Techno-commercial comparison of FSSTP Tenders across Indian States during 2016-2018

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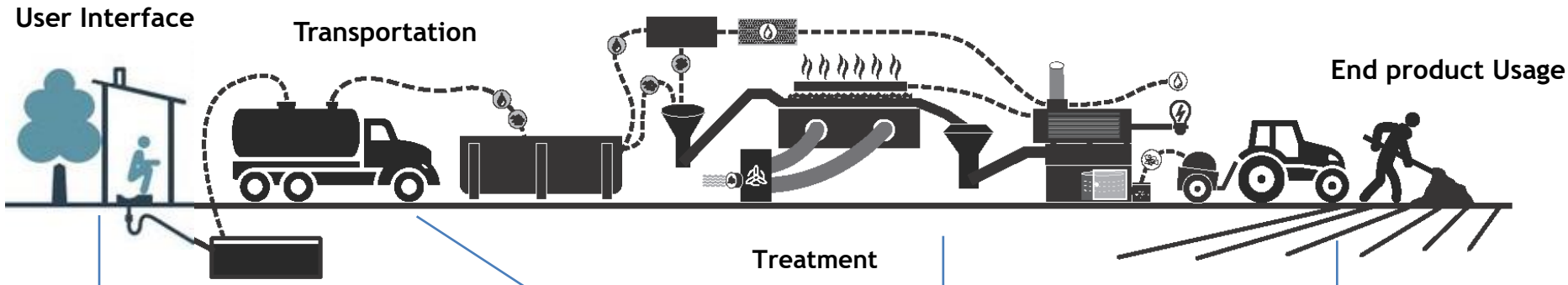
Tide Technocrats

AfricaSan5 FSM5

Non-sewered Sanitation Value Chain



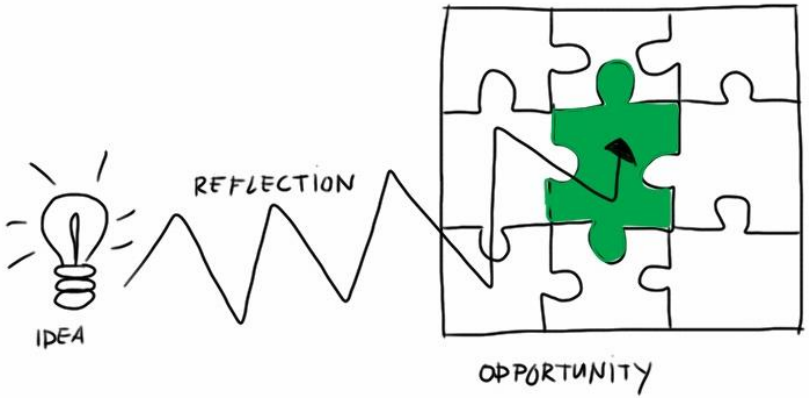
High focus due to Swachh Bharat Mission

Gathering Momentum since FSM policy in 2017

Exists through private vehicle/municipality vehicles

Problem Statement / Market Opportunity?

- >4000 urban towns and cities in India
- >75% do not have access to sanitation treatment
- FSM Policy rolled out in 2017 during FSM4 in Chennai, India



Unrestricted growth?

- > 250 treatment plants tendered out / setup since 2017 in India
- Another 150+ expected this year
- The schemes from the Government

Our study

- Focused on understanding the features and trends of the tender calls called by ULBs or State Governments
- Cost and Technology analysis of treatment parameters

- Covered tenders between 2016 and 2018
- Aimed at understanding possible features that governments are looking for

Parameters evaluated

- Tender type
- Eligibility Criteria
- Technology for treatment and / or Output parameters
- Size of the Treatment plant
- Capital Expenditure for setup and time for setup
- Operations and Maintenance Cost and duration
- Additional scope of work

Findings – Tender Type

Build and Operate

- Prespecified Technology
- Detailed Engineering and Bill of Quantities available
- Build and Operate
- Collection & Transportation may be included

Design and Development

- Open Technology with Process Outputs Defined
- Detailed Engineering to be done
- Design, Build and Operate
- Collection & Transportation may be included

