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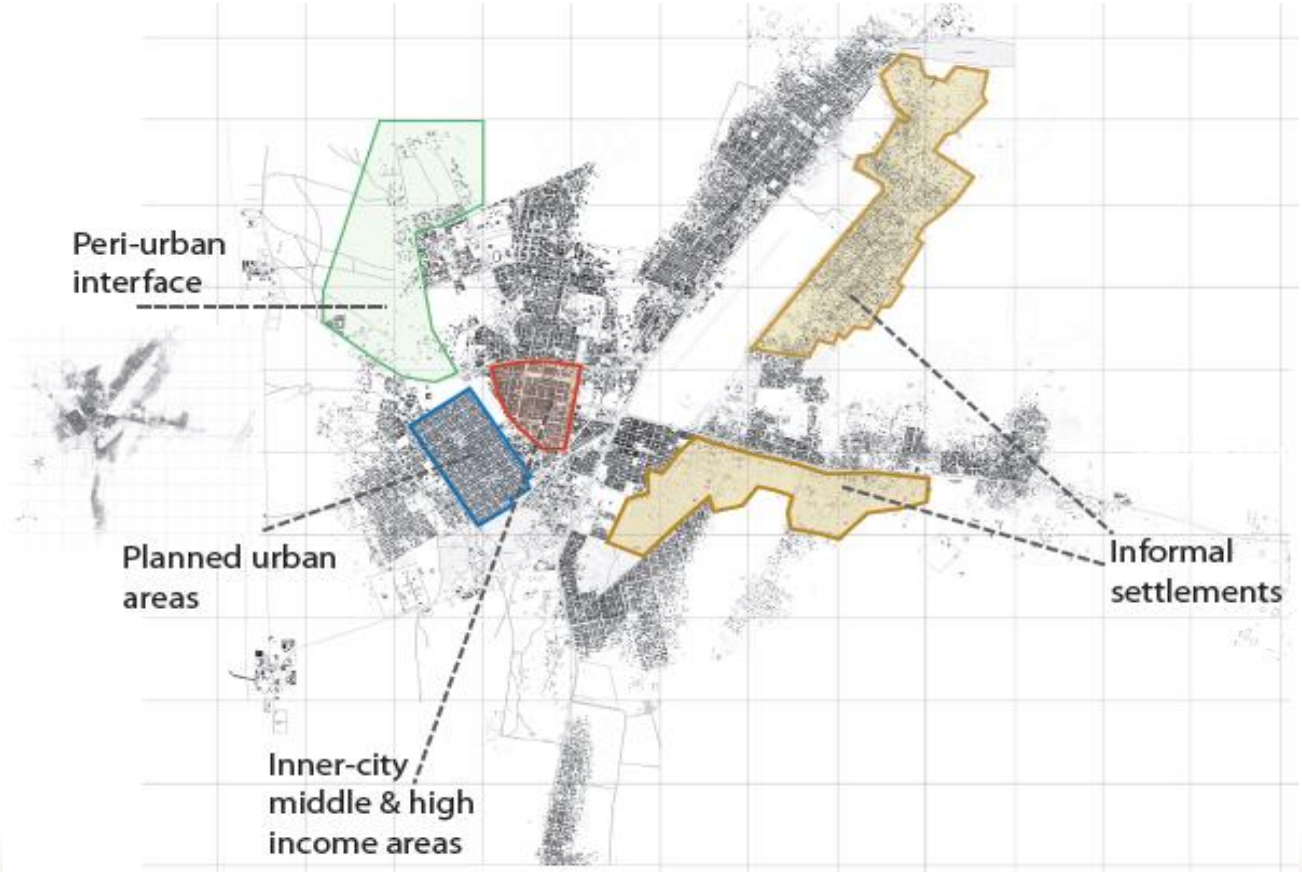
Workshop 1: The Key Role of FSM in Modern Urban Sanitation Systems

