez (Gabon) to Angola (Chukwuone et al., 2009; Regional Project Coordinating Centre, 2003).

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<sup>1</sup> Parts of the central arguments of this paper were presented at the First International Conference of the African Studies Association of Africa (ASAA), themed African Studies in the 21st Century: Past, Present, and Future, held in Ibadan, Nigeria in October 2015.



**Figure 1: Map of Gulf of Guinea countries each with their Exclusive Economic Zone (EEZ) highlighted, Sources:** (Flanders Marine Institute, 2019, Map Library, n.d.).

With keen consideration to thorough and detailed analysis, this paper draws on ideas from three academic disciplines: Environmental Justice (in respect to ethics and politics); Environmental History; and Anthropology. Ideas drawn from Environmental Justice are applied to evaluate and discuss the inequitable distribution of environmental ills (Schlosberg, 2001) and the resultant environmental racism that poor people in the case study countries endure. Environmental History ideas are engaged to explore the roots of environmental racism in the Gulf of Guinea region and to provide epistemological insight into the evolution of discriminatory ideologies. Finally, anthropological concepts are employed from a cultural relativism perspective to envision the world-view of victims and perpetrators of environmental racism, following EASA (2015) recognition that it is misleading to rank these different views on a scale as societies are qualitatively different from one another and have their own unique inner logic. In the same vein, anthropological ideas also are employed to highlight the importance of a healthy environment and ecosystem that provide services to indigenous people - what Darmofal (2012) referred to as acknowledging the deep ancestral and cultural roots disrupted during the periods of relentless environmental racism.

The paper generally employs a case study approach with particular emphasis on the cross-case research method which enables the authors to contrast toxic waste dumping situations across these different case studies, and to draw informed conclusions based on these comparisons.

According to Khan and VanWynsberghe (2008), the cross-case approach is a research method that allows authors to produce new knowledge about a specific research interest by comparing and contrasting between two or more individual case studies. Unlike a single case study that is compounded with problems of representativeness, a cross-case research approach proves to be more representative of the issues of interest (Ruzzene, 2014). This research method has been applied extensively in social-science research (Gerring 2013). We analysed case studies from Nigeria, Ghana and the Côte d'Ivoire to underscore the extent to which the dumping of toxic waste in the Gulf of Guinea region might represent a form of environmental racism. This approach appears appropriate for this study since, according to contemporary scholarly works in Environmental Justice, there is a growing movement away from a variable-centred approach to causality in the social sciences and towards a case-based approach (Cock and Fig, 2000; UNEP, 2018b; Vani et al., 2017; Nmadu, 2013; Darmofal, 2012).

Several limitations to the case study approach have been highlighted by (Devare, 2015; Gerring, 2013), including investigators often believing that they have full knowledge of the study area, whereas knowledge is always partial. However, compensating for this limitation is the fact that the authors are from the Gulf of Guinea region and have done extensive socio-economic and ecological research work on the cases under study. Therefore, this paper is logically set out to fulfil the three phases of a case study approach as highlighted by (Devare, 2015):

1. Retrospective phase: this entails going through the historical records of illegal dumping of toxic waste in the case studies and diagnosing any environmental racism therein.
2. Prospective phase: refers to the current situations surrounding toxic waste dumping and is helpful for understanding the scale of physiological and environmental impact of the issue under study.
3. Consecutive phase: proffering suggestions and remediation concerning future development and containment of the illegal toxic waste dumping aberration in the case studies.

The present paper, going by the three phases of the case study approach as indicated above, also corroborates the Environmental Justice framework suggested in Pellow, Weinberg, and Schnaiberg (2002). It emphasizes four significant points: 1) the importance of process and history; 2) the impact of social stratification such as in- situational racism and classism; 3) the role of multiple stakeholder relationships; and 4) the ability of those actors with the least access to resources to resist toxins and other hazards.