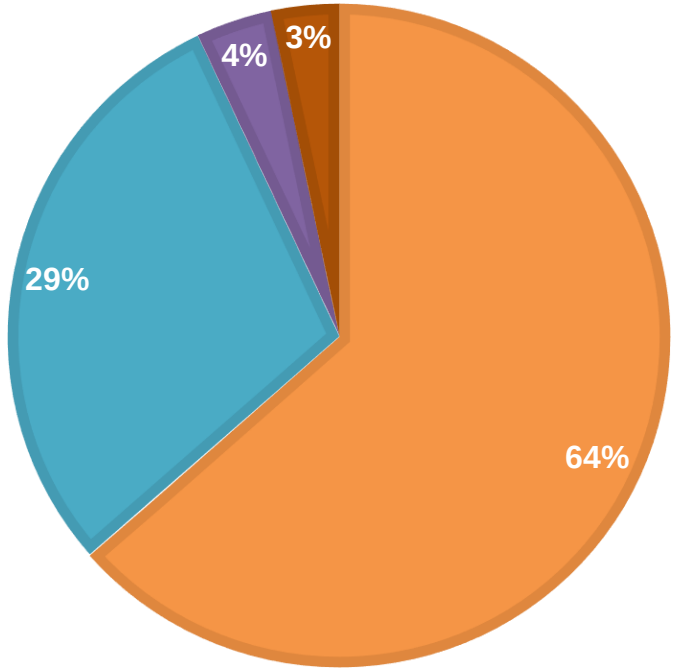
Findings – Eligibility Criteria

- Financial Eligibility

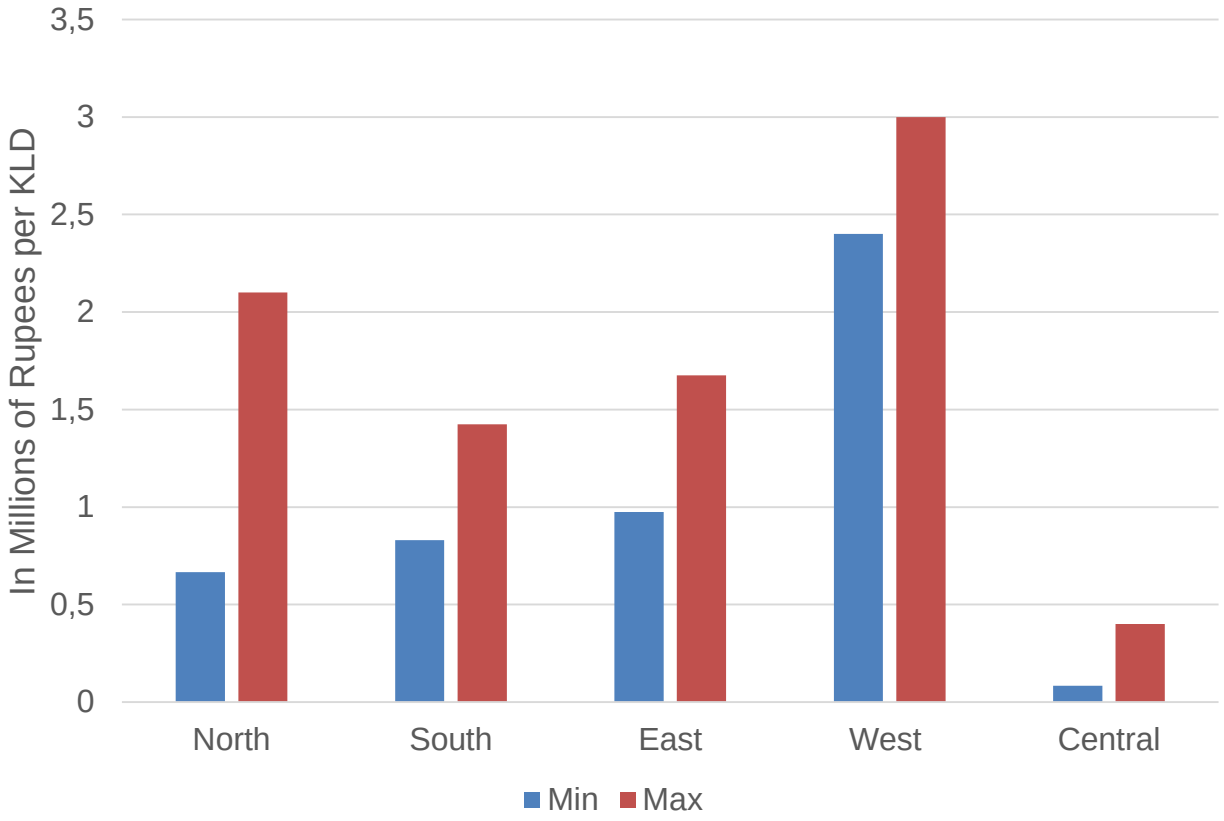
- Technology / Treatment Eligibility

- Construction Experience

Findings - Size of the treatment plant



Findings - Cost per KLD - Capex

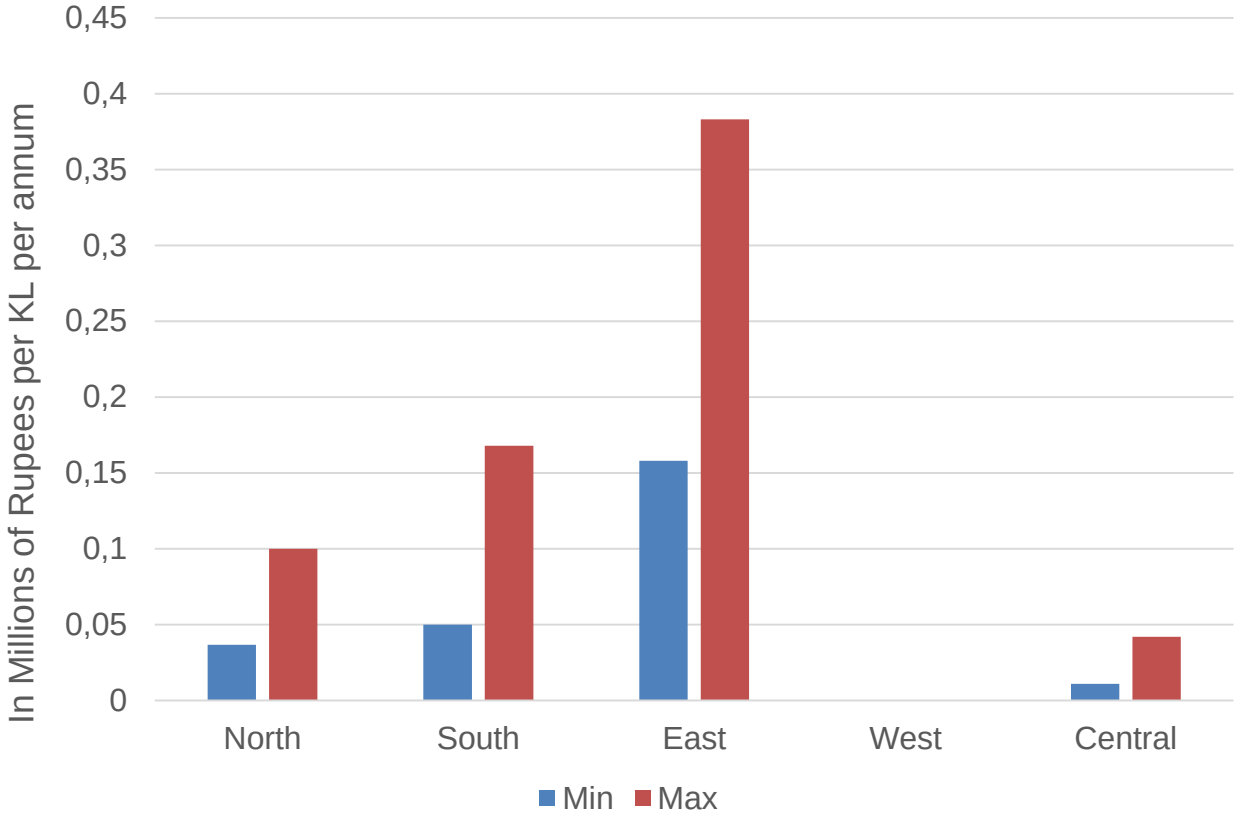


1 Million Indian Rupees =

12,500 Euros or
14,100 US Dollar or
194,500 ZAR

Approximately

Findings – Operations and Maintenance Cost/KL/Annum



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Findings – Additional Scope of Work

Very Varied:

- Compound walls
- Weigh Bridges
- Solar Power Plants
- Road
- Utilities
- Laboratory
- Vehicles
- Computer Operator

Lessons Learned

- Varied Regional Behaviour
- Existing Knowledge Application
- USEPA & CPCB Output norms
- Plant sizing
- Nascent Sector
- Co-treatment gaining momentum
- Collection and Transport allows financial sustainability

Challenges in the Study

- Unless you are a bidder or a consultant to the respective state government, access to this information is difficult to obtain

Assumptions in the Study

- Population estimates in the study were based on census data and not actual ULB data
- GST assumed at 18% but varies from 12% (civil) to 28% (electro)
- Some population sizes and household information were calculated based on regional averages
- OpEx where included in project cost, have been separated based on similar projects
- Co-Treatment was not considered

Tide Technocrats

Solid waste management

Renewable energy

Sanitation

- Tide Technocrats is a pioneering innovative environmental and sustainability consulting organization, based out of Bengaluru, India. Established in 1995, Tide Technocrats focuses on three areas for delivering impact.
- Tide Technocrats is an empaneled organization under Swachh Bharat Mission by the Ministry of Housing and Urban Affairs, Govt. of India and a member of the National Faecal Sludge and Septage Management Alliance. We are also partners to the Sustainable Sanitation Alliance (SuSanA) a global organization
- In 2017, TTPL is a winner of the Urban Labs Innovation Challenge by uChicago Tata Centre of Development and finalist of the PFAN - USAID challenge for Smart Solutions for Adaptable Communities and Cities. In 2018, TTPL is a finalist in IHUWASH, a national challenge for WASH sector solutions for Mysuru, Udaipur and Faridabad.

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