

Forum: Environmental Commission (EC)
Issue: Towards regulating e-waste dumps in Africa
Student Officer: Alice Alifragi
Position: President

PERSONAL INTRODUCTION

Dear delegates of the Environmental Commission,

It is my honour to welcome you to the Environmental Commission of the 11th Platon School Model United Nations. First and foremost, I would like to congratulate you for deciding to get engaged in the fascinating world of Model UN. Having the opportunity to deeply examine and discuss some of today's most vital and engrossing issues will indisputably prove to be a valuable experience for each and every one of you. Not only will you take a step towards being an active citizen of the world, but you will also develop communication and public speaking skills, as well as make deep and meaningful friendships and connections. Furthermore, being engaged in environmental issues is of utter importance in this day and age, seeing that climate change is a life-threatening phenomenon which all of us ought to take seriously and attempt, grasp and combat.

My name is Alice Alifragi, an 11th grade student in the German School of Athens, and I have the honour of serving as the President of the Environmental Commission in this year's Platon School conference. I decided to first take part in my school's MUN club back when I was an eighth grader; and was immediately mesmerised by the world of Political debate and Model United Nations in general. I deeply hope to offer you memories, as amazing as those I obtained from any of the MUN conferences I've attended throughout the years, since every single one was better than the other.

Lastly, I would like to let you all know that I am here to assist you throughout this conference, whatever conflict you may face or problem you may have. Please do not hesitate to ask any questions or ask for my help at any given time through my email address at alicealifragi5@gmail.com

Sincerely,

Alice Alifragi

TOPIC INTRODUCTION

E-waste is a term that describes discarded electrical and electronic equipment (EEE). As more parts of the world swing to the advantageous side of the Digital divide spectrum, the modern-day consumer demands the electrical devices that allow them to have a lifestyle as comfortable as possible. This demand, however, results in the issue of safe and resourceful disposability. In the digital age, a huge rise in e-waste dumps has been made evident with 50 million tonnes of annual e-waste, a figure which is expected to double by 2050 with the large rate electrical devices are purchased and disposed of in our day and age. Citizens worldwide are instructed to recycle their e-waste, however, current e-waste recycling solutions are only exporting the issue further, with a mere 20% of e-waste being disposed of properly. The rest of the documented percentage ends up in landfills or is disposed of by informal workers who work in poor conditions, such as in Africa, where the issue of e-waste disposal is arguably one of the largest globally.

Agbogbloshie is the largest e-waste dump in Africa, located near the centre of the city of Accra, Ghana's capital, and has, without a doubt, gained the most popularity amongst other e-waste dumps worldwide. As demand for EEE by the population rises, electronic equipment's lifespan shortens visibly, resulting in their discarding before reaching their actual potential useful lifespan. The modern world's failure to manage seemingly unrepairable equipment is what leads insane amounts of discarded devices to end up in developing countries, primarily in Africa. Such countries have built large lots, in which either the discarded electronics are processed and, if possible, upcycled and reused as the initial device, or parts of the discarded electronics are implemented into new inventions.

The issue of e-waste is of global concern, due to the nature of production as well as disposal of waste in the modern world. Quantifying global e-waste amounts is difficult, since large volumes of waste end up in places lacking proper recycling facilities, and in which rudimentary, and often unsafe methods are used to extract the useful components from e-waste, while the hazardous components of the rubbish are disposed of in uncontrolled dumps and landfills. The ongoing issue of e-waste has raised worldwide concerns about resource efficiency, human health, and most importantly, e-waste dumps' effect on the environment.

DEFINITION OF KEY TERMS

Waste

Waste is described as an unusable or unwanted substance, material, or by-product.

