National Workshop on Small-Scale Sanitation Systems

A Roadmap for Small-Scale STPs in India:
Fulfilling their Potential for Healthy and Water-Secure Cities

Governance of SSS in India

Strengths and Gaps in the Institutional and Regulatory Frameworks

Philippe Reymond
Rohit Chandragiri

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- ✓ Methodology
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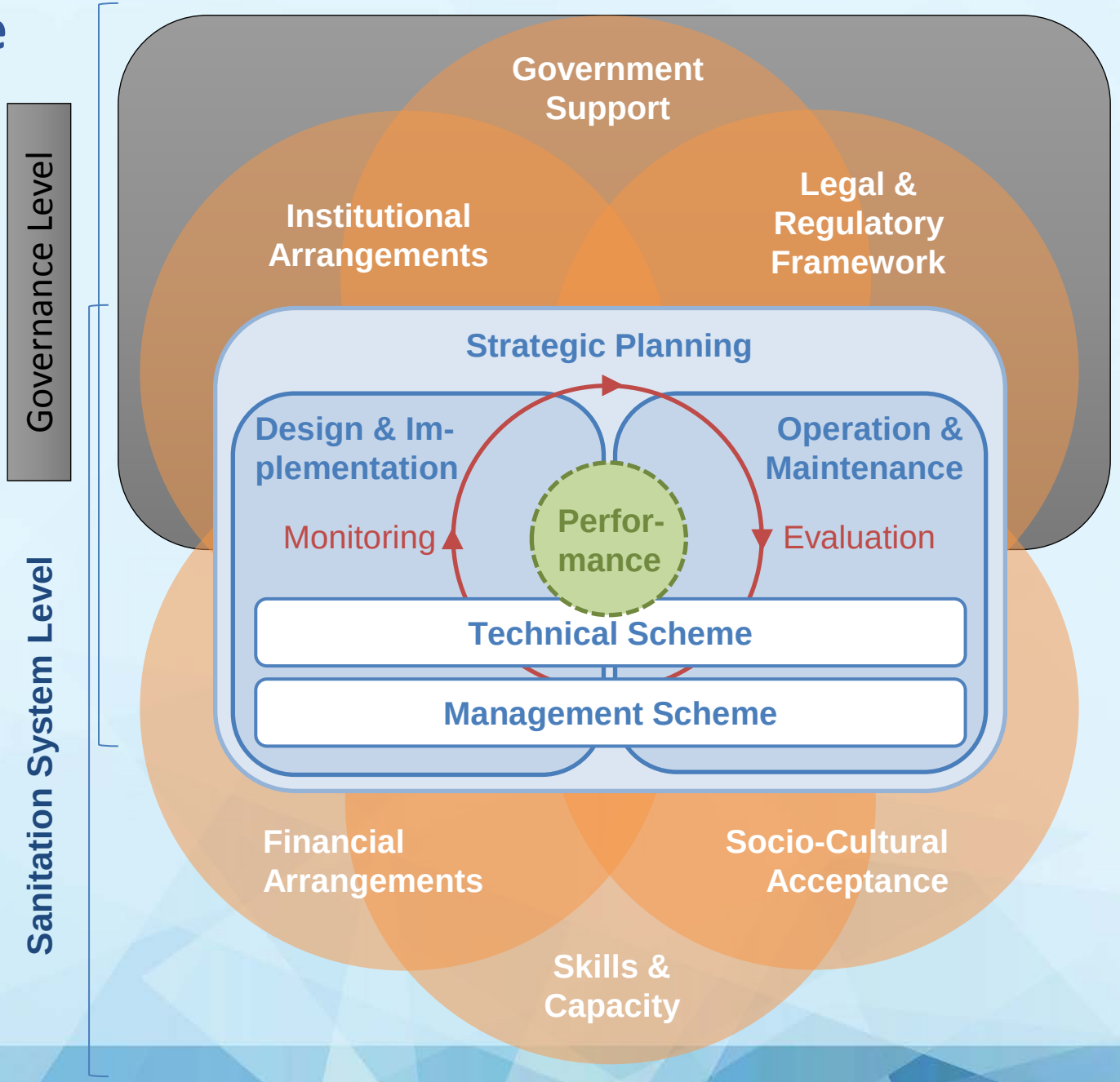
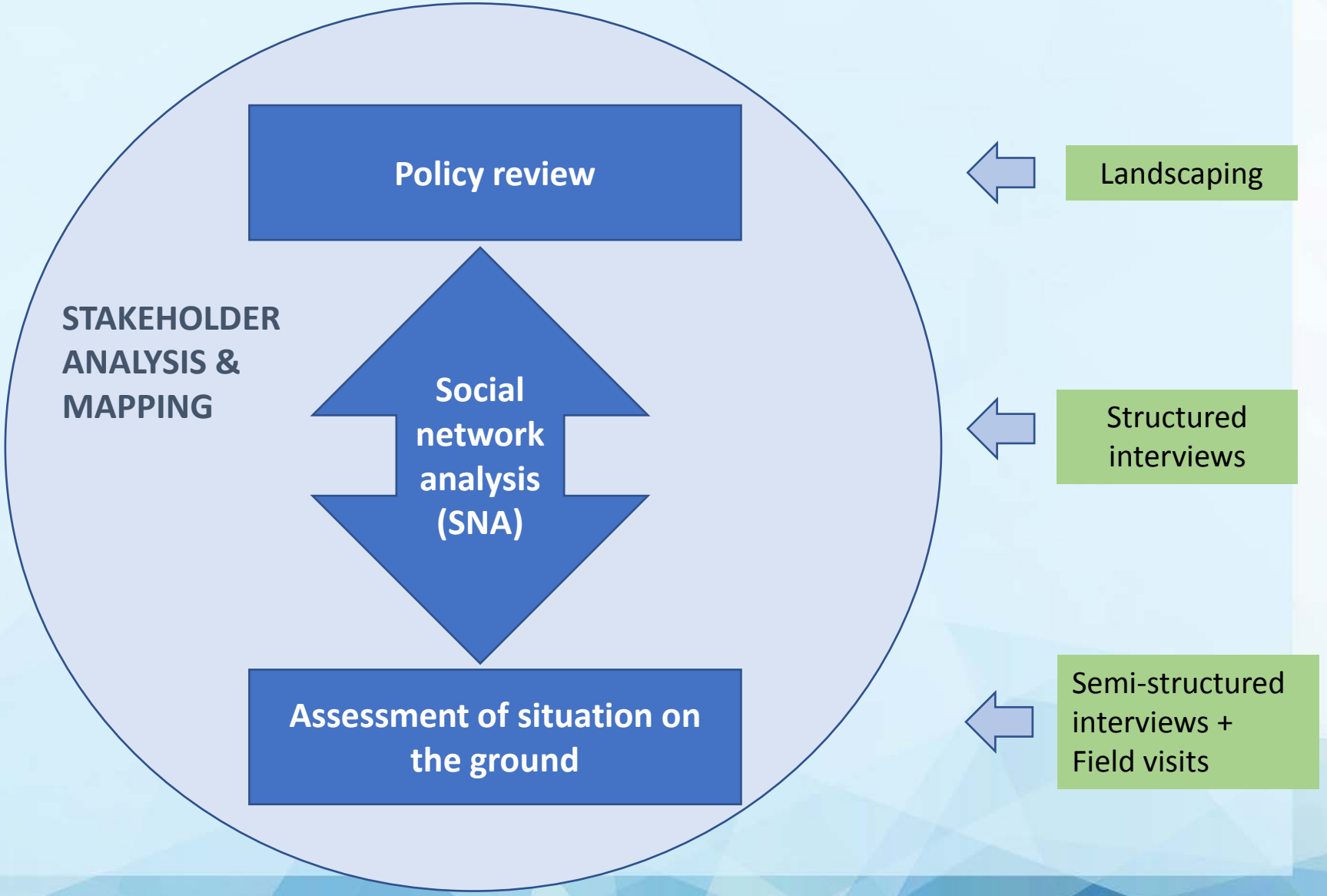
- ✓ Institutional arrangements
- ✓ Allocation of roles and responsibilities
- ✓ Monitoring

