The Afterlife of e-goods

(This editorial is based on the article "The Afterlife of e-goods" which appears in The Indian Express on 26th December 2018.)

India's consumer electronics market is one of the biggest in the world. While this augurs well for the state of the economy, it also leads to a huge amount of EEE – electronic and electrical equipment that gets discarded.

A rapidly growing e-waste crisis needs rapid official decision-making, time-bound responses.

What is E-waste?

E-waste is generated when electrical or electronic equipment (EEE) is discarded, or returned within warranty, by consumers, and also from manufacturing and repair rejects. Discarded laptops, desktops, cellphones and their batteries, air conditioners and television sets, cables and wires, tube lights and CFLs which contain mercury, are some examples of e-waste.

E-waste Generation in India

- India is one of the biggest producers of e-waste in the world.
- The Global E-Waste Monitor estimates that 44.7 million tonnes (mt) of e-waste was generated in 2016. India was the fourth-largest generator (2 mt) after China (7.2 mt), the US (6.3 mt) and Japan (2.1 mt) in 2016.

Reasons for rise in e waste

- As Indians spend more on electronic items and appliances with rising incomes, e-waste is expected to continue to grow rapidly.
- Technology obsolescence creates e-waste (for example, landline phones, 2G vs 4G), power supply voltage surges which damage electronics are a major factor contributing to India's e-waste.
- Developed countries export their e-waste for recycling and/or disposal (legally or

illegally) to developing countries, including India.

- A 2015 report by the United Nations Environment Programme says that China, India Malaysia and Pakistan are the main destinations for large-scale shipments of hazardous wastes, including e-waste, in Asia.
- Ironically, according to the **Hazardous and Other Wastes (Management and Transboundary) Rules, 2016,** importing e-waste for disposal is banned in India.

Health and Environmental Hazards

- A study by ASSOCHAM and NEC finds that a mere 5% of India's e-waste gets recycled, much less than the global recycling rate of only 20 per cent.
- 95 percent of India's e-waste is managed by the unorganised sector (kabadiwalas, scrap dealers and dismantlers) using dangerous methods to recover metals from circuit-boards and wires.
- The process includes manual dismantling, separation and shredding; unsafe removal and collection of solder by heating; acidic extraction of metals; and, burning of waste to remove combustible plastics and isolating metals.
- Since electrical wires are almost invariably encased in PVC, which contains 57% chlorine, the act of burning produces deadly dioxins which is known to cause cancer, damage the nervous system, and also poses several other health hazards.
- These cause severe pollution in air, water and soil and severely affects the worker's health.
- The National Green Tribunal has advised a ban on single-use PVC and short-life PVC products but not on wires and cables. The workers themselves ignore safety measures needed for their work.

Issues with Disposal

Toothless Laws and Rules

- Management of e-waste requires its dismantling, refurbishment or recycling and safe disposal. The E Waste Management Rules 2016 address these issues.
- The law details different mechanisms to collect and recycle e-waste. These include **deposit return schemes** (where the producer takes a surcharge at the time of the sale and refunds it when the customer returns the product) and **exchange schemes**.
- The stakeholders—producers , manufacturers, dismantlers and recyclers—have to obtain an authorisation for their operations.
- The producers must obtain an **Extended Producer Responsibility (EPR)** authorisation from CPCB which will ensure that they channelise the e-waste to the recycler/dismantler and meet their annual collection targets.
- Both the dismantlers and recyclers must file reports to SPCB to certify that they have used scientific methods in their operations. However, there is no independent

mechanism to check or verify the claims made in authorizations. The E-Waste Rules provide for random checks. But it is not clear if these are being conducted and what is being found.

- Rules need to be backed by enforcement of the regulatory framework, provision of the necessary infrastructure, and an enabling environment for compliance.
- There are close to 200 e-waste recyclers in India which are licensed by the CPCB, but most of them are also just dismantlers. Formal sector recyclers face stiff competition from informal operators who get away without following the regulations.
- Authorised recyclers incur large overhead costs for mandatory infrastructure for construction and equipment and the official and unofficial costs of compliance with multiple regulations.

Solutions

- PVC wires and cables and circuit boards require strict monitoring and deterrence along with safe alternatives for recycling.
- Wire stripping units can be set up at the points of aggregation and burning, funded by wire and cable manufacturers.
- Similarly, producers can offer attractive buyback prices for circuit boards and channelise their recycling to the formal sector.
- Cities should organise quarterly collection drives or provide drop -off centres.
- Producers should set up collection centres for EEE.
- Discounts on new products can be given turning in our old ones, so that dealers become aggregators for channelising e-items to authorised dismantlers.
- e-waste can be reduced by buying long-life items, and supporting repair and refurbishment.
- Producer responsibility organisations like Reverse Logistics Group and Karo Sambhav are paid by EEE producers to source and pay for e-waste. They should be encouraged to network with kabadiwalas.

International Best Practices

California's Electronic Waste Recycling Act achieves this through an E-waste Recycling Fee on purchases of EEE. That helps reimburse numerous recycling centres offering free services to businesses and consumers.

Conclusion

Not all e-waste is hazardous to manage when dismantling or recycling is carried out by the informal sector. It is usually a minuscule proportion of the total but has disastrous consequences for the environment and public health and for their own health if not carried out with due precaution. Hence, a robust regulatory mechanism needs to be established,

required infrastructure needs to be installed and severe penalties should be enforced for violations to ensure that environmental and health costs due to e-waste generation are not maximized in the future.