

International Conference on Environment Audit  
– *concerns about water pollution*

## Pollution of Rivers

*....critical issues from an auditor's perspective*

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# River Pollution

- Rivers indispensable to the eco-cycle yet not perceived as an ecological entity
- Sources of river pollution classified in two broad categories



*Point pollution - measurable sources*



*Non-point pollution - non-measurable sources*



**Ganga at Rishikesh**



**Ganga at Varanasi**



Yamuna before Delhi



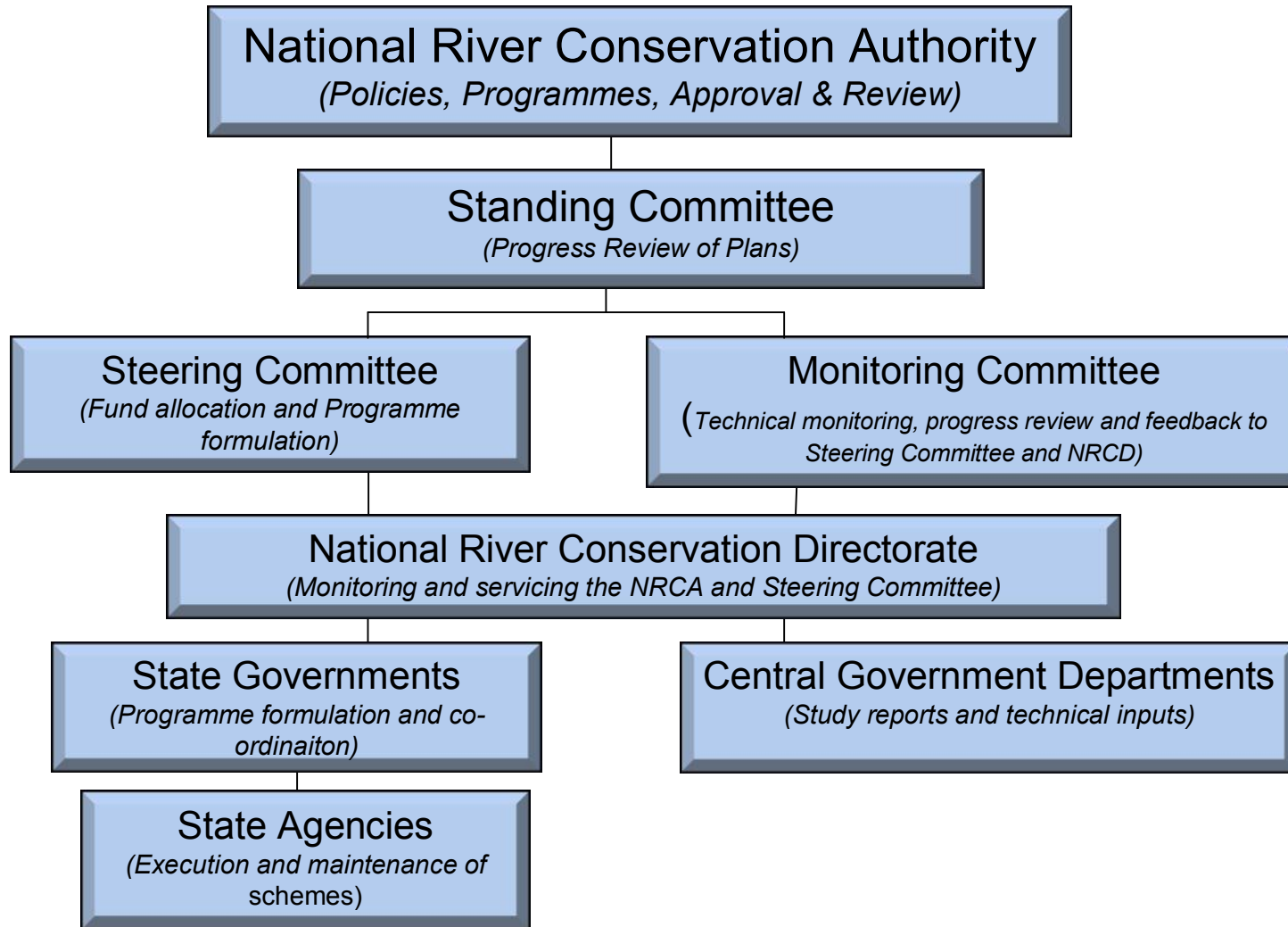
Yamuna in Delhi



# Expenditure on River Pollution Plans

<i>Plan</i>	<i>Expenditure (Rs. in crore)</i> <i>(at the end of 10<sup>th</sup> plan)</i>	
Ganga Action Plan I	462	} 1477
Ganga Action Plan II	1015	
Yamuna Action Plan I	680	} 1304
Yamuna Action Plan II	624	
Other River Conservation Plans		1164
<b>Total</b>		<b>3945</b>