Governance in 4S



Methodology

Mixed method approach linking the policy level to impact on the ground

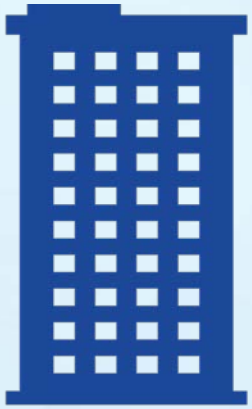


A dynamic policy and regulatory framework

Policy trigger

> **MoEF**

EIA 2004 & 2006



SSS Policy influencing Initiatives

- MoUD building by-laws
- Green Building Rating Systems
- National Water Policy
- Centre for Excellence for Decentralised Wastewater Management

	Legal threshold for SSS
Bangalore	> 20 apartment units
Hyderabad	Buildings >10,000 sq.m.
Pune	Buildings > 4000 sq.m.
Andhra Pradesh	Buildings > 5000 sq.m.
Goa	> 40 apartment units
Tamil Nadu	> 50 apartment units

NATIONAL LEVEL → **STATE & CITY LEVEL**

Different States/cities - different regulatory frameworks

Different scope for SSS, but also reuse policies

- **«Trial and error»** process
- **Reuse policies** not always pragmatic *(e.g. zero liquid discharge policy)*
- **Retroactive policies difficult to implement** *(e.g. STPs in existing buildings or dual plumbing in existing buildings)*
- Often **lack of alternatives** *(e.g. discharge of treated wastewater into stormwater drains to be addressed)*
- **Mismatch between supply and demand** of treated wastewater

IDEA

Uber-like app to connect buyers and sellers of treated wastewater ?

Effluent and reuse standards

- **No dedicated standards specific to SSS**

  Some standards more stringent than in the European Union or Japan !

- **No reuse specific standards**

  ⇒ **Adapt to different reuse/disposal**?

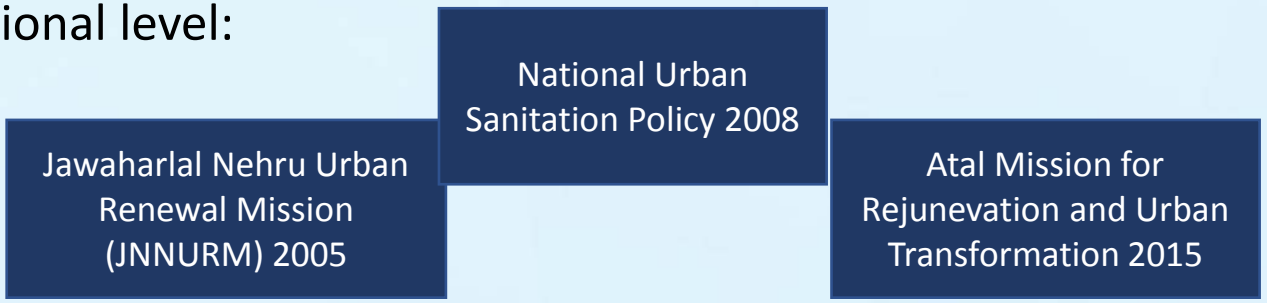
  quality of the receiving water bodies; discharge to sewer network; stormwater drain; greywater recycling for toilet flushing; construction site; gardening; agriculture

  ⇒ The **practical implications for implementation** by building owners should be thoroughly studied

  ⇒ The advantages and limitations of SSS systems need to be well balanced **before** imposing new standards.

SSS in the policy framework

- At national level:

