
E-Waste Management in India



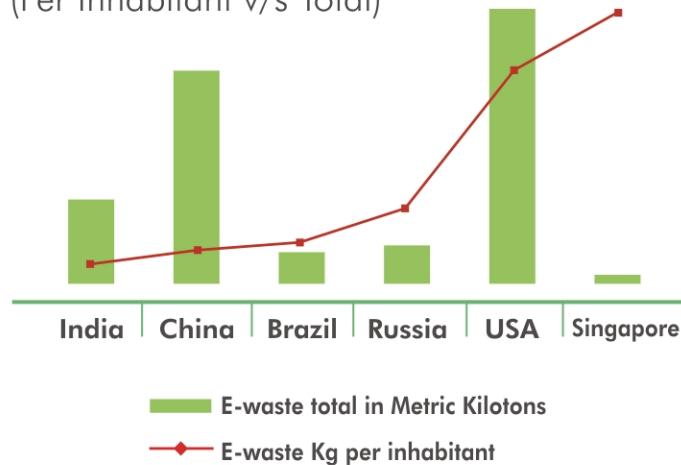
E-Waste Management in India

A Looming threat or an Underexplored Opportunity

India is poised to be an economic superpower by 2030¹. Having displaced Japan recently, it is now the 3rd largest economy in terms of Purchasing Power Parity (PPP). By 2020, 30% of India's population is expected to be in the age group of 25-44 years. This young and earning age profile of the burgeoning Indian population offers huge potential for electronic goods. Further, this has significant economic and social impact as the rapidly increasing consumption and end-of-life rates of electronic products are leading to higher generation of e-waste. In this context, the need for e-waste management cannot be overemphasized.

World E-waste Generation

(Per Inhabitant v/s Total)



According to a report released by the United Nations Organization supported StEP initiative, by 2017, the global e-Waste output levels are expected to touch 65.4 billion tonnes from 48.9 million metric tonnes in 2012.

Value* of electronic hardware production in India



These would typically comprise of discarded electronic and electrical equipment (EEE) such as mobile phones, computers, e-toys, refrigerators, TVs etc. Going by these numbers, India is in an exemplary position: each Indian generates only 2.25 kg of e-waste annually. However, our country is the second most populous country in the world and at 2751.84 metric kilo tonnes, the total e-waste generated by us is among the world's

¹<http://ibnlive.in.com/news/india-inching-closer-to-china-will-be-an-eco-powerhouse-by-2030-us-report/309884-11.html>

²<http://www.ibef.org/download/Electronics-March-2014.pdf>

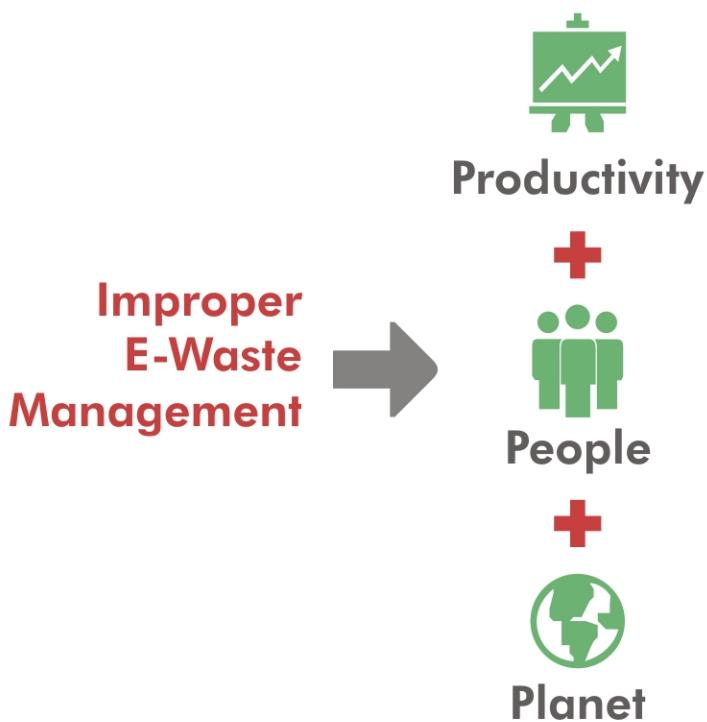
³<http://www.asianage.com/india/india-s-e-waste-will-rise-400-next-5-years-067>

*\$ Billion

highest. E-waste management is therefore not only an excellent opportunity but an essential need of the country.

Informal E-waste Management- A Looming Threat

India's romance with a gadget-obsessed lifestyle has scaled unprecedented heights recently. Since the beginning of 2010, there has been an increase in the manufacture and usage of electronic products. The trend is likely to continue in the future with the value of the Indian electronic production industry estimated at \$104 billion by 2020². While the rapidly multiplying numbers signify economic prosperity and realization of the great Indian consumer story, they are also a grim reflection of the increasing vulnerability of the nation resulting from the mismanagement of e-waste.



For instance, e-disposal from old computers alone is set to jump 400% within the next five years³, while it is expected to increase seven times from 2007 within the next five years. E-waste is a combination of toxic chemicals like lead, mercury, chromium, arsenic, cadmium, copper, beryllium and brominated flame retardants, among others. If not scientifically recycled, it can cause irreversible damage to the health of the people working in e-waste management industry as well as to the ecosystem and the general population.

Impact Assessment

Currently, 90%⁴ of the 2.7 million tonnes⁵ of the country's e-waste is recycled through the informal sector or bicycle bound scrap collectors, popularly known as the 'kabaadis'. A study on e-waste workers in the informal sector in India found that their health conditions were deplorable – with their bodies containing 10-20 times higher than normal levels of toxic metals such as lead, mercury and chromium⁶. Consequently, these individuals are rendered incapable of working by the time they reach 35-40 years⁷ - an age-bracket which is considered to be the peak of the working-age threshold⁸.