In furtherance, some of the limitations of the documentary analysis employed by this paper include biased selectivity, low retrievability and insufficient details (Yin, 1994; Bowen, 2009:

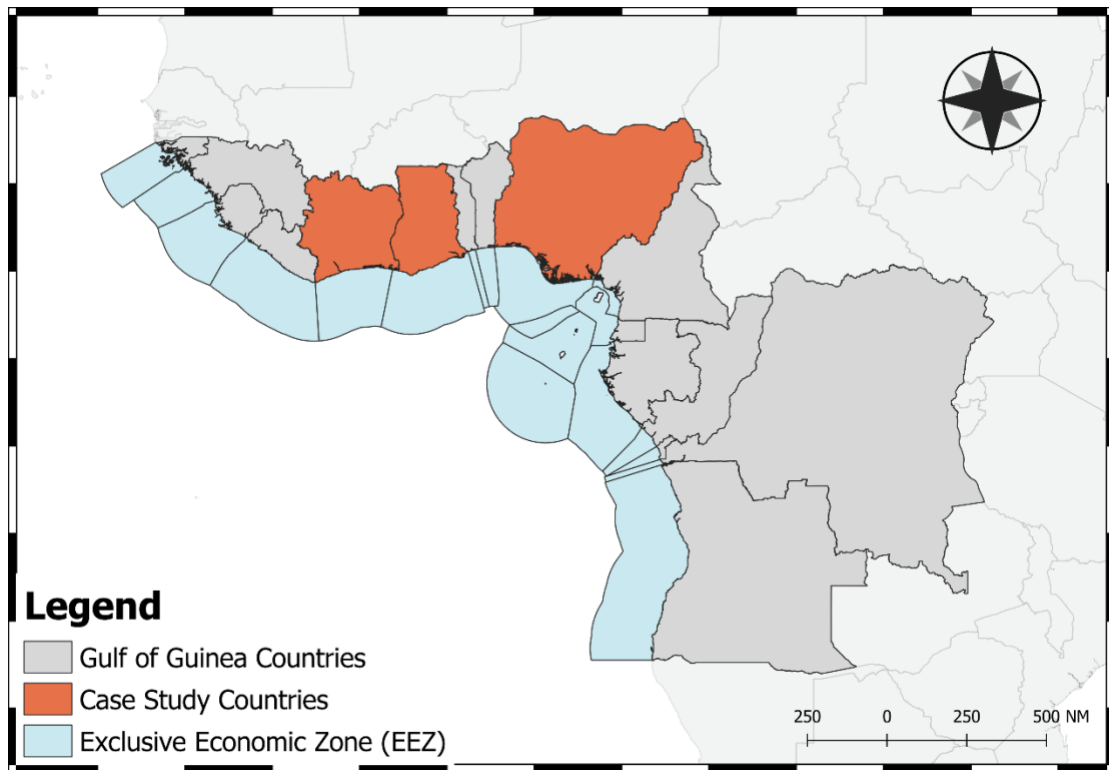
31-2). However, as Bowen observes, these are potential concerns a researcher should be aware of, rather than significant limitations (Bowen, 2009: 32). The researcher, as an analyst, has to decide the suitability of the documents to the subject under study. If done appropriately, Bowen adds, the documentary analysis allows for the production of empirical knowledge and a greater understanding of the subject under investigation, (Bowen, 2009: 33).

The focus on the Gulf of Guinea is appropriate given that the region is overwhelmed by a series of threats which undermine the environment, including pollution from the oil companies operating in the region which undermines the sustainability of both the marine environment and agricultural land (Oshwofasa, Anuta, and Aiyedogbon, 2012; Okafor-Yarwood, 2018). Toxic waste acts as an additional stressor by threatening the health of local communities directly and by undermining biodiversity (Ali et al., 2014; Thompson, 2012).

Therefore, this paper posits that the physiological and environmental effects of the continued trade (legal or illegal) in toxic waste are detrimental to the environmental security of countries in the region and, by extension, will impede efforts to ensure sustainable development across the region. It also argues that the manner in which waste-brokers from the West take advantage of developing countries amounts to environmental racism. By drawing on ideas from environmental justice, environmental history and anthropology, including highlighting the culture of non-disclosure that is inherent in the toxic waste trade, the present paper contributes to debates on environmental racism, its impact on communities, and the understanding of process and history as advocated in Pellow's conceptualization of environmental justice case study research (Pellow, 2000).

