



Life of Plastic

For Prelims: Plastic Waste, Types of Plastic Waste, Related Initiatives

For Mains: Plastic Waste, Types of Plastic Waste, Impact of Plastic Waste, Challenges in Plastic Waste Management, Government's Initiatives

Why in News?

Recently, the document titled **“The Plastic Life-Cycle”** has stated that **India is not collecting and recycling its polymer waste properly.**

- The document highlighted that **unless the entire life cycle of plastic**, from source to disposal, is not together considered as the root cause of the pollution it causes, **the problem is not going away.**

What is Plastic Waste?

- **About:**

- Unlike **other forms of waste** like paper, food peels, leaves etc., **which are biodegradable** (capable of being decomposed by bacteria or other living organisms) in nature, plastic waste **because of its non-biodegradable nature** persists into the environment, for hundreds (or even thousands) of years.

- **Major Polluting Plastic Waste:**

- **Microplastics** are small plastic pieces of **less than five millimeters** in size.
 - Microplastic includes **microbeads** (solid plastic particles of less than one millimeter in their largest dimension) that are used in **cosmetics and personal care products, industrial scrubbers**, microfibers used in textiles and virgin resin pellets used in plastic manufacturing processes.
 - Due to sun exposure and physical wear, large pieces of plastic that were not recycled break up to produce microplastics.
- **Single-use plastic** is a disposable material that can be **used only once before it is either thrown away or recycled**, like plastic bags, water bottles, soda bottles, straws, plastic plates, cups, most food packaging and coffee stirrers are sources of single use plastic.

- **Issues Associated:**

- **More Plastic Per Person:**
 - A little over 10,000 tonnes a day of plastic waste remains uncollected.
- **Unsustainable Packaging:**
 - India's **packaging industry** is the biggest consumer of plastics.
 - A 2020 study on packaging in India projects a loss of almost 133 billion dollars worth of plastic material value over the next decade due to unsustainable packaging.
 - Unsustainable packaging involves **general packaging through single use plastic.**

- **Online Delivery:**
 - The popularity of **online retail and food delivery apps**, though restricted to big cities, is **contributing to the rise in plastic waste**.
 - India's biggest online delivery startups Swiggy and Zomato are each reportedly delivering about 28 million orders a month.
- **Upsets the Food Chain:**
 - Polluting plastics can affect the **world's tiniest organisms**, such as **plankton**.
 - When these organisms become poisoned due to plastic ingestion, this causes problems for the larger animals that depend on them for food.

What are the Challenges Faced by India in Plastic Waste Management?

- **Management of plastic waste involves two distinct steps:**
 - Collection and recycling
 - End-of-life disposal.
 - **Both are not executed properly in India.**
- **Improper Implementation and Monitoring:**
 - The collection of plastic waste is the **responsibility of [local government bodies](#)**, producers, importers and brand owners.
 - However, plastic waste in India is collected mostly by ragpickers, rather than the authorities.
 - As high as 42% - 86% of the plastic waste in India flows through the informal sector to material recovery facilities operated by multinational corporations in partnership with local governments or otherwise.
 - The Indian government claims that the country is recycling 60% of its plastic waste. However, this is limited to specific types of polymers (plastics) like PET bottles.
 - As per a statistical analysis done by Centre for Science and Environment using Central Pollution Control Board (CPCB) 's data, **India is merely recycling (through mechanical recycling) 12% of its plastic waste.**
- **Burning of Waste:**
 - Close to 20% of plastic waste is channelised for end-of-life solutions like co-incineration, plastic-to-fuel and road making, which means India is burning 20% of plastic waste.

What is India Doing for Plastic Waste Management?

- **[National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management:](#)**
 - India launched a nationwide awareness campaign on **Single Use Plastics on World Environment Day in June 2022**.
 - A mobile app for **Single Use Plastics Grievance Redressal** was also launched to empower citizens to check sale/usage/manufacturing of SUP in their area and tackle the plastic menace.
- **[Plastic Waste Management Amendment Rules, 2022:](#)**
 - It prohibits the manufacture, import, stocking, distribution, sale and use of several **single-use plastic items as of July 1, 2022**.
 - It has also mandated **[Extended Producer Responsibility \(EPR\)](#)** that incorporates circularity by making manufacturers of products responsible for collecting and processing their products upon the end of the products' lifetime.
- **[India Plastics Pact:](#)**
 - It is the first of its kind in Asia. The Plastics Pact is an **ambitious and collaborative initiative to bring stakeholders together** to reduce, reuse and recycle plastics within the material's value chain.
- **Mascot 'Prakriti':**
 - To spread awareness among masses about small changes that can be sustainably adopted in lifestyle for a better environment.
- **[Project REPLAN:](#)**
 - **Project REPLAN (stands for REducing PLastic in Nature)** launched by **[Khadi and Village Industries Commission \(KVIC\)](#)** aims to reduce consumption of plastic bags by providing a more sustainable alternative.

What should be Our Approach Moving Forward?

- **Identifying Hotspots:**
 - Identifying **key hotspots of Plastic leakage** associated with production, consumption, and disposal of Plastic can assist governments in developing effective policies that address the plastic problem directly.
- **Designing Alternatives:**
 - Identifying **plastic items that can be replaced with non-plastic, recyclable, or biodegradable materials is the first step.**
 - Promoting the use of **Oxo-biodegradable plastics**, that are manufactured to be broken down by ultra-violet radiation and heat, more quickly than regular plastics.
- **Recycling through Technologies and Innovation:**
 - Waste is valuable and Waste is a resource, especially plastic. Recycling, especially plastic recycling, sets a system in place which creates a value chain for waste.
- **Circular Economy for Plastic Management:**
 - **Circular economy** can reduce material use, redesigns materials to be less resource intensive, and recaptures “waste” as a resource to manufacture new materials and products.
 - Circular economy can also contribute significantly to the achievement of sustainable development goals.

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Q. Why is there a great concern about the ‘microbeads’ that are released into environment? (2019)

- (a) They are considered harmful to marine ecosystems.
- (b) They are considered to cause skin cancer in children.
- (c) They are small enough to be absorbed by crop plants in irrigated fields.
- (d) They are often found to be used as food adulterants.

Ans: (a)

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