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HEALTH ISSUES ASSOCIATED WITH E-WASTE AND CHILD LABOUR

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Abstract -- Since the Industrial Revolution, there have been advances in the invention of various types of instruments and equipment in different countries. The twentieth century marked the beginning of a revolution that has greatly changed people's lives. This has led to the development of a variety of high-quality devices that change people's lives, and this is where the E-Waste problem begins. Electronic waste is a major problem in India, as it is in every country. India produces about 2 million tonnes of e-waste annually, as all this e-waste produces a variety of precious metals such as gold, silver, copper, platinum, plastics, etc., so its economic value is much higher. According to the 2018-19 economic survey, India extracts about Rs. 6900 crore worth of gold from e-waste, but has a detrimental aspect. E-Waste contains a variety of harmful substances in addition to precious metals, which are very harmful to the human body and the environment, such as arsenic, cadmium, chrome, cobalt, lead, liquid crystal, PCBs, etc. Children also work with adults on e-waste sites. Since no safety equipment is used at these sites, all these harmful substances enter their bodies very easily. Owners of e-waste sites also use children for low wages. Children are much less resistant than adults, so harmful substances emitted from e-waste are more harmful to children. Apart from ailments such as -breathing difficulties, irritation, coughing and choking, all the other substances released from E-Waste cause damage to human central nervous system, kidney damage, chronic damage to the brain, bronchitis, liver damage. , skin allergies, etc. causing problems in children.

We must all be aware of safeguarding children from these problems. Children should not be forced to work at e-waste sites. As a result, they may regain their childhood and physical health. Aside from children, workers at E-Waste sites require sufficient safety equipment and training. However, certain E-Waste laws must be prepared and implemented.

Keywords -- E-Waste , Harmful Elements , Child Labour , Health Problems

Introduction - From the past to the present, people have created different types of equipment to solve different kinds of problems. Through this, he has made his life easier. As man has developed, so have his requirements, and at the same time, he has developed more sophisticated equipment. On the one hand, advanced devices have been invented. In the same way, the usefulness of every invented device is gone. And from those old, unusable devices has arisen a new problem, called e-waste.

Definition of e-waste-- An "e-waste" is electronic garbage that has been refurbished and recycled. It may either be recovered and processed through material recovery or just thrown away. E-waste refers to electronic trash that is intended for disposal.

When the usefulness or functionality of an instrument is exhausted. Then we throw it out from which e-waste originates. Every electronic device has a specific expiry date after which that device can no longer work well. This e-waste includes old computers, monitors, CDs, printers, scanners, calculators, cellular phones, TVs, medical instruments, etc.

The amount of e-waste is increasing all over the world due to the very early updating of the models of various devices used by us. Due to our growing demand, various types of new and advanced technology devices are coming to the market very soon. We are discarding old technology after adopting advanced technology devices, which is why the amount of e-waste is increasing.

An electronic device contains various types of metals, plastics, toxic substances, etc. There are different types of precious metals. Such as gold, silver, copper, platinum, etc. Moreover, there are different types of harmful ingredients. Such as liquid crystal, mercury, arsenic, cadmium, lead, lithium, cobalt, etc. are available.

About 54 million tonnes of e-waste is produced worldwide every year. Including 1st-USA, 2nd-China, 3rd-Japan, 4th-Germany, and 5th-India (2 million tonnes of production).

On the other side, Maharashtra, Tamil Nadu, and Andhra Pradesh are the Indian states that create the most e-waste. India's major cities, such as Mumbai, Delhi, Bengaluru, Chennai, and Kolkata, generate the most e-waste. India produces about 12.5 million MT of e waste annually. Notables include Mumbai (96000MT), Delhi NCR (67000MT), Bangalore (57000MT), and Kolkata (35000MT). In Delhi , approximately 25,000 workers dismantle approximately 10,000–20,000 tonnes of e-waste without any protection.

When it comes to e-waste production, India comes in at number five in the world. India produces over 2 million metric tonnes of electrical waste each year. According to ASSOCHAM, e-waste is increasing at a compound annual rate of 30%. According to 2016 data, the total E -waste production in Asia is 18.2 Mt, followed by Europe -12.3 Mt, America -11.3 Mt, Africa - 2.2 Mt, and Oceania -0.7 Mt.

According to the Associated Chambers of Commerce and Industry of India, India produces about 1.85 million tonnes of e-waste every year.

Approximately 50 million tonnes of e-waste were created globally in 2018, according to current estimates. E-waste, on the other hand, is recycled at a rate of just 20%. In 2019, 53. 6 Mt of e-waste was created globally.

