

The industry worth
approximately \$1.21
trillion in



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The health consequences of e-waste and its disposal The e-waste is a growing and emerging problem for the world, e-waste consists of many components as toxic substances which have negative effects on human health and environment if not properly disposed off.

E-waste, or electronic waste, describes end-of-life electrical goods such as computers, televisions, printers, and mobile phones. Electronic industry is one of the fastest growing and the largest manufacturing industry. Global electronic industry worth approximately \$1. 21 trillion in 2017 and it makes up roughly 1. 5% of the global GDP, this does not include production and distribution of electricity. (Ross, 2018) Approximately 50 million tonnes of e-waste was generated in 2012 and 75 million in 2015, the fate of many e-waste is unknown, for example, 75% of the e-waste generated in Europe and 80% of USA's go unaccounted, through legal, illegal, and gray channels transferred to developing countries as the cost of recycling is 10 times less than developed countries. (Scruggs, Nimpuno & Moore, 2016) This discussion will consider the negative effects of e-waste on health and disposal of e-waste.

The composition of e-waste differs from product to product but mostly consist of different material, the presence of elements such as lead, mercury, arsenic, cadmium, selenium, hexavalent chromium and flame retardants beyond the threshold limit in e-waste classifies them as dangerous waste. Studies have shown that hazardous e-waste affects almost all human body system, as it contains large toxic components, due to the crude recycling process, many pollutants, such as persistent organic pollutants and heavy metals, are released from e-waste, which can easily

accumulate in the human body through the inhalation of contaminated air. (Physics, 2018) Particularly in developing countries unsafe handling of the e-waste has raised substantial concerns in the communities. The vulnerable populations identified include not only workers but also children and pregnant women living within or in the vicinity of unregulated recycling sites. E-waste has, therefore, become an emerging health risk for critically exposed populations in developing countries. (Bakhiyi, Gravel, Ceballos, Flynn & Zayed, 2018) Recycling of valuable elements, such as gold and copper has become a source of income mostly in the informal sector of developing or emerging industrialised countries.

(" Electronic waste", 2018) E-waste devices contains strong incentives for recycling, for example a tonne of discarded mobile phones can contain 150g or more of gold and approximately 10% and . 03% by weight of copper and silver, while a gold mine might have 5g of gold per tonne. (Scruggs, Nimpuno & Moore, 2016) However, primitive recycling techniques such as burning cables for retaining the inherent copper expose both adult and child workers as well as their families and accumulation of chemicals contaminate soil, water and food. Recycling activities such as the dismantling of electrical equipment may potentially bear an increased risk of injury. (" Electronic waste", 2018) The improper disposal of e-waste makes waste a high risk for infectious diseases. (Ikhlayel, 2018) E-waste has become a global issue not just dangerous for human health but for the environment, dangerous chemicals escape into the environment due to not following the proper procedures informal e-waste recycling activities involving manual dismantling, open burning to recover heavy metals and open dumping of

residual fractions. In developed countries, as the product is discarded is considered as waste and the value of the product goes to zero, even sometimes you need to pay to discard the waste, and in the developing countries waste is considered valuable.

For example in India people are reluctant to discard their e-waste without getting any financial incentive as it is considered a worthy commodity. The electric products are often used by different users before it gets disposed. It is a positive step towards reducing environmental and health risk, it delays the entry of e-waste into the toxic waste stream and contributes to waste minimization. The door-to-door scrap and waste collection, where consumers are paid a decent price for their obsolete electronics, is a common practice in the developing countries. This leads to the growth of a large informal sector in the developing countries where 95% of e-waste generated is taken care, (Borthakur and Govind, 2017) a small portion of the e-waste collected goes to the organised sector for end processing or recycling. Most of it is refurbished or recycled over open fires/ acid baths in the unorganised sector, (Indigoedge. com, 2018)recyclers use strong acids to remove precious metals such as copper, lead, and gold.

The value of recycling from the element could be much higher if appropriate technologies are used. (Annamalai, 2015) In conclusion, the electronic waste, its illegal dumping and recycling is causing severe health issues for the pregnant woman and children even it can damage the DNA. Rapid change in technology advances is among the reasons that lead to the presence of e-waste in the environment. The health consequences of ' unsafe' water Water is one of the most essential elements on the planet earth and water-related <https://assignbuster.com/the-industry-worth-approximately-121-trillion-in/>

diseases continue to be one of the major health problems globally. An estimated 4 billion cases of diarrhea annually represented 5.7% of the global disease burden in the year 2000.