### **1. An historical overview of toxic waste dumping and case studies from across the Gulf of Guinea (GoG).**

The transboundary shipment of hazardous waste from developed to developing countries is extensive and has been going on for decades (Dimah, 2001: 57). However, it was not until the 1980s that toxic waste dumping in the African continent by European and American companies gained global prominence (Alao, 1998: 63-90). The United States began regulating domestic movements of hazardous waste in 1976 with the passing of the Resource Conservation and Recovery Act, explicitly designed to control the 'collection, transport, separation, recovery, and disposal practices and systems' of hazardous waste (EPA, 1976).



**Figure 2 Map of the Gulf of Guinea, with the EEZ and Case Study Countries highlighted:** (Flanders Marine Institute, 2019, Map Library, n.d.).

Europe also had early legislation dealing with the waste trade. Specifically, the European Commission issued directives in 1975 and 1978, much like those of the United States, to prevent harm to human health or the environment (Pratt, 2011; Simonsson, 1994: 3). These provisions made it more expensive to dispose of toxic waste within the controlled regions, as stringent measures were required before any material deemed to be toxic could be disposed of. As safety laws in Europe and America aimed at managing the precarious impact of the unethical disposal of toxic waste pushed up the cost of its ethical disposal to an estimated US\$2,500 a tonne, waste-brokers turned their attention to the closest, unprotected shores where corrupt practices were also rife (Brooke, 1988). However, compared to the US\$2,500 per tonne offered to their European and American counterparts with access to operative treatment facilities, countries in the Gulf of Guinea who were willing to receive these wastes, despite not having the facilities that would enable their safe disposal, were offered as little as US\$3 per tonne, moreover with the true contents of the waste almost always unknown to them (Udeze, 2009: 169).

The level of non-disclosure associated with toxic waste across the Gulf of Guinea region was such that a lot of it was deposited with the receiving countries none-the-wiser about its poisonous characteristics. According to Alao (1998), from 1987–1988 thousands of tonnes of toxic waste were deposited in Nigeria without the consent or knowledge of the Nigerian



Government. Neither were the local people contracted to dispose of the waste aware of the contents of such waste. Shrouded in deceit and coupled with the lack of adequate facilities in ports across the region, by the end of 1988 toxic waste had been dumped in the Benin Republic, Guinea, Guinea-Bissau, Nigeria and Togo, masterminded by European subcontractors or countries (Alam, 2008; Alao, 1998). In 1988, for example, an estimated 4,000 tonnes of toxic waste, disguised as non-explosive, non-radioactive and non-self-combusting chemicals, were dumped in the Koko Delta State of Nigeria. An Italian importer paid Mr. Sunday Nana a paltry US\$100 per month in exchange for storing such waste at his property. According to Mr. Nana, the contents of the drums were not disclosed to him; however, it was later found that the supposed non-toxic waste was, in fact, extremely poisonous. And although the waste was subsequently removed, the environmental impact and damage to human health had already been felt (Alao, 1998; Brooke, 1988).

There are other examples from across the Gulf of Guinea, which, like the Koko example, have resulted in the loss of life and the depletion of the environment. It goes without saying that the governments of the respective countries in the region have played a major role in encouraging these practices – sometimes lured by the prospect of generating revenue – in part due to the lack of monitoring equipment in ports, which makes it impossible to detect wastes disguised as non-harmful materials.

The case of Equatorial-Guinea makes for a useful example. As far back as 1988, President Teodoro Obiang Nguema approved a plan by a British company to store 10 million drums of toxic waste on Annobon, a small island in the country (Brooke, 1988). Also implicated as being involved with brokering the agreement was the United States based firm, Axim Consortium Group of New York City. The agreement involved renting 200 ha of land on the island, in which they hoped to bury the waste. Obiang's government had received a down payment of US\$1.6 million for the contract which was expected to expire in 1997. However, following diplomatic and media outcries and objections by Nigeria due to the possible environmental and physiological implications arising from the proximity of the two countries, the contract was said to have been suspended by the parties (Dimah, 2001; Scafidi, 2015; James, 2014: 593).

