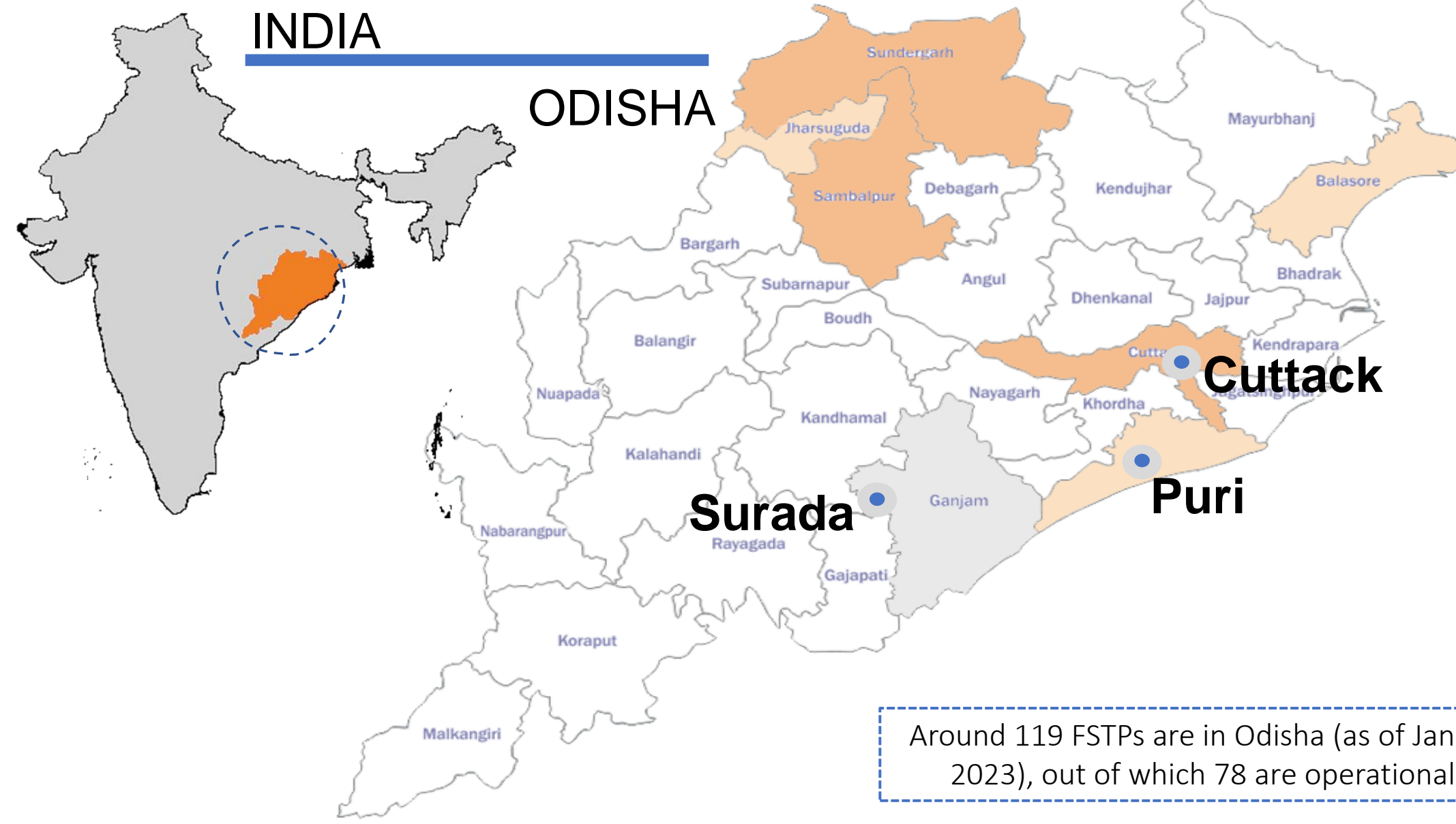


# Maximising Capacity Utilisation in Waste Management Practices

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## Research Overview

With the context of existing problem statements in the sanitation value chain and strategies such as co-treatment and Urban-Rural convergence model, how can capacity utilisation be maximized in waste management practices, and what are the existing challenges and recommendations for achieving the same?

## Objective

Providing recommendations to the State Government on ways to maximize FSSM capacity utilization

## Hypothesis

Urban-Rural Convergence model will maximize the capacity utilization in FSTP

## Odisha Urban Sanitation Overview

- ✓ Odisha has 223 towns and 115 ULBs, consisting of 5 Municipal Corporations, 48 Municipalities and 61 Notified areas.
- ✓ The ULBs function under a set of Acts with the Odisha Municipal Act (1950), Odisha Municipal Corporation Act (2003), Odisha Town Planning and Improvement Trust Act (1956), Odisha Development Authorities Act (1982).
- ✓ The usage of on-site sanitation systems was the prevailing practice, and Manual scavenging was very much prevalent.
- ✓ Only 45% of septage was safely collected for less than half of the households that relied on septic tanks.
- ✓ As in 2015, there were no septage treatment plants in the State. Only two percent of the faecal sludge generated was reportedly being treated.
- ✓ 11% of the households with toilets had direct access to sewerage, and almost 50 percent of the households relied on septic tanks which needed to be better constructed.

