Plastic Pollution: A glossary of related terms

Why in news?

This year 2023 celebrates the 50th anniversary of World Environment Day on June 5th.

What is World Environment Day?

- World Environment Day has been held annually on June 5, since 1973.
- The day is led by the United Nations Environment Programme (UNEP).
- The date '**June 5'** was chosen by UN General Assembly at the 1972 Stockholm Conference on the Human Environment.

What is about the 2023 World Environment Day?

- The 2023 World Environment Day marks its 50th Anniversary.
- This year's theme focuses on solutions to plastic pollution under the campaign #BeatPlasticPollution.
- The campaign calls for global solutions to combat the pandemic of plastic pollution.
- World Environment Day 2023 is hosted by Côte d'Ivoire (a Western African country) in partnership with the Netherlands.

How adverse is Plastic pollution?

- The world is being inundated by plastic and plastic pollution is one of the gravest threats to the planet.
- According to UN data, more than 400 million tonnes of plastic is produced every year worldwide, half of which is single-use plastic.
- Out of which less than 10% is recycled and an estimated 19-23 million tonnes end up in water bodies.
- Plastic clogs our landfills (Land pollution), leaches into the ocean (water pollution) and is combusted into toxic smoke (Air pollution).

What are the terms related to Plastic Pollution?

- In line with the theme of this year's Environment Day, listed out a few terms related to plastic pollution.
- **Plastics -** Derived from the Greek word *plastikos*, meaning capable of being shaped or moulded.
- It refers to a wide range of synthetic or semi-synthetic materials that use polymers as a main ingredient with their plasticity.
- Most modern plastics are derived from fossil fuel-based chemicals like natural gas or petroleum.
- Recently, variants made from renewable materials, such as corn or cotton derivatives

have also emerged.
- **Commodity plastics -** These refer to the 6 major polymer types which constitute around 70% of global plastic production.
- Each of the 6 types has different properties.
- They can be identified by their resin identification code (RIC) denoted by symbols found on plastic products.
- **Resin Identification Code -** RIC shows the consumer which type of plastic resin was used to make the chosen product.
- The symbol looks similar to recycle symbol but it explicitly does not mean the product can be recycled.
- The RIC is strictly an identifier of the type of plastic and doesn't address the recycled content or recyclability of the container.
- The adverse environmental impact of plastic is primarily due to its slow decomposition rate in natural ecosystems.
- **Decomposition rate** - It refers to the rate at which a material breaks down into its constituent parts through chemical processes.
- Plastics crumble into smaller particles but do not break down into simpler substances resulting in microplastics.
- **Microplastics -** Officially defined as plastics less than 5 millimetres in diameter and categorised into two.
    - Primary microplastics are tiny particles designed for commercial use, such as in cosmetics or textiles.
    - Secondary microplastics are particles that are a product of the breakdown of larger plastic items.
- Secondary microplastics are formed due to exposure to environmental factors such as sun radiation or ocean waves.
- Microplastics do not break down into simpler particles but find their way across the world including the food chain.
- **Toxins -** Microplastics contain a number of toxic chemicals such as BPA which pose severe risks to human health.
- BPA or Bisphenol A which is used to harden the plastic, contaminates food and drinks.
- **Great Pacific Garbage Patch -** It is the largest collection of plastics and microplastics in the ocean.
- It is a collection of marine debris in the North Pacific Ocean and is also known as the trash vortex.
- It is located between California and Japan, and formed due to converging ocean currents.
- The GPGP comprises majorly of single-use plastics.
- **Single-use plastics -** A term which refers to any plastic items which are either designed to be used one time by the consumer before they are thrown away or recycled or used in this way.
- Many countries, including India, have passed legislation to either ban or severely restrict their use.

References

1. IE - A glossary of terms to do with plastic pollution

2. World Environment Day - 2023