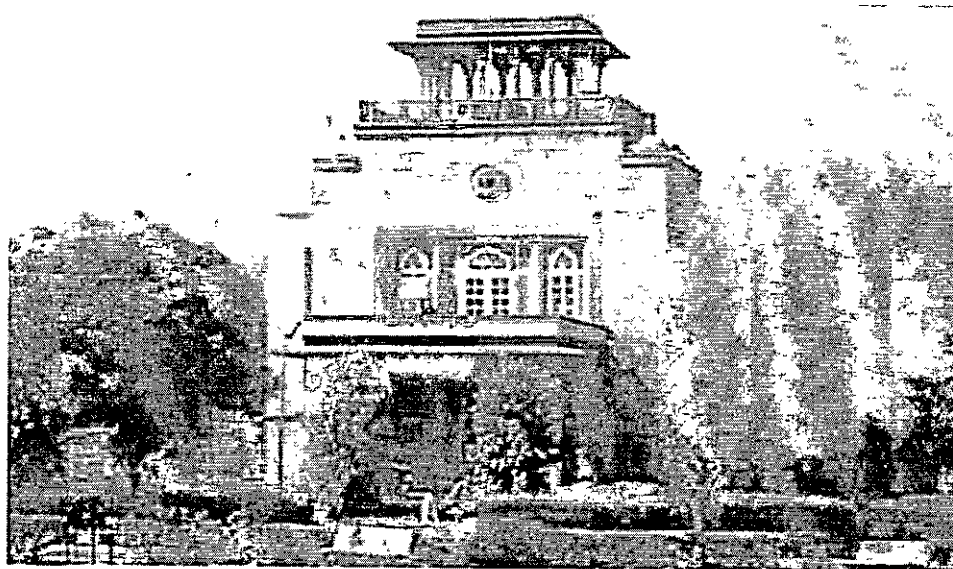


**SUP (*Single-Use Plastic*):
Environmental Concerns and Alternatives**



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Introduction

Globally, plastic pollution has emerged as a serious threat. It cause many disease in living being. Single-Use Plastics (SUP) present a complex array of problems that impact ecosystems, wildlife, human health, and waste management systems. Addressing these issues requires a concerted effort to reduce plastic use, improve recycling technologies, and explore sustainable alternatives.

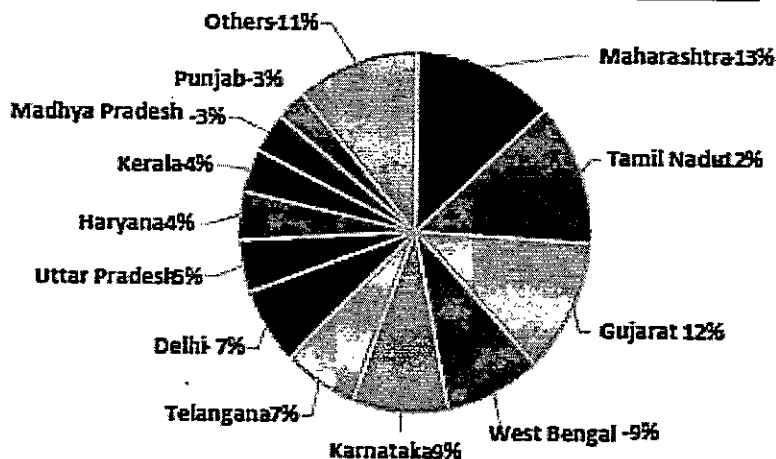
Single-Use Plastic as plastic item intended to be used once for the same purpose before being disposed of or recycled (Plastic Waste Management Rules, 2021).

Single-Use Plastics (often referred to as disposable plastics) as items being commonly used for plastic packaging, including items intended to be used only once before being thrown away or recycled. These include grocery bags, food packaging, bottles, straws, containers, cups cutlery, etc. [United Nation Environment Programme (UNEP) in its 2018 Report].

According to a report on Plastic Waste Management released by Ministry of Housing and Urban Affairs, the global average of plastic per capita consumption is 28 kg and India has a per capita plastic consumption of 11 kg. The Central Pollution Control Board (CPCB) Report (2019-20) states that 3.5 million metric tonnes of plastic waste are generated in India annually.

The global recycling percentage is low, only 9 per cent, and this calls for immediate and integrated actions to manage plastic globally and focus on recycling or upcycling.

State/UT wise Plastic waste Generation



Environmental Impacts of SUP

1. **Non-Biodegradability:** Single-Use plastics are designed for short-term use but persist in the environment for hundreds of years. They gradually break down into microplastics—tiny fragments that are pervasive in ecosystems and difficult to clean up. These microplastics are ingested by wildlife, leading to harmful effects up the food chain.
2. **Ecosystem Damage:** Plastics can block waterways and contribute to urban flooding. Items like plastic bags and wrappers can clog drains, causing flooding and creating breeding grounds for disease-carrying pests like mosquitoes. This increases the risk of vector-borne diseases such as malaria and cholera.
3. **Threat to Wildlife:** Animals can ingest plastic debris, which can cause blockage in their digestive systems, leading to starvation or death. Moreover, toxic chemicals in plastics can accumulate in animal tissues, eventually entering the human food chain.

