

# Mounting Plastic Waste

## Context

- Prime Minister recently announced that India will be made plastic pollution free, and a blanket ban on single-use plastic as part of a broader campaign to “rid” India of it by 2022.

## What are Plastics?

- Plastics are non-biodegradable, synthetic polymers. They are made-up of long chain hydrocarbons with additives and can be moulded into finished products.
- These polymers are broken into monomers such as ethylene, propylene, vinyl, styrene and benzene, etc.
- Finally, the monomers are polymerised chemically into different categories of plastics.

## About Plastic Pollution

- In the recent decades, there has been a drastic change in the composition of waste, with the increase in the use of plastics.
  - Around 25,940 tonnes of plastic waste is generated in India every day. Of this, nearly 40% is neither collected nor recycled.
- Petroleum-based plastic is not biodegradable. It usually goes into a landfill where it is buried or it gets into the water and finds its way into the ocean.
  - Since plastic does not decompose into a natural substance like soil, it degrades (break down) into tiny particles after many years.
- It releases toxic chemicals (additives that were used to shape and harden the plastic) in the process of breaking down which make their way into our food and water supply.
- A major threat to oceans according to a 2017 International Union for Conservation of Nature (IUCN) report, micro plastics are estimated to constitute up to 30% of marine litter polluting the oceans.
- People living in China, Indonesia, the Philippines, Thailand, and Vietnam along rivers and coastlines are the most impacted by plastic pollution.
- Low-income communities near plastic production sites face more health impacts, due to greater exposure to toxins and waste, and bear the brunt of the impacts of improper plastic disposal and incineration.
- Henderson Island in the South Pacific is the most plastic polluted of any island recorded to date.

## Effects of Plastic Pollution on humans

The ingestion of micro plastics is very dangerous for humans as these substances contain high concentrations of toxic chemicals such as polychlorinated biphenyls.

- These poisonous chemicals are now found in the human bloodstream, causing cancer, infertility, birth defects, impaired immunity and many other ailments.
- Current research has now also established that humans are ingesting plastic equivalent to a credit card in a week. The main source of ingestion remains tap and bottled water.
- Other sources for plastic to enter human bloodstream is by the microplastics which is directly released as microbeads in facial wash or toothpaste.

### Challenges in reducing plastic consumption

Even with speculations of a ban of plastics, it is evident that the basic groundwork is missing. There remains a lack of clarity on the definition of single-use plastic, with no guidelines issued regarding its usage or any clear plans forwarded to stop the usage or to provide for alternatives.

- In medical use, for instance, plastic is considered safe and clean, even though there are reports indicating that plastic bottles contaminate the medicines stored in them and standards for safe plastic packaging are not maintained in India.
- Though there has been enough data on ill-effects of usage of plastic, most of these facts, even if known, have not managed to move humans to reduce plastic use.
- Use of plastic has become part of a culture in which those who consume and litter are not supposed to be responsible for either cleaning after themselves or to bother about what will happen to the waste they are producing.
- Alternatives are more dangerous as studies suggests that using alternative materials such as paper and glass, could be more harmful to the environment than plastic itself.
- Bioplastics made out of plant material or even areca bio plates are not easily biodegradable if littered in the open environment.
- Further, companies in India have shown preference to importing of plastic, despite import bans, as they find it cheaper than collecting and recycling locally generated waste.
  - The recycling trade work has worked in a way that toxic waste and polluting factories have been moving to the “lands and hands of the poor” in the name of commerce and livelihoods.

### Way Forward

- Plastic waste, **segregation at the source** is the key to make recycling viable.
- Multi-layered plastics used in most food packaging are difficult to recycle and a **mandatory collect-back system** needs to be ensured by an effective implementation of extended producer responsibility.

- There is also a need to **further develop the recycling technologies and processing methods**, as most of the plastic in India is downcycled, which means PET (polyethylene terephthalate) gets recycled into a low-quality product.
  - However, a circular plastics economy—that is, when all the produced plastic gets reused and recycled—is possible only to an extent, as recycling has its limits and can be carried out for the same plastic only a few times.
- Most municipalities, however, are struggling to implement existing plastic and solid waste regulations.
  - In the absence of proper waste management, degraded and dirty plastic makes recycling more expensive, unsafe, and water intensive. Therefore, implementation of laws in spirit is important going forward

## Conclusion

- Mounting waste, thus, is a problem that is getting created because of improper disposal, as much as by increased consumption.
- In addition to the prudent use of different materials, what needs to be addressed is the throwaway culture that replaces the tendencies of reuse, and a disregard and disassociation with the waste that gets produced.
- If not reduced, societies will keep choking on the waste that they produce.