

E - Waste Generation in India

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Abstract

What is e-Waste

Electronic waste (e-waste) comprises waste electronics/electrical goods that are not fit for their originally intended use or have reached their end of life. This may include items such as computers, servers, mainframes, monitors, CDs, printers, scanners, copiers, calculators, fax machines, battery cells, cellular phones, transceivers, TVs, medical apparatus and electronic components besides white goods such as refrigerators and air-conditioners.



E -Waste Contributing Factors

In India computer devices account for nearly 70% of e-waste because life of computer is around 2 or 3 years. Contribution of telecom sector being 12%, medical equipment 8%, Electronic equipment being 7% of annual e-waste production

The Public and Private Sector Companies generate nearly 75% of e-waste, with the contribution of individual house hold being only 16%. State wise Maharashtra ranks first in generation of e-waste beside (city wise) Mumbai top the list in producing electronic waste.

E-Waste Generation Scenario in India

The Central Pollution Control Board estimates that around 0.5 metric tons of e-waste is generated every day in India. The top ten e-waste waste producing states of India are – Maharashtra, Tamil Nadu, Andhra Pradesh, Utter Pradesh, West Bengal, Delhi, Karnataka, Gujrat, Madhya Pradesh & Punjab.

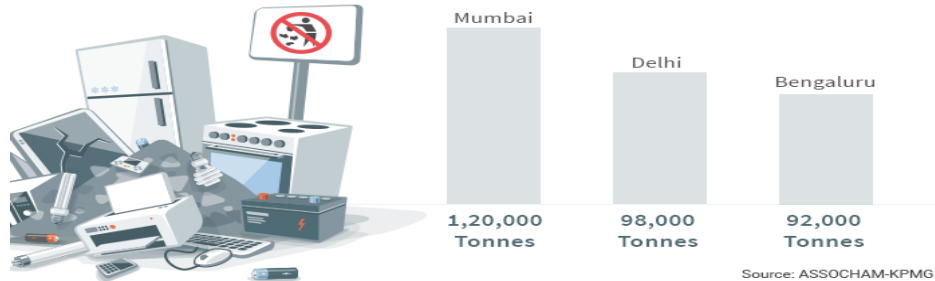
In 2016, India was ranked as the fifth largest generator of e-waste in the world with an estimated 1.85 million tons generated annually. 95% of India's e-waste comes from the unorganized sector.

Globally the annual production of e-waste is nearly 50 million tons with America & China on the first and second rank. India accounts for 4 % of global e-waste generated annually. In India Mumbai ranked first in e-waste generation, generating 1,20,000 tons of e-waste annually. Delhi and Bengaluru ranked second and third with 98,000 and 92,000 tons of e-waste generation respectively.

E-Waste Generation in India

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Top 3 e-Waste Generating Cities of India (2016)

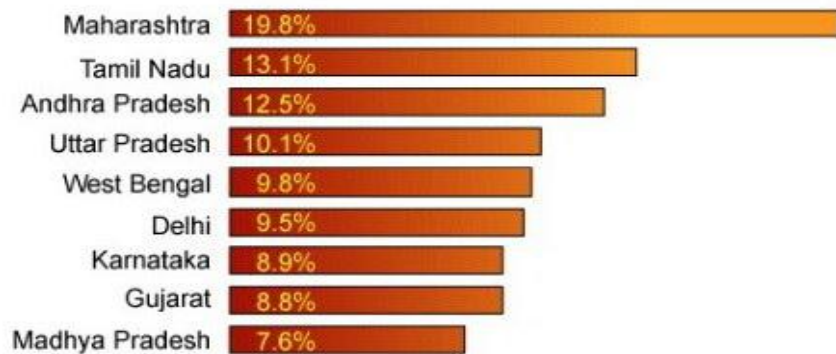


e-waste generated in India is about 20,00,000 Tons per annum, but recycled e-waste is only about 4,38,085 Tons per annum.

State's Contribution

State wise Contribution of e-waste and Recycling of e-waste in India

No.	State	Contribution of e-waste (%)	Recycling of e-waste (TPA)
1	Maharashtra	19.8	47,810
2	Tamil Nadu	13	52,427
3	Andhra Pradesh	12.5	
3	Utter Pradesh	10.1	86,130
4	West Bengal	9.8	
5	Delhi	9.5	
6	Karnataka	8.9	44,620
7	Gujrat	8.8	37,262
8	Madhya Pradesh	7.6	
9	Haryana		49,981
10	Rajasthan		68,670



State-wise E-waste Generation in India (Tonnes/year)

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E-Waste Hazards

E-waste recycling is a concept barely existent in India. As a result, the waste generated is often dumped in rivers or dump yards without proper recycling or treatment. This is hazardous on various levels for both the environment and personal health.

Electronic products like computers, cell phones, laptops, TV contain a lot of different toxins. For example, Cathode Ray Tubes (CRTs) of computer monitors contain heavy metals such as lead, barium, cadmium which can be very harmful to health if they enter the water system. These material can cause damage to the human nervous and respiratory system. Computer mother board and computer batteries contain heavy beryllium, cadmium, mercury which are also very harmful for brain, skin, muscles etc.

Besides having hazardous effects on human health e-waste also have deleterious effects on environment.

- Pollution of ground water
- Acidification of soil
- Air Pollution
- e-wastes accounts for 40% of the lead & 75% of heavy metals found in landfills.

The main cause of large quantity of e-waste generation is very less life of IT accessories, mobiles & computers in comparison to large house hold items. Discard Rate of some electronic Items is as follows

I T Accessories	Very fast
Mobile	1 - 3 years
P C	2 - 3 years
Refrigerator	8 - 10 years
Washing Machine	8 - 10 years
T V	10 - 15 years

India is now in the global list of top fifth highest electronic waste generator, posing grave threat to the environment and public health.

Experts believe if e-waste is handled properly, it can be used as raw material for other products. e-waste contains valuable materials in the form of metals like iron, copper, gold, silver that can be extracted while non-metals like glass and plastic can also be recycled.

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