

Odisha's Journey in FSSM

P. K. Mohapatra
Project Director
Orissa Water Supply and Sewerage Board
Bhubaneswar, Odisha

SFD Week: AAETI, Neemli, Rajasthan
3rd April 2019

Five Year Report Card: Odisha

Year 2015 – The Trigger for action

River Pollution Abatement Study (2014) found 9 major rivers were polluted by untreated faecal waste from 30 towns

Before 2015

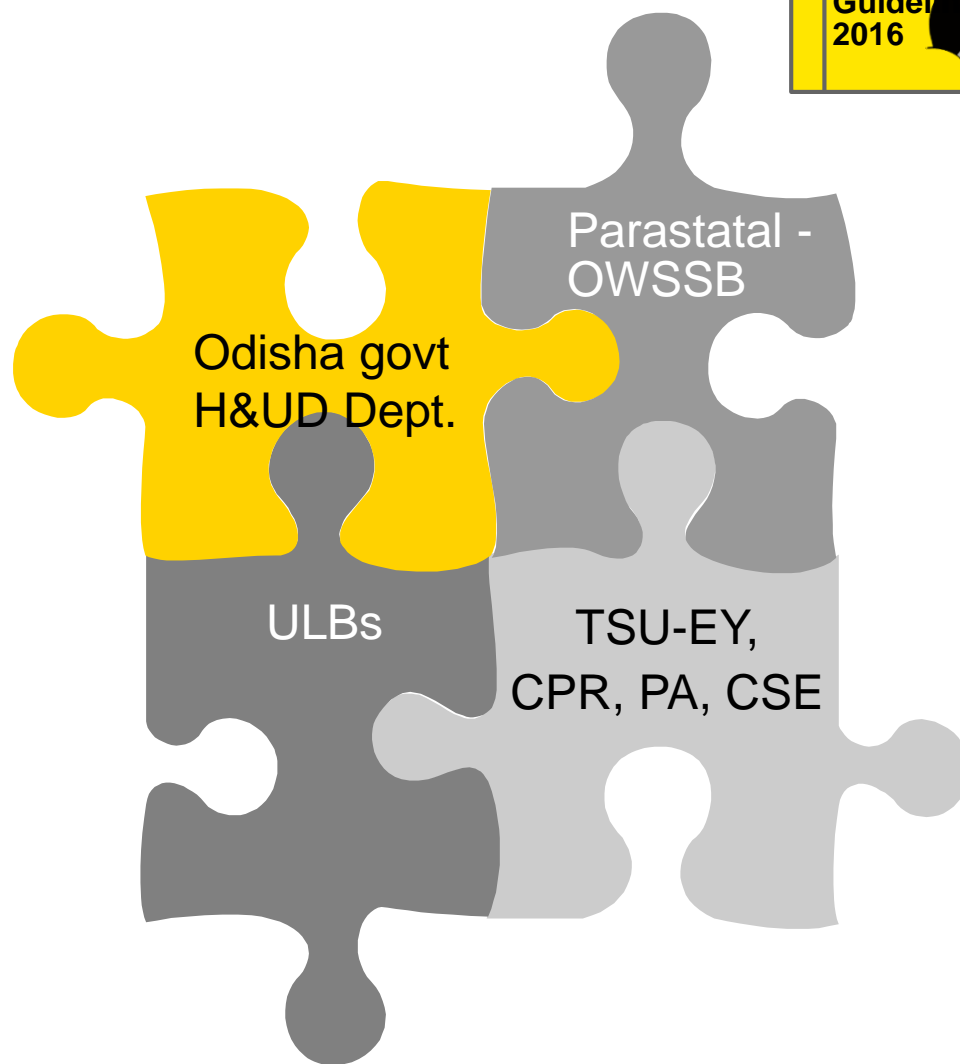
- ▶ Only 40% of the population had access to mechanized emptying
- ▶ 2% of wastewater was treated

Status in 2019

- ▶ 90% of the urban population has access to mechanized emptying
- ▶ 70% has access to interim disposal (DRE)
- ▶ >50% has access to treatment through STPs, SeTPs
- ▶ Strong enabling environment: policy, strategy, guideline and regulation, institutional strengthening and robust community engagement