However, exposing the culture of non-disclosure in the toxic waste business, in 1994 it was reported by the Swiss press that Obiang's government made an estimated US\$200 million from a deal involving the disposal of toxic chemicals and radioactive wastes on the Island of Annobon by western waste-brokers. In the 1990s, a military blockade was imposed on the island. While access to foreign visitors was restricted, an eyewitness account from a visiting German agronomist noted that there were indications of storage of radioactive materials on the coast of the island (Scafidi, 2015: 178; Wood, 2004). Although there are very few accounts available of the situation in Annobon in the 1990s, what little evidence there is points to

increased physiological problems such as leukaemia, ulcers and abscesses, as well as widespread malnutrition amongst the habitats of the island. Equally worth mentioning is the possible impact of the wastes on the island's fauna and flora (Scafidi, 2015: 178; Wood, 2004). It follows that, contrary to previous reports that the agreement was suspended due to objections by Nigeria, the discovery in 1994 of the above facts is evidence that the agreement or alternative arrangements for the disposal of toxic waste did indeed go ahead on Annobon Island. What is unknown, however, is whether the actual content of the waste was made known to the Obiang government by the American waste-brokers.

These historical cases resulted in a global outcry and brought about the adoption of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes in 1989 and, subsequently, the Bamako Convention on the Prohibition of the Import into Africa of any Hazardous (including Radioactive) Waste in 1991. However, as the contemporary example of illegal dumping of toxic waste in Cote d'Ivoire and the rise in the export of e-waste from developed countries to Nigeria and Ghana would show, the cycle of deceit and the indiscriminate dumping of hazardous waste in poor and indigenous communities persisted.

#### **I. Côte d'Ivoire and Toxic Non-disclosure by Trafigura.**

In 2006, an Ivorian businessman entered into a business agreement with Trafigura, a European-based multinational company. The deal would allow the company access to some sites on the Ivorian coast for dumping wastes which they claimed to have identified as non-toxic. The unique angle in the Ivorian example is that, before Trafigura decided to dump their waste in the country, they had approached another country in Europe but were unwilling to pay the high cost quoted for treating and proper disposal of the toxic waste (Koné, 2014). The waste was first transported to the Netherlands, where it would have cost an estimated €500,000 to treat and dispose of the toxic materials appropriately. However, unwilling to pay such costs, the company looked to West Africa and, following various inquiries, they successfully negotiated a deal with a subcontractor in Abidjan, Côte d'Ivoire, who was willing to dispose of the waste for a mere €18,500. This amount is approximately one-twentyseventh (3.7%) of the cost quoted in the Netherlands to dispose of the waste adequately (Margai and Barry, 2011; Gregson and Crang, 2015).

Trafigura's actions display a strong element of environmental racism in that they concealed the truth about the content of the waste to dispose of it in Cote d'Ivoire without any care about the potential damaging effect on the poor and indigenous communities there. Confirming the purported non-toxic nature of the waste, an excerpt from an email by Trafigura to the Ivorian government read, 'this is not very hazardous in the overall scheme of things, a bit of caustic in some water with a trace of gasoline' (BBC, 2009). Note that Trafigura was unwilling to pay the high cost for proper disposal of the waste in the Netherlands but chose to come to Cote d'Ivoire

to dispose of it unethically. As captured by Knauer et al. , 'Europe would not take the ship's stinking, poisonous cargo, so it sailed to the [Gulf of Guinea] and dumped the toxic mess into a [Côte d'Ivoire] Lagoon' (Knauer, Thielke, and Traufetter, 2006).

Though the true content of the waste was not disclosed, the loophole in the Ivorian waste management system is evidenced by the fact that the sub-contractor paid to dispose of the waste was able to dump it in over 12 locations without any confrontation with the authorities (UNEP, 2018b). Trafigura was able to dump its waste in the country because, unlike the Netherlands, the Côte d'Ivoire did not have the human resources or facilities for testing for toxicity in their port. Also, corruption might have played a part, as members of the family of the ousted president, Laurent Gbagbo, are alleged to have held shares in Puma Energy, the company contracted to dispose of the waste (Knauer, Thielke, and Traufetter, 2006).

