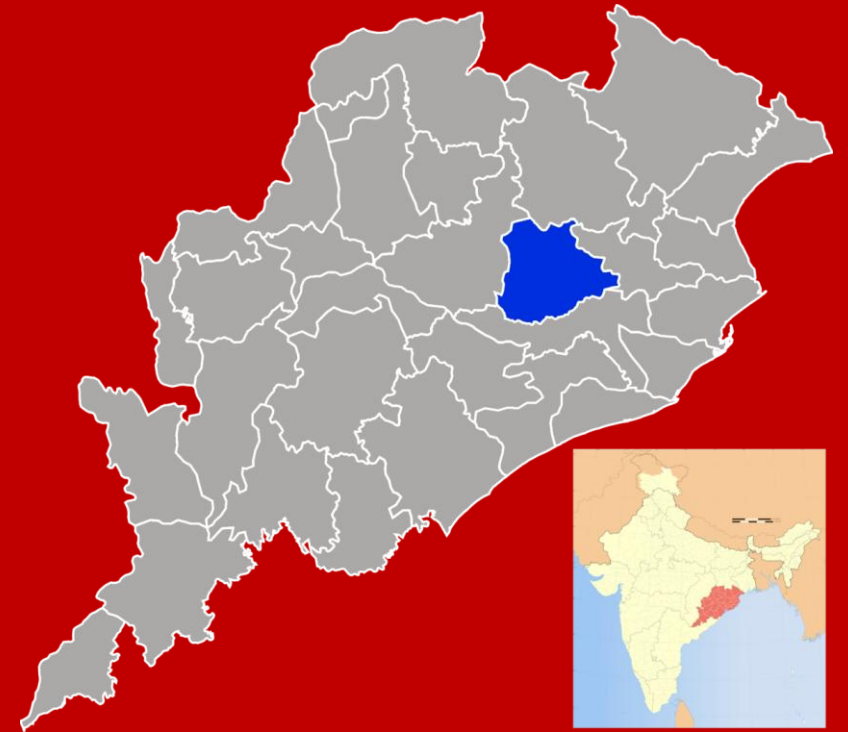


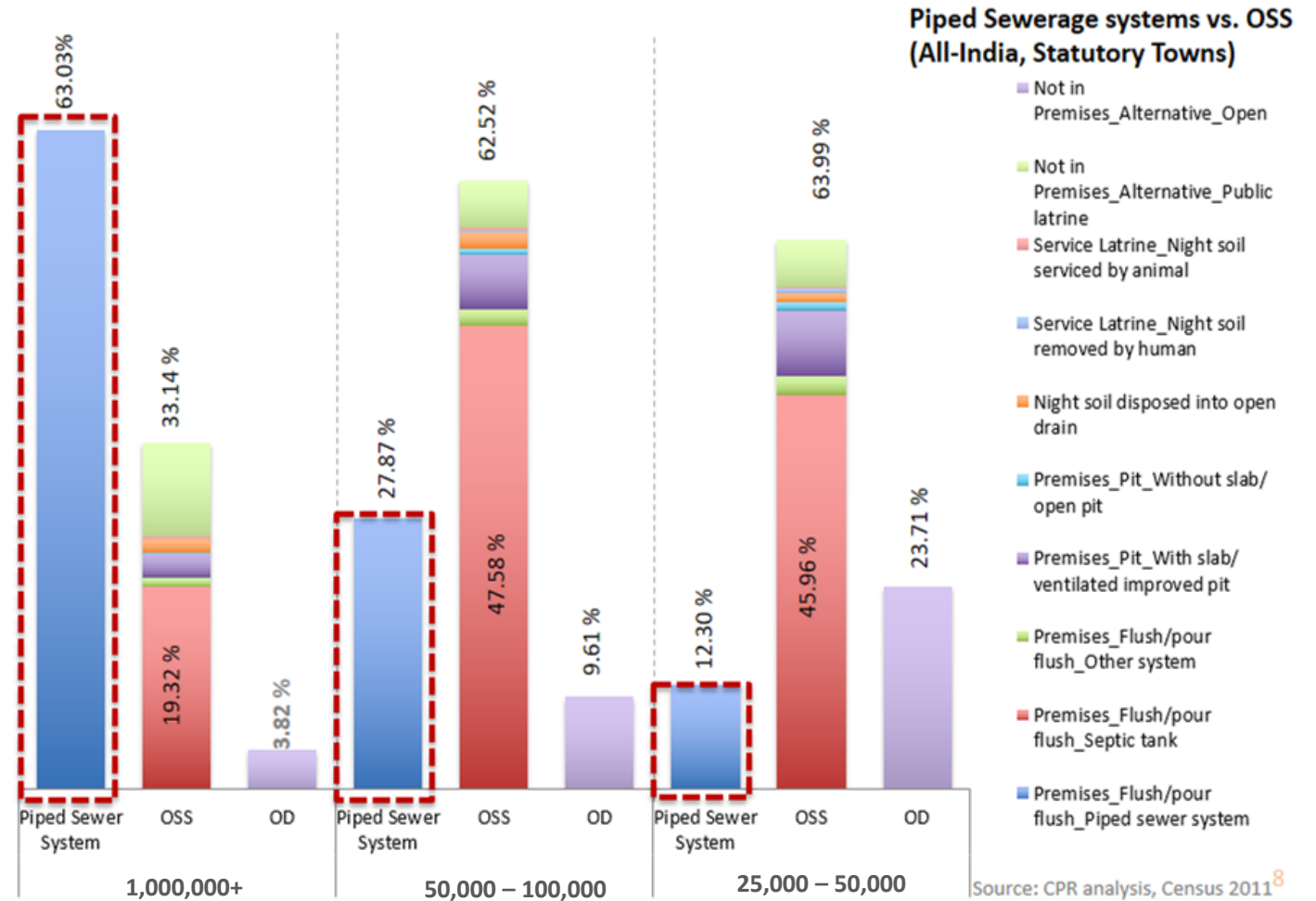
**PROJECT NIRMAL
FECAL SLUDGE MANAGEMENT IN
TRANSITION – A CASE STUDY FROM
DHENKANAL TOWN OF ODISHA, INDIA**

UZRA SULTANA
ARGHYAM, INDIA



ISSUES

- ✓ Census 2011: 30 million urban households (**38%**) in India have **septic tanks**. USAID (2010)
- ✓ Septic tanks **not designed properly** resulting in fecal contamination
- ✓ In areas un-served by sewer systems, there is **dumping of sewage into water bodies** in and around cities.
- ✓ Tankers employed for disposing the sewage usually **dump the sewage at the closest point** from where it was collected.
- ✓ Uncontrolled disposal of septage **worse than open defecation**.



INTRODUCTION | Demonstration of sustainable sanitation service delivery by implementing a faecal sludge treatment plant at Angul & Dhenkanal through enabling institutional and private sector participation.

TECHNOLOGY

- **Sludge: Anaerobic digestion + sludge drying &**
- **Wastewater: DEWATS + Sand-Carbon Filter (Optional)**
- **Low O&M, simple operation, minimal skills, no electricity.**
But, **land availability is a prerequisite**

CAPACITY BUILDING

10 modules for capacity building programmes to be implemented across the State:

Sanitation and it's relevance; National and state sanitation scenario; Institutional and policy framework for wastewater management; Urban wastewater management systems; Faecal sludge management; Containment and handling of faecal sludge; Treatment and reuse/disposal; Financial management; Administration and Enforcement and FSM planning



INSTITUTIONAL ARRANGEMENT

- **3 cesspool trucks** granted from the State Government to engage private enterprises.
- The **informal sweepers shall work with the private enterprises** as paid employee
- **Municipalities shall run the treatment facility** after technical capacity building and hand holding.



Cess pool purchased by the Government

FINANCIAL ARRANGEMENT

- **“Demand emptying”** will be established prior considering **“Schedule emptying”**
- Profit from the **“emptying & transportation”** in demand driven service exists from the **beginning**.
- Treatment and reuse functions are **not financially viable for initial few years**, requiring external financial assistance.
- **Leasing-out the cesspool trucks** to the private operation may be an option.



