Impact Factor : 1.883 Peer-Reviewed Journal ISSN : 2278 – 5639
Global Online Electronic International Interdisciplinary Research Journal (GOEIIRJ)
THEME : ENVIRONMENT AND EDUCATION
{Bi-Monthly} Volume – IV Issue – III October 2015

E-Waste Management: Need of Hour

Prof.Sarita.Verma
M.Sc M.Ed.SET
Ashoka International Center for Educational Stdies and Research.

Abstract

The electrical and electronic waste (e-waste) is one of the fastest growing waste streams in the world. Electronic Waste (e-Waste) is a major concern given the negative effects it creates on our environment. Huge quantities of e-Waste are generated every year and the rate is expected to rise in our digital economy. There are regulations and laws around e-Waste; however for its effective enforcement, all the relevant stakeholders need to come together to enforce the laws and regulations

New technologies influence the way we live, work, and interact with each other. Over the past few decades, rapid technological advancement has not only evolved our communication abilities and increased our rate of productivity, but it has also resulted in a vast increase in electronic goods discarded into our waste stream. EEEs(Electrical and Electronic Equipments) all together made e-waste a fast growing waste in the country.

"**Electronic waste**" may be defined as electronic items we use and dispose of often discarded computers, office electronic equipment, entertainment device electronics, mobile phones, television sets, and refrigerators.

Current State of E - Waste Management

E-waste comprises of wastes generated from used electronic devices and house hold appliances which are not fit for their original intended use and are destined for recovery, recycling or disposal. Such wastes encompasses wide range of electrical and electronic devises such as computers, hand held cellular phones, personal stereos, including large household appliances such as refrigerators, air conditioners etc. E-wastes contain over 1000 different substances many of which

are toxic and potentially hazardous to environment and human health, if these are not handled in an environmentally sound manner.

The waste generated due to the discarded, obsolete, end of life electrical and electronics equipments is known as E-waste world over. It is well known by acronym WEEE (Waste from Electrical and Electronics Equipments). India is generating e-waste more than 8,00,000 tonnes annually.

Need for E-Waste Management

(a) Increasing amount of E- Waste:

Product obsolescence is becoming more rapid since the speed of innovation and the dynamism of product manufacturing / marketing has resulted in a short life span (less than two years) for many computer products. Short product life span coupled with exponential increase at anaverage 15% per year will result in doubling of the volume of e-waste over the next five to six years.

(b) Toxic components:

E-waste are known to contain certain toxic constituents in their components such as lead, cadmium, mercury, polychlorinated bi-phenyls (PCBs), etched chemicals, brominated flame retardants etc., which are required to be handled safely. The recycling practices were found to more in informal sectors leading to uncontrolled release of toxic materials into the environment as a result of improper handling of such materials.

c) Lack of environmentally sound recycling infrastructure:

It has been established that e-waste, in the absence of proper disposal, find their way to scrap dealers, which are further pushed into dismantler's,supply chain. Existing environmentally sound recycling infrastructure in place is not equipped to handle the increasing amounts of e-waste. The major dismantling operations are occurring in unorganized/informal sector in hazardous manner. The potential of increased e-waste generation and lack of adequate recycling facilities have attracted the attention of a number of recyclers globally, expressing interest to start recycling facility in India.

E-WASTE SOURCES

E-waste is being produced by various sources in the country like Govt. sectors, commercial establishments, institutional sectors, research and developments, household and manufacturing sectors of the country. The Government along with industrial sectors of the public and private partners contributes 70%, individual households 15%approximately **[Satish Sinha, 2007].** The e-waste received from different sources predominantly comprising of the following EEEs as televisions and desktops 68%, servers 27%, mobile phone 1% and import from developed countries 2% respectively **[IMRB, 2009].** However the other equipments like refrigerator, air conditioner, music system, recorder, monitoring and control, Medical equipments, ovens etc.

EXTENDED PRODUCER RESPONSIBILITY (EPR)

The Extended Producer Responsibility (EPR) is an environment protection strategy that makes the producer responsible for the entire life cycle of the product, especially for take back, recycle and final disposal of the product. Thus the producers' responsibility is extended to the post-consumer stage of the product life cycle. This needs to be included in the legislative framework making EPR a mandatory activity associated with the production of electronic and electrical equipments over a period of time.