Further, since the informal sector operates within the vicinity of residential areas, the communities that are not directly involved in the e-recycling process are also adversely affected. Toxins are circulated in the air, water and soil through unscientific e-recycling processes, slowly poisoning the people and the planet. Such irresponsibility rears its ugly head over the long-term – say over a period of 10 years⁹, while also threatening the well-being of future generations. In fact, the consequences have begun

⁴<http://www.theguardian.com/sustainable-business/india-it-electronic-waste>

⁵Time to Reboot, a report by Toxics Link

⁶<http://news.discovery.com/tech/indias-poor-risk-slow-death-recycling-e-waste.htm>

⁷<http://news.discovery.com/tech/indias-poor-risk-slow-death-recycling-e-waste.htm>

⁸http://www.econ.yale.edu/~nordhaus/Resources/bloometal_pop_w8685.pdf

to show already. Researchers from the Blacksmith Institute found that in 125 Indian toxic-dumping sites, chromium contamination had affected 2.6 million people, while in 96 sites, pollution caused by lead had negatively impacted the health of 1.25 million people¹⁰. According to the World Bank, environmental degradation costs India USD 80 billion annually and accounts for 23% of the country's child mortality rate¹¹. Irrefutably, there is an urgent need to address the e-waste management problem effectively and efficiently.

Organized E-waste Management - An Underexplored Opportunity

In contrast to the threat presented by informal and unscientific e-waste management in India, the opportunities presented by the organized sector are immense. Besides providing the country with the much-needed assurance of environmental sustainability and healthier demographics, the business opportunities presented by the proposition are unequalled. Indeed, an entire ecosystem of economic opportunities can be created around e-waste management.

• Recovery Optimization

As technology advances, the electronic gadget lifespan is proportionately becoming shorter, with an increasing number of consumers choosing to replace existing products with new ones more often than before. Frequently, products have not reached their end-of-life when they are discarded by consumers and hence can be reused, either partially or fully, through recycling and refurbishing. The goal should be to recover maximum

value from discarded e-material and produce zero waste. Effective investments, in terms of technology, capital and awareness, are needed to bridge this gap between e-waste generation and recycling. These can be achieved by improving the channelization mechanism for proper recycling and establishing a system of accountability in e-waste management.

• Environmental Sustainability

Efforts need to be channelized towards integration of the informal sector into the formal e-waste management industry. This will lead to multiple advantages for the e-waste management sector. From the environment sustainability and public health perspective, it will enable a check on rudimentary and unscientific methods of e-waste disposal. Usage of state-of-the-art technology and protection gear will significantly reduce the adverse impact on the environment, workers and general public.

• Addressing the Skill-set Deficit

Our country is expected to have an 11% share in the global consumer electronic market by 2015¹², implying a steady increase in e-waste generation levels. The existing worker population of the sector will not be sufficient to meet this rapidly escalating demand. Streamlining the informal sector with the formal sector will help in addressing the skill-set deficit in the industry. Simultaneously, it will provide a stable means of income generation for the hitherto stray communities of 'kabidis' and check child labour which is rampant in the informal sector.

• Regulatory Leverage

⁹<http://pulitzercenter.org/reporting/asia-india-electronic-waste-toxic-environment>

¹⁰<http://www.anantaaspencentre.in/pdf/Press-Release-toxic-pollution-affecting-millions-of-indians-warns-study.pdf>

¹¹<http://www.worldbank.org/en/news/press-release/2013/07/17/india-green-growth-necessary-and-affordable-for-india-says-new-world-bank-report>

Formalizing the e-waste management industry will also enable better implementation of various rules and regulations introduced by policymakers. These have been formulated to ensure that e-waste is handled in an environmentally safe manner while simultaneously

Rating the approach among top50 electronic Manufacturers in India (Domestic & Multinational)



facilitating efficient material recovery¹³. The Rules also place enormous responsibility on State Pollution Control Boards/Committees (SPCB/Cs), with the onus to implement rules in their respective states. Simultaneously, these will also help in addressing the illegal import of e-wastes from other countries.

• Extended Producers' Responsibility

From May 1st, 2012 the E-waste (Management and Handling) Rules (2011), make it mandatory for all manufacturers of electronic goods to source back 15% of

their products as e-waste. Based on the Extended Producer Responsibility (EPR) principle, the Rules assign responsibility to the Producers to setup take-back systems, ensure that their 'end-of-life' products are collected back from consumers (bulk or individual) and recycled in an environmentally safe manner¹⁴. This regulation alone gives a huge impetus to the formal e-waste management sector. As per industry estimates, the country's E-Waste market is expected to grow at a CAGR of around 30.6% during 2014-19¹⁵.

Conclusion

Bridging the Gap

The gap between e-waste mismanagement and responsible e-waste management can be bridged through a three-pronged strategy of increasing consumer awareness, creating opportunities to integrate the informal sector with the organized one and intensifying efforts to implement a regulatory interface. Investments in this sector, in terms of state-of-the-art infrastructure, training of personnel and adopting global best practices, are likely to pay healthy returns not just for the environment but for the present and the future generations as well. Conversely, a 'grow now and clean up later attitude' will not augur well for the economy, as it will certainly hamper the environmental and demographic sustainability of the nation in the long run.

¹²<http://www.tsmg.com/download/article/E-wastever%20final.pdf>

¹³Time to Reboot, a report by Toxics Link

¹⁴Time to Reboot, a report by Toxics Link

¹⁵<http://www.prnewswire.co.in/news-releases/e-waste-management-market-in-india-to-grow-at-around-30-during-2014-19-says-techsci-research-260949741.html>



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