Turning the Tide: Role of Statutory Bodies in Abating River Pollution

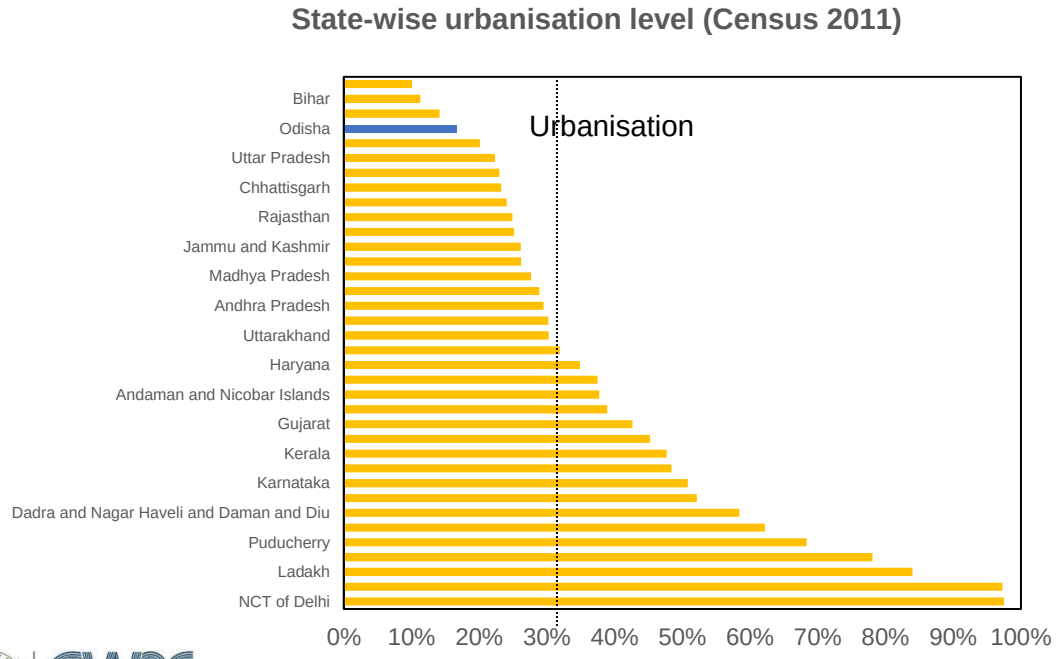
2nd May 2024 | 14:00 – 16:30 IST

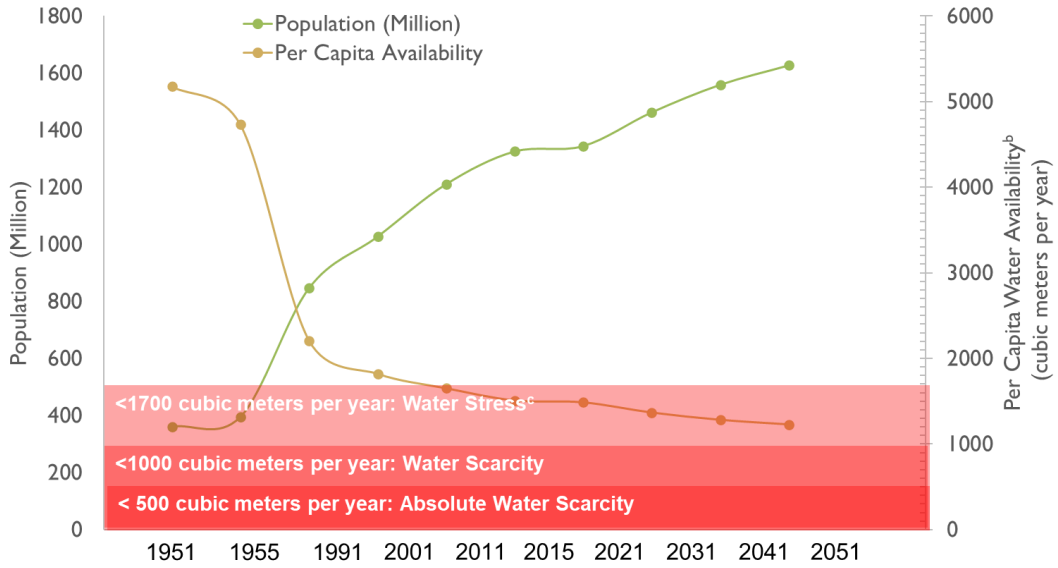
The Evolving Role of the National Green Tribunal in Combating River Pollution

SCI-AI
SCALING CITY INSTITUTIONS FOR ASIA AND INDIA

India’s Urbanisation is adversely impacting its already stretched water resources…

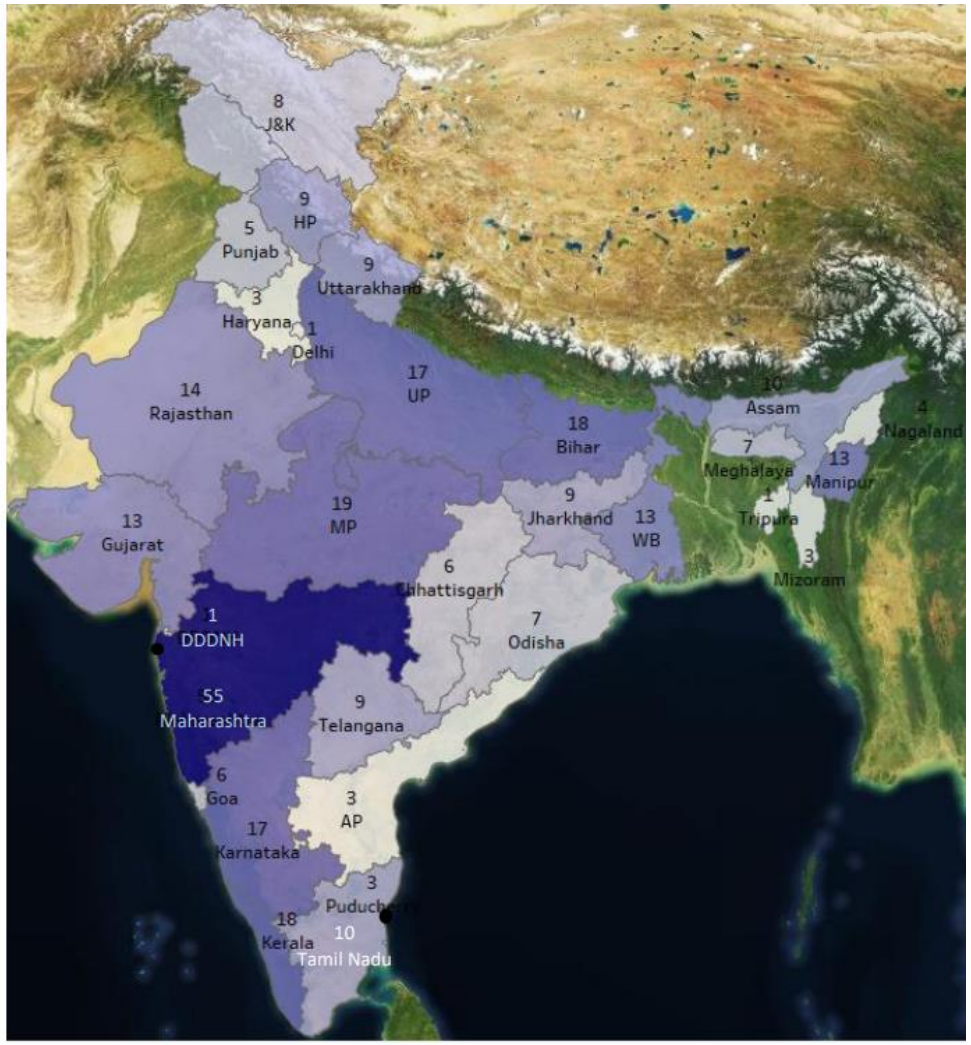
- India has remained predominantly rural in character.
- Growth of the industrial cities in the late 19th and early 20th centuries ushered the initial urban systems in the country.
- Urban population increased from 285 million in 2001 to 377 million in the 2011, projected to increase to >50% by 2050 (World Population Projections, 2019)
- India’s rising population and expanding urban areas, in the absence of proper treatment technology, have adversely impacted its water resources resulting in polluted surface water bodies and overexploited groundwater resources.
- India’s water bodies are rife with pollution from indiscriminate disposal of untreated sewage and septage, endangering the lives of millions of people depending directly or indirectly on these rivers.





