

Single Use Plastic

Single-use or throwaway plastics are only used one time before being discarded or recycled. Plastic containers, straws, coffee stirrers, soft drink and water bottles, and the majority of food packaging are examples of these goods. About 300 million tonnes of plastic are produced annually, and half of it is throwaway. Only 10% to 13% of plastic products are recycled globally. Disposable plastic made from petroleum is difficult to recycle because of its nature; in order to do so, fresh virgin ingredients and chemicals must be added. Furthermore, there are just a few products for which recovered plastic may be used.

The topic has a very high chance of being asked as a UPSC Prelims Environment and Ecology Question or as a Current Affairs Question as it has been in the news recently.

About Single Use Plastic

In simplest terms, single-use plastics are products that are created mostly from chemicals derived from fossil fuels (petrochemicals) and are intended to be thrown away immediately after use - often in a matter of minutes. The most popular applications for single-use plastics are in packaging and service items including bottles, wraps, straws, and bags.

History of Plastic

Although plastic - basically a chain of synthetic polymers - was created in the middle of the 19th century, its acceptance didn't really take off until the 1970s. Plastic jugs started to take the place of traditional milk jars with paper or glass staples because they are lighter, more inexpensive, and more durable. Half of the 8.3 billion metric tonnes of plastics created since the 1950s have been manufactured in the last 15 years alone.

Plastic Problem

Plastic's carbon footprint is decreased by recycling more of it more often. One of the most often recycled polymers, polyethylene terephthalate, which is used to produce most water and soda bottles, may be used to make anything from polyester fabric to automobile parts. However, a staggering 91% of all plastic is not recycled at all. Instead, it finds its way into the environment or landfills. Particularly small objects like straws, bags, and cutlery are traditionally difficult to recycle because they get caught in the cracks of recycling equipment and are frequently rejected by recycling facilities.

Plastics just break up when left unattended; they don't actually degrade. Plastics steadily break up into tiny pieces over time in the sun's heat, eventually becoming microplastics. These little pieces, which are less than 5 millimetres long, are difficult to see but are present everywhere. Some microplastics, like the microbeads used in face cleansers or the microfibers in polyester garments, are even made to be tiny. They wind up in the water, getting eaten by animals, and getting inside of us. Even the isolated Pyrenees mountain range and the Mariana Trench's base have been reached by them. Microplastics pose a particular threat to animals since they can quickly amass inside an animal's body after ingestion and result in health problems including pierced organs or fatal gastrointestinal blockages.

Cause of Concern for Humans

Our health is negatively impacted by microplastic exposures as well as by the chemical additives to plastics during manufacturing. Research suggests that exposure to so many of the chemicals in plastic,

termed endocrine disruptors, may have negative health effects on humans, including hormone abnormalities, reproductive issues like sterility, and sometimes even cancer. To give just one example among many, the phthalate DEHP has frequently been added to plastic products like shower curtains as well as garden hoses to increase their flexibility, but the U.S. Environmental Protection Agency also concluded that it may be a potential human carcinogen.

Single Use Plastics Pollution

Even while the pollution caused by single-use plastics is most obvious in our streets, our water is actually worse off. As plastics left on the ground are carried away by rain or reach river systems via storm drains, trash could be the first phase in wastewater that enters waterways. Merely ten rivers carry 93% of the total quantity of plastics that reaches the oceans through rivers each year, making our waterways' plastic pollution extremely dense. This overflow of trash into marine environments burdens marine species. Whales that had washed up on beaches have had stomachs full of plastic waste. Additionally, ninety per cent of the seabirds investigated and 100 per cent of the turtles had plastic in their stomachs, according to recent studies. Alarming, according to scientific predictions, there'll be more plastic in the ocean by mass than fish in 2050. In addition to poisoning seafood that mankind has depended on for millennia, microplastics in animals' intestines are thought to be the primary cause of the estimated annual killing of millions of marine animals as well as seabirds.

Single Use Plastic Ban

From July 1, "single-use plastic" will no longer be used, according to the Center. The list of things that would be prohibited as of next month has been determined by the Ministry for Environment, Forest, and Climate Change, which had already announced the restriction in a notification last year. In September 2021, the Ministry already prohibited polythene bags smaller than 75 microns; the previous maximum was 50 microns. Beginning in December, polythene bags smaller than 120 microns will also be prohibited. The following items have been banned by the Central Pollution Control Board (CPCB):

1. Earbuds
2. Balloon sticks
3. Candy and ice cream sticks
4. Cutlery items including plates, cups, glasses, forks, spoons, knives, trays
5. Sweet boxes
6. Invitation cards
7. Cigarette packs
8. PVC banners measuring under 100 microns
9. Polystyrene for decoration

The Plastic Waste Management Rules, 2016, also completely forbid the use of sachets to store, package, or sell gutkha, tobacco, or pan masala.

Enforcement of Ban

The State Pollution Control Boards (SPCBs), which will submit regular reports to the Center, as well as the CPCB from the Center will monitor the ban. At the national, state, as well as local levels, instructions have been given to all petrochemical companies, for instance, not to supply raw materials to businesses that manufacture the prohibited goods. Additionally, instructions have been given to SPCBs as well as Pollution Control Committees on how to change or cancel the permission to operate granted under the Air/Water Act to businesses that manufacture single-use plastic items. Local governments have been ordered to provide new commercial licences with the requirement that SUP

products will not be offered on their premises and that any permits already in place would be revoked if it is discovered that they are doing so.

Additionally, 200 producers of compostable plastic received one-time certificates from the CPCB, and the BIS approved standards for biodegradable plastic. According to the Environment Protection Act of 1986, anyone found in violation of the ban faces a punishment of up to 5 years in prison, a fine of up to Rs. 1 lakh, or both. The SPCB may also require violators to incur environmental damage compensation. Municipalities also have their own plastic trash regulations and criminal codes.