Health Risks

1. **Chemical Exposure:** Many plastics contain harmful chemicals like styrene, benzene, and bisphenol A (BPA), which can leach into food and water. These chemicals are linked to various health issues, including cancer, reproductive problems, and neurological damage.
2. **Hazardous Emissions:** Burning plastic waste releases dangerous chemicals into the air, including dioxins, furans, mercury, and polychlorinated biphenyls (PCBs). These pollutants can cause serious health problems, such as respiratory issues and increased cancer risk.

Recycling Challenges

1. **Difficult to Recycle:** Single-Use plastics are often thin and flexible, making it a challenge to recycle them. Their low value and high contamination rate reduce the incentive for recycling facilities to process them, resulting in these plastics often ending up in landfills or the environment.

2. **Economic Inefficiency:** The effort and cost required to collect, sort, and recycle single-use plastics often outweigh the benefits. This inefficiency contributes to the accumulation of plastic waste in natural environments.

Broader Impact

1. **Visual Pollution:** Plastic waste is unsightly and contributes to the degradation of natural landscapes and urban areas. This visual pollution affects the aesthetic value of environments and can have indirect effects on mental well-being.
2. **Resource Depletion:** The production of Single-Use Plastics relies on finite fossil fuels, contributing to resource depletion and environmental degradation through extraction processes and greenhouse gas emissions.

ACTION TO STOP THE USE OF SUP

A resolution was piloted by India on addressing Single-Use Plastic (SUP) products pollution at the 4th United Nations Environment Assembly (UNEA) held in Nairobi, Kenya in March 2019.

Hon'ble Prime Minister Shri Narendra Modi in his Independence Day's speech in 2019 gave a clarion call to make India free from Single-Use Plastic.



भारत ही नहीं आज पूरी दुनिया के लिए ये गर्व का विषय है, कि, आज जब हम गाँधी 150 मना रहे हैं, तो इसके साथ ही, 130 करोड़ देशवासियों ने Single Use Plastic से मुक्त होने का संकल्प लिया है। पर्यावरण संरक्षण की दिशा में, भारत ने पूरे विश्व में जिस प्रकार की lead ली है, उसे देखकर, आज सभी देशों की नजरे भारत की ओर टिकी है। मुझे पूरा विश्वास है, आप सब 2 अक्टूबर को Single Use Plastic से मुक्ति के लिए होने वाले अभियान का हिस्सा बनने वाले ही होंगे।

'मन की बात' में प्रधानमंत्री नरेंद्र मोदी 20 अक्टूबर 2019

The Ministry of Environment, Forest and Climate Change notified the **Plastic Waste Management (Amendment) Rules 2021** on 12th August 2021, prohibiting the manufacture, import, stocking, distribution, sale and use of the following identified Single-Use Plastic items (including polystyrene and expanded polystyrene), which have low utility and high littering potential. **Complete ban on SUP was enforced from 1st July, 2022 in India.**

The following identified Single-Use Plastic items are are completely banned with effect from 1st July, 2022:

- ✓ Ear buds with plastic sticks
- ✓ Plastic sticks for balloons
- ✓ Plastic flags
- ✓ Candy sticks
- ✓ Ice-cream sticks
- ✓ Polystyrene [Thermocol] for decoration
- ✓ Plates
- ✓ Cups
- ✓ Glasses
- ✓ Cutlery such as forks, spoons, knives, straw, trays
- ✓ Wrapping or packing films around sweet boxes, invitation cards, Cigarette packets
- ✓ Plastic or PVC banners less than 100 micron
- ✓ Stirrers

The notification mentioned that plastic or PVC banners/hoardings should have more than 100 microns in thickness, and non-woven plastic (polypropylene) carry bags must be more than 60 GSM (gram per square metre) with effect from 30th September 2021.

In order to stop littering due to light weight plastic carry bags, with effect from 30th September 2021, the thickness of plastic carry bags had been increased from 50 microns to 75 microns and with effect from 31st December 2022, further to 120 microns. The increase in thickness will allow the reuse of plastic carry bags.

How is the ban being enforced?

- The ban is being monitored by the Central Pollution Control Board (CPCB) from the Centre, and by the State Pollution Control Boards (SPCBs) in states that will report to the Centre regularly. Directions have been issued at national, state and local levels – for example, to all petrochemical industries – to not supply raw materials to industries engaged in the banned items.

- Directions have also been issued to SPCBs and Pollution Control Committees (PCCs) to modify or revoke consent to operate issued under the Air/Water Act to industries engaged in SUP items.

- Local authorities have been directed to issue fresh commercial licences with the condition that SUP items will not be sold on their premises, and existing commercial licences will be cancelled if they are found to be selling these items.

Alternatives to SUPs

- Greener alternatives to plastic *e.g.* compostable and bio-degradable plastic may be considered a sustainable option.
- Bio-based plastics or bioplastics (manufactured in whole or in part from biological resources) may be used.
- Bamboo, paper or metal straws may be used to replace plastic straws.
- Promote bamboo or another reusable material as cutlery.
- Replace plastic shopping bags with reusable cloth bags.
- Natural fibres can be used for sponges and dish rags with scrubbers.
- Replace plastic cotton buds with bamboo or paper cotton buds that are disposable or go for reusable cotton buds.

Single-Use Plastics, while convenient and cost-effective, pose severe environmental and health risks. So we should immediately stop the the use of SUPs.