Central Water Commission. 2013. Water and related statistics.
Central Water Commission. 2019. Reassessment of water availability in India using space inputs.
Falkenmark water stress indicators by Food and Agriculture Organization (FAO) of United Nations. 2014.

Abating river pollution has never been this critical as it is at this moment owing to climate change



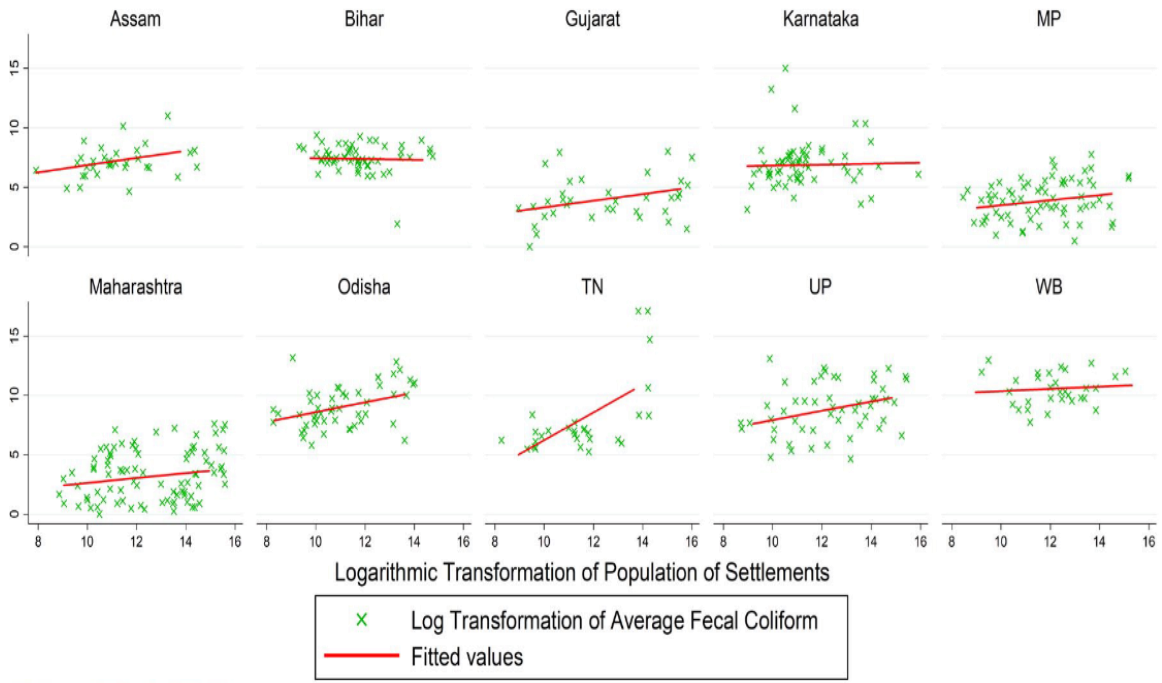
Source: Polluted River Stretches For Restoration Of Water Quality- 2022 report of CPCB

- It is estimated that around 70 percent of surface water in India is unfit for human consumption (Hirani & Dimble, 2019). This alarming statistic can be attributed to almost 80 percent of untreated wastewater that enters rivers and other water bodies (DTE Staff, 2016).
- As per Polluted River Stretches for Restoration of Water Quality- 2022 report of CPCB, there are 311 polluted stretches in 279 rivers in 30 States & Union Territories.
- According to the estimates of the National Green Tribunal vide order no.673/2018, more than 60 percent of sewerage generated by urban India is not treated.
- “Composite Water Management Index”, a report released by NITI Aayog (2018), pronounced that India is suffering “the worst water crisis in history’’- underscoring the importance of instituting measures to abate river water pollution.
- In a nation where access to treated tap water has historically been limited, the depletion and pollution of groundwater resources pose significant challenges towards ensuring water accessibility.
- The novel initiative of the Government of India to provide "*Har Ghar Nal Se Jal"* under its flagship Jal Jeevan Mission may potentially face challenges in sustaining itself due to rising surface water pollution.

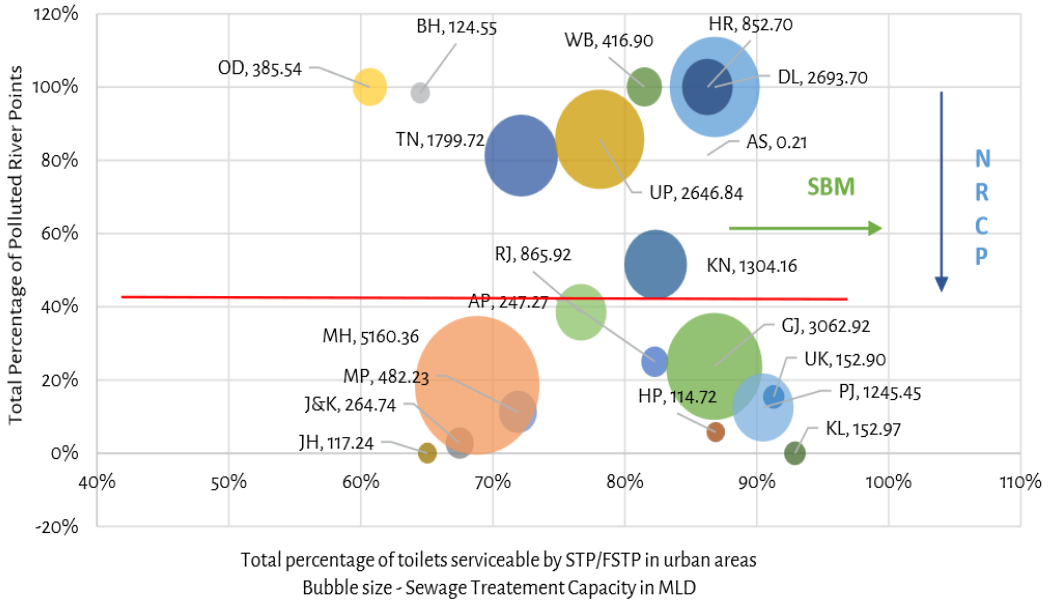
Variations in faecal coliform insignificant at national level; states show rising FC concentration with rising urbanisation

Relationship between faecal coliform (FC) violations & urbanisation

- Non-linear causal relationship between logarithmically transformed variables – FC and the city's population significant at the state level
- When the average population of the city doubles (+100%), average FC concentration is found to increase by 27%



