

ENVIRONMENTAL ASSEMBLY (UNEA)

Topic 1: Managing waste disposal from new technologies

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1. Definition of Key Terms

E-waste: short for Electronic Waste. Discarded electronic objects and instruments such as mobile phones, other devices like tablets and computers, household appliances etc.

Informal recycling: mostly present in developing countries, the process of waste collecting and disposal managed by single individuals or minor businesses, often through illegal ways.

EPR: Extended Producer Responsibility, an EU policy adopted by many countries worldwide which gives manufacturers complete responsibility for waste recycling and disposal.

2. Introduction

Nowadays, technological devices and infrastructures play a fundamental and irreplaceable role in the functioning and development of today's society. Technology impacts people's lives by giving easy access to information, communication, and a plethora of other resources indispensable to humanity's well-being. However, despite not being discussed often, the environmental impact of what we refer to as "technological waste", such as discarded devices or emissions originating from production, is becoming an increasingly dangerous collateral effect of technological development: in a year, the world produces about 50 million tonnes of "e-waste", an already alarming amount that is expected to rise to 120 million by the end of 2050.

Considering the increasing hardships humanity has faced while attempting to deal with general waste treatment in later years, it is clear that this is an issue that must be tackled.

3. Background Information

Recent UN reports reveal that the world produces around 50 million metric tons per year. This phenomenon is of course a direct consequence of the unstoppable production of new generations of electronic devices and instruments that range from household appliances to computers or mobile

telephones, which often get discarded a long time before their functionalities expire in favour of purchasing a brand new version of the same object. This, of course, generates an amount of waste that is destined to become increasingly unmanageable as time passes by.

Of the 50 million tonnes of technological waste produced globally every year, only 20% of it is actually ecologically disposed of and recycled. The remaining 80% either:

- is discarded in landfills, where it accumulates until there is no space left remaining
- goes through an informal recycling process in which workers, usually from developing countries, are forced to work manually with potentially hazardous materials contained in electronic devices, such as mercury and cadmium.

One of the main issues with e-waste is that not only does it amount to an overwhelming amount, but it is incredibly hazardous and physically dangerous for human workers. This of course, as aforementioned, is because of the highly toxic components that are found in basically every electronic device including but not limited to mercury, lithium cobalt oxide, nickel, beryllium etc. In developing countries, where informal recycling is practised, workers must come in contact daily with elements such as these, often without being entirely aware of the danger they're facing, especially when they're employed in minor businesses.

Most contemporary solutions to e-waste, at least in developed states, consist in simply exporting said waste to other countries, where it undergoes a process of informal recycling that appears as way cheaper and easier because of the exploited workers that manage it manually for a minimum salary. In developing countries, entire villages are dedicated to the sorting of discarded components.

Discarded electronics also contain many precious non-renewable resources, such as gold and silver, that instead of being extracted and adequately recycled are disposed of and thrown away as valueless.

Furthermore, e-waste is incredibly dangerous for the soil and, more generally, for the Earth's environment: when discarded in landfill, many toxic elements contained in electronic components leach into soil and, possibly water, representing yet another hazard to human health.

4. Major countries involved

a. Nigeria

In the last decade, Nigeria has experienced a major growth in technological usage by the average population. Specifically, the introduction of GSM and the consequential replacement of fixed lines with mobile telephones have resulted in the abandonment of outdated telephone sets. In addition to that, Nigeria is ranked second in Africa for the production of e-waste, which is almost entirely informally recycled, representing a major risk for workers who come into contact with hazardous components. The WHO has reported a concrete possibility of the environment being contaminated by the dangerous chemicals emitted by the treatment of electronic components, which puts Nigeria's public health at great risk. To tackle the issue, the Nigerian Government has teamed up with the UNEP (UN Environment Program) with the plan of investing in a reformed and better recycling industry for e-waste treatment.

b. China

China is reported as the biggest producer of electronic waste in the world, contributing to 70% of the global e-waste amount every year. The country is not only the first producer but also the first e-waste importer in the world: large amounts of e-waste from developed Western countries have been imported into the country since the 70s, because of extreme economic labour costs and much weaker environmental standards which make the disposal process much cheaper. Despite the well-developed recycling industry, a significant amount of electronic waste in China is managed through illegal and unethical recycling processes, turning informal recycling into a profitable market because of cheap human labour and high demand for quick and economical disposal. To respond to

the increasingly pressing issue, China has adopted the Extended Producer Responsibility (EPR) policy.

c. Sweden

Sweden, along with Norway and Estonia, has one of the highest e-waste recycling rates in the world. Following the application of EPR, the single producers of e-waste are now also responsible for fixing the environmental damage it causes, encouraging them to consider more ecological and environmentally-friendly alternatives to their original waste disposal plans.

5. UN Involvement and previous attempts to solve the issue

The UN E-Waste Coalition is an ensemble of seven UN agencies that have teamed up to support member nations in their fight against the problem of e-waste. It includes relevant and well-known agencies such as the International Labor Organization (ILO) and The United Nations Environment Program (UNEP) among others and is supported by the WHO (World Health Organization).

The UN released a report entitled 'A New Circular Vision for Electronics' in January 2019 to address the issue of e-waste disposal. The report reveals that UN Environment has been working in collaboration with the Government of Nigeria and the Global Environment Facility to devise an investment proposal to kickstart a new electronic system that serves the public interest without overusing resources.

6. Useful Links

- <https://dailynewsegypt.com/2022/12/08/50m-tonnes-of-electronic-waste-worth-62bn-produced-globally-report/>
- <https://www.nhm.ac.uk/discover/what-is-ewaste-and-what-can-we-do-about-it.html>
- https://www3.weforum.org/docs/WEF_A_New_Circular_Vision_for_Electronics.pdf
- <https://theconversation.com/nigerias-electronic-waste-is-a-public-health-problem-and-needs-urgent-attention-163537>

7. Bibliography

- https://www3.weforum.org/docs/WEF_A_New_Circular_Vision_for_Electronics.pdf
- <https://pubmed.ncbi.nlm.nih.gov/18229743/>
- <https://www.epa.gov/system/files/documents/2021-11/swm-guide-flyer-informal-sector-2020-08-06.pdf>