

## **'E-Waste' An Urban Environmental Pollution: Problems and Prospects in Developing Countries**

S.B. Wath

*National Environmental Engineering Research Institute (NEERI), Nagpur, India*

*E-mail: sb\_wath@neeri.res.in, web: www.neeri.res.in*

Electronics industry is the world's largest and fastest growing manufacturing industry. Rapid growth, combined with rapid product obsolescence and discarded electronics is now the fastest growing waste fraction, accounting for 8% of all municipal waste in European Union, while in developing countries, on an average it equals to 1% of total solid waste and is expected to grow to 2% by 2010 as per the UNEP, 2009 report. Electronic waste or E-waste comprises of old, end-of-life electronic appliances such as computers, laptops, TVs, DVD players, refrigerators, freezers, mobile phones, MP3 players etc. which have been disposed of by their original users. The E-waste is the major environmental pollution problem, predominantly in the urban region surfaced during last two decades, as E-waste contains many hazardous and toxic constituents that may negatively impact the environment and affect human health if not properly managed. The problem of E-waste has forced Environmental agencies of many countries to innovate, develop and adopt environmentally sound options and strategies for E-waste management, with a view to mitigate and control the ever growing threat of E-waste to the environment and human health in the urban region. E-waste management is given the top priority in many developed countries, but in rapid developing countries like India, it is difficult to completely adopt or replicate the E-waste management system followed in developed countries due to many country specific issues viz. socio-economic conditions, lack of infrastructure, absence of appropriate legislations for E-waste, approach and commitments of the concerned, etc.

The paper presents E-waste scenario in developing countries like India, its composition, categorization, prospects of recoverable, recyclable and hazardous materials found in the E-waste, recycling and recovery processes followed and their environmental and occupational hazards besides various challenges for E-waste management in developing countries like India and a road map for effective sustainable E-waste management system(model) in developing countries like India is proposed for ensuring environmental, as well as, occupational safety and health.