The Ivorian case evinces how a single action can have a devastating lasting effect on the environment and the lives of the local population. Specifically, following the illegal dumping of toxic waste by Trafigura, the United Nations noted that 15 people died, 69 people were hospitalised, and over 100,000 complained of nausea and vomiting after inhaling fumes from the waste (UN News 2009). Alongside the health impact, was the political instability caused by this incident, as the local government became overwhelmed by the demand for medical services, with civil unrest fomented by the suspicion of corrupt government officials having a role to play in the dumping of the waste. Also, the food security of the Ivorian people was threatened, as agricultural activities were disrupted due to the intensity of the disaster in the affected region (UN News, 2009). Similarly, this singular action also had some impact on the economy of the country, with over 100,000 people incapacitated and unable to work or provide food and primary health care for their families, and therefore unable to contribute towards the economic growth of the country (Eze, 2008; Patel, 2003).

Furthermore, the level of injustice and disregard for the Ivorian people is enhanced by the fact that the decontamination of sites did not commence until 2008. This delay resulted in two more years of illness, loss of income, lack of healthcare and environmental degradation for the people living in Abidjan and its surrounding areas (UN News, 2009; Udeze, 2009). As Ibeanu opines, while the full extent of the effects of the Trafigura waste dumping might never be known, there seems to be substantial *prima facie* evidence that the reported deaths and adverse health consequences were directly related to the dumping of the waste (UN News, 2009). There also appears to be evidence to support the claim that diseases that are somewhat new to the areas have been identified. For example, cancer and a significant amount of Cerebral Vascular Occurrences (CVA), that specialists confirm are high rates, have only been recorded since the Trafigura incident (Job, 2015). Besides, 12 years since the incident, a 2018 assessment of the

sites by the United Nations Environmental Programme (UNEP) noted that some of the affected sites still have high levels of air and groundwater pollution (UNEP, 2018).

With the continued culture of non-disclosure by western countries and multinational companies, it remains difficult to keep track of the extent of toxic waste dumping (Pratt, 2011) or to put an end to the importation of such wastes into the African continent (Margai and Barry, 2011). The situation is further compounded by the fact that many of the receiving countries often do not have the right equipment or trained personnel to identify the exact content of the disguised toxic waste arriving at their ports (Margai and Barry, 2011). Furthermore, as the ensuing examples will show, the quest for economic revenue by select countries in the Gulf of Guinea presents a challenge to stemming the tide of the indiscriminate dumping of toxic wastes in the region. In particular, there is an increasing trend in the importation of electronic waste – also known as e-waste, from developed countries into countries like Nigeria and Ghana, despite them not having the facilities for proper disposal of such waste.

## **II. Toxic Dumping of E-waste in Nigeria and Ghana.**

The import of e-wastes – comprising of discarded computers, television (TV) sets, mobile phones, microwave ovens and other such appliances that are past their useful lives – has seen a rise in the Gulf of Guinea countries (Odeyingbo, Nnorom, and Deubzer, 2017; Lepawsky, 2015; Needhidasan, Samuel, and Chidambaram, 2014). According to the United Nations Office on Drugs and Crime (UNODC), each year an estimated 94,000 tons of e-waste worth US\$95 million, much of which contains heavy metals and other toxins, makes its way from Europe and the United States into the region – mainly to Nigeria and Ghana (UNODC, 2009: 55). Still more worrying is the fact that when these wastes arrive in these countries they are stripped of their raw materials mainly by young children working in ‘poisoned’ landfills – resulting in them taking in toxic fumes as the electronics end up incinerated. In stark contrast, highlighting this wrongdoing, in the countries where these wastes originate – in the United Kingdom, for example – electronic waste is required to be appropriately recycled and is barred from incineration and landfills (Spaull, 2015; Doyon, 2015; Pratt 2011).

Misguidedly, the importation of e-waste to countries like Nigeria and Ghana continues given that it generates much needed revenue for the state and is a source of employment and income for the poor and most vulnerable people in those countries (Mcintire, 2015; Grant and Oteng-Ababio, 2012; Oteng-Ababio, 2012; Doyon, 2015). In Nigeria, for example, e-waste has generated jobs and incomes for many Nigerians, so much so that a good percentage of the imported waste ends up at the Ikeja computer village in Lagos. However, the employment and income generated pale into insignificance against the negative impacts on those employed, as working conditions include the handling of toxic materials, exposure to dangerous vapours by

way of uncontrolled burning and disassembling and disposal of non-reusable components that cause health and environmental problems (Pellow, 2007; Doyon, 2015).

