Odisha's approach towards managing Used Water

Introductory note on FSSM followed by greywater management

March 2023

EY
Building a better working world

Faecal Sludge and Septage Management

Odisha's FSSM journey

2015
- 1 operational STP
- 2% of urban faecal sludge treated

2017
- Urban Sanitation Policy and Strategy
- DREs introduced for safe & temporary disposal of faecal sludge
- First SeTP operationalized

2019
- Scale up of FSSM for all 115 ULBs
- Capacitating ULBs across the state
- Septage Cell formed to facilitate SeTP construction
- Small cesspool vehicles introduced for last mile coverage

2021
- **72 operational SeTPs**
- Tech Resource hired to support local groups
- Subsidized deludging services for Urban Poor

2023
- Development of Inclusive Urban Sanitation Policy
- 93 SeTPs managed by SHGs

2 city pilot

9 AMRUT towns

All (115) towns

GWM 2 city pilot

2016
- **Partnership with BMGF & CPR – 2 pilot SeTPs**
- Convergence with AMRUT – 9 SeTP
- **EY onboarded as TSU**

2018
- **7 SeTPs operationalized**
- National Workshop on FSSM in Bhubaneshwar
- **FSSM Regulations** adoption by ULBs

2020
- **11 SeTPs operational**
- 9 plants handed over to women and transgender groups for O&M

2022
- **108 SeTPs operational**
- Handover of 56 plants to groups for O&M
- OWA commences FSSM trainings

How was the transformation achieved in Odisha

Odisha sanitation scenario in 2014

2%

Faecal sludge safely disposed in Urban Odisha

12

Rivers passing through major cities identified as contaminated by Odisha State Pollution Control Board (OSPCB)*

Odisha sanitation in 2021

100	Population has access to mechanized emptying & transport from 40% in 2014
100%	% implementation of Deep Row Entrenchment (DRE)* as an interim measure
118	Septage Treatment Plants (SeTPs) to be operational by June 2023 in all towns
115	Urban Local Bodies covered for black water handling

Challenges faced

Odisha began with underground sewer system. However, this had several challenges

- High land requirement for STP construction
- Expensive capital and operational expenditure
- Post construction- connections issues
- Complete absence of public will

Taking the unique needs of the state into consideration, Odisha decided to adopt decentralized community-led FSSM

*DRE is now accepted as interim measure for ODF++ in towns with <20,000 population by Ministry of Housing and Urban Affairs

Key components facilitating FSSM in the State

FSSM in Urban Odisha

- Financial sustainability
- Communication
- Institutional strengthening
- Infrastructure and transport
- Processes and systems
- Monitoring and evaluation
- Capacity building
- Sanitation entrepreneurship
- Community engagement

Best practices from FSSM implementation in Odisha

Temporary waste disposal: Deep row entrenchment

Engagement of local Community Based Organizations (CBOs) as demand creators and service providers

BCC & IEC campaigns for adoption of safe practices & demand generation

Information and Communications Technology (ICT) -enabled cesspool emptier vehicle monitoring

Adoption of cost-effective natural treatment technology

The state's strategy for FSSM in the state was first addressing the black water management in the state through construction of SeTPs throughout the urban areas of the state. The state is now scaling up grey water management now.

Government realised that FSSM is more of a "social-engineering" project, rather than just infrastructure creation.

Multiple communication strategies have been developed to increase awareness on FSSM for citizens, community groups and service providers. .

Communication campaigns helped in:

Increase in demand for cesspool services and increased desludging E.g.: In Puri the numbers moved from 60 to 220 trucks per month during the campaign (May- Jul 18)	Awareness on **subsidized desludging rates**. E.g.: Miking, leaflets, banner and auto-stickering have helped increase awareness	Creating **vigilant citizens to discourage** indiscriminate dumping E.g.: Engaging communities in Puri through street plays	Ease in request for cesspool services through **advertising help-line number**

