

Electronic Waste Management

J.Venu Gopala Krishnan*, J.Jebastine

Department of ECE, Jeppiaar Engineering College, Chennai, India

*Corresponding author E-Mail: jvenu123@gmail.com

ABSTRACT

This paper mainly focuses about Managing E-waste in India. This paper gives information about the management of E-waste which includes its impact, its status in India and some of its management aspects. It gives information about the recycling effects which is faced by a country and give some ideas about how to tackle the management, recycling of e-waste.

KEY WORDS: E- waste, recycling of E-waste.

1. INTRODUCTION

In this technological world, Electronics industry place a very important role. During the past two decades electronics showed its growth tremendously especially in the developing country. People become a part of electronics, the consequences of this is a menace to human. That is the E-waste or Electronics waste. The major problem associated with these e-waste is that it contains both toxic as well as valuable material in them. It includes some minerals such as copper, iron, aluminum and the metal in the waste constitute nearly 60%, plastics in those waste is nearly 30%, mainly the hazardous substance constitute 2.70% (Agarwal, 1998). Already solid waste management is the existing method which is being followed in many developing countries is meant for making the process of waste management further complicated one.

Statement of Problem: The author observed different reasons which is responsible for the creation of e-waste and also identified different preventive measures to control e-waste in India.

2. METHODS & MATERIALS

Research Methodology: This research works makes use of many of the secondary data, many information given by different research scholars and authors. The main aim of this paper is to find out the way in which e-waste are produced and method for the management of these waste. For making this research paper the researcher make use of the reference paper given below.

E-Waste in India: In India there is no provision meant for the collection of e-waste. These waste are mainly produced by exchanging an existing product for the new product which is available in the market. Among the usage of computers in India 78% of its usage is mainly by business companies. They usually involved in selling the computers which is not up to the mark in its performance. Many educational institutions and some other charitable trusts purchase these old computer for their use. It is estimated for a year nearly 1.38 million computers are regarded as a waste by many business companies, in many household. Records have given the fact that in India nearly 1,46,000 tons of e-waste is being generated. In a city like Chennai the usage of Personal Computer, Television and Mobile phones are estimated. It is observed that PC usage is 0.39 to 1.70 based on income class, for mobile it is 0.88 to 1.70 for mobile phones it is nearly 1.07 to 1.78. People with low income use Personal Computers for 5.94 years, Television for 8.16 years and the mobile phones for 2.34 years. People with high income use PC for 3.21 years, TV for 5.13 years, Mobile for 1.63 years. In India the production rate of mobile is usually high as compared to the production of TV, PC.

Impacts of E-Wastes: E-waste mainly causes damage to the environment because of the use of toxic materials during the manufacture of the electronic goods. Materials such as mercury, lead, Chromium in its isotropic form is present in their form or some other form in Cathode Ray Tubes, Capacitors, Switches, Relays, Batteries, LCD displays etc.,. Lead and Cadmium is mainly present in circuit boards. Mercury is mainly present in switches and flat screen monitors. Some biphenyls are present in PCB board, cables, PVC cable insulation. Electronics component mainly contains PCBs which contains lead which is used as a flux during soldering. Sometimes filling these e-wastes in land leads to the leaching of lead in to the ground water. As a result they contaminate the whole surroundings when they are burned or filled in land (Alastair, 2004).

Impacts of Informal Recycling: The obtained e-waste are now separated as pcb waste, CRTs waste, plastics, metals, condensers and mainly batteries. Recyclers are taking these for recycling because they are not ready to take the risk by giving their health and the environment. From the waste only the parts which are valuable is recycled and some are regarded as a raw materials. These works are mainly handled by bare hands and not by any machinery. The worst part is that women and children are mainly involved in making these. Pollution caused because of these wastes in variety of health concern in the country. CRTs emissions mainly causes respiratory problems. People working the area without the proper ventilation, people working the gold mines are supposed to get the exposure of many poisoning chemicals.

Status of E-Waste Management in India: Though e-waste causes many health related problems they are not considered as hazardous. It is given by the Hazardous Waste Rules enacted in 1989. PCB and CRT proved to have cause many problems. E-waste are mainly categorized in to List A and List B by Hazardous Wastes enacted in 2000 and 2003. While importing these wastes we should get the prior permission from Environment and Forests ministry. Government has to take steps to eradicate these waste by creating awareness about the recycling many governmental and non-governmental organization are involved in spreading the importance of these e-waste management. Government agencies like CPCB, DIT are mainly involved in this. Though managing e-waste is undertaken by many organizations some time there may be the lacking of skilled personnel to maintain the e-waste management. Indian government had a program called Knowledge Partnerships in e-waste Recycling. The aim of this program is to acquire knowledge through Managerial skills and Capacity building skills.

Waste Management Strategies: We can reduce the volume of the usage of the e-waste. Manufacturer should be very cautious in making the electronic components and make sure that it is to be reusable. They should have some strategy in mixing the harmful substances while making the electronics product. E-waste policy is formed to initiate some policies in the industries which involves in making the electronics products. This policy contains all the information about the product that is from its production cost to recycling of it. The custom officials have a note on to this issue. There should be a new regulation which won't allow the landfills of e-waste (Devi, 2004).

3. CONCLUSION

Solid waste management is already existing in India which makes more complicated decisions by the intervention of the e-waste. There should be proper assessment about the present and future scenario of e-waste. The detailed study should be given to the collection of the e-waste it storage and its delivery all. Some criteria is to be followed while disposing the e-waste. Recycling of e-waste is sometimes useful. They pave the way in the reduction of the e-wastes. Thus e-waste management and recycling is very important for a environment to be pure.

REFERENCES

Agarwal R, The World is Final Dumpyard, www.ban.org, 1998.

Alastair I, Mapping Environmental Justice in Technology Flows: Computers Waste Impacts in Asia Global Environmental Politics, 2004.

Ammouns J and Sarah.B, Eliminating E-Waste, 2003

E-Waste Management, Confederation of Indian Industry, New Delhi, 2006.