Moreover, discriminating between dumping and legitimate export for reuse can be challenging, given that the country of destination uses a fraction of these items. However, the fact that western companies knowingly export their e-waste to these countries claiming them to be reusable electronics reinforces the culture of non-disclosure and secrecy that is inherent in the toxic waste industry and points up the extent of environmental racism towards poor and indigenous people in developing countries. Emphasising the extent of e-waste dumping in Nigeria, a report by the Nigerian Computer Dealers' Business Association noted that as much as 75% of the imported electronic material coming into Nigeria was beyond use and/or unsalvageable (Schmidt, 2006; Pellow, 2007). These unusable electronics end up being disassembled, sent to landfills and then burned, leading to the release of dangerous chemicals, such as mercury and lead, into the atmosphere, soils and water sources (Mcintire, 2015). As well as the immediate pollution of the air, the harm caused by the burning of e-waste primarily occurs in water and soil, with a domino effect on food supplies, animals, and future land use (Spaull, 2015; Kaplan, 2014).

The narrative is replicated in Ghana, where a study led by the United Nations Environmental Programme (UNEP) E-waste Africa Project found that around 15% of imports of second-hand electronics into the country in 2009 were unsellable and thus considered e-waste (Amoyaw-Osei et al., 2011). A prominent site where most of this e-waste ends up is called Agbogbloshie in Accra, which is near the Odaw River and Korle Lagoon and a settlement for an estimated 80,000 slum dwellers, most of whom scavenge the site for subsistence (Kaplan, 2014). Once a wetland and local playground, the area has been converted to what locals call '*Sodom and Gomorrah*' (Adjei, 2014), serving as a landfill for unsalvageable e-waste from Europe and America.

While some of the young men who scavenge the dumpsites for reusable materials derive some economic benefit from doing so, the negative implications on their physiological health and the environment are irreparable and therefore not worth the risk (Oteng-Ababio, 2012; Kaplan, 2014; McIntire, 2015). The fall-out of the dumping of e-waste is too high a price to pay for the residents of Agbogbloshie. In particular, between 40,000 to 250,000 people around the scrapyard face varying degrees of elevated environmental health risks (Grant and Oteng-Ababio, 2016). These people also face unusually high contamination because a fresh food market is located near the e-waste site. What is more, e-wastes in the site were blamed for blocking the waterways and aggravating the June 2015 flood that resulted in the deaths of more than 175 people in Ghana's capital, Accra (Mcintire, 2015).

Thus, as developed countries in Europe and America continue to enjoy the benefits and profits of their electronic products with very little burden on the cost of their disposal, countries in the Gulf of Guinea continue to be the desired destination for the disposal of their e-wastes and are subsequently bearing the brunt of the health and environmental consequences of derelict and hazardous e-waste (Doyon, 2015). The implications are worse for the most vulnerable populations since waste in many of these countries is dumped in areas where the most impoverished populations are most likely to experience the deadliest consequences (Ladicola and Anson, 2003). In the long run, the continued disposal of e-wastes from western countries into Nigeria and Ghana will result in more deaths, severe long-term environmental and health problems and, potentially, public disorder with no implications for the exporting countries (UNODC, 2009).

#### **4. Managing Transboundary Movement of Hazardous Wastes, the Basel Convention and Beyond.**

Concerned about the increasing incidence of the indiscriminate disposal of toxic waste across developing countries, the Basel Convention was held in 1989, and entered into force in 1992. Its core objective was to control the illegal transboundary movement of toxic waste (UNEP & Basel Secretariat, 2007; Pratt, 2011: 593-5). As of 2017, 186 countries were party to the Convention and 56 had ratified it (Basel Secretariat, n.d.). Although the Convention is commended for attempting to limit the impending peril of developing countries being reduced to dump sites by western countries, there exist some loopholes which toxic waste traders continue to utilize to advance their profits (Chaytor, 2013: 31-48). A classic example of the exploitation of such a loophole is in the case of the United States of America. Unlike most industrialised nations who have ratified the Basel Convention, the United States have not, which makes it impossible for federal agencies to prevent the export of toxic waste to non-party states (Lipman, n.d.). The implication is that, since the United States happens to be the world's largest generator of hazardous waste, environmental justice for developing countries, like those in the Gulf of Guinea, cannot be achieved without its cooperation. In 1996, the United States government sent a letter to the Secretary General of the United Nations, highlighting four conditions. One of those conditions notes,

It is the understanding of the United States that the exporting State may decide that it lacks the capacity to dispose of wastes in an environmentally sound and efficient manner if disposal in the importing country would be both environmentally sound and economically efficient (Basel Secretariat, n.d.).