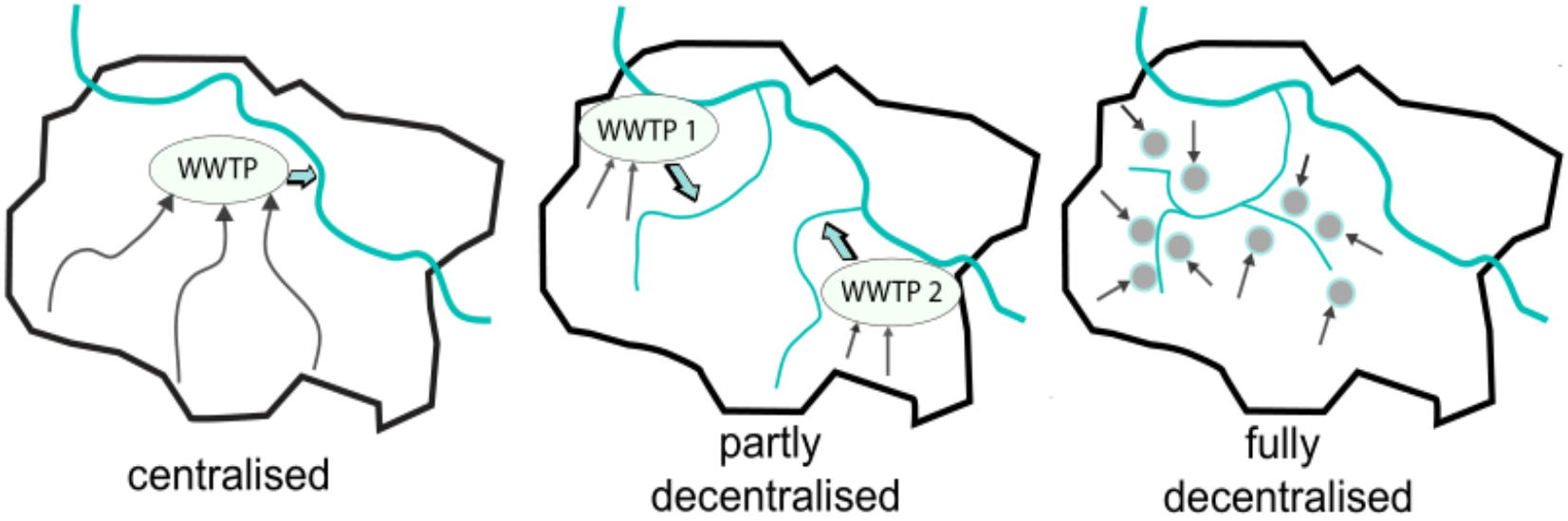
Chennai, India 23 February 2017

Cities are characterized by diversity of settlement types



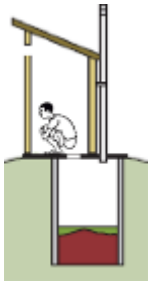
Source: Sanitation21 (2014)

Range of models for sanitation provision exists



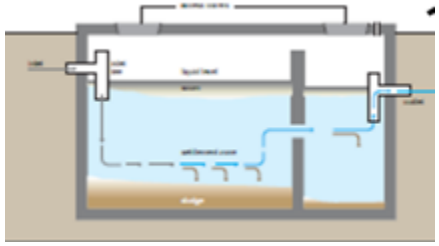
Conundrum: Sanitation approaches - institutional systems - city size / growth