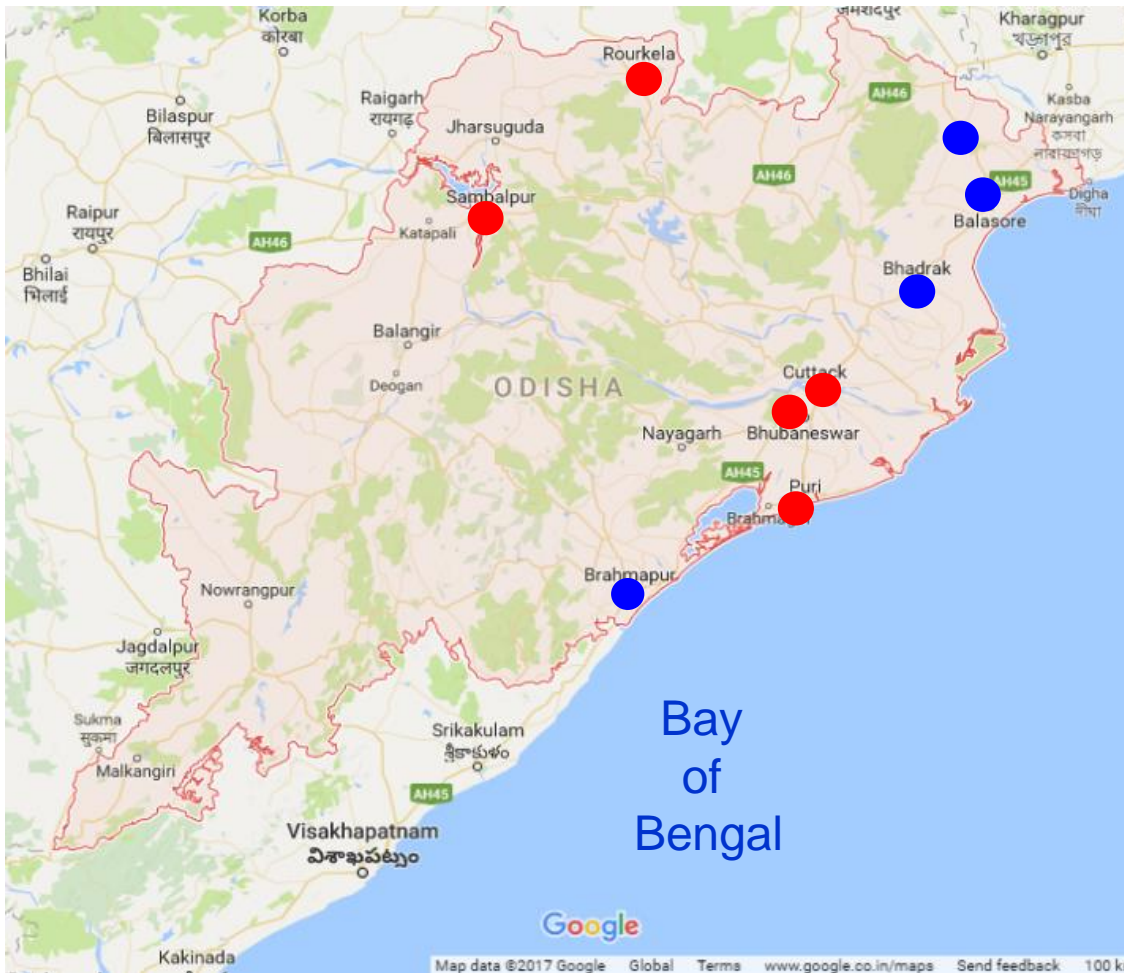
Key stakeholders implementing FSSM



Major interventions

- ▶ 2015 – 9 SeTPs in AMRUT Towns proposed
- ▶ 2016 – 86 new cesspool trucks procured
- ▶ 2017 – Sanitation Policy and Strategy published
- ▶ 2018 – 6 SeTPs commissioned
- ▶ 2018 – 80 low cost safe disposal solutions (DRE) implemented
- ▶ 2019 – 26 new SeTPs planned
- ▶ State Sanitation Directorate for Non-sewered Sanitation planned