Exposure visits to SeTP

360-degree IEC campaign on FSSM

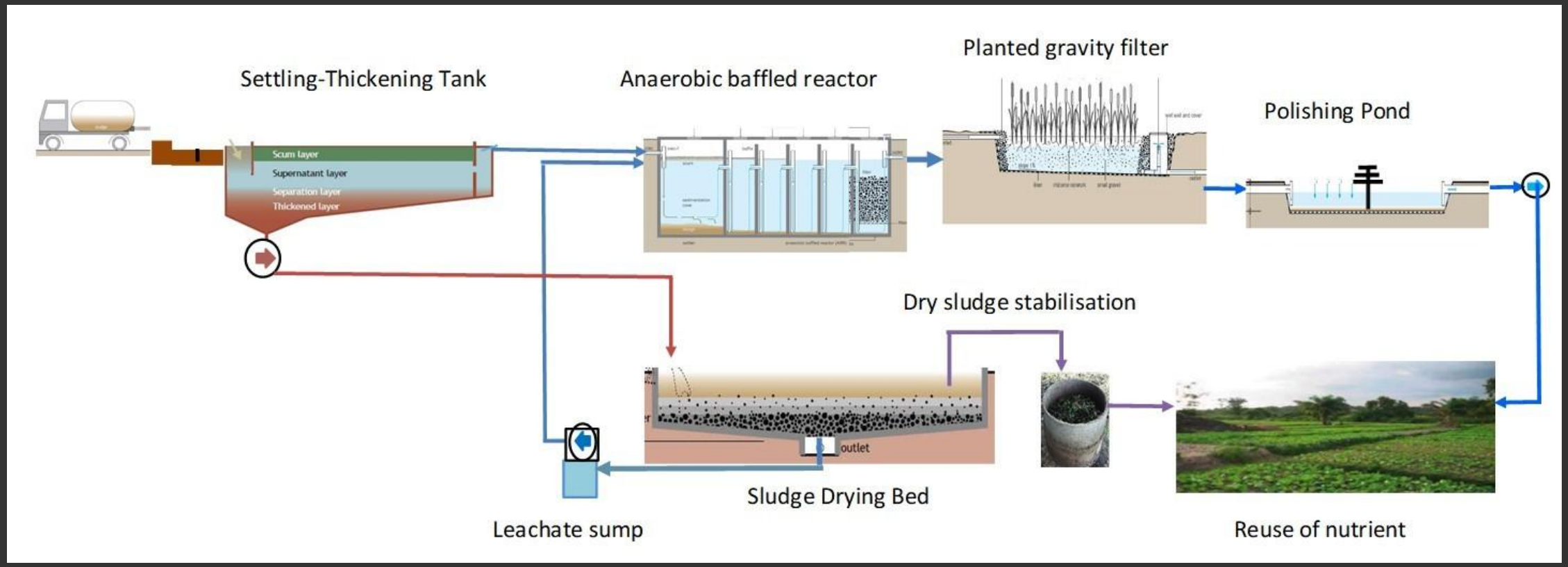
1000+ officials trained

Odisha has opted for DEWATS technology

Understanding of SeTP- its functioning and modules (Process flow)

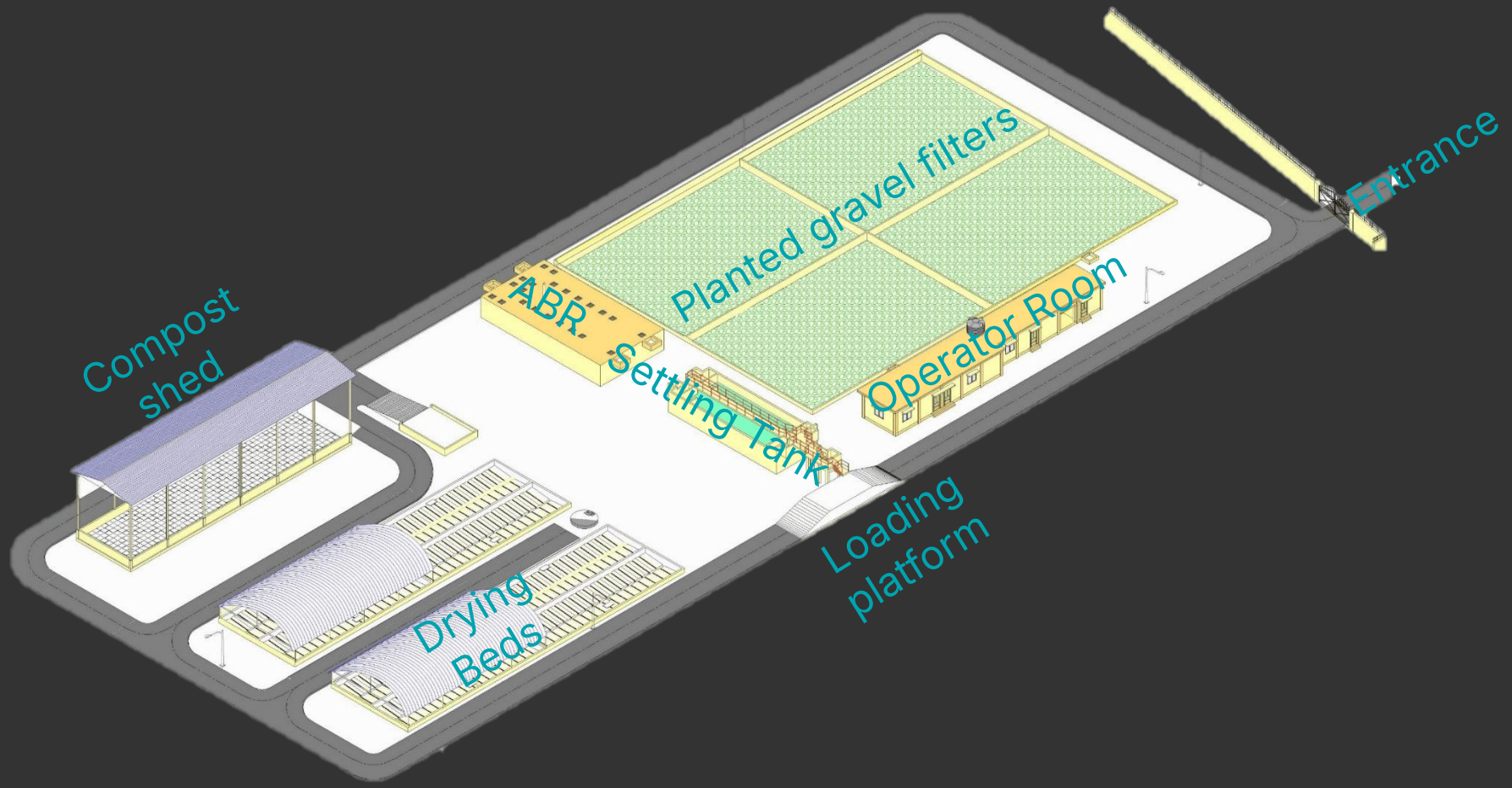
Advantages of FSSM		
	Mitigates water body contamination	Less technologically intensive
	Less land requirement	Cost-effective
	Less implementation time	Easy operation and maintenance by communities