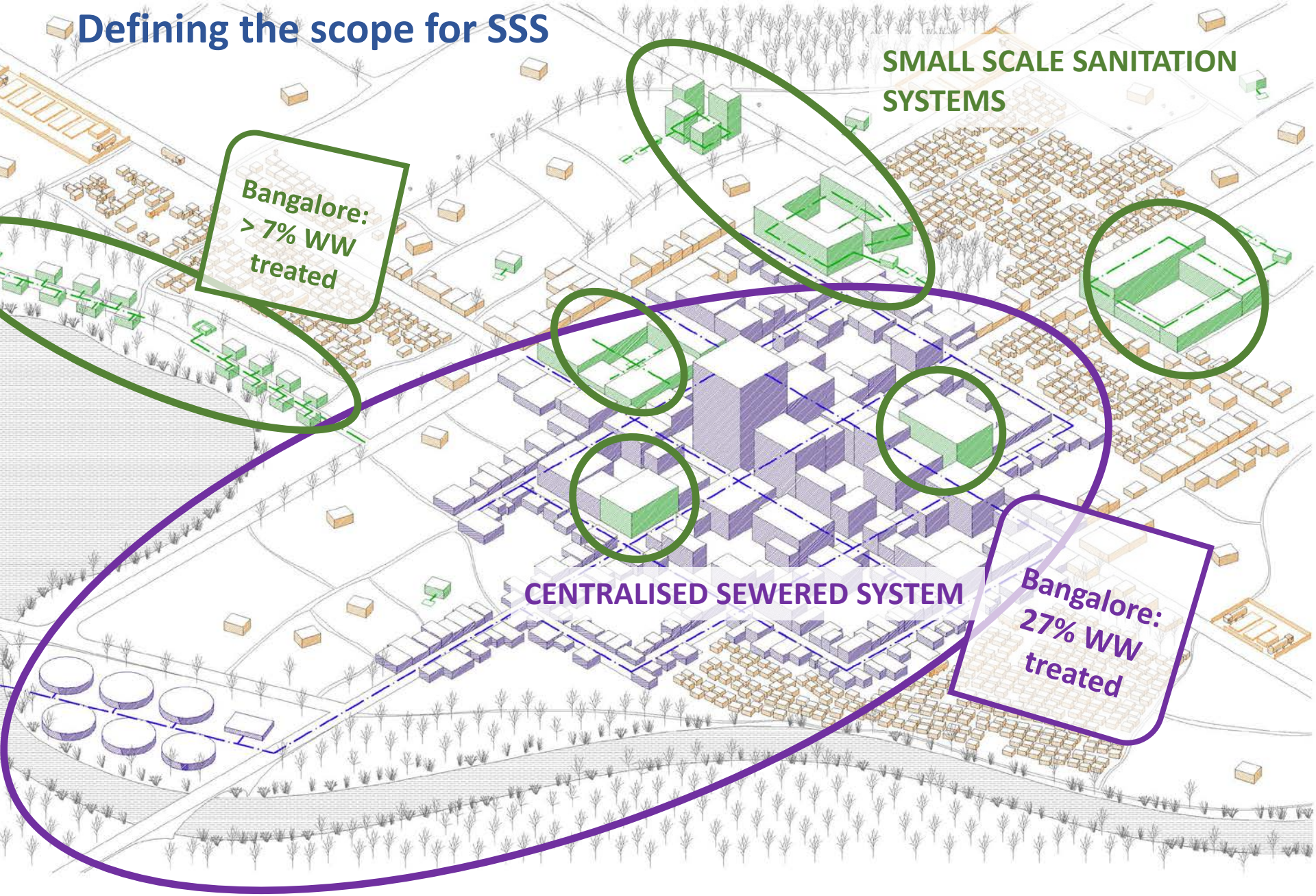


⇒ **No reference to small scale STPs *(unlike FSM)***

- **SSS not explicitly recognised** as a sanitation system option next to centralised sewerage and FSM
- **Lack of a clear policy framework** for SSS, incl. **technical specifications**.
- No SSS in the **State Sanitation Strategies** and **City Sanitation Plan**.
- The **Census of India** only mentions “connection to centralised sewer network”, “septic tank” and “others”.