GUIDELINES FOR THE ELECTRICAL AND ELECTRONIC EQUIPMENTS MANUFACTURERS

The producers of all electronic and electrical equipments should be allowed to levy an appropriate fee on the product at the point of sale, to facilitate the operation of the buy back system and enable to provide standardized rates to the customers. The rate list should be made available to the customer. The producers shall take the responsibility of collection of the end of use equipment through facilitating the establishment of a common collection point
and suitable storage infrastructure. Public Private Partnership (PPP) models may also be considered for the same.

The producers of all electronic and electrical equipments may provide the following information along with the products:

(1) Enlisting of hazardous constituents present in the equipment.

(2) A detailed booklet on the handling of the equipment in case of accidental breakage or damage.

(3) A booklet containing instructions on do's and don'ts.

(4) Details on the disposal of the end of use of the product.

(5) List of collection centres or organizations for the deposition of the equipment after use giving contact details such as address, telephone no's, 24 hr helpline and e-mail.

(6) Facilitate pick-up services

The 3Rs in E- Waste Management

Despite the presence of state of the art e - waste treatment facilities such, the waste hierarchy of objectives of Reduce, Reuse and Recycle or 3Rs is still the cornerstone for resolving the burgeoning waste problems.

The practice of 3Rs means:

i.**Reduce** – The concept behind the first R, reduce, is that you should limit the number of purchases that you make in the first place.

ii. **Re-use** – The concept behind the second R, reuse, is that you should reuse items as much as possible before replacing them. For example, it generally makes more environmental sense to update your computer rather than get rid of it and buy a new one.

iii.**Recycle** – The concept behind the third R, recycle, is that you should ensure that items or their components are put to some new purpose as much as possible or recycle its components.

Role of Youth in Promoting 3Rs

Young people between the ages of 15 and 24 represent approximately 18 per cent of the global population, or nearly 1.2 billion people. On the other hand, they are also the most vulnerable group to the ill effects of improper e-waste management. The youth can be a great force to turn the tide of environmental degradation. If a majority of youth practice 3Rs. Enjoining them to promote 3Rs in their households, schools and to their community at large will be a significant contribution in e-waste management.

Youth have more potential opportunities to influence in designing good e-waste management system in their localities. Youths have proven that they can influence societies and are effective change agents. We therefore propose to the youth who can change the world. Today youth can actively support the call for environmental protection by promoting proper e-waste management by adopting some of the key action points given below.

a. While buying electronic products opt for those that :

1. are made with fewer toxic constituents.

2. use recycled content.
3. are energy efficient.
4. are designed for easy upgrading or disassembly.
5. utilize minimal packaging.

b. Minimize the generation of e-wastes. The youth should advocate to their governments to seriously consider and implement e-waste minimization programs.

c. Maximize environmentally sound recycling programs. The youth should push their governments to organize and establish recovery and recycling centres that are safe and efficient.

d. Promote environmentally acceptable e- waste disposal and treatment systems. The youth should push their governments to establish safeguards for final e-waste disposal facilities.

e. Be a watchdog to your governments and business. Ensure that they comply with establish environmental policies, local and international.

f. Be examples of "lifestyle change". Practice the 3Rs. Consume less in smarter ways.

g. Raise awareness of citizens on proper e- waste manage

By promoting and practicing the 3Rs, we contribute to the reduction of E-waste.

Conclusion

Considering the future scenario, it is imperative that the safe management of waste is done in an organized manner with sufficient resources and sustainable recycling technologies on the one hand and effective legislations and monitoring mechanisms on the other. The awareness among the consumers regarding hazardous constituents of e-waste can be created through active propaganda in print & electronic media and strong extension programmes. On the other hand, the 1 recyclers & collection centres, are required to seek authorization and registration from the State Pollution Control Board (SPCB) concerned and file annual returns. SPCBs are required to submit annual reports to CPCB. CPCB will consolidate the information received from all SPCBs and submit an annual report on e-waste management, along with its recommendations, to the Ministry.200

References

- www.cseindia.org
- www.unep.org
- www.moef.nic.in