Odisha has opted for DEWATS technology which is a gravity-based system, based on natural and biological treatment, with no use of chemicals and minimal use of electricity.



Understanding of SeTP- its functioning and modules

Isometric view of SeTP at Bhubaneswar



Snapshots of some operational SeTPs in Odisha

Angul SeTP

Baripada SeTP

Berhampur SeTP

Bhubaneswar SeTP

Balasore SeTP

Inclusive approach is progressively being defined as the core of FSSM service delivery

Recognizing and integrating community-based local institutions has gained high momentum, with the focus on strengthening community management of sanitation. Groups of women, transgenders, and sanitary workers are finding livelihood opportunities in sanitation and playing a pivotal role in professionalising the business of sanitation. It has also helped in redefining conventional gender roles.

O&M of 93 operational SeTPs handed over to transgender and women SHGs to empower vulnerable communities for a sustained livelihood.

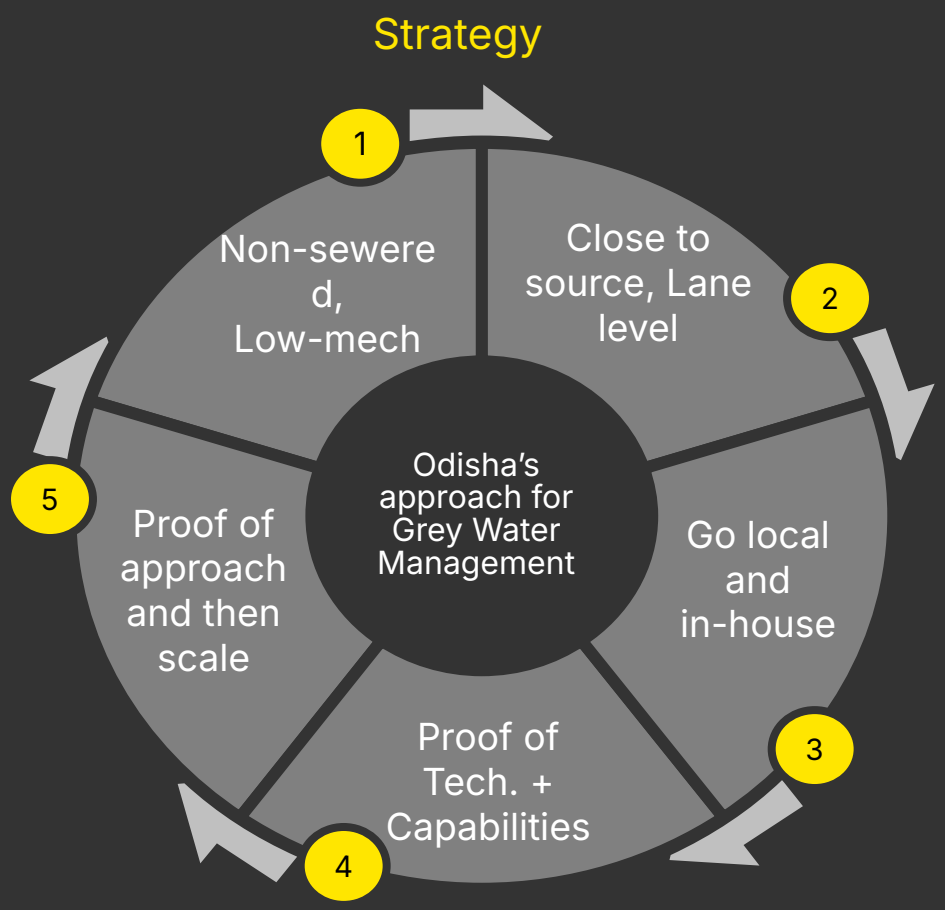
Over 1000 women and transgender groups oriented. They conduct demand generation and referral system.