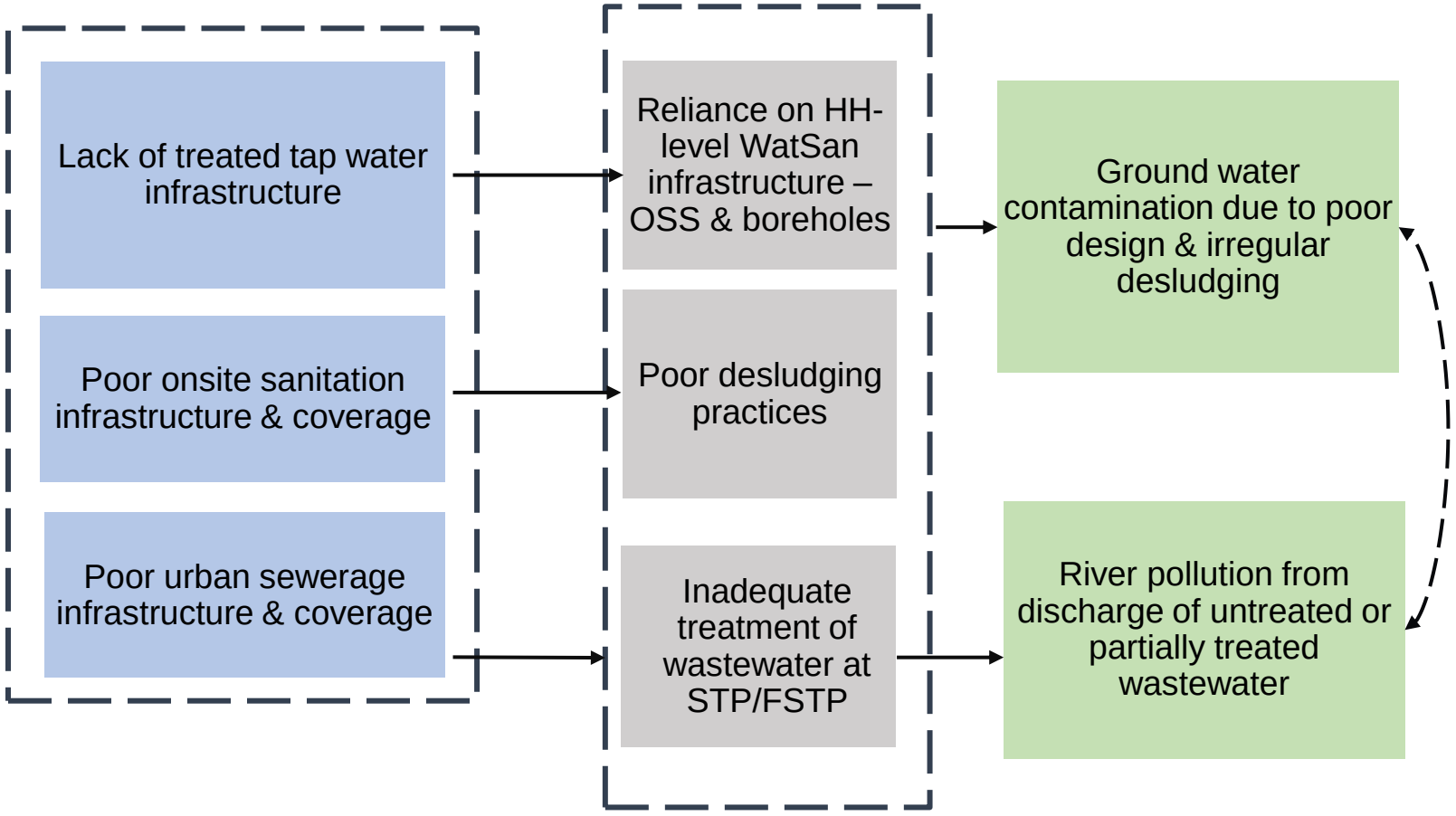
Relationship between faecal coliform violations & sanitation infrastructure



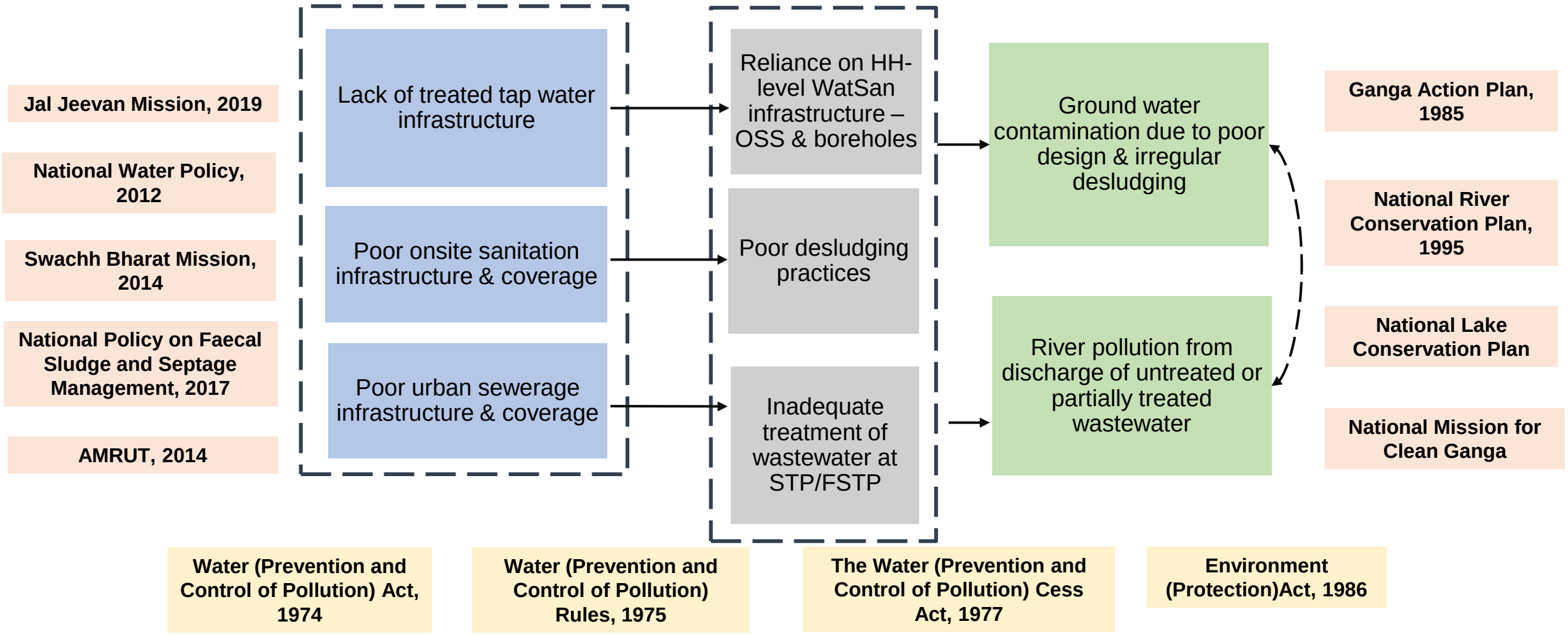
- Non-linear causal relationship between logarithmically transformed variables – FC & number of Households with On Site Sanitation (OSS) systems significant at the state level. When OSS connections in a city double (+100%), FC variation increases by 25%.
- Despite having high treatment capacity, states like UP, Karnataka, Maharashtra & Tamil Nadu have considerable no. of monitoring stations exceeding FC permissible limit.