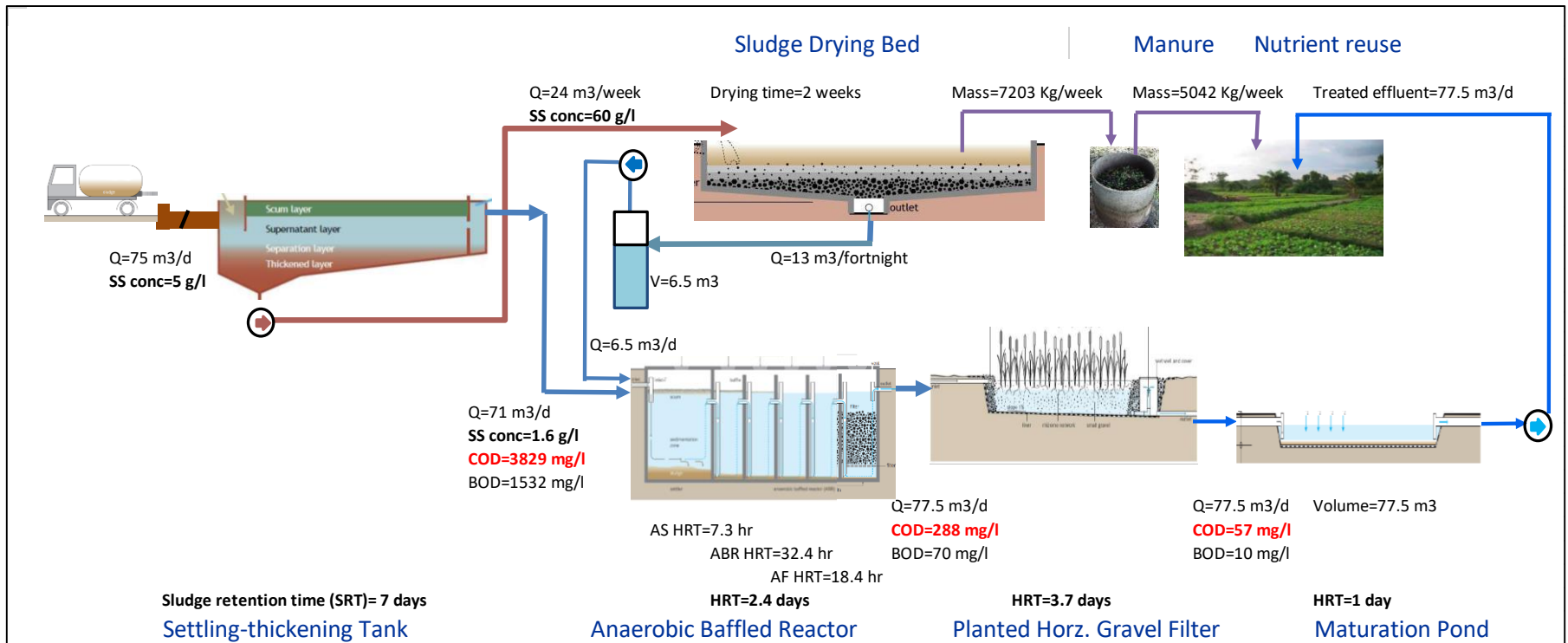
Septage Plants in AMRUT Towns



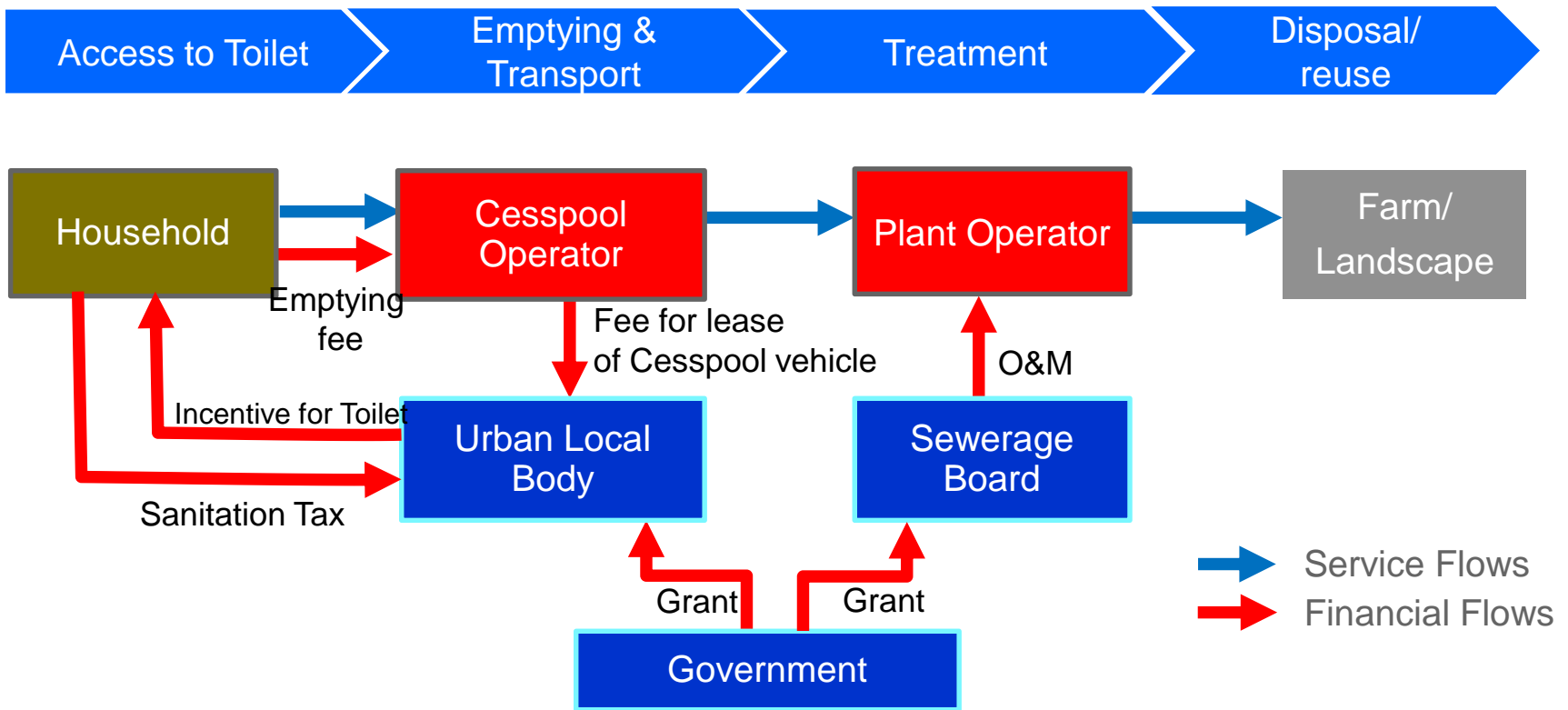
- Sewerage + FSM
- FSM

Population of Odisha: 46 Million
Population in urban areas: 6.88 Million (15%)

Treatment Process: Solids separation+DEWATS



Financial flows along Service Chain



How are the Policies, Strategies and Regulation enforced?

- ▶ **Created institutional structures from the grass-root to top level in line with Odisha Urban Sanitation Strategy 2017:**
 - ▶ Ward Sanitation Committees, City Sanitation Cells and City Sanitation Task Force
- ▶ **Non-sewer San. Cell and State Sanitation Directorate planned.**
- ▶ **Institutions empowered:**
 - ▶ Clear Terms of Reference with specific roles and responsibilities
 - ▶ Given powers to penalize for contraventions.
 - ▶ 224 officials trained for implementation of FSSM, operational guidelines, SOP for cesspool vehicle and treatment operations
- ▶ **Coordination among departments: PHEO, transport, traffic and police.**
 - ▶ Organised sensitization meeting with traffic and RTO in Bhubaneswar on FSSM regulation for enforcement
- ▶ **IEC for citizens.**
 - ▶ Campaigns on going through 360 degree approach for IEC and BCC

Setting Standards and creating enabling Framework

- ▶ **SeTPs adhere to the norms prescribed by CPCB and CPHEEO**
 - ▶ Currently, there are no standards for bio-solids in the country