Individual System
Pit Latrines



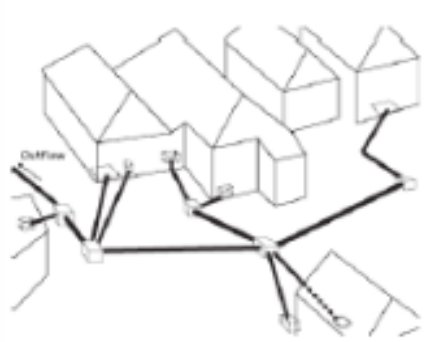
Upgrade

Septage Management System
Septic Tank



Upgrade

Centralized Sewerage system



Managed by Households
- Mason

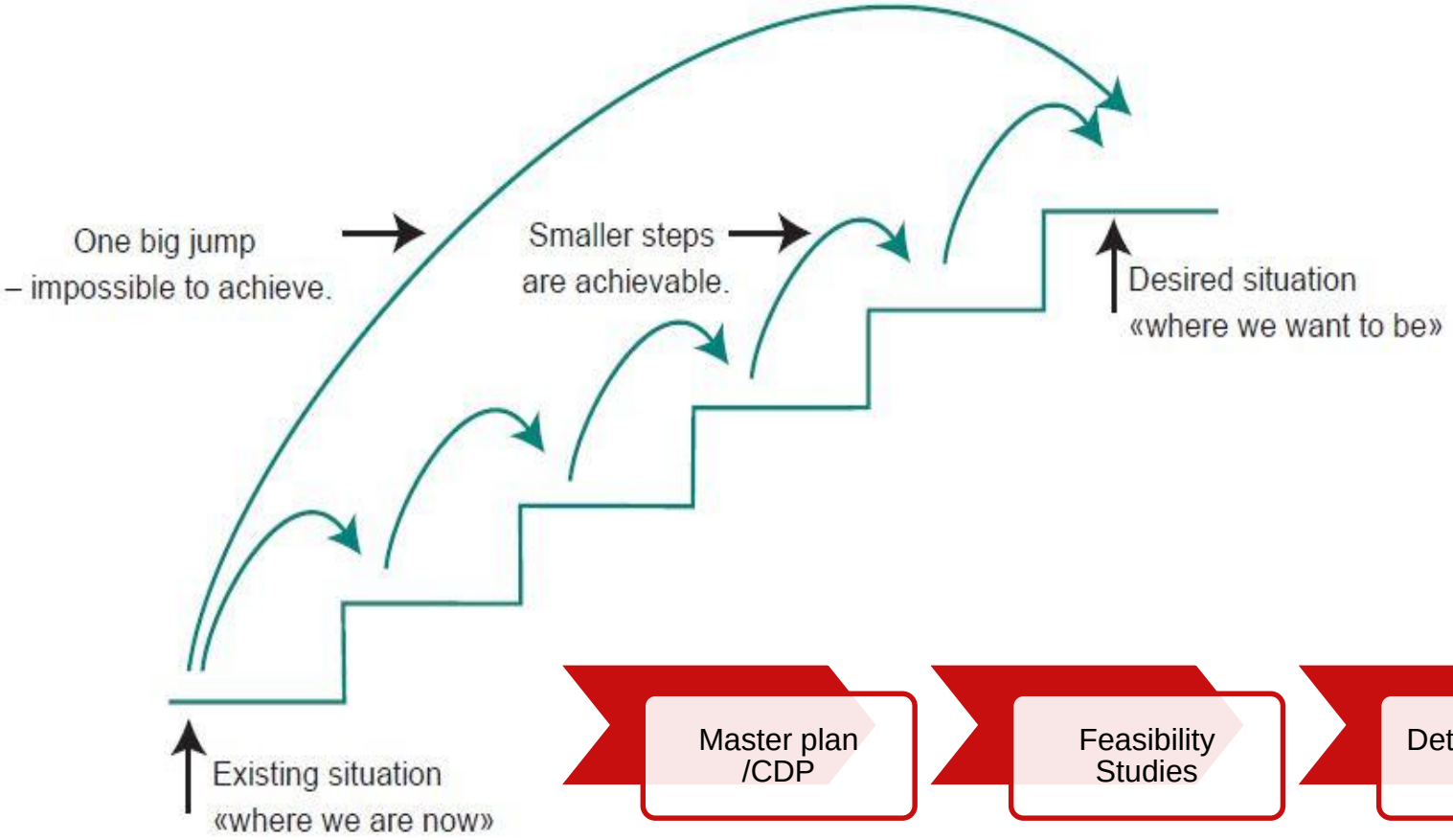
Managed by Households
- Mason
- Plumber

Managed by City / ULB
- Vacuum truck operators
- Treatment plant operators

Managed by Households
- Plumbers for Household connectivity

Managed by City / ULB
Requires dedicated institution (WS, sanitation + various depts. viz.
- Management
- Engineering & Technical
- Accounts & Finance
- Administration
- Data management
- Customer service etc…

