



Plastic Overshoot Day

For Prelims: Plastic Overshoot, [Single-use plastic](#), [Marine pollution](#), [National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management](#), [Plastic Waste Management Amendment Rules, 2022](#), [Project REPLAN](#)

For Mains: Issues Associated with Plastic-Waste in India.

Source: [DTE](#)

Why in News?

Recently, the **Earth** witnessed **Plastic Overshoot Day** on July 28, 2023. This marks the point in the year when the amount of [plastic waste](#) generated exceeds the global waste management capacity.

- The Plastic Overshoot Day Report by Swiss-based research consultancy **Earth Action** (EA) sheds light on the alarming issue of plastic pollution and its implications on the environment.

What are the Major Findings of the Report?

- **About:**
 - Plastic Overshoot Day is determined based on a country's **Mismanaged Waste Index (MWI)**. The gap in waste management capacity and plastic consumption is called MWI.
- **Plastic Pollution Crisis:** The report highlights that an additional **68,642,999 tonnes of plastic waste will enter nature in 2023**, indicating a severe plastic pollution crisis.
 - The report identifies 12 countries responsible for **52% of the world's mismanaged plastic waste**. **India** is among them, alongside **China, Brazil, Indonesia, Thailand, Russia, Mexico, the United States, Saudi Arabia, the Democratic Republic of Congo, Iran, and Kazakhstan**.
 - The three countries with the highest mismanaged waste percentages—**Mozambique (99.8%), Nigeria (99.44%), and Kenya (98.9%)** belong to Africa.
 - India ranks **fourth in the MWI**, with 98.55% of generated waste.
- **Short-life Plastics:** Short-life plastics, including plastic packaging and [single-use plastics](#), make up approximately **37% of the total plastic used annually**. These categories pose a higher risk of leakage into the environment.
- **India's Plastic Overshoot:** Plastic Overshoot Day for India occurred on **January 6, 2023**, when the country's plastic waste generation outweighed its waste management capacity.
 - **India's per-person consumption is 5.3 kg**, significantly lower than the global average of 20.9 kg.

What is the Major Significance of Plastic?

- **Food Preservation:** Plastics are widely used in food packaging, which helps **extend the shelf life of perishable goods**, reducing [food waste](#) and enabling efficient transportation of goods.
- **Medical Applications:** Plastics play a crucial role in **modern medicine**. They are used in medical devices, such as **syringes, catheters, and artificial joints**, which improve patient care and quality of life.
- **Safety in Transportation:** Plastics are used in automotive applications to make **vehicles lighter**, which can lead to improved fuel efficiency and reduced emissions, contributing to a greener environment.
- **Insulation:** Plastic materials are **excellent insulators for electrical and thermal purposes**. They help improve energy efficiency in buildings and electronic devices.
- **Water Conservation:** Certain types of plastics, like those used in pipes and irrigation systems, help [conserve water](#) by **reducing leakages** and improving water distribution efficiency.

What are the Issues Associated with Plastic-Waste in India?

- **Poor Waste Management Infrastructure:** One of the major problems is the inadequate waste management infrastructure in India.
 - The majority of [municipal authorities](#) **lack proper facilities for segregation, collection, transportation and recycling of plastic waste**.
 - As a result, **a significant portion of plastic waste ends up in landfills**, open dumpsites, or even littered in the environment, leading to severe pollution.
 - According to the Centre for Science and Environment's report, **India recycles 12.3% of its plastic waste and incinerates 20%**.
- **Single-Use Plastic Products:** The widespread use of single-use plastic products, such as **bags, bottles, straws, and packaging**, exacerbates the plastic waste problem.
 - These **items are convenient but are discarded after one use**, contributing significantly to the accumulation of plastic waste.
- **Marine Pollution:** India's coastal areas are particularly affected by plastic waste. Rivers and other water bodies **act as conduits for plastic waste to reach the oceans, resulting in [marine pollution](#)**.
 - This pollution harms marine life, ecosystem health, and can even have economic impacts on coastal communities reliant on fishing and tourism.
- **Health Impacts:** Improper plastic waste disposal and the burning of plastic can **release harmful chemicals and toxins**, leading to adverse health effects for communities living near waste disposal sites or engaged in informal recycling activities.

What are Government Initiatives Related to Plastic Waste Management?

- [National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management](#)
- [Plastic Waste Management Amendment Rules, 2022](#)
- [Project REPLAN](#)

Way Forward

- **Extended Producer Responsibility (EPR):** India should invest in waste management policies like [EPR](#), which holds producers responsible for the **end-of-life disposal** of their plastic products and promotes circular economy.
- **Waste-to-Energy Plants:** There is a need to invest in waste-to-energy plants that use advanced technologies like **plasma gasification or anaerobic digestion** to convert non-recyclable plastic waste into energy.
 - These plants can help **reduce the dependence on [fossil fuels](#) and generate electricity** while managing plastic waste effectively.
 - The Ministry of Environment, Forests, and Climate Change has indicated that **India has the capacity to process 14.2 million tonnes of plastic waste annually**, which

accounts for 71% of all primary plastic produced.

- **Designing Alternatives:** Identifying plastic items that can be replaced with non-plastic, recyclable, or biodegradable materials is the first step. Find alternatives to single-use plastics and reusable design goods by working with product designers.
 - **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.
- **Supporting the UN Treaty to End Plastic Pollution:** India's role in addressing plastic pollution is crucial.
 - The country was among the first to **propose a global ban on single-use plastics in 2019.**
 - The **UN Treaty to End Plastic Pollution** represents an opportunity for global action against plastic pollution and should be promoted.

UPSC Civil Services Exam, 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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