2300+ Swachh Saathis sensitized.

Self Help Group members engaged in the O&M of SeTP

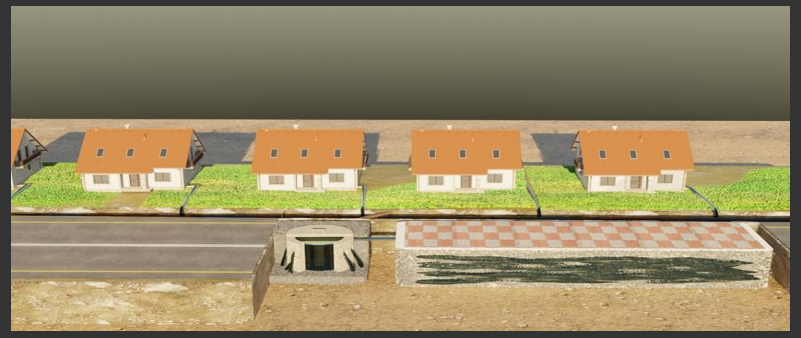
Greywater management

The state's ambition is to complete 100% wastewater security and improved sanitation to all by coupling greywater with blackwater management

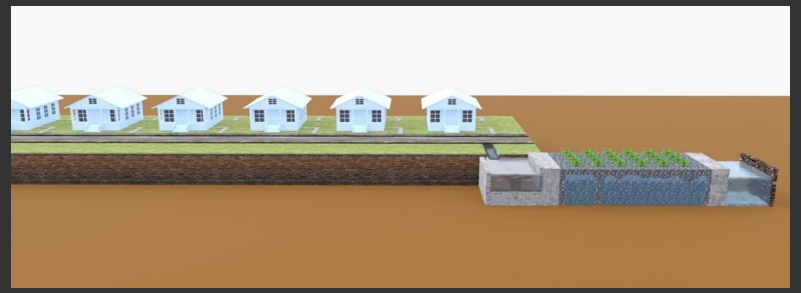


HH Level (Magic Soak Pits)

Lane Level (Hybrid leach pit cum absorption trenches)



Community Level (Constructed Wetland)



Pilots for greywater management have been undertaken in two towns. The blueprint for scale-up is prepared.

Integrated approach:

Focus is to provide solutions at household level to the maximum possible extent

Low cost and green technologies

Identification of different low cost and green technologies is being done for easy operations by community

Community-driven sanitation

Interventions are proposed to involve local community based organisations (CBOs) in construction as well as O&M of different treatment facilities

Promoting households to undertake interventions

This is done by designing of IEC collaterals, orientation with Mahila Arogya Samitis, SHGs, Swachh Sathis, Jal Sathis for reuse of treated water and other aspects.

Detailed drainage study and GIS mapping of the study are being undertaken to identify different outfall points of the drains to the water bodies. This will help in identifying areas to implement city level solutions for left over grey water.

Household level & lane level survey and geological studies like percolation tests have been undertaken to identify possible HH level interventions in the pilot cities of Jatni and Dhenkanal. Characterisation of grey water and drinking water from drinking water sources near to lane level interventions are being undertaken to check any adverse effects from lane level interventions.


Odisha Water Academy

Odisha Water Academy has been positioned as a state-wide academy to build capacities for ULBs on Water and Sanitation

Setup under HUDD in 2021 as an Center of Excellence, OWA is dedicated to training and knowledge dissemination in the areas of water and sanitation services

Exposure visits for global practitioners

OWA is organising exposure cum learning visits from different states and south Asian countries to Odisha.