Incremental Planning for city-wide sanitation



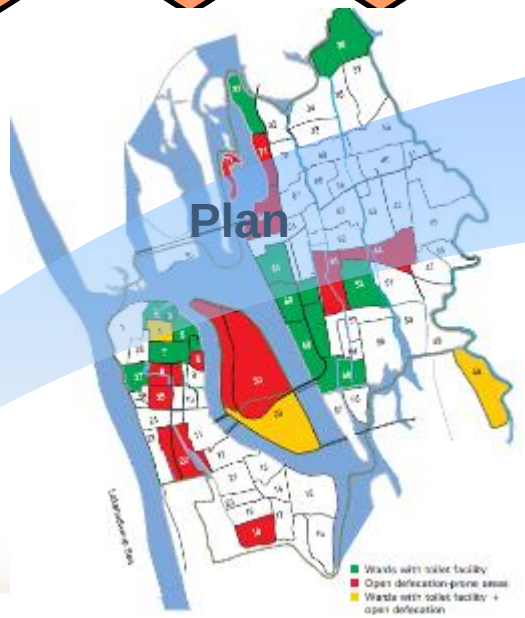
City-wide Sanitation Planning as a framework to formulate solutions

Components

- Access to toilets
- Wastewater management
- Storm water management
- Water supply
- Solid waste management

Support dimensions

- Administration&Legisation
- Capacity building
- Inclusiveness
- Financial sustainability
- Technology options