Dumps

A dump is a designated place for storage of products, often waste products, such as rubbish

Electrical and electronic equipment (EEE)

The European Union defines EEE as equipment whose proper function depends on electric currents or electromagnetic fields. EEE include any household appliances, IT and telecommunications equipment, lighting equipment, electrical and electronic tools, toys, leisure and sports equipment, medical devices, automatic dispensers, et cetera.¹

E-waste

Electronic products that do not work anymore, are nearing the end of their digital lifespan, or are simply not wanted anymore. The term “digital rubbish” is a synonym for e-waste.²

Recycling

The process of recycling is breaking down and reusing substances and materials that would otherwise be deemed as waste and thrown away. Recycling reduces the consumption of primary materials, as well as the need for their production, usage of energy, air pollution (caused by incineration) as well as water pollution (caused by landfills).

Digital lifespan

How long a device can possibly function for until it breaks down or becomes unusable.

Digital Divide

The term “Digital Divide” is used to describe the socioeconomic gap between those who benefit from the digital age and those who do not. People who do not have access to the Internet or other information and communication technologies, for example, are put at a disadvantage.

Backhauling

The return movement of a transportation vehicle, i.e. a ship, from the direction of its primary haul, especially when transporting another shipment over the route.

¹ "Security Check." *Security Check*, help.assentcompliance.com/hc/en-us/articles/360009167873-EU-RoHS-Determining-if-a-Product-is-EEE.

² "What is E-waste? Definition and Why It's Important." *Great Lakes Electronics*, 12 Mar. 2020, www.ewaste1.com/what-is-e-waste/.

BACKGROUND INFORMATION

The causes behind e-waste ending up in dumps

Short Digital Lifespan and personal costs

E-waste is growing exponentially due to the continuous increase of global consumer demand. The average citizen in modern society is, understandably, starting to get more and more dependent on personal electronic devices, such as cell phones, laptops, home gadgets et cetera. The consumer's desire to constantly replace devices with newer models when it is not necessarily needed also contributes to the increasingly wasteful consumption of electronic goods. Therefore, customer preference also plays a role in overconsumption of appliances.

Nevertheless, it is oftentimes the manufacturer who is at fault for the vast replacements of devices. Although not a firm conclusion has been drawn on built-in obsolescence, it is no secret that within the last years the digital lifespan of many everyday appliances has witnessed a remarkable decrease, since many recently purchased devices tend to be replaced following a defect, which may point to obsolescence issues.

Not only is the average citizen starting to get more and more dependent on personal electronic devices and digital lifespans are starting to shorten, but it also is usually much more cost-effective for someone to buy a new device and trash the old one rather than repair the previous one, due to manufacturers designing devices for replacement rather than longevity, as it is more beneficial for companies' finances.

Low Company expenses

Nevertheless, it is still hard to determine what exactly happens to e-waste once someone trashes or recycles it. The Basel Convention Network, a non-profit organisation dedicated to tracking imports and exports of hazardous waste around the world, placed GPS trackers on 205 devices back in 2016, 152 of which ended up in the hands of electronic recyclers, who then would sell e-waste scraps to e-waste dumps. As much as 40% of the devices that had been sent to U.S. recyclers were exported offshore, the majority of which ended up in Asia. While it is impossible to determine exactly how much e-waste is exported where, and where it ends up, the most likely scenario is that most gadgets discarded by the Western world end up in informal recycling provinces, or e-waste dumps.

More Economically Developed Countries opt to shipping their e-waste to Less Economically Developed Countries, seeing that informal recycling in dumps is a far cheaper process than proper recycling, as proper disposal of e-waste requires careful treatment due to the toxicity of the chemicals found within electrical and electronic devices. Informal e-waste recycling on the other hand, is a process not regulated by the government. Even though informal recycling may increase the reuse of materials within gadgets and devices, it has a grave negative impact on the environment and is detrimental to human health due to the unsafe methods used to extract the valuable materials. Developed Nations will ship large quantities of e-waste to countries with large demand for scrap and resources, usually due to high unemployment rates, overpopulation causing unemployment, or due to low environmental standards and working conditions. Another reason why More Economically Developed Countries ship to Less Economically Developed ones is due to low labour costs, as well as backhauling being an inexpensive process.