Source: Delve: Abating River Pollution Through Faecal Sludge Management 2022 CPR

Understanding the river pollution cycle in the context of inadequate of urban WASH infrastructure



Policies and programs acknowledging the challenges of inadequate WASH services, incremental improvements underway

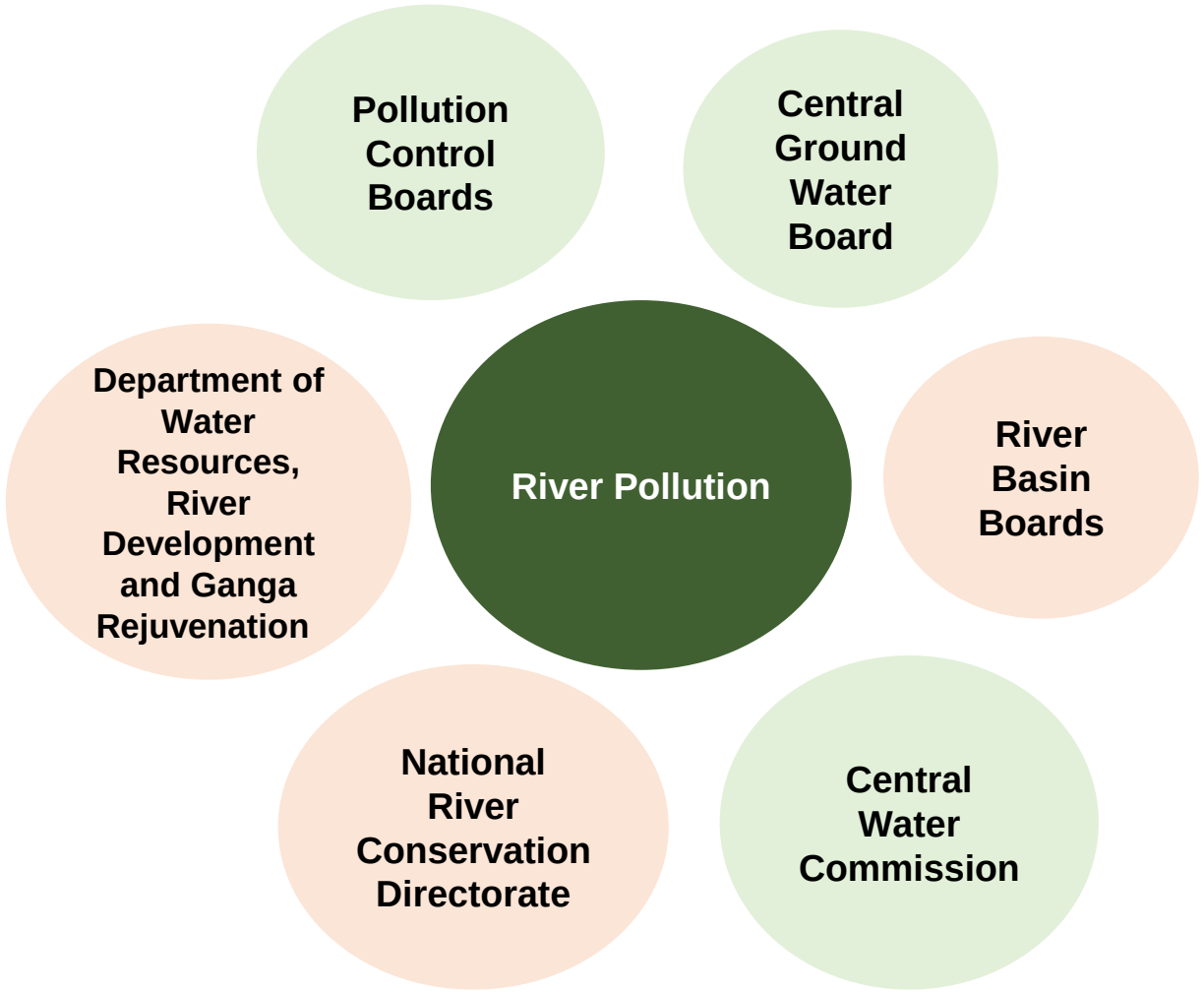


Multiple stakeholders have been mandated to monitor and abate river pollution in India

Mandate of **Pollution Control Boards** constituted under the Water Act 1974 expanded beyond water-related issues. They are responsible for regulating air pollution, water pollution, industrial pollution, waste management, noise pollution, and urban pollution.

Department of Water Resources, River Development and Ganga Rejuvenation (DoWR,RD&GR) is responsible for laying down policy guidelines and programs for the development, conservation and management of water. It is responsible for addressing inter-State and trans-boundary water issues and general policy guidelines and programs for assessment, development and regulation of the country's water resources. It is also involved in water quality assessment; rejuvenation and conservation and abatement of pollution in rivers.

The **National River Conservation Directorate** provides financial assistance to the State Government for conservation of rivers under the Centrally Sponsored Schemes.



Central Ground Water Board provides scientific inputs for the management, exploration, monitoring, assessment, and augmentation of groundwater resources in India.

The functions of **River Basin Boards** include preparation of basin level and regional plans, maintenance of the allocation of water supplies for different uses, generation of hydroelectric power, investigations for further allocations if it is to be made, maintenance of the multi-purpose projects and monitoring etc.

The **Central Water Commission** is involved in initiating, coordinating and furthering schemes for control, conservation and utilization of water resources throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Waterpower Development.

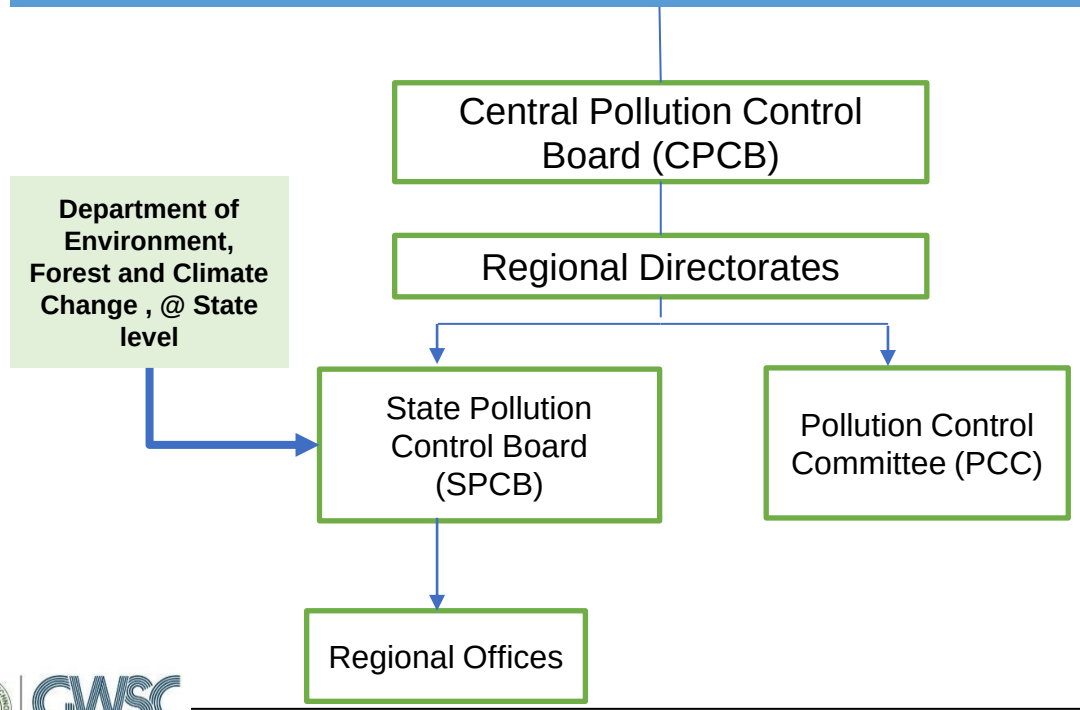
Prevention, control and abating river pollution is the key mandate for the pollution control boards

The **Central Pollution Control Board (CPCB)** is a statutory regulatory body for:

- The Water (Prevention and Control of Pollution) Act, 1974
- The Air (Prevention and Control of Pollution) Act, 1981
- The Environment (Protection) Act, 1986.

