

E-Waste: A lingering concern of the century

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Abstract

E-Waste has found to have adverse effects on the health of human beings. The article describes the harmful effects of E-Waste on the environment and living beings and how it is being dealt with. It also describes E-Waste recycling; the existing laws to regulate E-Waste and the issues faced by the developing nations.

Keywords: E-Waste (Electronic Waste), WEEE (Waste Electrical and Electronic Equipment).

1. Introduction

Global Warming is the foremost among the causes that creates environmental damage. One of the major contributors to Global Warming is the ever piling - up Electronic Waste or E-Waste as it is commonly called. E-Waste is also referred to as WEEE or Waste Electrical and Electronic Equipment. The statistics says that in developed countries the E-Waste accounts for 1% of the total solid waste.

2. E-Waste

E-Waste refers to broken, not-in-use, obsolete or discarded electronic devices such as television, computer CPUs, computer monitors, laptops, mobiles, i-pods, printers, scanners and other such devices. In this gadget dominated world, people consistently go after new electronic devices. With every new purchase of an electronic device the old ones become discarded. This leads to piling up of lot of E-Waste comprising of these obsolete and not-in-use devices (Cairns, 2005).

3. Endangered Environment

How does E-Waste pose as a threat to the environment. The electronic devices are made up of toxic materials that seep into the environment and that might reach into the body of living organisms. I have given below some of the most common electronic devices and instruments and the toxic elements they are made up of.

1. Lead, Cadmium, Beryllium or brominated flame retardants are potentially harmful substances and are present in Cathode
2. Ray Tube. Lead accumulation in body can affect nervous system and cause permanent damage to the brain.
3. Americium is a radioactive substance found in smoke alarms and causes cell damage.
4. Mercury is a toxic element found in fluorescent tubes, tilt switches, flat screen monitors etc. Mercury in human body can cause memory loss, muscle weakness and reduced fertility.
5. Sulphur which is found in lead acid batteries can cause liver and heart damage (Indian Express, 2012)

4. E-Waste on the Rise

The volume of E-Waste is increasing uncontrollably and there are numerous reasons for this. The rapid changes in technology happening in electronic industry have augmented the growth of this sector at an incredible rate. This has led to a fall in the prices of electronic devices making people purchase the devices as a reflex action. In this way, the consumers keep generating volumes of waste electronic equipment, much of which is still operational. Such obsolete and not-in-use equipment is stored in their homes or discarded with regular trash. A graph showing the projected E-Waste generation is shown in figure 1, (Rakesh Jhori, 2008).

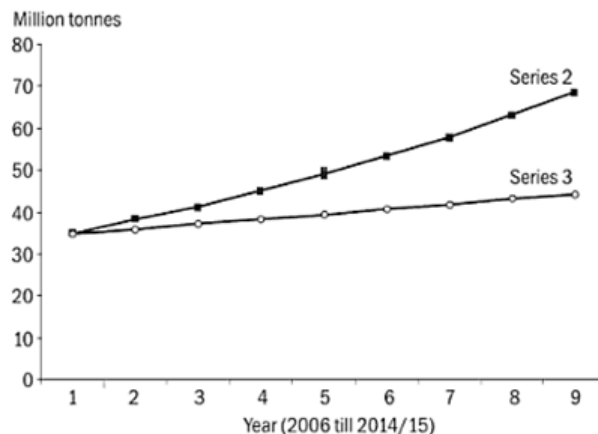


Figure.1: Projected E-Waste generation

The European Union and other advanced countries have come up with policy initiatives to keep a check on the unregulated disposal of E-Waste. They have taken measures for scientific recycling and disposal methods. This is not the case in Asian countries and other developing nations in the world. Unlike the developed nations they do not have a proper system of collection, recycling and disposal of E-Waste. Apart from the problem of not having a proper disposal and recycling system, a major issue confronted by the developing nations is that they are chosen as the destination of various types of hazardous waste imports from the developed world and E-Waste import is no exception.

Time is ripe that we find appropriate ways to tackle the piling up of ever increasing E-Waste and other related issues. It is not that nothing has been done so far or this issue has not been brought up by the government. Of course, there are laws like the recent E Waste (Management and Handling) Rules 2011, drafted by the Ministry of Environment and Forests to address the E-Waste problem. According to this rule, the agencies that handle-Waste on a commercial scale like collection and refurbishing centres, dismantlers must apply for licenses and comply with pollution standards and labour laws. Ordinary users as well as large scale handlers of E-Waste risk prosecution if they do not follow norms on disposal. State pollution control boards or control committees have been entrusted the task of enforcing the rules. The rules seek to enforce 'Extended Producer Responsibility' making the manufacturers of electronics responsible for the collection of E-Waste and proper channelization through take back mechanisms like collection centres in their stores.

5. Recycling E-waste

Recycling mostly consists of dismantling the equipment into various parts like metal frames, power supplies, circuit boards, plastics etc. by hand or using automatic shredding equipment. Recycling of E-Waste can be helpful up to some extent in reducing the amount of E-Waste generation. European Union and other advanced countries have adopted scientific recycling and disposal methods. The developing nations employ unsafe practices and this affects the health of labourers. One advantage of recycling done manually is that humans can recognize working and repairable parts including chips, transistors, RAM etc. These parts can be repaired and reused extending the life span of the device. Some entrepreneurs in India have taken initiative by adopting scientific and environment friendly methods for recycling. Mere discussing the effects and causes of E-Waste generation is not enough. There has to be some measures to which all of us should adhere, as responsible human beings to protect our environment. I have gathered upon a couple of measures in this regard and they are

1. Reuse of Electronic devices which will extend the life span of device.
2. Reduce unwanted purchase of electronic gadgets.
3. Think twice before you purchase a device that you are in real need of it and not purchasing the device because it reflects your style and financial status. We can keep our old electronics longer with a little bit of repairing instead of replacing them every time a new device is launched in the market.
4. Recycle the device.

The device must be consciously handed over to the authorized recycling centres and not thrown away with regular trash.

- Purchase efficient materials that do not contain Mercury and Lead.

- Donate old electronics to people who are in need of them or charity homes that take them.
- Encourage each other to buy used electronics.

6. Conclusion

I would like to conclude that these simple measures be followed as it would go a long way in reducing the volume of E-Waste. Public awareness is what is needed in issues like this. We should definitely do our bit rather than leaving it all to the government and public bodies to handle the problem. Also, E-Waste has been found to have immense potential for revenue generation as it contains heavy metals. Private Corporates can come forward and take up E-Waste recycling using latest technologies. Lastly, but most importantly, we should have stricter laws to regulate E-Waste generation and to control its trans-boundary movement especially in developing economies, better guidelines framed and infrastructure set up for recycling of E-Waste. Let us all join our hands and minds together in this venture to do what it takes to save our planet.

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