The effects of e-waste

The effects of e-waste on the environment

Once recyclers from More Economically Developed Nations ship e-waste off to Less Economically Developed Countries, the waste is transferred to e-waste dumps, in which informal recycling and refurbishment is put into action by informal workers. Their goal is to extract precious elements within the devices by burning, for example, to later sell or use the materials.

Due to contaminants produced as well as infused with the air during the process of burning e-waste to extract useful material, the air quality is negatively affected, resulting in high levels of air pollution.

Furthermore, when electrical and electronic equipment containing heavy metals, such as mercury, arsenic or cadmium, which are usually to be found in everyday devices, such as mobile phones and computers, are disposed of improperly - be it when the device is initially thrown away or in e-waste dumps - the toxic and dense metallic chemical element may leak out of the item and into the soil. The leachate reaches groundwater tunnels, resulting in the pollution of several thousands of litres of water, which the community is dependent on. The now toxic water is unusable for humans, plants and animals, which may lead to an economic collapse.

In the same way leachate penetrates all the way through to water tunnels, chemicals enter the soil as well. The leachate is non-biodegradable and persists in the environment for long periods of time. This means that the chunk of land affected by the toxic chemicals is non-cultivable, also resulting in an economic

crisis, depending on how large the amount of ground that has been affected is.

The effects of e-waste on human health

E-waste is known for containing over 100 different harmful substances, many of which are highly toxic, such as lead, mercury, arsenic, cadmium, selenium, hexavalent chromium, and flame retardants that create harmful emissions when burned. All of these chemicals can be very dangerous for human health, especially when people come into contact with such substances on a daily basis, in addition to wearing little to no protective equipment, as e-waste dump workers do. Frequent association with these chemicals may result in chronic breathing difficulties, respiratory irritation, eye infections, lung ailments such as coughing, choking, asthma or pneumonitis, tremors, neuropsychiatric issues, convulsions, coma and many even die due to working under such conditions. Communities near e-waste dumps are especially prone to exposure to radiation as well.

E-waste management in Sub-Saharan Africa

The Sub-Saharan African region includes Ghana, Nigeria, and South Africa, which are regions with extremely high amounts of e-waste accumulation. The Global South, primarily Africa, to which e-waste is shipped to, lacks not only policies and legislation to govern e-waste management, but knowledge and appropriate disposal facilities or infrastructure as well, factors which result in the accumulation of e-waste. The issue is so prominent, that the Department of Environmental Affairs believes that e-waste makes up 5% - 8% of municipal solid waste in South Africa, and is growing at a rate of three times faster than any other form of waste. Not only that, but there has also been a shift in where e-waste is sourced, seeing that Ghana now domestically produces its own e-waste, which is logical, since the majority of imports is made up of previously used electronic, which citizens use for a while and then dispose of in e-waste dumps. According to the E-waste Association of South Africa, South Africa generates about 6.2 kilograms of e-waste per inhabitant annually, only 12% of which is recycled. What is especially interesting is that, despite the prominence and urgency of the issue, very little studies on e-waste management were conducted in Africa. Despite lack of scientific papers and research, the conclusion has been drawn that, on a yearly basis,

600 40-foot-high containers are shipped to the port of Tema, feeding a complicated e-waste market with an estimate of 13.000 tonnes of annually-processed e-waste.



Figure 1 The African countries the Sub-Saharan region consists of outlined in green

The Basel Convention has furthermore reported that even though African Countries had policies that covered the management of hazardous waste in general, none had enacted e-waste specific laws to deal with the large amounts of accumulated devices, which in turn led to the continuous leakage of toxic materials from the devices into the environment. Furthermore, it has been observed that countries like South Africa relied merely on the legislations that covered the management of hazardous waste to control the growing issue of e-waste to some extent. Development of firm laws and policies as well as the use of technologies has been deemed as critical in e-waste management. Not only that, but by proper recycling of e-waste, and by having enforced proper legislative frameworks, LEDCs could have a stake in recovery of precious metals, such as gold and copper, which are to be found in electronic appliances, also keeping in mind that due to that, e-waste is a 55-billion-euro industry.

