ABSTRACT

1. Electronic and electrical waste consists hazardous and heavy metals, which are extremely harmful to living organism. Improper disposal of these elements by informal sector, causes air, land and water pollution, causes severe impact on the living organisms and environment. Diseases like lung and skin cancer, chloracne, deformation of children at time of birth and infertility are some of the health impacts caused on long term exposure to these constituents .

2. Pune lacks structured and rigorous e-waste disposal mechanism which inadvertently has led to mushrooming of the unorganized sectors. The unorganized sector of e-waste disposal , consists of the scrap dealers and dismantlers ,who are interested to take precious metals from the - e-waste and then do not dispose the hazardous and harmful elements appropriately which causes aforesaid pollution.

3. The study shows that majority of the e-waste disposal is happening through informal sector and very less proportion is reaching the authorised Recyclers. Increasing annual consumption of electronic gadgets, is leading to increase in India's e-waste generation by manifolds. Swift expansion in electronic and electrical industry together with advancement in technology (e.g connected devices, Internet of things etc) has led to the accumulation of e-waste , which is expected to increase exponentially in the coming years.

4. This research attempts to provide insight into the e-waste management practices used in the IT Companies and cross-section of the Industry in Pune region. It also uncovers Recycler's current conditions and challenges.

5. To address these issues and also provide framework for the future - three b u s i n e s s models are suggested for e-waste management as part of the research.

6. As a proof of concept and quantification of the entire e-waste management process, a software system has been developed and successfully deployed on the internet (www.e-wastepune.co.in). This has potential to serve as ready made working model for the country in general and Pune as a "SMART CITY" in particular.