This condition highlights the attitude of the United States and indeed other developed countries to the subject of toxic waste, whereby they believe they cannot dispose of such waste without

undermining their immediate environment, but are willing to export the very same waste to developing countries which have less capability to dispose of such waste. Another loophole that toxic waste traders take advantage of is the fact that the Basel Convention does not have any enforcement mechanism for ensuring that traders in toxic waste are fully accountable for all damages caused. It also does not seek completely to ban trade in toxic waste, which makes outcomes even less favourable for developing countries (Lipman, n.d.). Aimed at addressing some of these loopholes, at the third conference of the parties of the Basel Convention in 1995, a Ban Amendment was adopted prohibiting the transboundary movements of hazardous wastes from developed to developing countries (UNEP 2019).

Unhappy with the provisions of the Basel Convention and, as developed countries continued to look towards Africa for the disposal of their toxic materials, the governments of countries in the African continent sought to devise a solution. This resulted in the implementation of the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement of Hazardous Waste within Africa that was held in 1991, and came into force in 1998 (UNEP, 1991; Chaytor, 2013). The motivation for the Bamako Convention was the failure of the Basel Convention of 1989 to prohibit the trade of hazardous waste to less developed countries and, most importantly, the realisation that many developing countries were exporting their toxic waste to the African continent (Chaytor, 2013). Specifically, the Bamako Convention does not make any exceptions on hazardous waste – like those made for radioactive materials by the Basel Convention (UNEP, 2018a; 2018c).

Compared to the Basel Convention, which is flexible, the Bamako Convention is accused of being too rigid (Chaytor, 2013). The Bamako agreement is, however, more plausible, as it imposes on its signatories that the export of toxic waste is only allowed on the condition that the state of origin does not have the technical capacity and facility for disposal, recycling and reprocessing of waste. It also stipulates that the exportation of toxic waste is allowed on the condition that the receiving country is capable of disposing of the waste efficiently (UNEP, 1991). Evidently, the Bamako agreement seems more robust when compared to the Basel Convention; nevertheless, the challenge with the former lies in identifying what might be constituted as an adequate facility.

Notwithstanding the strong provisions and apparent political support, the reality is that the parties to the Bamako Convention do not seem to have the capability or willingness to implement its provisions, as they appear helpless to prevent indiscriminate disposal of toxic waste in their countries (Pratt, 2011). As observed by Ovink, as well as the huge cost, the decrease in the number and capacity of disposal sites available in developed countries favoured the exportation of toxic waste to developing countries, many of which lack the technology and/or equipment to monitor activities at landfills or to detect what is actually being disposed

of (Ovink, 1995). There also appears to be a general lack of interest by countries in the Gulf of Guinea, and indeed across the African continent, to ratify the Bamako agreement. Specifically, compared to the Basel agreement, which most countries in the continent have ratified, the Bamako agreement to date has attracted 35 signatories and 28 party states, with Nigeria, Ghana and Equatorial Guinea, where toxic waste incidents are prevalent, included in those not party to the Convention (Terada, 2011; Editor, 2013; African Union, 2019; UNEP, 2018c; Basel Secretariat, n.d.).

It follows that when compared to the Basel Convention, the Bamako agreement appears to be more stringent, with clear stipulations about the continent's position on the importation of toxic waste to member states. However, the Bamako agreement in its current state is useless if non-member states – such as Nigeria and Ghana, which have been identified as the prime destinations for e-waste from North America and Europe – do not become signatories and/or ratify it (Spaull, 2015; Doyon, 2015; Pratt, 2011; UNODC, 2009: 55).

## **5. Recommendations and Conclusion.**

By perusing examples from Côte d'Ivoire, Nigeria and Ghana, this paper has shown that indeed toxic waste dumping in the Gulf of Guinea is not only a form of environmental injustice but equates to environmental racism. This is based on the fact that, despite an awareness of the possible physiological and environmental implications of the unethical disposal of such wastes, western waste-brokers target countries in the region where they frequently conceal the real content of the waste without considering the impact of their actions on indigenous communities. The paper has also demonstrated that, although the Basel and Bamako Conventions were instituted with good intentions, the lack of implementation of their provisions has meant that developing countries and countries in the African continent continue to be an attractive destination for toxic waste from Europe and America.