According to numerous reports, the Agbogbloshie site in Ghana is responsible for the refurbishment of at least a quarter (25%) of computers which have been donated to schools and educational institutions, giving workers a reasonable income, enabling them to make ends meet in addition to supporting relatives. However, collectors, who are central to the e-waste value chain, earn an average of USD3.50 daily, whereas other informal workers in Ghana earn a daily amount of USD1.40, thus resulting in competition between formal and informal workers.

Agbogbloshie

How e-waste ends up in Ghana

The Republic of Ghana, a country in West Africa, is home to a commercial district on the Korle Lagoon of the Odaw River, nicknamed Agbogbloshie. In

this district, the world's largest digital dumping ground, also named Agbogbloshie, is to be found. The waste arrives in Ghana via the port of Tema, which is located 20 miles to the east of Agbogbloshie. An annual amount of around 150.000 tonnes of e-waste is imported to Ghana, mainly from developed countries with large amounts of electronic usage in everyday life, such as Western Europe and the United States of America. The products are delivered in huge containers and are typically labelled as "secondhand consumer products", seeing that discarded electronics are not always strictly classified as e-waste, even though their impact is still as noxious and injurious, nevertheless. There have been numerous reports of illegal transboundary movement of hazardous waste by developed countries disguised as



Figure 2 Containers filled with e-waste

commercial goods to developing countries. E-waste is very rarely labelled as such, seeing that the Basel Convention, an international treaty that was established in 1989, and has since then officially banned developed nations from carrying out unauthorised dumping of e-waste in Less Economically Developed Countries. Due to the illicit trade of digital dump materials, the real figure is possibly much higher than 150.000 tonnes of imported e-waste.

The facility in Agbogbloshie

The e-waste recycling facility of Agbogbloshie is probably the largest in the world, and thus, many workers - both informal and formal - live at or in facilities close to the dump. Their job primarily consists of sorting through tech products, such as washing machines, cookers, broken down vehicles that range in size, cell phones, computers, and many more. Most of these appliances contain valuable copper, and to be able to extract that quickly, workers burn through the plastic-covered cables, breathing in toxic fumes that have been produced by doing so in the process, and furthermore resulting in terrible air quality throughout the district. Nevertheless, despite all the chaos, methods

have been implemented, such as dedicated spaces for dismantling and handling different materials and substances, or waste streams, spaces for repair and refurbishment activities, as well as weighing scales. Though workers wear makeshift protective clothing, such as t-shirt masks to prevent fume inhalation, skin diseases, ailments and respiratory illnesses are prominent due to the high amount of pollution, as well as the ineffectiveness of the protective clothing to an extent.

As mentioned above, when improperly handling and operating with electrical and electronic equipment, health risks enter the food chain. The district of Agbogbloshie, being home to one of the largest food markets in the area, is especially affected, seeing that livestock roam freely and are often found grazing on the dumpsite. These animals live in, and oftentimes consume, some of the most hazardous chemicals on earth, thus resulting in free-range animals in agbogbloshie exceeding the European food safety limits on chlorinated dioxins, meaning that the meat may cause cancer and devastating damage to the immune system. More than 80.000 men, women and children, among the poorest of Accra's inhabitants, make up the Agbogbloshie dump civilization, living either on-site or in the slums near the dump. The workers in Agbogbloshie are not only Ghanians, especially from the northern regions, but also migrants from neighbouring countries, such as Niger, Mali and the Ivory Coast. These countries generally have very high unemployment rates, and thus people are forced to migrate to agbogbloshie for work, despite being aware of the dire working and living conditions.

It goes without saying that to solve the issue of e-waste in Africa, many aspects of the issue, such as economic, ergonomic, environmental and legislative, must be tackled efficiently.