⇒ **Currently, SSS is not on the sanitation map**

Defining the scope for SSS

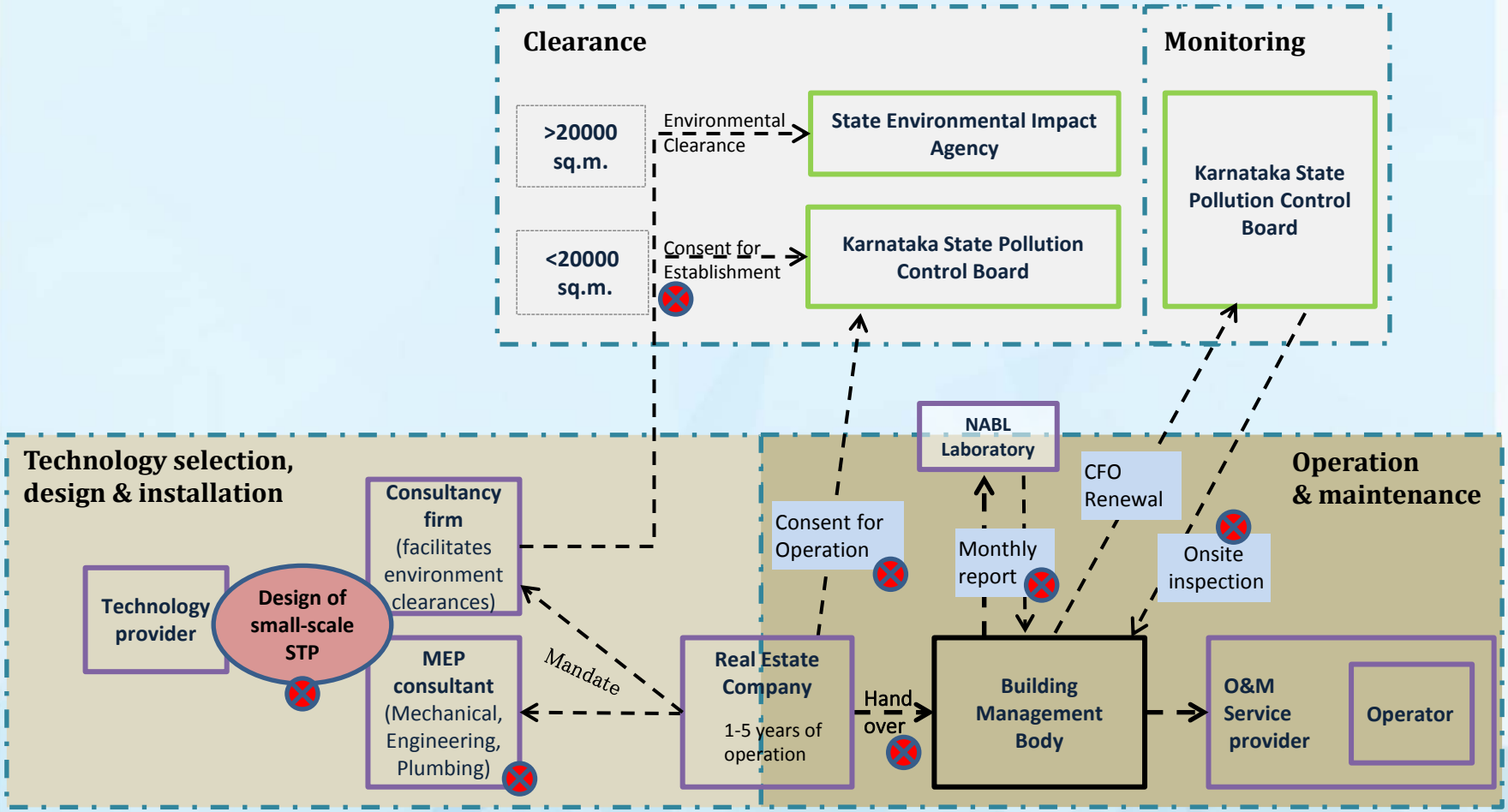


SSS in the institutional framework

- **Responsibilities scattered** between pollution control boards (PCBs), urban local bodies (ULBs) and water supply and sewerage boards (WSSBs)
- **Responsibility for long-term monitoring** is often not allocated
- **Lack of capacities and ownership** by WSSBs and ULBs
- Lack of comprehensive and unified SSS database
- Loopholes in the technology selection, design, implementation and O&M of SSS systems

$\Rightarrow$ **Leads to observed overall bad performance of SSS**

Institutional arrangements– the case of Bangalore



Loopholes in the institutional arrangements

- CAPEX is the main selection criteria, not OPEX nor sustainability; lack of expertise for technology selection
- Non-qualified MEP consultants: lack of expertise for implementation
- Consent for establishment: lack of seriousness in design evaluation
- Poor database management and lack of unified database
- Consent for Operation: lack of control by PCB
- Handover: absence of formal transfer process
- Sampling and reporting: high risk of data manipulation
- Inefficient monitoring and lack of capacities for onsite inspections

Need for a centralised online database !

- Would foster **coordination and harmonisation** between the agencies
- Would foster the **merging of existing databases**
- Would enforce a **standardised data collection** process
- Would allow **automated analyses**, and data analyses and **statistics by all interested agencies**, according to their needs
- Would allow **very clear monitoring** of the progress of SSS at national, State and city level

Database development to be spearheaded by MoHUA or CPCB ?