## Municipal Corporation

## Cuttack

Population: 6.95 Lakhs  
Existing FSTP Capacity: 60 KLD

## Municipality

## Puri

Population: 1.81 Lakhs  
Existing FSTP Capacity: 50 KLD

## NACs

## Surada

Population: 0.14 Lakhs  
Existing FSTP Capacity: 10 KLD

Sites Identified

### Issues

- Lack of transparency due to multiple modes of service delivery
- Lack of accountability due to the absence of a monitoring regime
- Citizens being forced to pay based on the frequency of usage of the vehicle

### Recommendations

- Desludging fee shall be based on sludge collected
- Streamlining operations to resolve governance issues across ULBs
- Fines/Penalty for non-compliance with FSSM Policy

### Implementation

- Sensors on DSVs to capture data on sludge collected further basing User fee on the same
- Adapting not more than two operating model per ULB based on requirements
- Establishing call Centres at ULB to increase transparency
- Cluster based approach to reduce O&M stress on ULB

Parameters	Municipal Corporation	Municipality	NAC
	Cuttack	Puri	Surada
Total HH under URC	-	1,44,406	34,294
Number of Vehicles	10	5	1
Vehicle capacity	4000L, 1500L	1500L, 3000L	1000L
Model	a, d	b	a
Communication	<ul style="list-style-type: none"> <li>Toll-Free number (14420)</li> <li>Offline form</li> <li>PDSO's Number</li> <li>SAFA</li> </ul>	<ul style="list-style-type: none"> <li>Toll-Free number (14420)</li> <li>Offline form</li> </ul>	<ul style="list-style-type: none"> <li>Toll-Free number (14420)</li> <li>SUJYOG, SAFA</li> </ul>
Modes of Payment	<ul style="list-style-type: none"> <li>Online (Receipts through POS Machines)</li> <li>In-cash</li> </ul>	<ul style="list-style-type: none"> <li>Online (Receipts through POS Machines)</li> </ul>	<ul style="list-style-type: none"> <li>In cash (Manual Receipts)</li> </ul>

a- ULB Owned and Operated; b- ULB owned and Privately Operated; c- ULB Owned and SHG Operated; d- Privately owned and Operated



Parameters	Municipal Corporation	Municipality	NAC
	Cuttack	Puri	Surada
Total Number of HH in ULB	1,16,820	41,140	3,160
Number of Tagged GPs	-	102	26
Number of HH in Tagged GPs	-	1,03,266	31,134
Total HH under URC	-	1,44,406	34,294
Number of Vehicles	10	5	1
Vehicle capacity	4000L, 1500L	1500L, 3000L	1000L
FSTP Operational Capacity	60 KLD	50KLD	10 KLD
Assets for Mechanised cleaning Operations	Available	Available	Not available

### Issues

- Inefficient assets (especially Desludging vehicles) under ULB to meet economies of scale
- Use of Mechanised cleaning operations is not prevalent and in some cases, might be redundant.
- Disproportionately tagged GPs (capacity of ULB)
- Certain ULBs due to its geographical position, its capacity utilisation could not be maximized.

### Recommendations

- OSSWB to support ULBs with adequate assets
- Scaling up mechanised cleaning Operations among all ULBs
- Parameters other than distance should be included in planning URC

### Implementation

- Ensuring availability of 1000L or 1500L vehicles across ULBs
- Ensuring the use of Bandicoot or its alternatives
- Tagging based on Household size of GPs

### Issues

- Quantity of sludge is not measure anywhere across the value chain
- Total number of HH under URC is disproportionate to Operational Capacity of FSTP
- Operational capacity of FSTP might not be same as what was intended to be designed
- Compost are not being reused

### Recommendations

- Capturing data on sludge collected, treated and its enduse
- Tagging GPs based on FSTP's actual operational capacity
- Alternatives to biological treatment methods should be explored

### Implementation

- Sensors in Cesspool vehicles and weighbridge at FSTP
- Active regime to monitor utilisation of FSTP
- Action Plan for reuse of compost
- Piloting Waste to Energy streams (Bio-CNG, Biogas, Electricity, etc.,)

Parameters	Municipal Corporation	Municipality	NAC
	Cuttack	Puri	Surada
Vehicle capacity	4000L, 1500L	1500L, 3000L	1000L
Total HH under URC	-	1,44,406	34,294
Average desludging requests within City	6 - 8 per day	5 - 6 per day	1 to 2 per day
Average desludging requests within GPs	0	1 to 2 per day	10 to 12 per month
FSTP Operational Capacity	60 KLD	50 KLD	10 KLD
FSTP Current Usage	30 - 35 KLD	20-25 KLD	5 - 6 KLD
FSTP Capacity Utilisation	50%	50%	60%



## Conclusion

FSTP underutilisation persists due to awareness gaps, regulatory gaps & inefficiencies, highlighting the need for targeted interventions.