Figure 3 Workers in Agbogbloshie burning piles of e-waste

MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

Nigeria

In Lagos, formerly Nigeria's capital, a towering mountain of waste, including e-waste, is accumulated. The phenomenon of dumps emerging in metropolises highlights the ever-growing human need for electronic devices, as well as the short digital lifespans of devices, causing them to be disposed of. Nigeria is one of Africa's fastest growing economies and is one of the most populated urban centres with 21 million residents. However, there are huge amounts of e-waste simultaneously piling up, due to the absence of a formal recycling sector for the safe management of e-waste. Touching the coast of the North Atlantic Ocean, more specifically the Gulf of Guinea, developed countries are able to ship additional electrical and electronic equipment to Nigeria. Annually, nearly 18.300 metric tonnes of discarded electronic devices end up in the city of Lagos through shipping containers, primarily from Germany, the UK, and Belgium. Nigeria, among many other African countries, has banned the importation of e-waste. However, the effectiveness of the ban is questionable, taking into consideration that the imports of e-waste in Nigeria are thriving, since such wastes are oftentimes illegally shipped by means such as being hidden behind working goods, being concealed inside vehicles, or falsely labelled as personal items. Essentially, due to the failure of the ban, the conclusion can be drawn that Nigerian policymakers did not successfully apply a Multi Criteria Analysis approach to the regulations of the transboundary movement of e-waste.

The E-Waste Relief Foundation (ERF)

The E-Waste Relief Foundation is a Nigerian non-governmental organisation focused on tackling the e-waste crisis, primarily within Nigeria and the West African sub-region. The Association's primary aims include the provision of nationwide environmental capacity-building, technology support, as well as handling and disposing e-waste in Nigeria. Furthermore, the foundation also aims to create job opportunities for school graduates who serve as e-waste handlers, recommend appropriate policies for effective e-waste disposal and handling of electronic waste in Nigeria when deemed appropriate, and is determined to protect the environment from dangerous leachates such as lead and mercury. In order to achieve their goals, members of the foundation are spreading the word about the issue of e-waste, removing hazardous wastes from dismantling sites and dumps, investigating new international initiatives, as well as setting up and managing criteria and requirements which the disassembly process has to meet in order to be deemed environmentally and socially sustainable.

China

China is undoubtedly one of the world's largest economies, as well as one of the largest electronics producers. With its gigantic population, it is no wonder that China

produces insane amounts of e-waste, an estimated 7.2 million tonnes annually, the entirety of cannot be disposed of domestically, despite the dump in Guiyu, China, a site which processes discarded electronics and is accountable for the waste of 5.000 businesses. Therefore, apart from being the second largest producer of e-waste, China ships large chunks of e-waste that it cannot process to LEDCs, despite having ratified the Basel Convention on the Control of the Transboundary Movements of Hazardous Wastes and their Disposal, hence accumulating a large percentage of the e-waste in the African region. The conflict of e-waste still persists, however, China is paying great attention to e-waste recycling issues, by having published over 1300 reviewed papers covering some of the problems surrounding e-waste, such as environmental impacts, human health risks, policy studies and more, since 2000.

South Africa

Despite the prominence of the issue of e-waste in South Africa, many inhabitants do not recycle the e-waste they produce. Secondary to the issue, but still of great importance is the lack of appropriate infrastructure and hazard avoidance tactics. The e-waste Association of South Africa (eWASA) has confirmed that about 6.2 kilograms of e-waste per inhabitant are generated annually in South Africa. The South African Constitution has established basic environmental rights, such as the right to live in an environment that is not detrimental to one's health, administrative action and access to information. These actions form the basis for the country's environmental and waste legislation. Furthermore, the National Environmental Management Act (Act 107 of 1998) (NEMA) proposes a principal framework for sound environmental practices, implementable for all development activities. With the background of case studies, the South African government has conducted as well as Acts that have been passed, such as the Hazardous Substances Act: Act No.15 of 1973, or the Occupational Health and Safety Act (Act 85 of 1993), the e-waste Association of South Africa is working towards an industry-led take back system with legislative requirements for producers, distributors and recyclers.

