Microplastics Pollution in the Ganga

Why in news?

An analysis of the stretches of the river Ganga by Delhi-based environment NGO Toxics Link has revealed pollution by microplastics.

What are microplastics?

- Microplastics are defined as synthetic solid particles sized ranging 1 micrometre (µm) to 5 millimetre (mm).
- These are insoluble in water.
- Microplastics are recognised as a major source of marine pollution.
- The major sources of microplastics are:
    i. untreated sewage from many cities along the river's course
    ii. industrial waste
    iii. religious offerings wrapped in non-degradable plastics
- The plastic products and waste materials released or dumped in the river are eventually broken down into micro particles.
- The river finally transports large quantities downstream into the ocean which gets to be the ultimate sink of all plastics being used by humans.

What does the study reveal?

- The study is titled 'Quantitative analysis of Microplastics along River Ganga'.
- It was based on an analysis of water samples at Haridwar, Kanpur and Varanasi.
- The highest concentration of microplastics was found at Varanasi.
- It comprised single-use and secondary broken-down plastics from articles of everyday use.
- These include tyres, clothing, food packaging, bags, cosmetics with microbeads, garland covers and other municipal waste.
- The sample test results show the presence of at least 40 different kinds of polymers as microplastics.
- The shapes and nature of the observed resins ranged from fibres to fragments, films and beads.
- Fragments were the predominant shape in all locations, followed by film and fibre.
- Microbeads were observed in Varanasi and Kanpur, while no beads were

found in Haridwar.
- The most frequent size range observed in all the samples was <300µm.
- Previous studies say that over 663 marine species are affected adversely due to marine debris.
- 11% of them are said to be affected due to microplastic ingestion alone.

What does this signify?

- The study results seriously question the progress of two high-priority, well-funded government missions:

i. The Swachh Bharat, to deal with solid waste
ii. Namami Gange, to rid the Ganga river of its pollution

- Microplastics are flowing all along into the river system.
- This suggests a direct linkage between the poor state of both solid and liquid waste management.
- Official data indicate that 97 Ganga towns may be discharging about 750 million litres of untreated sewage a day into the river.

What is the larger concern?

- Microplastics is recorded in recent times in the remotest of places.
- These include Mount Everest, Arctic snow, Icelandic glaciers, the French Pyrenees, and the depths of the Mariana Trench, among others.
- It poses a serious hazard as plastics waste production outpaces governments' capacity to collect and manage it,given the limits with recycling.
- The waste management rules issued by successive governments fall short at the implementation level.
- The Centre recently issued a draft to tighten the Plastic Waste Management Rules.
- But cities have failed to implement existing rules as well as the Solid Waste Management rules.

What are the measures needed?

- Swachh Bharat must mean not merely keeping waste out of sight, achieved through costly dumping contracts.
- It instead means sharply reduced waste generation, full segregation and recycling.
- Plastic waste around the world is threatening the food web.
- The crisis thus demands a new global treaty modelled on the Montreal Protocol and the Paris Agreement.

- India needs to demonstrate that it is serious about a clean-up at the domestic

level.

- Improving plastic waste management and the subsequent reduction in microplastic pollution should be the priority.
- Various stakeholders, including industry, the government and civil society organisations, need to join hands.

Source: The Hindu

