



Electronic waste hazardous to health in India

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Abstract:

Electronic waste has become a global issue and it is also becoming a serious problem and a matter of concern for the environment .science brought a revolution in the industrial sector in the 18th century .Also in 20th century there was a revolution in information and communication. Due to this there was a change in the functioning of our life, society, economy, industries. This progress has increased the quality of our living, but it has also created many serious problem including the problem of large amounts of hazardous electronic waste and many other type of waste generated. The purpose of writing this paper is to study these problem at present time .To make human aware of these problems in India and the second purpose is to give some suggestions. This paper is based on secondary research. Existing reports related to electronic waste management and recommendation of planner, NGOs, consultant, government agencies for improving the system study and find out the scope for improvement in the management of electronic waste for the society.

Keywords: electronic waste, management, Revolution, problems

Introduction

Rapid changes in technology, reducing the initial cost of electronic devices and their systematic removal from circulation, have become a rapidly growing electronic waste crisis in the world. India is also no exception to this. In the present era, due to the rapid up-grade of electronic equipment like mobile phones, computers, television and audio sets, printers, people have started buying them at very short intervals. Parts of electronic components are often thrown away. Due to the very limited recycling process of parts, they are disposed of in total toxic conditions for health and environment in the world. Very toxic union agents are used to modify metals whose improper disposal and maintenance has serious health and environmental consequences on workers and vulnerable people. About 5% of all municipal waste in the world is electronic waste, which is much more dangerous than plastic manufactured waste generated in approximately this amount. Estimates per year in Asia: 12 million turns of electronic waste are thrown away. It is the result of the revolution in technology. The vast majority of lead mercury caused by this is due to metals including cadmium and a large number of substances present.

Objectives of Study:

1. To study the current scenario of electronic waste management in India.
2. To construct the suggestion dealing with the challenge is and the problem of electronic waste.

Research Methodology:

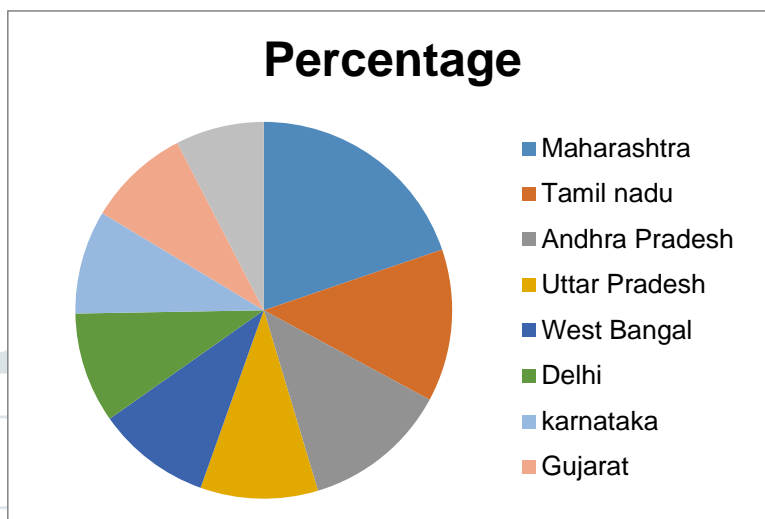
This paper is based on secondary research. The study has been carried out with the help of published data only, all the data has been collected from the different resource such as government agencies, NGO's, websites and reports etc.

Extension of the problem:

Electronic waste is one of the fastest growing problems in the world. India not only generates its own electronic waste but is also accumulating a lot of electronic waste from developed countries. For this reason its management is important. In the absence of proper infrastructure and methods for its disposal and recycling in India, this problem is doubled. The largest generation of electronic waste in India is done by western India's population (35%), while in southern, northern and eastern regions the numbers are 30%, 21% and 14% respectively.

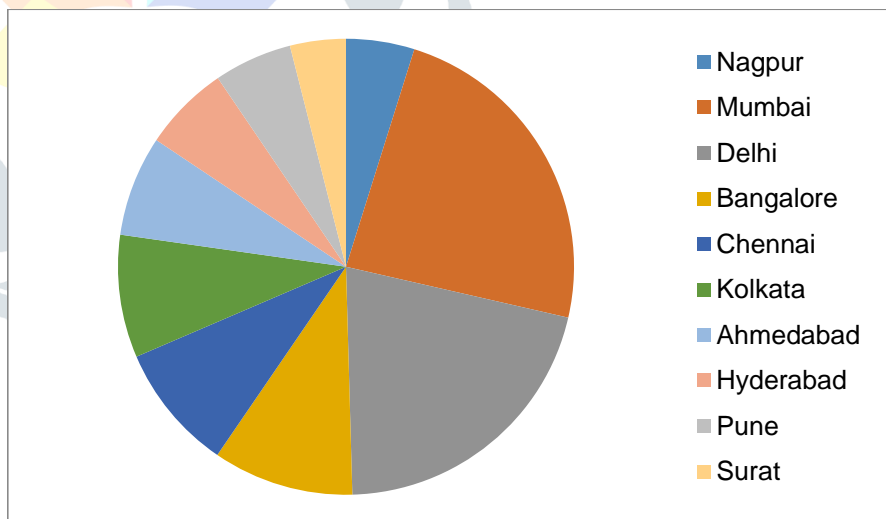
The state wise production of electronic waste in India (tonne/year) is as follows.

