



Capacity of India's Sewage Treatment Plants

Why in News

- According to the latest report of the [Central Pollution Control Board \(CPCB\)](#), **Sewage Treatment Plants (STPs)** in India are **able to treat a little more than a third of the sewage generated per day**.
- CPCB is a statutory organisation which was constituted in September, 1974 under the [Water \(Prevention and Control of Pollution\) Act, 1974](#).

Key Points

▪ Highlights of the Report:

◦ Installed Capacity of STPs:

- India generated **72,368 MLD (million litres per day)** whereas the **installed capacity of STPs was 31,841 MLD (43.9%)**.
- **5 states and Union Territories (UT)** - Maharashtra, Gujarat, Uttar Pradesh, Delhi and Karnataka - account for **60% of the total installed treatment capacity of the country**.
- Arunachal Pradesh, Andaman & Nicobar Islands, Lakshadweep, Manipur, Meghalaya and Nagaland have not installed sewage treatment plants.
- **Chandigarh ranks first** in terms of total sewage generated to what is actually treated.

◦ Reuse of Treated Sewage:

- It is **maximum in Haryana** followed by Puducherry, Delhi, Chandigarh.
 - It has **not assumed much importance in the policy planning** of many state governments.
- Treated sewage water **can be reused for horticulture**, irrigation, washing activities (road, vehicles and trains), fire-fighting, industrial cooling, toilet flushing and gardening.
- This **can decrease the water demand from aquatic sources** like rivers, ponds, lakes and as well as groundwater sources.

▪ Concerns:

◦ Increased Sewage Generation:

- CPCB has estimated that sewage generation will **increase to over 1,20,000 MLD by 2051**.

◦ Gaps in Treatment Capacity:

- The gaps in treatment capacity are **amplified at local levels**, as STPs are concentrated in larger cities and **Common Effluent Treatment Plants (CETPs)** are unevenly distributed across states.

◦ Economic Case:

- **Modern Wastewater Treatment Plants (WTPs) are capital-intensive** and require the use of innovative technology, such as sensors, [Internet of Things \(IoT\)](#) devices and [Artificial Intelligence \(AI\)](#)-based trackers.
- The **high upfront capital requirements** in machinery and equipment, combined with unpredictable revenue streams, make this a high-risk sector, deterring private sector investment.

▪ **Related Government Initiatives:**

- Recognising this challenge, the Indian government shifted its focus to **solid waste, sludge and greywater management** under the [Swachh Bharat Mission 2.0 \(SBM 2.0\)](#) which was announced recently.
- Following a sustained focus on achieving [Open Defecation-Free \(ODF\) status](#), the **Ministry of Housing and Urban Affairs (MoHUA)** developed detailed criteria for cities to achieve **ODF+, ODF++ and Water+ statuses** in May 2020.

Way Forward

- The **water and wastewater treatment market in India** is a US\$4-billion industry, growing at 10-12 % annually (pre-[covid-19](#)).
- In a post-pandemic economy, **central and state governments must work** in partnership to create markets for treated water.
- **Attaining high rates of economic growth** for India will directly be a function of the sustainable use of water, particularly in recycling & reuse as it will be crucial for future urban planning and policy.
- **Wastewater can be a cost-efficient and sustainable source of energy**, nutrients and other useful by-products like organic and organic-mineral fertiliser.
 - The benefits of extracting such resources from wastewater go beyond human and environmental health. They have implications on **food and energy security as well as [climate change mitigation](#)**.

[Source: DTE](#)

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