Training professionals

Water and sanitation professionals from India, young waste management professionals in Odisha, Stakeholders involved in WASH in Odisha

Certificate Courses

Long term residential and non-residential courses for sector professionals in the service sector for waste management, water supply and FSSM

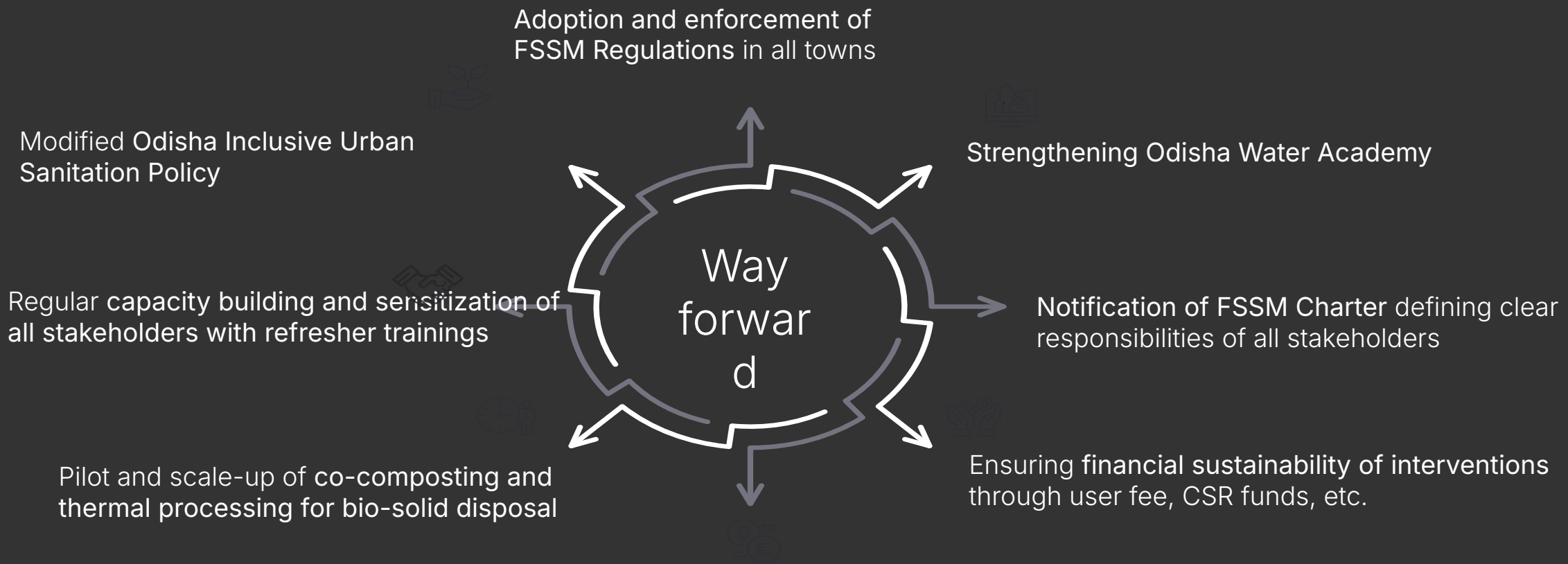
Knowledge Development

Documentation of success stories from Odisha, aimed at educating the world through knowledge products

Exposure visits and trainings being undertaken at OWA

Way forward

As the state progresses on the path of ensuring equitable sanitation access to all, there are certain priority areas it will focus on.



Annexure

Abbreviations

- ABR- Anaerobic Baffled Reactor
- AMRUT- Atal Mission for Rejuvenation and Urban Transformation was launched in June 2015 under the Government of India. The AMRUT scheme is an initiative to provide basic civic amenities to the urban areas to improve the quality of life with major focus to the poor and the disadvantaged.
- BCC- Behaviour Change Communication
- CBOs- Community-based organizations
- CPR- Centre for Policy and Research
- CT- Community Toilet
- DRE- Deep Row Entrenchments
- IEC- Information, Education and Communication
- IHHL- Individual Household Latrine
- MAS- Mahila Arogya Samitis: Women collectives in Odisha
- Swachh Sathis- women collectives working on sanitation in Odisha
- O&M- Operation & Maintenance
- OWA- Odisha Water Academy
- PT- Public Toilet
- SeTPs- Septage Treatment Plants
- SHGs- Self Help Groups are collectives of women and transgender groups
- ULB- Urban Local Body


Thank you
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