Maharashtra	19.8%
Tamilnadu	13.1%
Andhra Pradesh	12.5%
Uttar Pradesh	10.1%
West Bangal	9.8%
Delhi	9.5%
karnataka	8.9%
Gujarat	8.8%
Madhya Pradesh	7.6%



The top states that generate electronic waste from electrical and electronic equipment include Maharashtra Andhra Pradesh, Tamil Nadu, Uttar Pradesh, West Bengal, Delhi, Karnataka, Gujarat, Madhya Pradesh and Punjab. Cities that are the largest producers of electrical and electronic waste are included. Mumbai Delhi, Bengaluru, Chennai, Kolkata, Ahmedabad, Hyderabad, Pune, Surat and Nagpur.

Nagpur	4.9%
Mumbai	24.0%
Delhi	21.2%
Bangalore	10.1%
Chennai	9.1%
Kolkata	8.8%
Ahmedabad	7.2%
Hyderabad	6.2%
Pune	5.6%
Surat	4.0%



Presently, Delhi produces about thirty thousand metric tonnes of electronic waste every year, which is disposed of by more than 1.5 lakh labourer’s working in organized and unorganized recycling bodies of the city. About 85% of the electronic waste generated in developed countries comes from Delhi alone. Mumbai and Chennai are the major importers of computer and electronic waste in India, but Delhi in India has probably become a major canter of electronic waste recycling in the world.

Components and classification of electronic waste:

1. Contains substances found in large quantities:-Lead, Tin, Copper, Silicon, Carbon and Aluminium etc
2. Contains elements found in small amounts:-cadmium, mercury and thallium.

3. Elements found in very small amounts include:-Thorium, Lithium, Cobalt, Gallium, gold, radium etc.

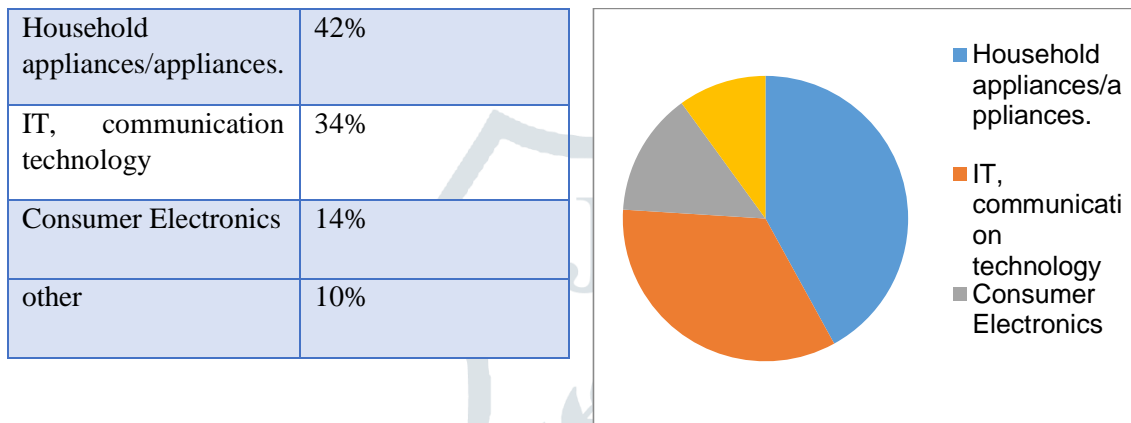
Electronic and electrical items are classified into three main categories.

(I).White goods:-Household items such as air conditioner, dish wash, refrigerator, washing machine etc.

(ii).Brown goods:- t.v, cam card, camera etc.

(iii).Gray goods:-For example, due to the presence of toxic parts in computers, printers, fax machines, scanners, etc., their recycling is comparatively more complicated. For example, due to the presence of toxic parts in computers, printers, fax machines, scanners, etc., their recycling is comparatively more complicated.

Components of electronic waste:-



Dangers in the future of electronic waste:-

In future, electronics waste will emerge as the biggest challenge for the industries. In the open places where PC monitors, printers, circuit boards, motherboard cables, cottages, light bulbs and tube lights are lit, glass, mercury and other toxins are spread in the air. In that environment the workers mostly do not get protection. In case of burning of these items in closed spaces without ventilation, they are exposed to hazardous and slow-moving toxic chemicals due to non-use of safety and technical expertise by the workers. There is no clear guideline for the non-organized sector of electronic waste disposal. Due to lack of awareness, they are putting both their health and the environment at risk. He is using strong acid to separate the precious metals.

Health hazards:-

- If old electronics are dumped in landfill areas, it will require more energy and water to produce new products and generate more greenhouse gas emissions. Thus suppressing old electronics with debris would result in loss of natural resources.
- Some rare materials used in electronic products are now running out. Due to which a situation like adverse effect on the development of children may arise.
- Air, water and land are all polluted by the toxins produced by burning plastic cells, PCB boards and other non-ferrous materials included in electronic waste.
- High quality carcinogenic hydrocarbons are present in the smoke and ash of electronic waste.
- Evidence of DNA damage has been observed in residents of towns related to recycling of electronic waste or workers engaged in recycling operations compared to residents of ordinary towns.
- A significant negative correlation has been found between the amount of chromium in the blood of children and physical ability.

Management of electronic waste:-

- According to estimates by the Environmental Protection Agency, only 15 to 20% of electronic waste is recycled. The rest of the electronic pile is directly collected in the land field or burnt, which poses a threat to the environment. Management of electronic waste goes in what three phases? In the first step, the electronic part is separated from the electronic components. In the second stage, by electromagnetic separation of objects such as plastics, cathodes, tubes, circuit boards and cables. In the third phase, valuable metals, plastics and other commodities are segregated from an economic point of view.
- Reduce requirements.
- By reusing items.
- By recycling.
- By bringing awareness.

Organizations/ networks working on aspects related to electronic waste

1. Knowledge Bank for Electronic Waste Management in India.
2. Indian National Solid Waste Society.
3. Indian Environmental Society.
4. Swachh Bharat and India Habitat Center etc.

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