



Polluted River Stretches

Why in News

The [Central Pollution Control Board \(CPCB\)](#) in 2018 identified 351 polluted river stretches in India.

- CPCB study reveals that **discharge of untreated wastewater** is one of the main causes of river pollution.
- The assessment of water quality for identification of polluted river stretches found that **31 states and Union territories (UT) had rivers and streams that did not meet the water quality criteria.**

Key Points

- **Findings of CPCB:**
 - **Concentration of Polluted River Stretches:** Almost 60% of polluted river stretches exist in eight states: Maharashtra, Assam, Madhya Pradesh, Kerala, Gujarat, Odisha, West Bengal and Karnataka.
 - Maharashtra has the maximum number of polluted river stretches in the country.
 - **Disproportionate Sewage Treatment:** The [National Green Tribunal \(NGT\)](#) in 2019 directed that 100% treatment of sewage needed to be ensured before 31st March, 2020.
 - However, these states have sewage treatment capacity disproportionate to the sewage generated.
 - According to the CPCB report National inventory of sewage treatment plants 2021, about 72,368 million litres per day (MLD) of sewage was generated against which operational treatment capacity was only 26,869 MLD in 2021.
 - **Increasing Biological Oxygen Demand:** This huge amount of sewage is left untreated/partially treated and discharged directly into rivers and **pollutes rivers by increasing the biological oxygen demand.**

Biological Oxygen Demand

- Biological Oxygen Demand is the **amount of dissolved oxygen needed by microorganisms to decompose organic matter** (waste or pollutants) under aerobic reaction (in the presence of oxygen).
- The **more organic matter there is** (e.g., in sewage and polluted bodies of water), the **greater is the BOD.**
- **Greater BOD, the lower the amount of dissolved oxygen available for higher animals** such as fishes.
- The BOD is therefore **a reliable gauge of the organic pollution of a water body.**
- **One of the main reasons for treating wastewater prior to its discharge into a water resource is to lower its BOD** i.e. to reduce its need of oxygen and thereby lessen its demand from the streams, lakes, rivers, or estuaries into which it is released.

Dissolved Oxygen

- It is the amount of dissolved oxygen present in the water which is needed for aquatic life to survive. The **quality of water increases with an increase in DO levels.**
- A DO level of 5 mg/l or above is the recommended level for bathing in a river.

▪ **Other Reasons for Polluted Rivers:**

- **Urbanization:** Rapid urbanization in India during the recent decades has given rise to a number of environmental problems such as water supply, wastewater generation and its collection, treatment, and disposal.
 - Many towns and cities which came upon the banks of rivers have not given proper thought to the problem of wastewater, sewerage, etc.
- **Industries:** Unrestricted flow of sewage and industrial effluents into the rivers has adversely affected their purity. All these industrial wastes are toxic to life forms that consume this water.
- **Agricultural Runoff and Improper Agricultural Practices:** Traces of fertilizers and pesticides are washed into the nearest water-bodies at the onset of the monsoons or whenever there are heavy rains.
- **Amount of Flow of Rivers:** Impact on river water quality resulting from discharges of treated or untreated wastewater into the river will depend on the dilution offered by the quantum of flows in the river.
- **Religious and Social Practices:** Religious faith and social practices also add to the pollution of the rivers, especially Ganga.
 - Dead bodies are cremated on the river banks. Partially burnt bodies are also flung into the river.
 - Mass bathing in a river during religious festivals is another environmentally harmful practice.

▪ **Government Initiatives to Tackle Water Pollution:**

- Recently, the National Green Tribunal (NGT) directed the Ministry of Jal Shakti to devise an appropriate **National River Rejuvenation Mechanism** for effective monitoring of steps to curb pollution and for rejuvenation of all polluted river stretches across the country.
- **National Water Policy (2012):** It aims to take cognizance of the existing situation, to propose a framework for creation of a system of laws and institutions and for a plan of action with a unified national perspective.
 - Started by the Ministry of Water Resources, it highlights the importance of water for human existence as well as for economic development related activities.
 - It suggests frameworks to conserve water resources through optimal, economical, sustainable and equitable means.
- **National Water Mission (2010):** It ensures integrated water resource management leading to water conservation, less wastage, equitable distribution forming better policies.
- **National Mission for Clean Ganga (NMCG):** It envisages a five-tier structure at national, state and district level to take measures for prevention, control, and abatement of environmental pollution in river Ganga.
 - It aims to ensure continuous adequate flow of water so as to rejuvenate the river Ganga.
- **Namami Gange Project:** It integrates the efforts to clean and protect the Ganga River in a comprehensive manner.

Way Forward

- **Maintaining Minimum Flow of the River:** To maintain and restore the wholesomeness of the river (Aquatic ecosystem), there is a need to maintain the minimum flow.
 - Minimum flow of the river is also important to discharge treated sewage.

- **Comprehensive Waste Management Policy:** There is a need for a comprehensive waste management policy that stresses the need for decentralised garbage disposal practices as this will incentivise private players to participate.
- **Bioremediation:** It is important that **Bioremediation** (i.e. use of microbes to clean up contaminated soil and water) is made compulsory for areas wherever they can be applied.
- **Behavioural Change:** To overhaul the waste management sector and induce the necessary behavioural change, citizen participation and engagement is the key.

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