# AN ANALYSIS OF E-WASTE: THE CASE OF INDIA

[1]Dr. Jasdeep Kaur Dhami, [2]Mr. Nittan Arora, [3]Ms. Daljeet Kaur, [4]Ms. Priya

[1]Professor and Director, [2] Assistant Professor, [3]Assistant Professor, [4]Assistant Professor

[1]Department of Management

[1]CT Group Maqsudan Campus, Jalandhar

***Abstract*** : In this modern era, sustainable development has appeared as a major area of concern. In most of the developed and developing economies, pollution is a major threat. The development is the main cause of pollution and is also responsible for environmental degradation. The environment provides three main services to the society, first, it provides the basic raw materials and inputs that support economic activity. Secondly, the environment acts as a sink which absorbs and recycle human waste. Thirdly, environment act as a shield that protects humanity from unwanted rays. The main purpose of this paper is to throw some light on problems related to e-waste.

***Index Terms*** **- Environment, Management, Sustainable Development, e-waste.**

## I. INTRODUCTION

Electronic Waste (E-waste) demonstrates old, end-of-life electronic appliances such as computers, TVs, laptops, DVD players, mobile phones, mp3 players, etc. that users dispose of by themselves. Mostly, there is no any hard and fast definition of e-waste, because it is made up of relatively high cost and pivotal long-life products that are used for data processing, entertainment or telecommunications in private households and businesses (Punjab Pollution Control Board).

Electrical and electronic waste (e-waste) is rapidly raising waste streams globally. As indicated by the Global E-Waste Monitor 2017, after the US, China, Japan, and Germany, India delivers around 2 million tons (MT) of e-waste annually and positions fifth among e-waste creating nations. India treated just 0.036 MT of its e-waste in 2016-17(downtoearth.org.in). Just a limited quantity of e-waste in India is reused, because of the high rate of renovation of electronic and electrical items in the casual segment having fewer limits and poor handling innovations adding to the contamination load which prompts ecological tainting. In dismantling e-waste for export, a few of the e-waste recyclers are engaged and involved.

In India, there are not much e-waste recycling facilities, to perform and manipulate end-to-end recycling. In India, around 60% of total e-waste is raised in its sixty-five cities and 70% of it is in its ten states. Maharashtra stands first among Tamil Nadu, Andhra Pradesh, Uttar Pradesh, West Bengal, Delhi, Karnataka, Gujarat, Madhya Pradesh and Punjab in the list of e-waste generating states in India.

After the USA, China, Japan, and Germany, India is placed at 5$^{th}$ position in the world among top e-waste producing countries. "The large increase (in total e-waste generation of the world) was mainly attributed to India," said the report. An ASSOCHAM-KPMG study, *Electronic Waste Management in India* demonstrated PC gear represent just about 70 % of e-waste, trailed by media transmission hardware telephones (12%), electrical hardware (8%) and therapeutic gear (7%) with random from family e-waste.

E-waste comprises of used TVs, computers, mobile phones, electronic devices, etc. The cohort of e-waste is also growing rapidly with the growth in production and utility of electronic goods. Although the IT industry has had a positive contact on the economy, yet, it also has an ecological drawback. Computer waste is counted as one of the most accountable e-waste with respect to the rapid growth of its generation. Furthermore, its recycling is a difficult process which covers many harmful and dangerously unsafe materials.

Table 4.1 shows the poisonous components of a computer which, if dumped negligibly without appropriate action/recycling process, that could be a main cause of toxic pollution and prove to be a hazard to our lives and the natural environment. (Report: **Punjab State Council for Science & Technology, Chandigarh, 2007)**

Table 1.1 Toxic elements of a computer

Table 1.1:Components of PCs Toxic constituents

| Hazardous materials | Percentage |
|---|---|
| Silica | 24.9% |
| Plastic | 23% |
| Iron | 20.5% |
| Aluminium | 14.2% |
| Copper | 7% |
| Lead | 6.3% |
| Zinc | 2.2% |
| Tin | 1.0% |
| Others(including cadmium, chromium, antimony, and beryllium) | Less than 0.1% |

Source: **Electronic Industries Alliance**

Table 1.1 Illustrate the poisonous elements of a computer, when dumped without appropriate action/recycling, could be a main source of poisonous pollution and a hazard to our lives and the natural environment. (Report: **Punjab State Council for Science & Technology, Chandigarh)**

Table: 1.2 **:** E-Wastes / WEEE Generation in Top Ten States

| S.No | States | WEEE (tonnes) | Percentage (%) |
|---|---|---|---|
| 1 | Maharashtra | 20270.59 | 18.49 |
| 2 | Tamil Nadu | 13486.24 | 12.30 |
| 3 | Andhra Pradesh | 12780.33 | 11.66 |
| 4 | Uttar Pradesh | 10381.11 | 9.47 |
| 5 | West Bengal | 10059.36 | 9.18 |
| 6 | Delhi | 9729.15 | 8.87 |
| 7 | Karnataka | 9118.74 | 8.32 |
| 8 | Gujarat | 8994.33 | 8.20 |
| 9 | Madhya Pradesh | 7800.62 | 7.11 |
| 10 | Punjab | 6958.46 | 6.35 |