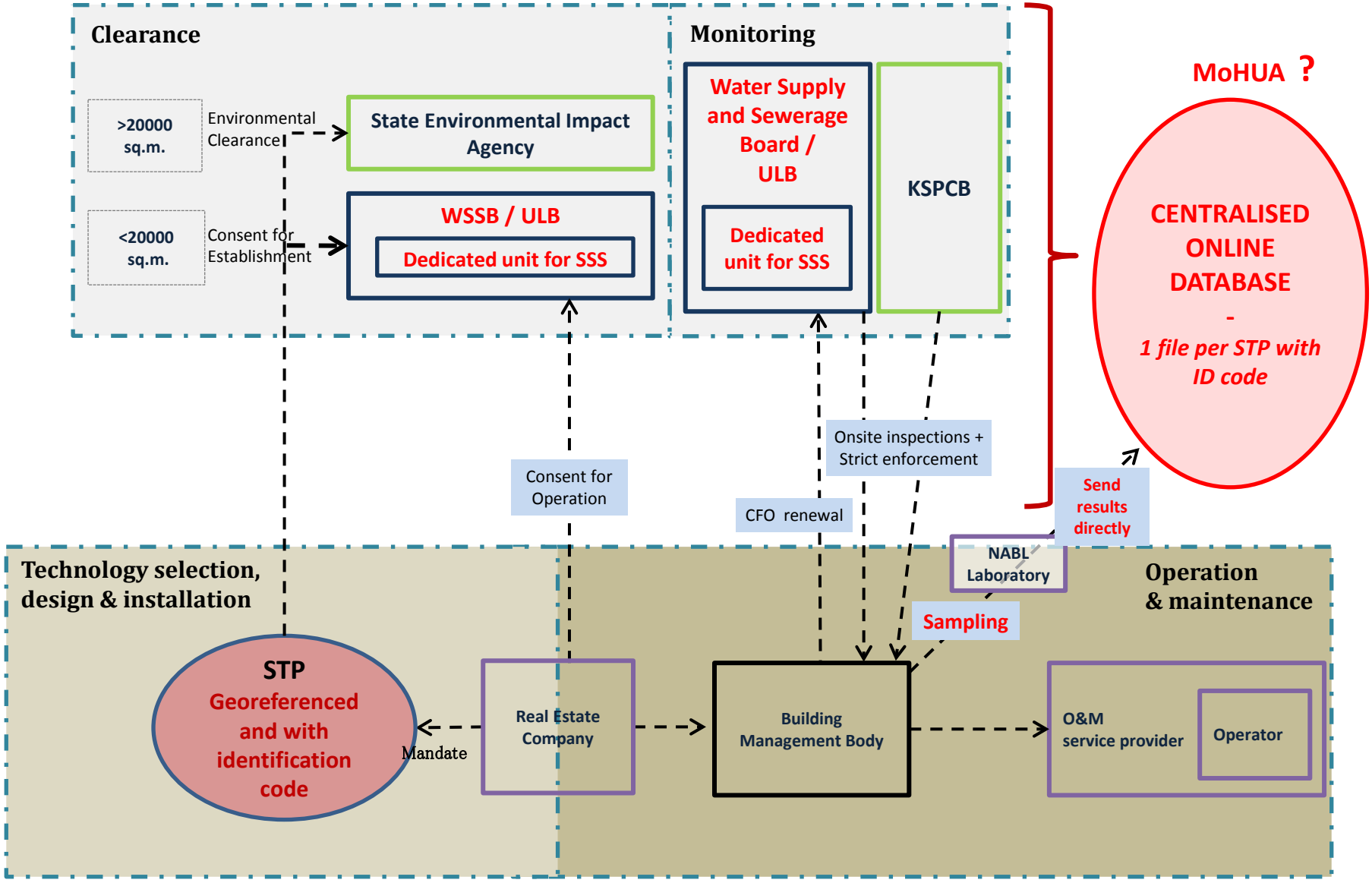
Delegation of platform management to private firms?

Why WSSBs and ULBs should have a prominent role in SSS

- All wastewater management **under one roof**
- **Inclusion of SSS in the urban planning process**
- Full overview of sanitation, and **zoning for centralised sewer network, SSTPs and FSM**
- **Linking SSS to existing building databases** and GIS
- **Optimisation of water reuse policies**, in line with the other urban services

How feasible is oversight of SSS by WSSBs and ULBs?

Monitoring scheme: how it could look like in Bangalore



Priority actions

- MoHUA should **explicitly recognise the role of SSS**
- **Integration of SSS** into mainstream city sanitation planning
- Develop a **centralised online database** and **robust monitoring framework**
- **Re-allocate roles and responsibilities**
- Define **effluent standards adapted to SSS and different reuse objectives**