e-Waste Association of South Africa (eWASA)

eWASA was founded in 2008 and is a pan-African, non-profit organisation based in South Africa. The association stands strongly for sustainability, transparent financing concepts, as well as years of accumulated experience with country-specific requirements. Its core goals are the coordination of matters arising from legislation concerning EEE, and the establishment of a sustainable, environmentally friendly e-waste management system for the country. In order to achieve those goals, the association intends to inform e-waste producers about their relevant product spectrum, which provides an overview of obligations and costs, support with the classification of products, as well as assist recyclers in central collation of quantities put on the market.

The United Nations Environment Programme (UNEP)

The UNEP was incepted in 1972 and has since then been tied together closely with the issues that concern the UN Environmental Commission. It has been the global authority that sets the environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment.³ Generally, the UNEP aims to tackle the issue of EEE in its various stages with an interdisciplinary approach, for example developing regulatory approaches on international and national levels, sustainable public procedure programmes, regulations based on circular economy and business models, as well as building capacity for chemical substituents of concern along the EEE value chain. Furthermore, the UNEP is planning on launching a “Massive Online Open Course” (MOOC) on e-waste, which would include why and how electronic waste should be managed safely for the environment, as well as what actions can be taken on a more personal level.

TIMELINE OF EVENTS

DATE	EVENT
1960s	Industrialization of Ghana, migrants flock to Accra
June 1988	Italy is caught transporting 8000 barrels of e-waste to the small town of Koko, Nigeria. The incident alarmed the international community and resulted in the convening of the Basel Convention
November 30th, 1988	The Federal government of Nigeria enacts the Harmful Waste Act, also the first explicit environmental legislation enacted in Nigeria
March 21st, 1989	The Basel Convention is opened for signature in Switzerland
January 30th, 1991	The Bamako Convention is signed, prohibiting the import of hazardous waste by its members
May 5th, 1992	The Basel convention enters into force
1995	The Basel Ban Amendment is adopted, prohibiting the export of hazardous waste from a list of developed countries, mostly members of OECD, to developing countries
April 22nd 1998	The Bamako Convention comes into force
2000s	Ships from countries on the beneficial side of the digital divide spectrum start delivering e-waste to Ghana
2002	Newly conducted research reveals that the export of e-waste from developed nations to African and Asian countries is still rampant
2008	eWASA is established

³ "Please Wait..." *Please Wait...* | Cloudflare, www.unep.org/about-un-environment.

May 21st, 2010	Resolution WHA63.25, concerning health improvement through safe waste management, by the WHO passes
2012	Study by the UN reveals that approx 56.56 million tonnes of eee are put on the global market
May 28th, 2016	Resolution WHA69.4 is passed by the WHO, discussing the role of the the health sector in a strategic approach to chemical management internationally
2021	e-waste output is likely to exceed 53 million metric tonnes

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

The World Health Organisation (WHO)

The WHO has published two resolutions between 2010 and 2016 concerning measures to be taken against the issue of e-waste. Resolution WHA63.25, which was passed on May 21st, 2010, concerns the improvement of global health through environmentally safe and sound waste management. The aforementioned document urges member states to introduce the Health Impact Assessment in order to estimate the health aspects of waste management and then in turn explore options to make waste management environmentally sound in cooperation with the United Nations Environment Programme. Resolution WHA69.4, which was passed on May 28th, 2016, discusses the health sector's role on toxic substances and e-waste management as well as responsible collection. Resolution WHA69.4 is based on previous resolutions by the WHO, such as resolution WHA59.15 (2006), as well as inspired by paragraph 23 of the Johannesburg Plan of Implementation of the World Summit on Sustainable Development. Resolution WHA69.4 mainly urges member states to develop multisectoral cooperation and take on strategic approaches on national and international levels in order to prevent adverse impacts of chemicals on human health.