# Organisational structure



# River Pollution Audits by SAI of India

River Pollution has been a critical concern and the CAG has conducted several Compliance and Performance Audits of various governmental programmes :

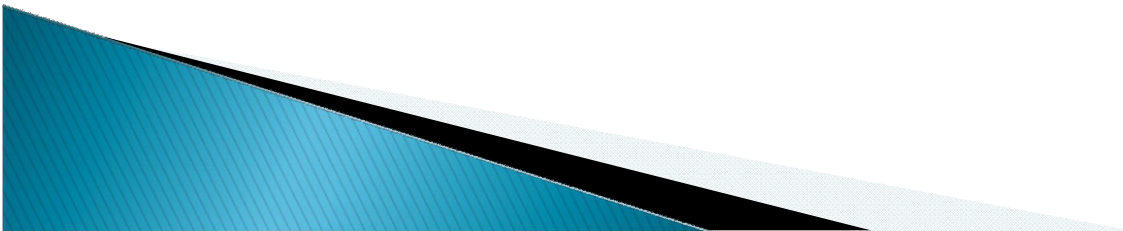
- Implementation of Pollution Control programmes of major rivers in India
- Sewerage Schemes/Systems in several states (HP, Tamil Nadu, Delhi, Kolkatta)
- Measures to Control Water Pollution in River Yamuna and Audit of Water Management System in Delhi
- Implementation of Environment Acts relating to Water Pollution

# Audit of Ganga / Yamuna Action Plans

- Reviews of Ganga Action Plan (Phase I) was done in in 1988 and 1994
- A Performance Audit of Ganga Action Plan (Phase I/II) was done in 2000. This included study of Action plans for tributaries of *Ganga*, viz *Yamuna*, *Damodar* and *Gomati*
- The Public Accounts Committee in February 2004 finalised its 62<sup>nd</sup> Report on Ganga, based on this Report
- A Performance Audit of Sanitation Schemes including Yamuna Action Plan (Phase I) in Haryana, printed in CAG Audit Report of 2004



# Critical issues relating to River Pollution... based on our audit findings



# 1. Estimates of sewage generation

➤ Incorrect estimation of sewage generation

➤ No authentic data on waste generation

## 2. Criteria for Selection of Towns

➤ Lack of clear parameters for selection of towns

➤ Number of questionable inclusions/exclusions and prioritisation of areas with less load at the cost of those with more polluted sewage

### 3. Planning Capacity Creation

- Significant gap between the sewage treatment capacity envisaged and the sewage generated
- No action plan to trap entire sewage and cover all the towns within a specified time frame
- Schemes planned without detailed surveys, investigations, estimation of proper design, ensuring land availability etc.

## 4. Creation of treatment capacity

- Plans/Schemes execution suffered from inordinate delays and heavy shortfall in targets
- Capacity creation not matching increased domestic and industrial sewage
- Deficient planning and execution in non-synchronising the Core Schemes of Interception & Diversion (I&D) and Sewage Treatment Plant (STP)

## 4. Creation of treatment capacity (*contd...*)

- Mismatch in sewage load and treatment capacity
- Quality of treated effluents not meeting the stipulated specifications
- Mixing of treated and untreated effluents

## 5. Operation & Maintenance of Assets

- Sub-optimal utilisation of assets due to poor operation & maintenance by States/local agencies
- Lack of timely action in rectification of defects or non-release of funds by the States/implementing agencies resulting in non-functioning of assets

## 6. Control of bacterial load

- Plans not successful in controlling microbial pollution
- Non-adoption of cost effective technology to control bacterial load
- Coliform counts exceeding permissible levels exposing the public to risk of water borne diseases



## 7. Industrial Pollution

- Programmes not targeting industrial waste treatment
- Identification of polluting units by SPCBs not complete
- Grossly polluting industries not installed ETPs/CETPs
- Lack of effective action by State Boards against defaulting units
- Treated effluents violating prescribed standards

## 8. Water Quality Monitoring

- Objective of making the river water quality fit even for bathing not achieved
- BOD/DO/Coliform only deteriorated
- Water quality monitoring not done on a regular basis
- Lack of complete water quality data for various sampling stations

## 9. Programme Funding

- Lack of adequate/sustained funding by the Centre / States affecting programmes/schemes implementation
- Diversion/mis-utilisation/non-utilisation of available resources

## 10. Programme Monitoring

- Inadequate monitoring at the Centre/States resulting in time cost over-runs and lack of co-ordination among executing agencies
- Citizen Monitoring Committees in the towns either not constituted or not functional
- No significant initiative on part of Government to improve and promote public participation

# Critical issues to be addressed

- Holistic and comprehensive approach to river pollution
- Complete and reliable data on pollution from various sources
- Prioritisation of pollution abatement works
- Financing arrangement to provide for states/ implementing agencies/ public to develop a more involved stake in asset creation and maintenance
- Effective co-ordination and monitoring
- Strengthening water quality monitoring system

**THANK YOU**

