

Electronic Waste: 21st Century Scenario in Zimbabwe—A Review

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Abstract

Electronic equipment and appliances are currently essential for Zimbabweans' daily lives and had a vast influence on the country's economy. Electronic waste increase is inevitable, hence need attention to understand aspects surrounding management of massive quantities of electronic waste. This review aims to provide a comprehensive analysis of the electronic waste situation in Zimbabwe. In order to present an authoritative and credible overview of the topic, published and grey literature was utilised. Skyrocketing increase of electronic waste in Zimbabwe is attributed to technological advancement, globalisation, increase in consumption of electronic gadgets and appliances and importation of second-hand electronic products and high dependency on electrical gadgets in industries and institutions. Electronic waste is managed together with other types of waste from generation to disposal. Utilised disposal approaches include open pits, burning, incinerators, landfilling; however, electronic waste is discarded on illegal sites like street corners, open spaces and road verges. Recycling activities are carried out, but the sector is dominated by informal recyclers who work without adequate safety gear, hence exposed to occupational risks like injuries. Most of the disposal techniques applied are least prioritised by the waste management hierarchy, therefore causing air, soil, water and atmospheric contamination. Electronic waste disposal sites generate leachates, vectors and furans, dioxins, heavy metals and toxic gases from combustion that pose gastrointestinal and respiratory diseases. Electronic waste mismanagement is attributed to socio-economic and political challenges. Therefore, to reach sustainability, integrated approach should be supported by stringent legislation, policies, enough resources and programs to raise awareness of Zimbabweans.

Keywords: Electronic waste, Management approaches, Management challenges, Environmental risks, Health risks, Zimbabwe