The Harmful Waste Act HI 2004

The Harmful Waste Act HI 2004 is a legislation in Nigeria that has banned the import of hazardous waste materials. However, the Act has failed to stop the thriving e-waste import market in the country, because Nigerian laws do not directly address e-waste disposal, or because handlers find means to illegally transport e-waste into the country

Ghana, Act 917

In July of 2016, Ghana passed the Hazardous and Electronic Waste Control and Management Act, coded as Act 917, which aimed to support National e-waste management efforts, provide for the control and management of hazardous waste and e-waste, though there has been little improvement so far, since the act prohibits,

among others, imports as well as dealing of e-waste and hazardous waste in the country, both of which actions are indeed taking place in Ghana.

National Environment Management Act 107 of 1998

The National Environmental Management Act 107 of South Africa, commenced on January 29th, 1999, intends to provide for co-operative, environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.⁴

The Basel Convention

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 by the Conference of Plenipotentiaries in Basel, Switzerland, in response to a public outcry following the discovery, in the 1980s, in Africa and other parts of the developing world of deposits of toxic wastes imported from abroad.⁵ The Convention aims to reduce the generation of hazardous waste and promote its environmentally sound management, along with the restriction of transboundary imports of hazardous waste, according to an applicable regulatory system. However, the Convention seems to overlook some loopholes, seeing that

The Bamako Convention

The Bamako Convention is a treaty signed and ratified by African Nations, which came into force in 1998. The Treaty prohibits imports of hazardous waste, including radioactive waste, into Africa. The Bamako Convention is a response to Basel's Convention Article 11, which encourages entering into bilateral, multilateral and regional agreements on the issue of hazardous waste.

POSSIBLE SOLUTIONS

International Monitoring System

Having examined the issue closely, one will draw the conclusion that there is an obvious loophole within many legislative frameworks, including the Basel Convention and other National Acts, which enables exporters to label themselves as “recyclers” and the waste exports as “second-hand goods”. A stricter, more investigative monitoring system could be developed to cease illegal exports to Africa.

⁴ "National Environmental Management Act 107 of 1998." *South African Government | Let's Grow South Africa Together*, www.gov.za/documents/national-environmental-management-act.

⁵ "Basel Convention > The Convention > Overview." *Basel Convention*, www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx.

Clean-up Efforts and Classification of e-waste

Taking into consideration that recycling and proper disposal of large amounts of e-waste requires methodical classification as well as practical clean-up, such actions could be very beneficial. Additionally, many health and environmental issues caused by e-waste in dumps is not only the handling of the waste emitting toxic chemicals, but the unused devices being thrown away unattended and therefore having chemical substances leak into the soil and emit into the air.

Management Infrastructure

E-waste often causes safety hazards and is an environmental threat due to the lack of appropriate infrastructures that would manage and dismantle e-waste appropriately. The fact that e-waste dumps and informal handling stations are such a prominent health and environmental threat is due to the occurrence that appliances are able to leak toxic substances that end up harming livestock, infesting water sources, and hinder food production. Furthermore, the workers in dumps are exposed to all those health risks and do not take necessary measures to protect themselves, i.e., wearing makeshift masks, which are more often than not just a piece of fabric tied around their face. Such infrastructures would provide a safer working place for current dump workers, as well as limit environmental damages due to fewer leakage into the ground.

Universal Definition of E-waste

Another issue that arises within the problem of e-waste is that it lacks a universal definition which would allow organisations and legal frameworks to effectively halt otherwise illegal imports and exports of e-waste. Oftentimes handlers purposely mislabel toxic waste as second-hand goods, allowing them to freely ship it to Less Economically Developed Countries. By providing a solid international definition to e-waste, handlers would be prevented from legally labelling e-waste as something it is not, such as exported materials.

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