State Pollution Control Boards (SPCB) & Pollution Control Committees (PCCs) were set up at the State and UT level under the Water (Prevention & Control of Pollution) Act 1974.

Ministry of Environment, Forest and Climate Change , GOI



Key functions of CPCB include:

Advise the central government on any matter concerning restoration of water bodies and the prevention, control, and abatement of water pollution;
Plan and execute nation-wide programme for the prevention, control and abatement of water pollution;
Provide technical assistance and guidance to the State Pollution Control Boards;
Carry out and sponsor investigations and research related to prevention, control and abatement of water pollution;
Collect, compile and publish technical and statistical data related to water pollution; and
Lay down standards for water quality.

Key functions of SPCB & PCC include:

Granting & managing consents to establish & operate
Setting standards for emissions and effluents among other pollutants
Monitoring compliance of these standards
Enforcing these standards through an escalating series of actions

Data on river quality gathered by Pollution Control Board/s inform abatement actions across stakeholders

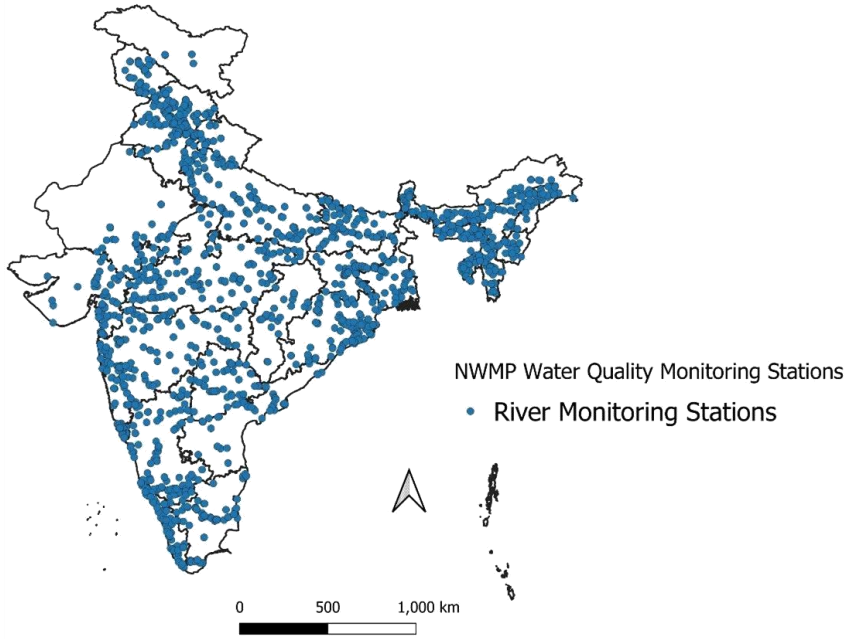
Central Pollution Control Board (CPCB) instituted within the Ministry of Environment and Forests has the function of being a monitoring agency for surface water quality.

The 9 core parameters established under the National Water Quality Monitoring Programme (NWMP) assessed by CPCB's monitoring stations are – Temperature, pH, BOD, Conductivity, Dissolved Oxygen, Nitrates, Nitrites, Fecal Coliform and Total Coliform.

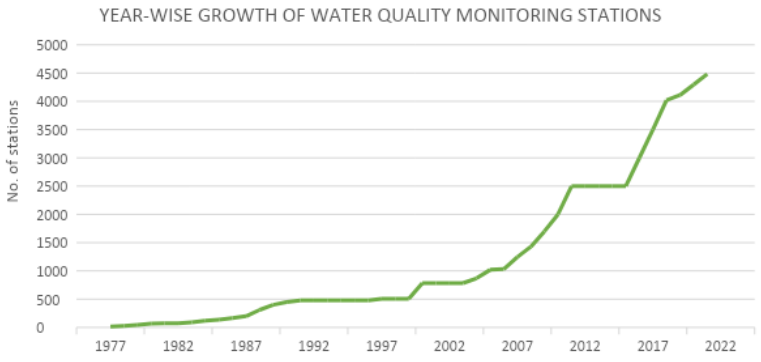
Based solely on BOD as a qualifying criterion, CPCB identified the following number of polluted river stretches across various levels of priority.

Priority	BOD Level n mg/lt	No of stretches
Priority 1	>30	46
Priority 2	20 to 30	16
Priority 3	10 to 20	39
Priority 4	6 to 10	65
Priority 5	3 to 6	145

Source: Polluted River Stretches For Restoration Of Water Quality- 2022 report of CPCB



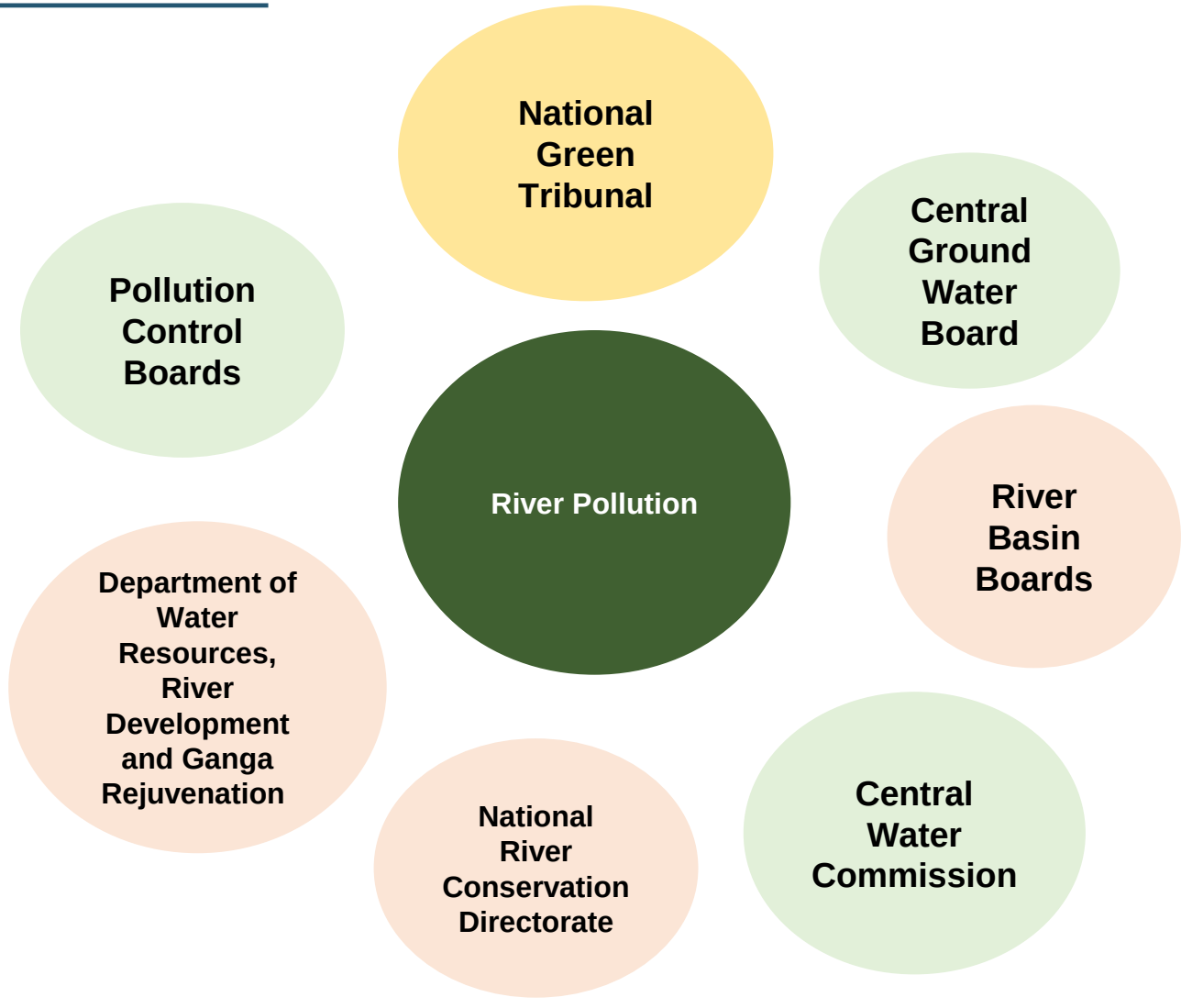
Currently, CPCB has 4484 water quality monitoring stations (2022).



