**Changing the Management of e-Waste**

The management of electronic waste in the US has been a major environmental problem for several years now. The country is one of the highest global generators of different types of e-waste, such as computers, copiers, flash storage, drive arrays, and other types of waste. Despite that, such devices are essential in driving the country's economic growth as they create a significant problem concerning their disposal when they become spoilt or obsolete. The US alone generates millions of tones every year, and only 15 to 20 percent of the e-waste is recycled. The rest of the materials end up in landfills within the US and other parts of the world. Currently, the shipment of electronic waste to developing countries is the new method for managing electronic waste. However, the US seems to be less concerned about the impacts that its waste is causing to the people in the developing nations.

Considering the dangerous nature of such materials, they have a high potential to cause severe health and environmental problems. There is a need to change the current situation regarding the disposal of e-waste by enhancing environmental friendly methods of handling such wastes instead of shipping them to developing nations. Developed nations have tried to subvert the culture of shipping e-waste to developing nations by drawing up treaties. For instance, the Basel Convention (Kummer 175), which is an international treaty barring developed nations from disposing of electronic waste to developing nations. The treaty is binding and significant since it indicates that saving the environment, especially for the developing nations, is a priority since it is part of the Geneva convention and vision 2030 agenda for a disease-free and clean environment. The United States, however, is not a party to the treaty hence not bound by the agreement to stop the shipment of used electronic waste to Africa, Asia, and South America (Kummer 173).

The extent of the problem of e-waste in the US was revealed when China banned the shipment and disposal of such wastes by developed nations. China used to take in more than 70 percent of the global electronic waste and was the leading destination for US-originated wastes. Following the ban by China, the US became stranded with its e-wastes because there were no proper mechanisms to deal with the wastes (Luther 12). The situation resulted in an increased concentration of e-waste in the US, and the country had to find alternative destinations for its e-waste. The US started shipping its used electronic materials to developing countries such as Vietnam and Thailand, and that has been its primary approach to disposing of e-waste. However, most countries where electronic wastes from the US are ferried are becoming overwhelmed and are implementing policies that will curb the importation of e-waste (Luther 8). As such, the US must change its current practices and find better and ethical methods of disposing of the wastes.

The inferior disposal methods widely practised in the US present significant danger to the community and other populations in foreign countries. The justification of the urgent need for the US to change its current practices concerning the disposal of e-waste is through an understanding of the impacts on people's health and the environment. Studies conducted in recent times justify why the country should migrate from its current ways of managing e-waste. Apart from harming the ecosystem by affecting plants' growth and other organisms in areas near landfills, the main concern has been on people's health. Populations in the US and countries where it is ferried for disposal face serious health challenges emanating from the harmful components of the e-waste (Malviya 115). Such effects explain the need to find alternative and most efficient methods to handle the wastes.

Electronic waste is currently one of the leading factors for the increased prevalence of certain health conditions. The World Health Organization (WHO) has identified e-waste as a major cause of health problems in children and adults (Nriagu and Skaar 25). The disposal of such materials into the environment increases the risk of the harmful elements included in the electronics to get to people via different routes. When such wastes are dumped in a landfill, they result in the pollution of underground water by percolating through the earth's surface. The waste can then find its way to rivers or nearby underground water sources. Whenever communities drink water, they become exposed to numerous health problems. The accumulation of wastes in the environment also results in biomagnification that leads to increased accumulation of materials up the food chain. Plants that grow near dumping areas for e-waste absorb the heavy metals from the ground. When animals or humans feed on such plant materials, they get exposed to the harmful elements (Fowler 12). Such problems have been experienced in the US and are widely encountered in developing nations where wastes are shipped. Based on such reasons, there is a need to change the approaches used to manage used or obsolete electronics.

Health impacts of e-waste include direct effects such as cancer and body organ problems to long-lasting-effects like developmental problems. Even though such effects are minimal in the US, they are alarming in developing nations where most of the wastes are taken. The WHO has expressed concerns about increased cases of illnesses related to e-waste improper disposal in developing nations (Nriagu and Skaar 36). The severity of the materials in causing the illnesses is increased because they are usually destroyed by burning. Air pollution by burning the materials has become a severe health threat, particularly for people working in the dumpsites and those living in the polluted air. People in such nations breathe polluted air, which has exposed them to numerous health problems, including damage to the DNA, respiratory and heart illnesses, cancer, and other countless health problems (Malviya 116).

All electronic wastes dumped in various landfills around the world contain lead, one of the most dangerous metals. When it gets into the environment, lead can damage major body organs, particularly kidneys (Johri 14). Continued exposure to lead produced by the e-wastes is responsible for most kidney problems reported among people working within or near landfills. Such cases have been reported in the US. Lead from e-waste has also caused damage to the blood by inhibiting certain enzymes responsible for the synthesis of blood haemoglobin—several other health problems such as damage to the central and peripheral nervous system. The solution is a robust policy formation around the proper management of e-waste in both developed and developing nations collectively.

The World Health Organization has also raised concerns about increasing cases of respiratory diseases in the countries where the US and other developed nations dump their e-waste. The wastes are usually destroyed by burning to reduce their volume. The smoke that comes from the sites contains harmful substances that, when inhaled, cause lung problems and lead to chronic conditions (Katait 120). Besides, the smoke is also responsible for the many cases of lung cancer that have already been reported. A report by WHO pointed out that children living near the dumpsite areas are most affected by the smoke and other harmful materials produced from the landfills (Katait 120). Electronic wastes have also resulted in children's developmental problems, and due to DNA alterations, some have mental developmental problems (Katait 119). When the heavy metals from the wastes also get into human bodies, they also interfere with the immune system. There are many other health problems attributed to electronic wastes.

