

World Environment Day

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Fact Sheet on plastic waste in India

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The present scenario

An estimate by the Ministry of Petroleum and Natural gas suggests that the annual per capita consumption in India would be 20 kgs by 2022.

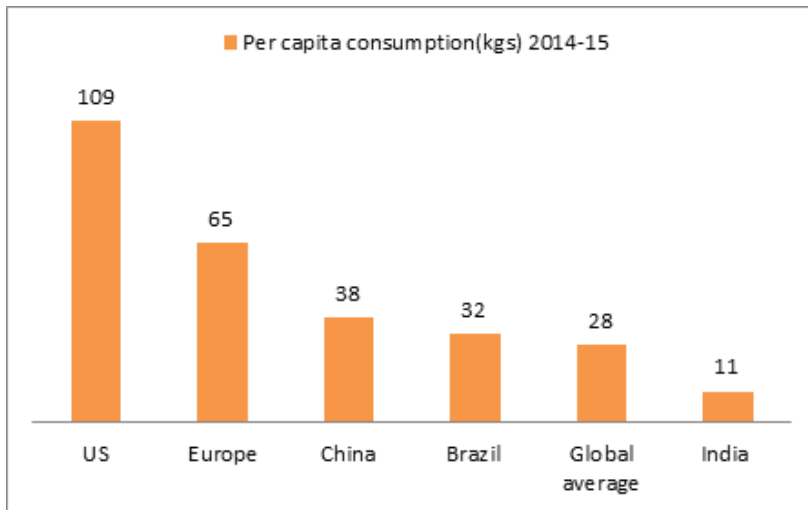
As per CPCB reports, plastic contributes to 8% of the total solid waste, with Delhi producing the maximum quantity followed by Kolkata and Ahmedabad.

Only **60%** of the total plastic waste is being **recycled**.

Households generate maximum plastic waste, of which water and soft drink bottles form a large number.

In India, around 43% of manufactured plastics are used for packaging purpose and most are of single use.

Multi Layered Plastics are categorized under either recyclable, energy recoverable or with some other alternate use, but their recycling is an expensive process.



Source: FICCI

Average per capita consumption of plastic in India is about 11kgs.

Plastic in water bodies

The seas near Mumbai, Kerala and the Andaman and Nicobar Islands are among the worst polluted in the world.

Plastic debris affects at least **267 species** worldwide, including 86% of all sea turtle species, 44% of all seabird species, and 43% of all marine mammal species.

- Significant amount of toxic heavy metals like copper, zinc, lead and cadmium recovered from plastic wastes from sea shores have an adverse effect on the coastal ecosystems.
- Lead and Cadmium pigments, commonly used in most of the plastics as additives are hazardous in nature and are known to leach out.

Several GHG gases are emitted from the landfills. Among them, carbon dioxide and methane constitute 90 to 98%.

Collection

Plastic Waste Management Rules 2016 mandated the producers and brand owners to devise a plan in consultation with the local bodies to introduce a collect-back system. This system is known as the Extended Producers Responsibility (EPR).

CPCB has estimated the collection efficiency as 80.28% in 2014, out of which only **28.4% was treated**. Remaining quantities were disposed in landfills or open dumps.

ULBs could take cue from some best practices followed in cities like Bangalore where Dry Waste Collection Centres have not only been established but also have a self-sustainable business model.

Need to establish a monetized collection model for plastic waste that has economic returns for all those involved.

Virgin plastics (e.g. those used in food packets, etc) should be collected separately because of the higher value it draws.

Alternatives

Develop **bio-based and biodegradable plastic** which utilize starch, cellulose, poly lactic acid as raw materials for short-term use products.

- Need to promote the use of biodegradable plastic, and especially in high-end large scale applications (give examples) that can absorb the full cost of this kind of plastic. This will help in moving out bioplastics from labs to markets.
- India already has a market for bioplastics with several manufacturing plants at Bengaluru and Chennai.

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Recycling

Some plastics have fibers which shorten with every time it is recycled. Thus, a plastic can be recycled 7-9 times before it is no longer recyclable.

Recycling is good - every ton of plastic waste recycled results in a saving of approximately 3.8 barrels of petroleum.

Technologies are available in India that can convert **1 Kg of plastic to 750 ml of automotive grade gasoline.**

Shredded plastic waste can be used in laying roads.

- Jambulingam Street in Chennai was one of India's first plastic roads built in 2002.
- In 2015-16, the National Rural Road Development Agency laid around 7,500 km of roads using plastic waste.

Co-processing of plastic in cement kilns offers a sound, environmentally viable mechanism to process non-recyclable, combustible plastic waste.



The Energy and Resources Institute
Darbari Seth Block, IHC Complex
Lodhi Road, New Delhi 110 003, India
Tel 24682100 / 41504900
Fax 24682144 / 24682145
India +91 Delhi (0)11
Email pmc@teri.res.in
Web teriin.org