Source: Muddling Through: Water Quality Monitoring Data Systems 2023 CPR

National Green Tribunal constituted as the adjudicating authority for environmental matters

The **National Green Tribunal** is the quasi-judicial body constituted under the National Green Tribunal Act, 2010 and has jurisdictions over all matters, where a substantial question relating to environment is involved.

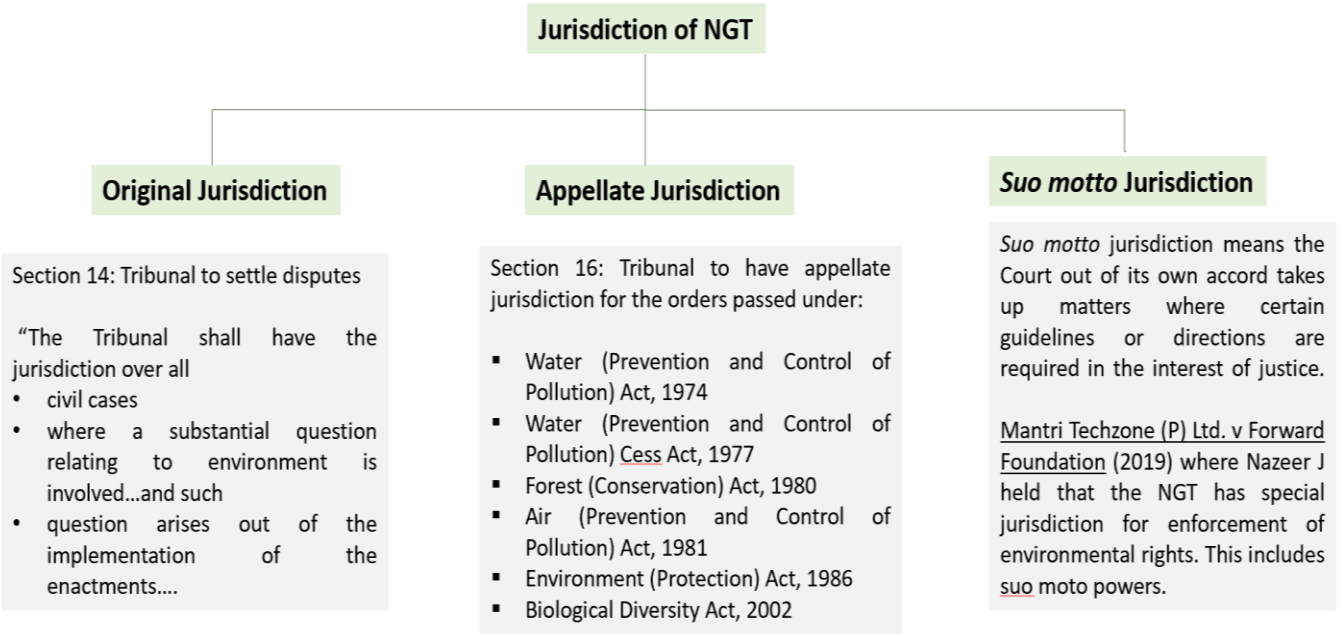


Monitoring institutions | Adjudicatory Authority | Policy and programmatic institutions

National Green Tribunal: Constitution and Jurisdiction

- The National Green Tribunal (NGT) is the **quasi-judicial body** constituted under the **National Green Tribunal Act, 2010.**
- **New Delhi is the Principal Place of Sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai** are the other four place of sitting of the Tribunal.
- Jurisdictions over all civil matters, where a substantial question relating to environment.

- The Water (Prevention and Control of Pollution) Act, 1974;
- The Water (Prevention and Control of Pollution) Cess Act, 1977;
- The Air (Prevention and Control of Pollution) Act, 1981;
- The Environment (Protection) Act, 1986;
- The Public Liability Insurance Act, 1991;
- The Biological Diversity Act, 2002.
- The Forest (Conservation) Act, 1980;



Understanding State responses to specific NGT orders, taking Odisha as a case

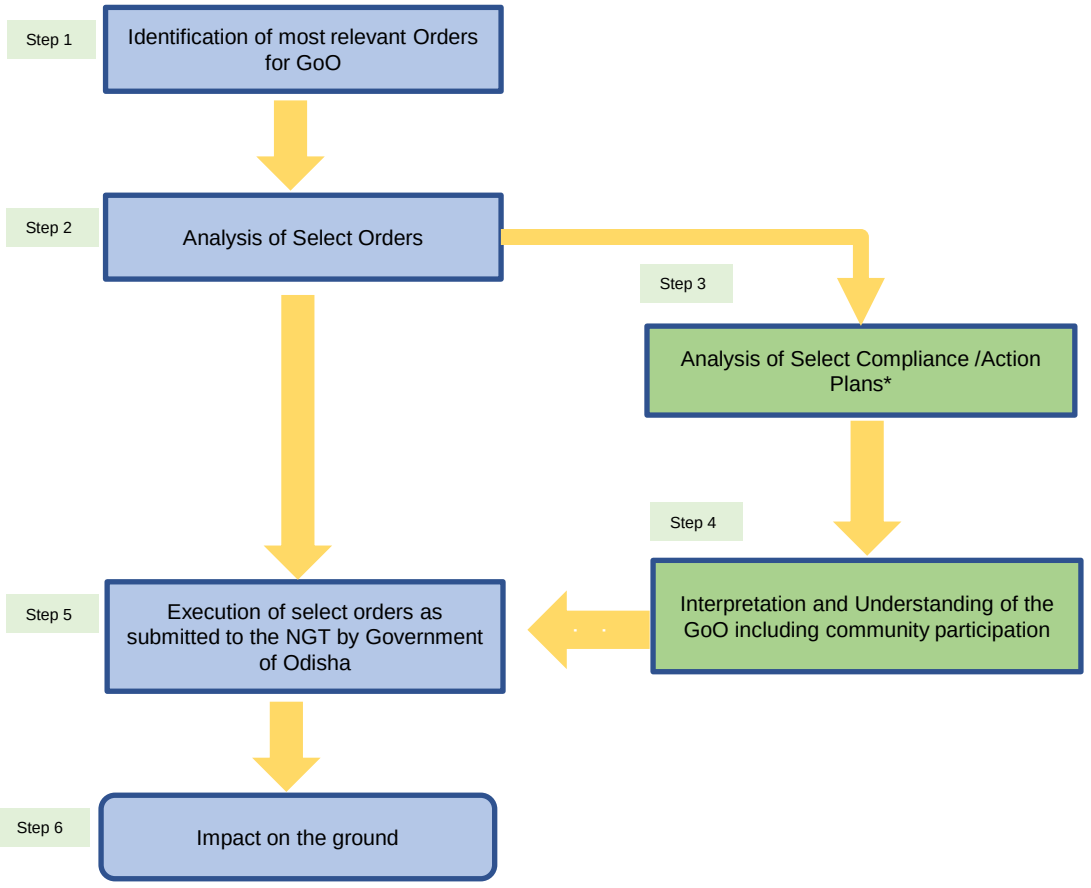
Re: Compliance of Municipal Solid Waste Management Rules, 2016 and other Environmental Issues; O.A. 606/2018

This relates to monitoring the issues of solid as well as liquid waste management, including the problem of waste disposal.