The US contributes significantly to the global problems associated with e-waste, especially in developing nations with weak health and labour systems. There is a need to create policies that will reduce people's exposure to the health and environmental problems caused by the materials (Katait 121). As a country, the US needs to change its waste management approaches because it is not justified to expose millions of people to the dangers attributed to the wastes. Changing the status quo concerning the matter will help scale down the number of wastes shipped to the emerging countries and landfills within the US. A significant way to change the status quo is through recycling of the waste. China used electronic parts to develop new electronics, materials, and other usable, environmentally friendly materials that helped keep the environment safe and clean.

Recycling is the most effective approach that should be embraced by the US to reduce the problem of ferrying e-wastes to emerging countries and landfills. One of the factors contributing to the problem is the lack of federal law that mandates the recycling of electronic materials. Due to the increasing challenges associated with the handling of e-waste, some states have created laws regarding recycling the materials (Fowler 12). However, such laws vary from one state to another. The lack of uniformity in the laws is a major contributing factor to the growing problem of e-waste. There is a need to formulate federal laws that will encourage the recycling of electronic wastes.

The e-waste management problem requires a multifaceted approach that should range from the manufacture of products to their use and recycling. The USA has the technological capacity to deal with the problem, but there are no proper policies and strategies to deal with it. Instead of exposing the poor people in developing nations too numerous health problems, particular measures geared towards recycling, proper use of materials and switch to clean energy alternatives should be implemented to eliminate the problem of electronic wastes (Leigh et al. 943). The approaches should address the issue from manufacturing to the level when the wastes have already been generated.

The first option that should be considered to change the current condition of generating e-wastes is designing better products. The US-based manufacturers of electronic products are technologically advanced and can manufacture products that are safer, recyclable, and more durable. However, such strategies should be supplemented by federal policies and legislations that compel manufacturers to adhere to the standards for safety (the United States and the United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Superfund and Waste Management 17). There should be a specific list of the products or materials used in electronic devices to reduce their dangerous impact on the environment and people's health. Manufacturing durable products are also essential in managing electronic waste because they will reduce the amount of waste that will get to the environment.

Manufacturing reusable products will also help to reduce the generation of e-waste. The main factor why many such harmful materials are getting into landfills within the US and developing nations is that most of them are not reusable. Such products are not repaired because their software is subject to copyright. Extended producer responsibility will also be essential in managing electronic waste materials (Luther 16). There should be a law that requires manufacturers of such products to take the responsibility of management and disposal whenever they become useless. Such a move will significantly reduce the number of wastes generated from electronics. Besides, there should be long-term approaches to manage e-waste in the future (Luther 29). The current technological advancements should be used to guide the kind of electronics that should be manufactured. Most electronics, such as computers, are being generated as wastes at a high rate because they have become obsolete and do not meet the current technological requirements. As such, the products being manufactured should consider the future possibility that technology will advance (Johri 44). The US can implement such measures to eliminate the problem of managing electronic waste that mostly ends up in developing nations.

Moreover, the activity of ferrying electronic wastes to the developing nations has several benefits on them. Apart from the mentioned health problems that people face, the wastes are benefiting thousands of people (Mihai 24). Many people are making a living from the wastes either directly or indirectly. In countries such as China, Hong Kong, Vietnam, Nigeria, and other nations taking in such wastes, many citizens are employed in the sites that recycle them (Kalogirou 181). Apart from employment, many emerging nations generate revenue by recycling usable materials from the wastes and selling them. The dumpsites are becoming new mining sites where people extract valuable materials such as gold used in the manufacture of certain products like mobile phones (Regel-Rosocka 20). Countries taking in such materials also generate revenue because the US pays for dumping its wastes (Mihai 26). Considering the financial aspect of the issue, the status quo in managing electronic waste should remain because it benefits thousands of families in developing countries.

Regardless of the few benefits associated with e-waste, mainly providing a living for people, its negative impacts surpass the benefits. Considering the burden on the health of people, there should be no reason to justify the vice (Kalogirou 180). Countries that generate vast amounts of waste, such as the US, ought to find alternatives instead of dumping them in landfills.

The US's first approach to managing its electronic waste materials is dumping them in developing countries. An insignificant percentage of the materials are recycled or dumped within the US. A significant concern has been on the impacts that such materials have on the environment and people. The wastes contain harmful substances such as heavy metals that contaminate the environment. When such products are dumped in a landfill, the harmful substances leak and contaminate groundwater. In some countries such as Ghana and Nigeria, the materials end up in water bodies, particularly oceans, and destroy the ecosystem.

The main point of concern that should compel the US to change its management of e-waste is the effects on people's health. WHO has identified electronic waste as a significant cause of diseases on people living near or working in landfills. The materials are commonly destroyed by burning, which generates contaminated smoke that later causes respiratory problems. Such reasons should be considered to change the approach by adopting more effective ways of dealing with waste. Federal policies that govern the management of such waste will be essential in changing the current situation. Manufacturing of safer and recyclable electronic products should be prioritized in dealing with the problem. However, the shipment of the materials to the developing nations has positive effects, particularly on the generation of revenue. Most people are employed to work in landfills while others earn a living by recycling and selling valuable products such as gold and copper.

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