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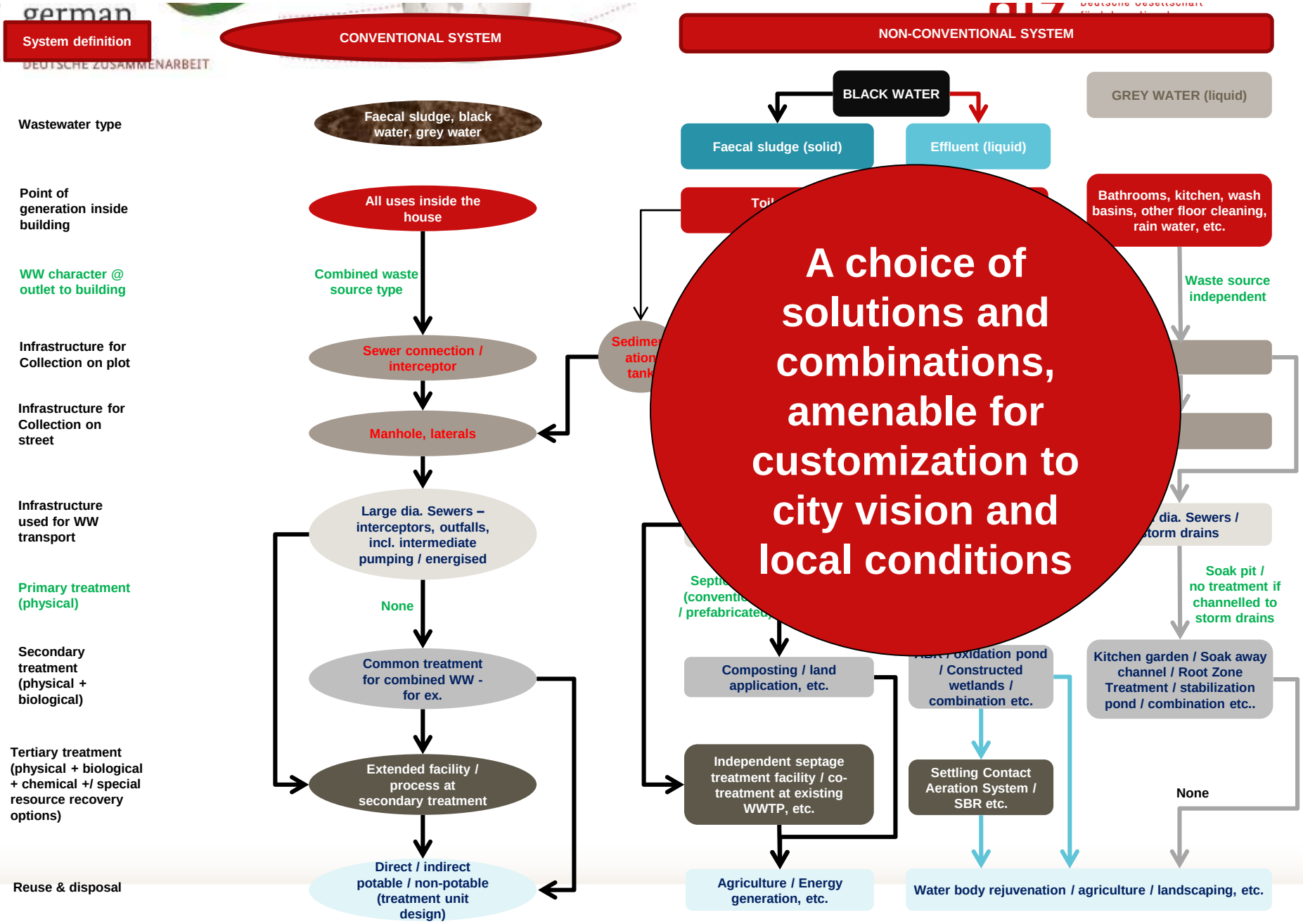
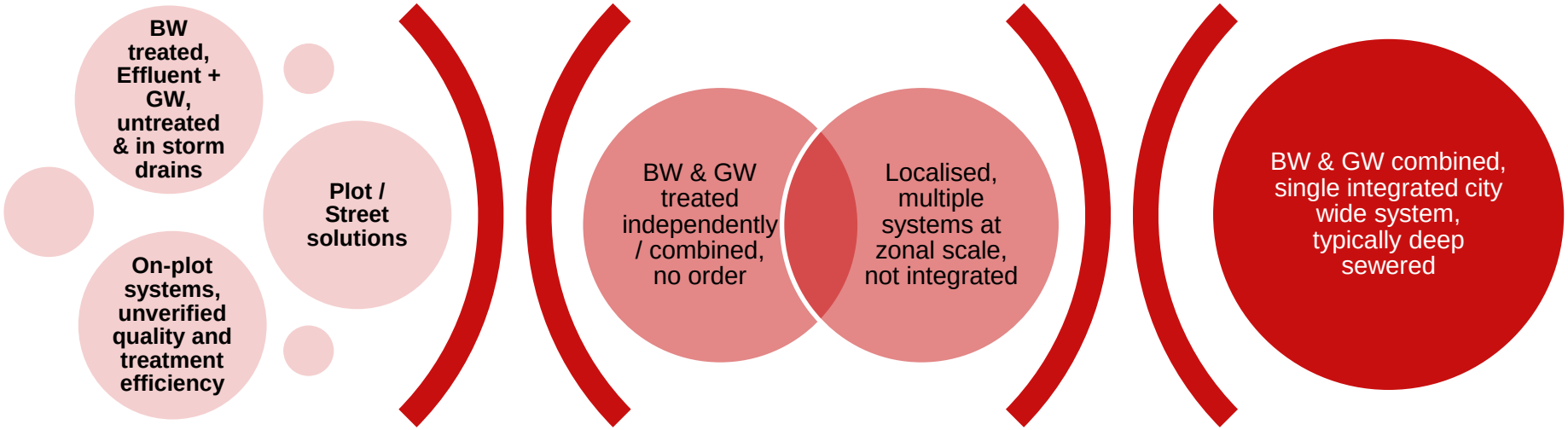
Hence the need for non-conventional approaches



Typical Indian city size, mixed sanitation needs



Cities with ST systems only
(< 1 lakh population, newly added localities in bigger cities, WS <70lpcd)

Cities with Non-conventional WW systems
(1 to 10 population, WS 70 to 100lpcd)