Re: News item published in 'The Hindu' authored by Shri Jacob Koshy titled more river stretches are now critically polluted: CPCB; O.A. 673/2018

This relates to remedial action for rejuvenation of 351 identified polluted river stretches in the country, for which major step is preventing discharge of industrial and domestic waste in rivers or drains connected thereto.

Approach and Methodology for analysis



Understanding the Typology of National Green Tribunal orders for Abating River Pollution

I. Enforcement orders:

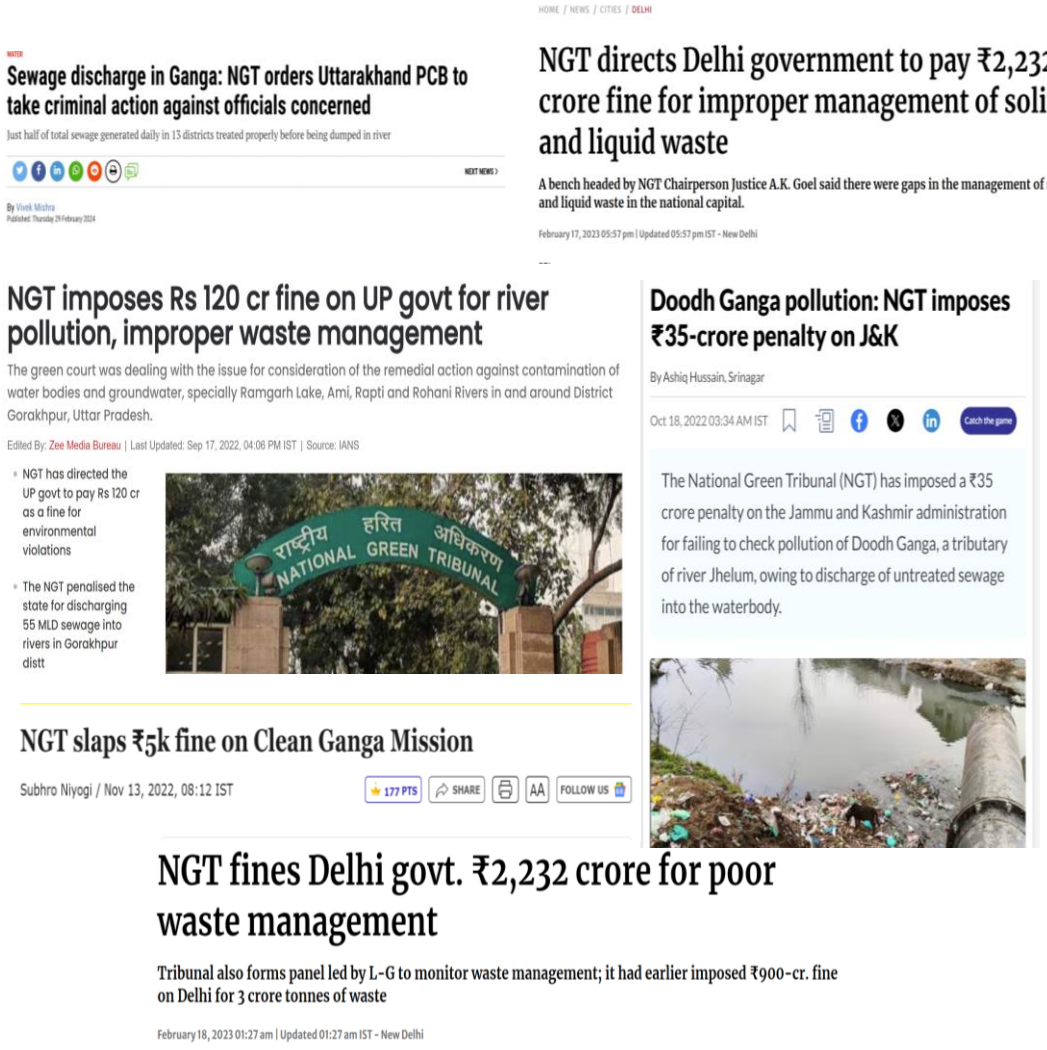
- Preparation and execution of dedicated river action plans
- Constitution of inter departmental bodies such as River Rejuvenation Committees and Spécial Environment Surveillance Task Force
- Mandating Performance Guarantees by the State Governments

II. Periodic monitoring & compliance:

- Action Plan & Performance Guarantee
- Dedicated Central Monitoring Committee
- Central Pollution Control Board

III. Financial (Dis)incentives:

- Polluter pay's principle levies fines and penalties



Sewage discharge in Ganga: NGT orders Uttarakhand PCB to take criminal action against officials concerned

Just half of total sewage generated daily in 13 districts treated properly before being dumped in river

By Vivek Mishra

NGT directs Delhi government to pay ₹2,232-crore fine for improper management of solid and liquid waste

A bench headed by NGT Chairperson Justice A.K. Goel said there were gaps in the management of solid and liquid waste in the national capital.

February 17, 2023 05:57 pm | Updated 05:57 pm IST - New Delhi

NGT imposes Rs 120 cr fine on UP govt for river pollution, improper waste management

The green court was dealing with the issue for consideration of the remedial action against contamination of water bodies and groundwater, specially Ramgarh Lake, Ami, Rapti and Rohani Rivers in and around District Gorakhpur, Uttar Pradesh.

Edited By: Zee Media Bureau | Last Updated: Sep 17, 2022, 04:06 PM IST | Source: IANS

- NGT has directed the UP govt to pay Rs 120 cr as a fine for environmental violations
- The NGT penalised the state for discharging 55 MLD sewage into rivers in Gorakhpur distt

Doodh Ganga pollution: NGT imposes ₹35-crore penalty on J&K

By Ashiq Hussain, Srinagar

Oct 18, 2022 03:34 AM IST

The National Green Tribunal (NGT) has imposed a ₹35 crore penalty on the Jammu and Kashmir administration for failing to check pollution of Doodh Ganga, a tributary of river Jhelum, owing to discharge of untreated sewage into the waterbody.