Governments of countries in the Gulf of Guinea must stand against this cycle of exploitation and injustice by developed countries. This would require non-party states such as Nigeria and Ghana to ratify the Bamako Convention, swiftly followed by the implementation of its provisions. As Rucevska et al., (2015) observe:

[W]ithout any significant enforcement efforts dedicated to the tracking, investigation and possible prosecution of criminals involved in illegal waste collection, illegal dumping and related transport activities are likely to grow, as will the associated threats to human health and environmental security.

Since illegal dumping of toxic waste in the Gulf of Guinea has become a significant concern necessitating synergy of actions, innovations and strong political will for more positive results, this paper argues that, in the interests of future generations, the governments of the Gulf of



Guinea countries must work towards a more effective implementation of the recommendations of the 2018 Abidjan Declaration on the Bamako Convention. Primarily, they must remember the justifications for the establishment of the Convention, including concerns that the Basel Convention:

[W]as merely aimed at the regulation or control, rather than the prohibition, of transboundary movement of hazardous wastes, contrary to the spirit of the Organization of African Unity Council of Ministers Council Resolution CM/Res.1153 (XLVIII) which determined that dumping of hazardous wastes is a crime against Africa (UNEP, 2018c).

As part of the implementation of the provisions of the Bamako Convention, party states must equip their seaports with technologies and trained personnel to detect hazardous wastes that may have been disguised as non-toxic materials. This would also require strengthening synergies between all the different development stakeholders to foster support and innovative strategies to overcome the various challenges countries face protecting their critical ecosystems and people from contamination by hazardous chemicals and waste.

To address the problem of e-wastes, Nigeria and Ghana should also consider instituting policies that would directly address the problem of exportation to them of e-waste as purportedly reusable electronics. Perhaps there is a lesson to be learned from Uganda, which implemented regulations that strictly banned the importation of used electronics – mainly computers and computer accessories – in 2010 (Asimwe and Åke, 2012; Nuwamanya, 2017).

The global community, especially developed countries in the global north where most of these wastes originate from, must do more to put an end to the disposal of hazardous wastes into Gulf of Guinea countries. The paper recognises the progress made by the international community in stemming the tide of the transportation of hazardous wastes to developing countries through the introduction of the Ban Amendment. While the 1995 Ban Amendment entered into force on the 5th of December 2019 following its ratification by Croatia, (UNEP 2019) it is too early to ascertain its effectiveness. Challenges are likely to remain, however, as the international e-waste trade system continues to facilitate intra-regional trades in the African continent as a way of circumventing the Basel Convention (Grant and Oteng-Ababio, 2012; Amuzu, 2018).

Nevertheless, the Ban Amendment does not solve the problem of waste originating from the United States as it has not yet ratified the Basel Convention and as such, is not bound by its provisions. There is an urgent need for an international environmental crimes' tribunal (complementary to demands for civil liabilities) to pass appropriate retributive justice on companies and countries that are culpable of dumping toxic wastes in indigenous communities. These companies and countries must also be held accountable retrospectively for the damages

caused and should be made to carry out clean-up exercises and provide an efficient compensation scheme for the affected communities.

Finally, Environmental Justice requires long-term policy creation and will not respond to short-term measures (Darmofal, 2012). Therefore, there is an urgent need for state actors and civil society organizations in the Gulf of Guinea to deepen cooperation in order to increase integrated and sound management in the fight against toxic waste dumping, poverty and promoting sustainable development. In West and Central Africa, more than 64 per cent of people are under the age of 24 (UNFPA WCARO, 2018). These young people in the region need to be the architects of their destinies and challenge themselves to lead efforts at preventing the region from becoming a global “septic tank” for toxic waste. Following the example of Nigerian students in Italy who learned about the waste dump in Koko and reported it to the authorities in the late 80s, the region’s youths must make their voices heard and front actions on the ground to get things changed for the better because environmental issues and improved livelihoods are concerns for the future.

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