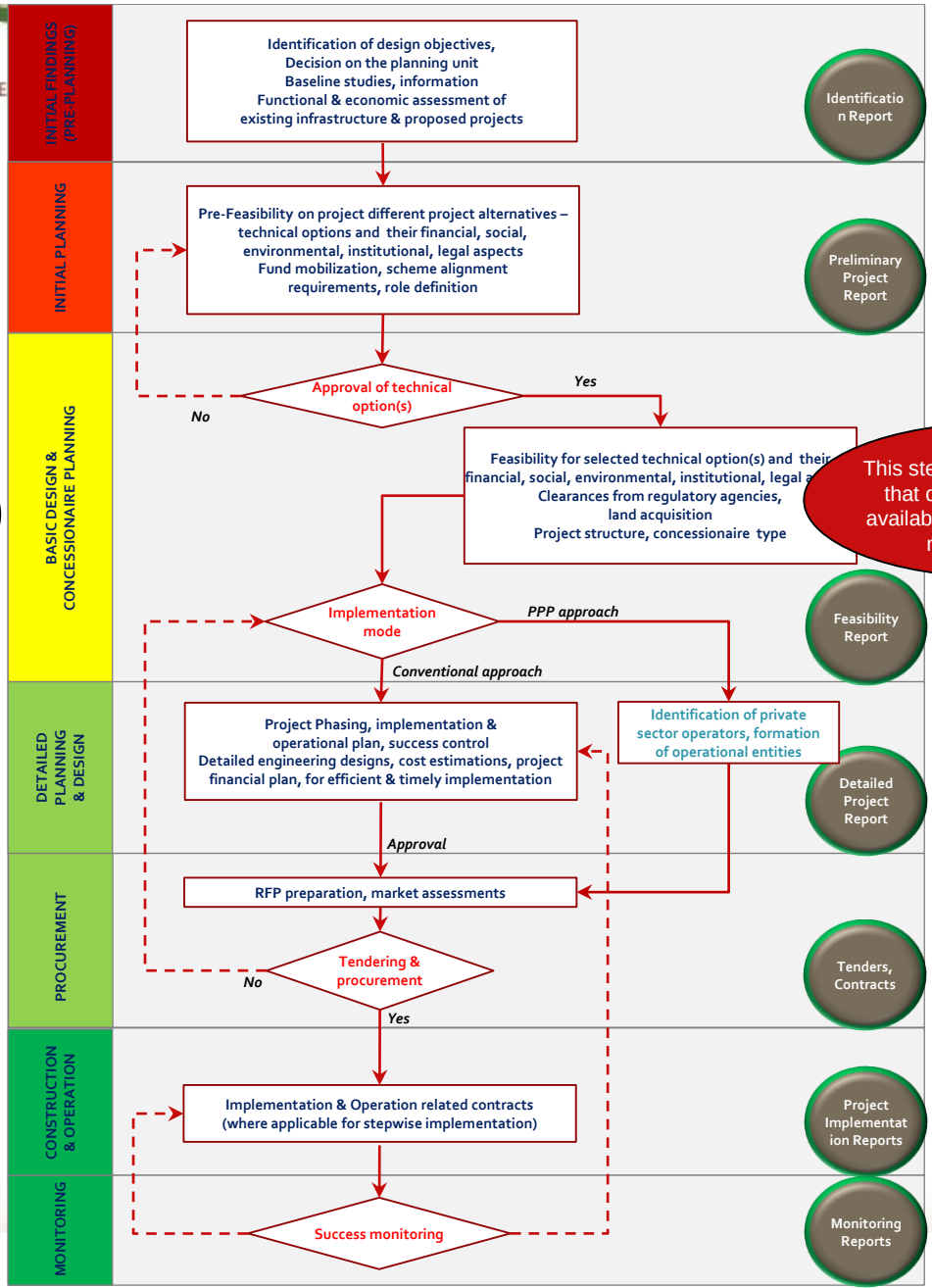
Cities with conventional WW systems only
(> 10 lakh population, WS > 100lpcd)

First order preference in the absence of a sewer network (legally required at 30m) would be a septic tank in developing area / newly developed area / peri-urban area before migration to deep sewer based systems.

So Septic tanks are a reality and needs integration in sanitation planning

*Note: **BW** – Black Water **GW** – Grey water **WS** – Water supply **Lpcd** – litres per capita per day **WW** – Waste water computed @80% WS*

The catch is... Planning process in Indian conditions



This steps is being strengthened to ensure cost-effective spending of financial resoures

This step is delayed so much that detailed designs are available and projects fail on most occasions

Irrespective of any solution attempted wastewater / faecal sludge / septage management / combination

<u>The planning process is the same and is generic to access funds under any scheme</u>