 - ▶ For pathogen removal: sun drying and co-composting with refuse from the lawns.
 - ▶ Dried sludge is land filled near SeTP site
- ▶ **Providing supporting ecosystem**
 - ▶ Outsourcing of operation of ULB Cesspool vehicles
 - ▶ Registration of private cesspool vehicles
 - ▶ 90% urban population has access to mechanized emptying
 - ▶ 270 cesspool emptier vehicles in ULBs functional.
 - ▶ improving mechanised emptying
 - ▶ double booster pumps for cesspool veh.(Leh model)
 - ▶ small size cesspool vehicles (700 to 1500 Ltr capacity) proposed in two pilot ULBs

Temporary disposal (DRE) Sites

Disposal and Treatment

Temporary disposal – Deep Row Entrenchments



Land Selection Criteria for Deep Row Entrenchments

- Not flood prone or should be above recorded flood level
- Not water-logged
- Low water table
- Soil type – should be porous and allow soak away
- Reasonably flat
- Sufficient buffer distance to habitable properties (200 m minimum)
- Not close to or upstream of water intake, well, exposed aquifer
- use for agriculture purposes, downstream (of aquifer)
- Accessible by vehicles (road strength, width, bridges, headroom, slope)
- Tanker movement should not cause nuisance to neighborhood
- Compatible to adjacent and neighboring properties usage
- Close enough to allow logistics of sludge transportation



Photo: Bhubaneswar Septage Treatment Plant

Thank You