SOCIAL ASPECTS: PUBLIC AWARENESS, WOMEN'S INVOLVEMENT

- ❖ A comprehensive Information, Education & Communication (IEC) and Behavior Change Communication (BCC) strategy developed and will be launched by the State Government to:
 - Ensure **construction of appropriate toilets and timely desludging** of the septic tanks by the households
 - Address **negative behavior pattern** among the service providers
 - Create understanding on **end-use of treated faecal sludge**
- ❖ Slum Sanitation Committees - 45; Ward Sanitation Committees – 46 with a focus to **build bridge between communities & ULBs**
- ❖ Women participation in Slum Sanitation Committees is high representing **more than 50%**.



IEC activities



Slum Sanitation Committee Meeting

OUTCOMES & IMPACTS

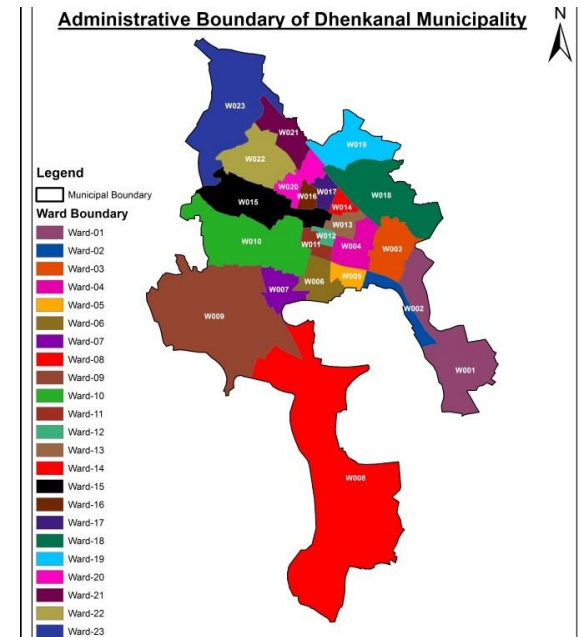
- **Technical capacity** of the State and ULBs augmented by establishing Project Management Units (PMU)
- Small cities introduced to **data-based GIS planning tools** by mapping situational assessment
- Community level **demand generation for city-wide sustainable sanitation** through IEC strategy & Committees
- Urban sanitation training programmes institutionalized in **regular state training for urban cadre**
- The Government officials **visit to Inda Water Konsortium (IWK), Malaysia** resulted in investing on septage management at State level

CHALLENGES

- Informal sweepers still dominating through **manual emptying**
- Lack of **timely support from Government** to implement the program
- Fragmented **Political dynamics** at the city level
- **Lack of awareness** at city and community level
- Change in **Bureaucracy/transfers** of Government officials and slow Bureaucratic processes
- **Allotment of land** for FSTPs



Secretary, HUDD, Govt. of Odisha visiting IWK, Malaysia



GIS based data planning



KEY MESSAGES

Without the following no progress possible:

- **Land availability and allotment.** Process for land allotment **to be started from the beginning** of project in view of lengthy governmental procedures
- Appropriate **engagement of stakeholders** at various intervention period creates better results
- **Mass awareness** required to institutionalize the FSM concept at State level

FINANCING STRATEGY

Funding for capital cost: Bill and Melinda Gates Foundation;

Operation of the plant: Implementing agency for one year with funding support;

Post one year: Transferred to the Municipality for regular O&M

Capacity	CAPEX	OPEX
27 cubic meter/day	INR 25 Million	INR 0.8 Million/year
	INR 375 /capita	INR 12 /capita/year

CONCLUSION

- FSM - **under-invested**, huge need
- Currently, only **sewered networks** seen as a solution but this is just **not feasible for smaller towns**
- Managing **Rural – Urban** Continuum (Challenges of transition)
- Need for:
 - **Models for decentralized FSM management** based on data (financial, technical, institutional, and social) and scientific studies
 - **Principle of subsidiarity**
 - **Local resources first**
 - **Accountable Government & engaged citizenry**
 - **Technology upgrades** that can pay for itself
 - **Closing the loop (Emphasize on reuse)**