The European Directive on the Disposal of Waste Electrical and Electronic Equipment This categorises e-waste into ten groups, including major and small home appliances, consumer devices, medical equipment, and instruments for monitoring and control.E-waste is made up of over a thousand different kinds of materials, many of which are toxic to people, animals, and the ecosystem as a whole.

E-waste has a significantly greater significance in developing nations like India. Every year, India generates roughly 2 million tonnes of electronic garbage. This trash yields a variety of valuable metals, many of which have a greater monetary worth. E trash may hold up to 7% of the world's gold at this time.

There are many people associated with e -waste in India. In other words, it is also important in terms of employment. Moreover, all the products available are made from e- waste. They are used in the production of various objects.

According to IFC (International Finance Corporation), half a million jobs will be created in India by 2025.

According to the Economic Survey, India will extract about Rs. 6900 crore of gold from e-waste in 2018-19.

Harmful components of E-waste and their effects on child labour - -- About 1000 types of components are found in e-waste. Most of which are harmful ingredients. Among the harmful substances found in e-waste are arsenic, cadmium, chrome, cobalt, lead, liquid crystals, PCBs.All of these things harm children and adults alike by damaging a variety of organs.

Data from ASSOCHAM reveals this. In India, around 4.5 lakh children between the ages of 10 and 14 work at E -waste sites.

One of the main reasons for employing children in all these e-waste factories is that they work for low wages, low demand , they can easily do different types of work. For this reason, children work in these e-waste disposal sites in India and different parts of the world in unsafe conditions.

There is a lack of awareness among most of the people who work on these sites in India. They work in all these places without any safety equipment.

These sites mainly dismantle various types of e-waste. From which different materials are separated, such as different types of precious metals, plastics, glass, etc. These commonly produce toxic components. which are much more harmful to the body. The effects of these harmful chemicals on the bodies of children are much greater than in adults.

This data shows that around 4-5 lakh children across India work in the e-waste sector. Those between the ages of 10 and 15. Since children have to work in an unsafe and unhealthy environment here, the effects of poisoning on their bodies are much greater.

Those who work in the waste area stay here for about 8-10 hours. So, different types of harmful substances can easily enter their bodies.

A study in an e-waste area has shown that the levels of harmful substances called V, Cr, Mn, Mo, Sn, TI, Pb are much higher in the hair samples of those who work in these areas.

This means that it is clear that those who work in the e-waste area have a very high level of harmful substances in their body.If children work for a long time in a harmful environment of e-waste, they may have various problems such as--

Inhaled, different types of toxins are increasing the risk of cancer in children.The harmful gases that are emitted while burning different types of insulated wires can cause various types of neurological disorders.

According to the United Nations agency, about 80% of children working at various e-waste sites in China have respiratory illnesses, lung diseases, and high concentrations of lead in their blood.

In many cases, five-year-olds have been forced to work with their parents at e-waste sites. As a result, respiratory effects, impaired thyroid function, DNA damage, impacts on the immune system, higher rates of allergies, increased risk of chronic disease, etc. are seen in children.

E-workers in India are also significantly more likely than other people to be affected by respiratory conditions like asthma and allergies.

Harmful chemicals emitted from this e-waste can cause various serious problems in children . Long-term exposure to toxic substances. Damage to the immune system, neurological system, kidneys, etc. Possible effects on children's growth, skin disorders, and DNA damage.

WHO and the University of Queensland jointly found that e-waste workers had thyroid problems, poor birth outcomes, and respiratory problems.

Data from ASSOCHAM reveals that in India, around 4.5 lakh children between the ages of 10 and 14 work at E -waste sites.

Different kinds of electronic waste produce toxic chemicals that damage the body in different ways, such as-

1. Lead may harm the central nervous system, the blood system, and the kidneys.
1. Cadmium is responsible for damaging the brain.
1. Mercury is known to cause neurological, pulmonary, and dermatological disorders over the long term.
1. Chromium is responsible for bronchitis.
1. Copper, there is a risk of liver damage and abdominal cramping.
1. Nickel is known to cause skin allergies in certain people.
1. When PVC burns, it releases endocrine disruptors called dioxins.
1. Barium is responsible for the weakness of the muscles.

E-Waste management- The E-Waste problem is very important for a developing country like India. This problem is increasing with the advancement of technology. Although this problem is not very easy to solve, some measures can be taken for its management, such as-

1. Proper e-waste disposal.
2. The proper use and maintenance of all electronic devices.
3. Organize proper training for those who work at e-waste disposal sites.
4. Do not force children to work on e-waste disposal sites.
5. To arrange compensation for the workers working at the E-Waste site.
6. To provide workers at the E-Waste site with the necessary protection and safeguards.
7. To make people aware.
8. Emphasis is placed on electronic device recycling and reuse.
9. The e-waste law needs to be made and its proper implementation etc.

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