NGT slaps ₹5k fine on Clean Ganga Mission

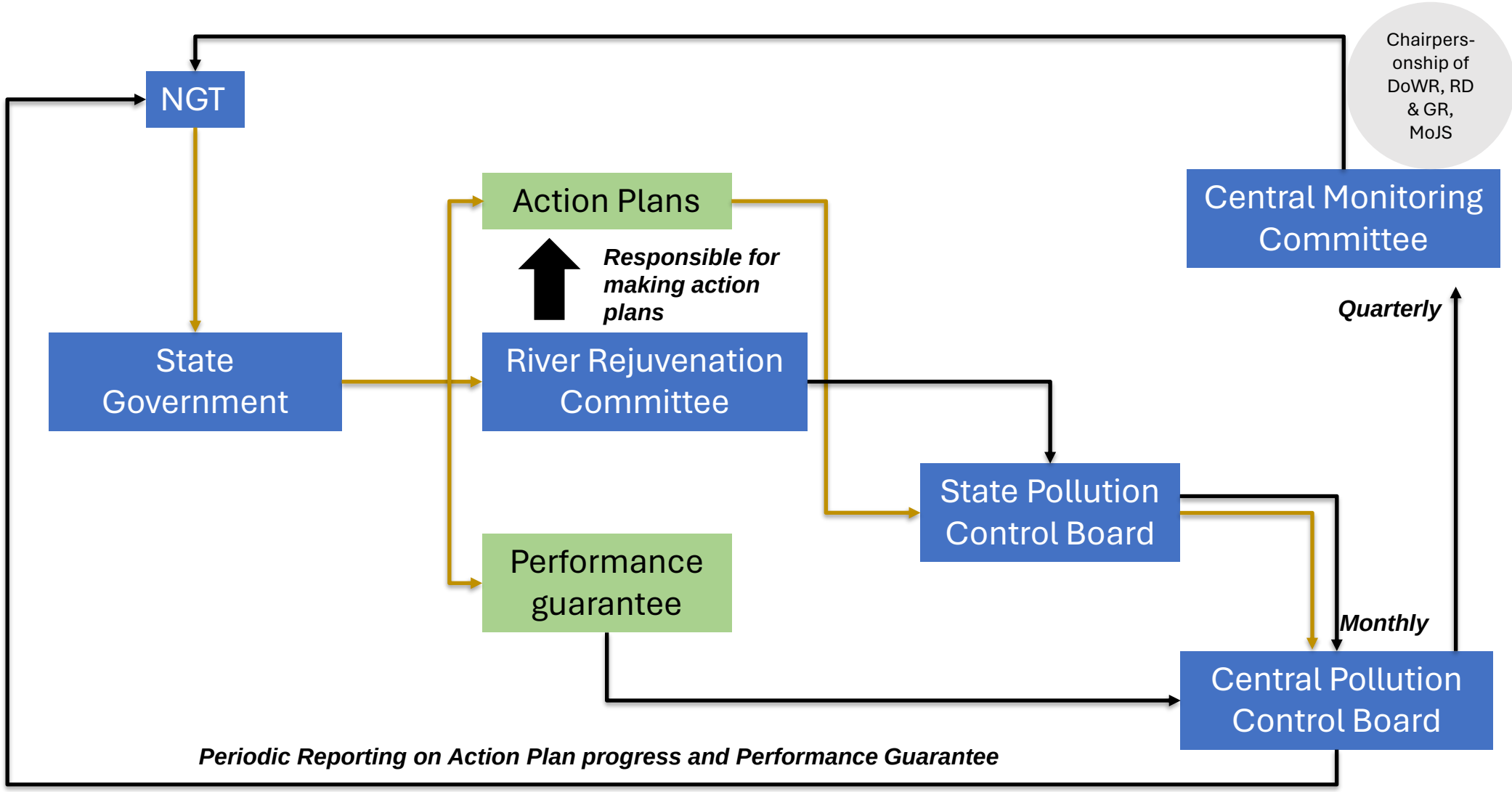
Subhro Niyogi / Nov 13, 2022, 08:12 IST

NGT fines Delhi govt. ₹2,232 crore for poor waste management

Tribunal also forms panel led by L-G to monitor waste management; it had earlier imposed ₹900-cr. fine on Delhi for 3 crore tonnes of waste

February 18, 2023 01:27 am | Updated 01:27 am IST - New Delhi

NGT's Role in Fostering Institutional Accountability



Despite measures persistent River Pollution calls for urgent action…

- NGT directives complimented by proactive measures of the states has resulted in a decrease in number of polluted river stretches from 351 in 2018 to 311 in 2022, reflecting a positive overall trend.

- However, the pollution levels in river stretches categorized as priority 1 and 2 remained largely unchanged, indicating persistent challenges in addressing the most severely polluted areas.

Fewer polluted river stretches but worst stretches unchanged

Number of polluted river stretches categorised in 'Priority I & II' is almost unchanged and further stringent actions are required for control of organic pollution, says CPCB study; based on a report in *The Hindu* in 2018, the NGT had passed orders that all acts of river pollution need to be dealt with

December 25, 2022 07:20 pm | Updated 07:20 pm IST - NEW DELHI

JACOB KOSHY

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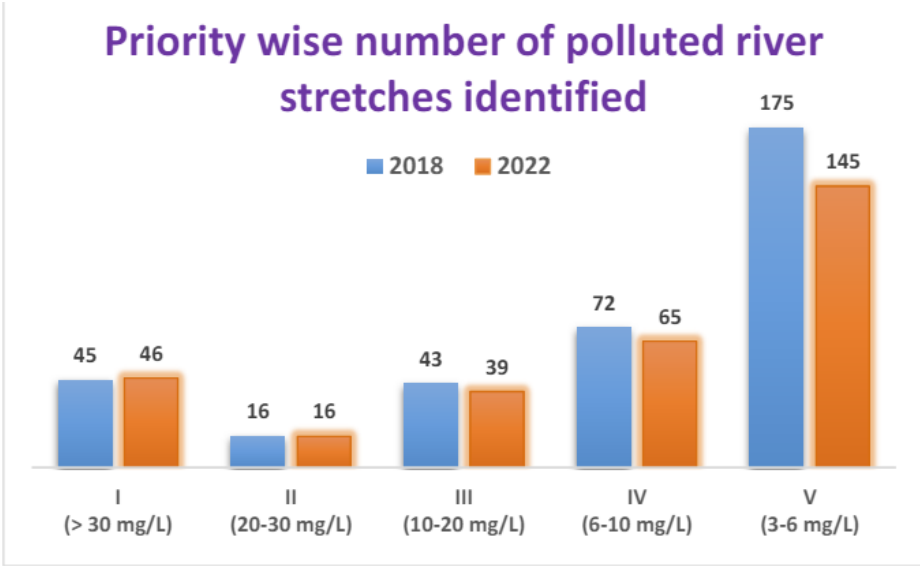
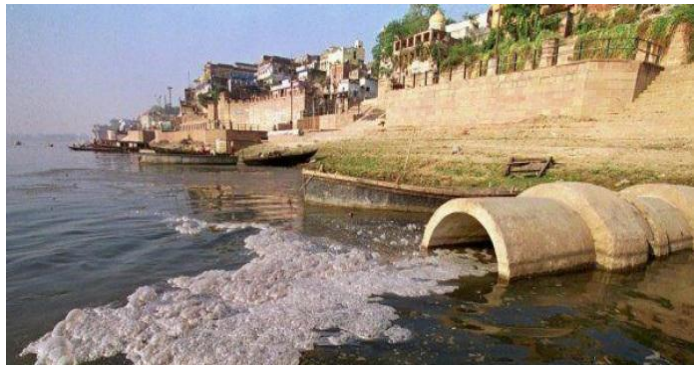


Source: Polluted River Stretches For Restoration Of Water Quality- 2022 report of CPCB

Strengthening current processes further…

Drivers of Pollution



NGT driven: River Action Plans

- Gap Analysis for treatment Infrastructure
- Investment in creating treatment infrastructure (various schemes)
- Creating intercepting infrastructure (I&D)
- Enhance Toilet Coverage
- Regulating Activity in flood plain zones

What more can be done?

- Role of Local Authorities
- Enhance Civic Participation
- Robust Data Analytics
- Enforce Standards
- Participatory Rehabilitation
- Rejuvenate Water Bodies

THANK YOU

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Global Water & Sanitation Center

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