(Wright, Gundry & Conroy, 2004) This will examine the consequences of unsafe water, data regarding availability of drinking water, diseases caused because of unsafe water and examples from developed and developing countries. It is a well-established fact that clean drinking water is essential for healthy living, 20 litres of water per capita per day should be assured to take care of basic hygiene needs and basic food hygiene. An adequate supply of fresh and clean drinking water is a basic need for all human beings on the earth, yet it has been observed that millions of people worldwide are deprived of this. (Edugreen. teri. res. in, 2018) About 71% of the Earth's surface is consists of water, (Howard Perlman, 2018) sounds like a lot of water, well, it is, but we can't drink much of it. Since more than 97% of the water on earth is in the form of salt water, only a tiny amount of water is used as fresh, drinking water.

Human beings cannot drink salt water. We need fresh water to survive two percent (2%) of the water on Earth is in the form of frozen fresh water, but it is not usable by human beings. Only about 1% of the total water on Earth is in the form of freshwater that is found in lakes, streams, rivers, soil and underground reservoirs or aquifers. Although this water is usable, most of it is hard to get to and is not easily available to people. That leaves much less than 1% (about 0.34%) available to humans and animals to drink and use.

(Sfenvironmentkids. org, 2018) Approximately 88% of deaths due to diarrheal illness worldwide are attributable to unsafe water and diarrheal diseases

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(such as cholera) kill more children than AIDS, malaria, and measles combined, making it the second leading cause of death among children under five.

(Cdc. gov, 2018), each day, nearly 1, 000 children die due to preventable water and sanitation-related diarrhoeal diseases, and due to unsafe drinking water four hundred children under the age of five are dying in the world every hour. (Gadgil, 1998)UN reports in the facts of SDG 6: “ Ensure access to water and sanitation for all” nearly 1000 children are dying every day due to preventable water and sanitation-related diarrhoeal diseases.(United Nations Sustainable Development2018) World Health Organization (2017) reports still 2. 1 billion people lack safe drinking water at homes worldwide. The concept of clean drinking water as essential to health is not a novel idea, in 350 B. C.

, Hippocrates recommended boiling water to inactivate “ impurities”. In the USA and Central Europe provision of safe drinking water is universal, due to which significant water-related diseases have reduced, by the start of the 20th century developed nations started protecting water sources and installing the sewage system. However, in developing countries, water and sanitation services are still severely lacking.

As a result, millions suffer from preventable illnesses and die every year. Unfortunately still in our world many people do not have enough water; especially clean drinking water. Waterborne diseases are caused by drinking contaminated or dirty water. Contaminated water can cause many types of diarrheal diseases, including Cholera, and other serious illnesses such as

Guinea worm disease, Typhoid, and Dysentery. Water-related diseases cause 3.

4 million deaths each year (Vestergaard. com, 2018) WHO reports world-wide at least 2 billion people use water for drinking purpose are contaminated with feces and this contaminated water transmits different diseases (World Health Organization, 2018) as WHO report virus of POLIO was found in the sewage water in Pakistan. (Waheed, 2018) Malaria, Cholera, and Dengue fever, Cholera, Malaria, and Dengue fever have been affecting humans for centuries, these three diseases have killed millions of people in today's world.

Water is the common link between these three different illnesses. The Water Project, 2018)Reference Annamalai, J. (2015). Occupational health hazards related to informal recycling of E-waste in India: An overview. Indian Journal of Occupational and Environmental Medicine, 19(1), p. 61. Bakhiyi, B., Gravel, S.

, Ceballos, D., Flynn, M., & Zayed, J. (2018). Has the question of e-waste opened a Pandora's box? An overview of unpredictable issues and challenges. Environment International, 110, 173-192.

[http://dx. doi. org/10. 1016/j. envint. 2017. 10.](http://dx.doi.org/10.1016/j.envint.2017.10.021)

021Cdc. gov. (2018).

Disease and Impact | The Safe Water System | CDC. online Available at:

[https://www. cdc.](https://www.cdc.)