Source: (Are we experiencing an E-Waste Tsunami? E-Waste Management in Mysore)

E-waste is the basic waste issues rising all around, because of expanded poisonous substances like lead, mercury, cadmium and BFRs. Currently, the backyard recycling operations have been become one of the major topics because of increased toxicity creating environmental pollution. The most widely reported fact in media is that India has become the favorite dumping destinations for E-waste for over decades. Recyclers from the west, mostly Europe and US have thought that it was worthwhile to pass the weight of taking care of this loss to nations like India that weakens nature and human wellbeing. Volumes of waste being dumped are rising immensely. The appraisals of 50,000 MT for per annum have officially multiplied and will increase further. This is very dangerous waste which has turned out to be one of the significant worries in India (toxicslink.org).

Nearly 80 percent of e-waste laborers in India experience the ill effects of respiratory diseases and about 500,000 children are occupied with e-waste gathering without legitimate insurance and security measures.

The digital India imitative increased the efficiency and productivity gains but at the same time also increased the e-waste. For example, the main reason behind global warming is the data centers (chathamhouse.org).

## II. CASE STUDIES

TO ADDRESS the issue of electronic waste, the waste pickers' agreeable of the city, Swach, has chosen to begin a unique drive for its gathering called 'V gather – U give – Together we reuse'. The task includes setting up of portable waste

accumulation which focuses at various areas in Aundh and adjacent regions on different dates. This kind of a framework recently existed for small markets and strength stores however had never been utilized for e-waste accumulation. This spring up booths will be positioned at distinctive areas, making it advantageous for residents to drop off e-waste as well as old garments, toys, books, and family things that they wish to dispose of. This will be at that point to reused (indianexpress.com).

Despite the fact that not straightforwardly associated with e-waste, UNFCCC has been dynamic as a component of the E-waste from Toxic to Green activity. Through the activity, waste pickers in India have been prepared to gather electronic waste, for example, PCs and cell phones, for safe transfer and reusing. The activity means to make waste pickers stronger to destitution by giving green employments that expansion their wages and shield them from the dangers of presentation to poisons and overwhelming metals. (unemg.org)

Nokia propelled its "Planet Ke Rakhwale" reclaim and reusing effort in September 2009, which reached out to 28 urban communities crosswise over India. The crusade was propelled at the national dimension in January 2010. A serious media crusade was embraced on TV, radio, and print, highlighting the megastar Shahrukh Khan. The crusade planned to motivate youthful personalities to spread the reusing message. For each handset dropped in the reuse container, Nokia guaranteed to plant a tree and furthermore offered an unexpected blessing.

In any case, this campaign got just a tepid reaction before all else on the grounds that dissimilar to other reclaim plans it was not giving the customers any financial motivator as a byproduct of their disposed of telephones

## III. CONCLUSION

The economy is witnessing the major issues related to environmental pollution. The need of the hour is to think about the consequences of e-waste and problems associated with it. Nowadays the economies in the world are dependent on technology. The advanced technology provides efficiency and ease of doing the tasks but at the same time, it creates hurdles for sustainable development. The reason behind this is that it is very difficult in order to manage the e-waste as people have lack of knowledge, overutilization of advanced technology, economic growth, and Demonstration Effect i.e. Ratchet Effect, etc.

## REFERENCES


**[1]** https://www.downtoearth.org.in/blog/waste/recycling-of-e-waste-in-india-and-its-potential-64034, accessed on 10th June 2019.

**[2]** https://www.downtoearth.org.in/blog/waste/e-waste-day-82-of-india-s-e-waste-is-personal-devices-61880, accessed on 10th June 2019.

**[3]** https://www.chathamhouse.org/expert/comment/digital-india-must-embrace-circular-economy?gclid=EAIaIQobChMI47zprKbe4gIVAg4rCh1MbQLTEAAYASAAEgJV3_D_BwE, accessed on 10th June 2019.

**[4]** https://indianexpress.com/article/cities/pune/waste-pickers-cooperative-to-set-up-mobile-e-waste-kiosks-in-aundh-5735667/, accessed on 10th June 2019

**[5]** Are we experiencing an E-Waste Tsunami? E-Waste Management in Mysore, India - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/shows-E-Waste-WEEE-Generation-in-Top-Ten-States_tbl2_320740271 ,accessed 10th June, 2019

**[6]** https://unemg.org/images/emgdocs/ewaste/E-Waste-EMG-FINAL.pdf, accessed on 11th June 2019.