



Peak Plastics: Bending the Consumption Curve

For Prelims: G20, Microplastics, National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management, Plastic Waste Management Amendment Rules, 2022, Project REPLAN, Circular economy.

For Mains: Issues Associated with Plastic, Recent Government Initiatives Related to Plastic Waste Management.

Why in News?

A new report suggests that [plastic consumption](#) in [G20 countries](#) will almost double by 2050, with the volume of plastic consumption rising to **451 million tonnes from 261 million tonnes in 2019**.

- The report, "**Peak Plastics: Bending the Consumption Curve**," explores the potential impact of policies being considered by the [United Nations'](#) plastic treaty negotiators.

What does the Report on Plastic Consumption Suggest?

- The report examined the potential impact of three key policies that cover the entire lifecycle of plastic, from **production to disposal**.
 - These policies include **a ban on problematic [single-use plastic](#)**, a polluter pays **extended producer responsibility scheme** for full end-of-life costs, and a **tax on virgin plastic production**.
- The study found that a combination of these policies and bolder action, including **possible restrictions on virgin plastic production**, will bring about peak plastic and see consumption slow in the future.
 - The researchers described **peak plastic consumption as the point and volume at which global plastic consumption stops growing** and begins to recede.
- The analysis is focused on the **19 countries of the G20** — Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, and the United States.
- The report warned that **[extended producer responsibility](#) schemes will have a minimal effect** on the consumption of single-use plastic products.
 - A global **ban on unnecessary single-use plastic items** will be the most effective policy. **South Korea was the first to do so nationally for selected products in 2019**, later expanding the ban to other items. **India, France, Germany, Italy, Canada and China** have also imposed nationwide bans.

What is the Significance of Plastic?

- **Resistant, inert, and lightweight**, plastic offers many benefits to companies, consumers, and other links in society. This is all because of its low-cost and versatile nature.
 - In the **medical industry**, plastics are used to **keep things sterile**. Syringes and surgical implements are all plastic and single use.

- In the [automotive industry](#), it has allowed a significant reduction in vehicle weight, **reducing fuel consumption** and, consequently, the environmental impact of automobiles.

What are the Issues Associated with Plastic?

- **Single Use Plastic:**
 - Plastics are **primarily produced from crude oil, gas, or coal, and 40% of total plastic** is discarded after a single use.
 - Our relationship with plastic is short-term focused. Many of these products, such as **plastic bags and food wrappers**, have a lifespan of mere minutes to hours, yet they may persist in the environment for hundreds of years.
- **Microplastics:**
 - Sea, sunlight, wind, and wave action break down plastic waste into small particles, often **less than one-fifth of an inch** across called [microplastics](#). Spread throughout the water column and have been found in every corner of the globe.
 - **Microplastics** are breaking down further into smaller and smaller pieces- **Plastic microfibers**. They have been found in **municipal drinking water systems** and drifting through the air.
- **Other Issues:**
 - **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.
 - Larger items, such as plastic bags and straws, **can choke and starve marine life**.
 - **Impact on Human Health:**
 - The [World Health Organisation](#) published shocking research in 2018 that exposed the presence of microplastics in **90% of bottled water**.
 - We absorb plastic through our clothes, **70% of which are synthetic** and the worst fabric for the skin.

What are the Initiatives Related to Plastic Waste Management?

- **Indian Initiatives:**
 - [National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management](#)
 - [Plastic Waste Management Amendment Rules, 2022](#)
 - [Project REPLAN](#)
- **Global:**
 - **The Plastic Waste Partnership is established by the Conference of the Parties to the [Basel Convention](#) in May 2019** to mobilise business, government, academic and civil society resources, interests and expertise to improve and **promote the environmentally sound management (ESM) of plastic waste at the global, regional and national levels** and to prevent and minimize its generation.

Way 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.
- **Breaking Down Plastic Waste:**
 - Plastic has become so enmeshed in our ecosystem that bacteria have evolved to digest it.
 - **Plastic-eating bacteria, discovered in Japan**, have been cultivated and modified to digest polyester plastics (food packaging and plastic bottles)

▪ **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 is **not just applicable to the global currents of plastic and clothes**, but can also contribute significantly to the achievement of sustainable development goals.

UPSC Civil Services Exam, Previous Year Questions (PYQ)

Q1. 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)

Q2. In India, ‘extend producer responsibility’ was introduced as an important feature in which of the following? (2019)

- (a) The Bio-medical Waste (Management and Handling) Rules, 1998
- (b) The Recycled Plastic (Manufacturing and Usage) Rules, 1999
- (c) The E-Waste (Management and Handling) Rules, 2011
- (d) The Food Safety and Standard Regulations, 2011

Ans: (c)

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