<https://assignbuster.com/the-industry-worth-approximately-121-trillion-in/>

gov/safewater/disease. html Accessed 16 Jan. 2018. Edugreen.

teri. res. in. (2018). Health impacts of water pollution. online Available at:
<http://edugreen.teri.res>.

in/explore/water/health. htm Accessed 17 Jan. 2018. Electronic waste.
(2018). World Health Organization. Retrieved 15 January 2018, from
<http://www.who>.

int/ceh/risks/ewaste/en/Gadgil, A. (1998). DRINKING WATER IN DEVELOPING
COUNTRIES.

Annual Review Of Energy And The Environment, 23(1), 253-286. [http://dx.
doi.org/10.1146/annurev.energy](http://dx.doi.org/10.1146/annurev.energy).

23. 1. 253Howard Perlman, U.

(2018). How much water is there on Earth, from the USGS Water Science
School. online Water.

usgs.gov. Available at: <https://water.usgs.gov/edu/earthhowmuch.html>
Accessed 16 Jan.

2018. Ikhlayel, M. (2018). An integrated approach to establish e-waste
management systems for developing countries. Journal Of Cleaner
Production, 170, 119-130. [http://dx. doi.
org/10.1016/j.jclepro.2017.09.](http://dx.doi.org/10.1016/j.jclepro.2017.09.137)

137Indigoedge.com. (2018).

137Indigoedge.com. (2018).

<https://assignbuster.com/the-industry-worth-approximately-121-trillion-in/>

Cite a Website - Cite This For Me. online Available at: <http://www.indigoedge.com/IE%20Insight%20-%20India%20eWaste%20Processing.pdf> Accessed 16 Jan. 2018. Physics, I.

(2018). 'E-waste pollution' threat to human health. iop. org. Retrieved 15 January 2018, from http://www.iop.org/news/11/may/page_51103.html

htmlRoss, S. (2018). How much of the global economy is comprised of the electronics sector?. online Investopedia. Available at: <https://www.investopedia.com/ask/answers/051915/how-much-global-economy-comprised-electronics-sector.asp> Accessed 15 Jan. 2018.

Scruggs, C., Nimpuno, N., & Moore, R.

(2016). Improving information flow on chemicals in electronic products and E-waste to minimize negative consequences for health and the environment. Resources, Conservation And Recycling, 113, 149-164.

<http://dx.doi.org/10.1016/j.resconrec>.

2016. 06. 009Sfenvironmentkids. org. (2018). SF Environment: Our Home. Our City. Our Planet.

. online Available at: http://sfenvironmentkids.org/water/river_life2.htm Accessed 16 Jan. 2018. The Water Project. (2018). Cholera, Dengue Fever, and Malaria: The Unquestionable Link to Water.

online Available at: <https://thewaterproject.org/water-scarcity/cholera-dengue-fever-malaria-water> Accessed 17 Jan. 2018.

<https://assignbuster.com/the-industry-worth-approximately-121-trillion-in/>

United Nations Sustainable Development. (2018). Water and Sanitation - United Nations Sustainable Development. online Available at: <http://www.un.org/sustainabledevelopment/water-and-sanitation/> Accessed 16 Jan. 2018. Vestergaard. com.

(2018). Drinking contaminated water can lead to waterborne diseases.. online Available at: <http://www.vestergaard.com/global-challenges/waterborne-diseases> Accessed 17 Jan. 2018. Waheed, M.

(2018). WHO EMRO | Polio virus found in sewage water sample in Karachi, 5 August 2012 | Pakistan-news | Pakistan. online Emro. who. int. Available at: [http://www.](http://www.emro.who.int/pak/pakistan-news/poliovirus-has-been-found-in-the-sewage-water-samples-collected-from-gaddap-town-karachi-after-a.html)

[emro. who. int/pak/pakistan-news/poliovirus-has-been-found-in-the-sewage-water-samples-collected-from-gaddap-town-karachi-after-a.](http://www.emro.who.int/pak/pakistan-news/poliovirus-has-been-found-in-the-sewage-water-samples-collected-from-gaddap-town-karachi-after-a.html)

[html](http://www.emro.who.int/pak/pakistan-news/poliovirus-has-been-found-in-the-sewage-water-samples-collected-from-gaddap-town-karachi-after-a.html) Accessed 17 Jan. 2018. World Health Organization. (2018). Drinking-water.

online Available at: <http://www.who.int/mediacentre/factsheets/fs391/en/> Accessed 17 Jan. 2018.