ODISHA URBAN ACADEMY

AN EXPOSURE VISIT TO

ODISHA

Learning and Sharing on Inclusive Sanitation Best Practices

A visit aimed at deep diving into Odisha's journey towards inclusive sanitation, to facilitate the achievement of sanitation sector outcomes through cross learning between states.

National Institute of Urban Affairs

PARVAT-MANTHAN

NFSSM ALLIANCE

The City-Wide Inclusive Sanitation Framework

City-Wide Inclusive Sanitation (CWIS) is a public service approach to planning and implementing urban sanitation systems aimed at advancing safe, equitable, and sustainable sanitation outcomes across cities by strengthening core public system functions of responsibility, accountability, and resource planning & management. The approach aims to ensure sanitation for all, with a focus on meeting the needs of marginalised and low-income communities. The limitations of traditional sanitation systems, exacerbated by the impact of climate change, contributed to the global push to achieve Sustainable Development Goal (SDG) 6.2. for safely managed sanitation.

Outcomes

Equity: Ensuring affordable access to quality, safe, and sustainable sanitation services for all residents of cities, including marginalised communities.

Safety: Ensuring services safeguard customers, workers, and communities from safety and health risks by reaching everyone with safe sanitation.

Sustainability: Ensuring services are reliably and continually delivered based on effective human, financial, and natural resource management.

Functions

Responsibility: Defining institutional mandates and clear operational duties, with defined goals and standards, and clarity in roles at various levels to deliver efficient and inclusive sanitation services.

Accountability: Establishing clear roles, regulations, and monitoring mechanisms to ensure service quality and compliance.

Resource Planning & Management: Optimising financial, human, and infrastructural resources to sustain and scale sanitation systems.

CWIS. (1 C.E.). Citywide Inclusive Sanitation (CWIS). CWIS; Citywide Inclusive Sanitation (CWIS) .

CWIS in India: An Overview

CWIS emerged as a key priority in India, given the need for a more comprehensive and equitable approach to urban sanitation. Rapid urbanisation in the country put a strain on existing sanitation infrastructure, creating challenges in waste management and environmental protection, garnering the need for innovative and adaptive solutions. The launch of the Swachh Bharat Mission (SBM) in 2014 led to several states and cities successfully achieving Open Defecation Free (ODF) status. SBM's main focus on toilet construction and behaviour change to eliminate open defecation was crucial in laying the groundwork for CWIS.

Subsequently, the addition of safe management of faecal sludge and used water in SBM 2.0 augmented efforts to address the entire sanitation value chain.

With this context in mind, the CWIS approach is being increasingly adopted by states and cities across India. This has resulted in a heightened focus on citizen engagement, community models, capacity building and inclusive policy and regulation to enhance sanitation service delivery.

CWIS in the Indian Himalayan Region

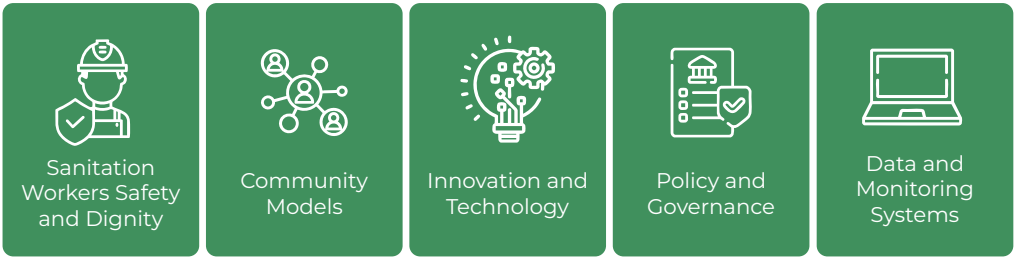
Hilly and mountain states in India such as Sikkim and Uttarakhand have gradually started to adopt a CWIS approach to planning, to address the unique challenges posed by their topography, climate, and population distribution under the aegis of Parvat Manthan. These efforts have included the integration of CWIS principles into urban sanitation policies, and the adoption of models such as scheduled desludging and decentralised sanitation systems.

Sikkim with ODF+ status and excellence in solid waste management, is now working towards adopting and integrating the CWIS principles in its approach to sanitation management. With the 'Strategic Urban Vision Document for Sunaulo and Samridh Sikkim 2047' in place, Sikkim is working towards meeting its aspiration of 100% used water management and treatment of faecal waste towards circularity, climate resilience and environmental protection.

Program Details

Objective: Showcase best practices from across Odisha to facilitate peer-to-peer interactions and foster cross learning to enable scale, replication and contextualisation towards the achievement of inclusive sanitation outcomes in India.

Thematic Areas of Priority



Exposure Visit Sites

Sanitation Workers Safety and Dignity

- Garima Griha

Community Models

- Adarsh Colony

Innovation and Technology

- Basuaghai FSTP and Wealth Centre
- Konark NAC Solid Waste Management Site
- Puri Co-Treatment Plant

Sightseeing Opportunities

- Khandagiri
- Konark Sun Temple
- Chandrabhaga Beach
- Dhauli Temple
- Puri Beach
- Lord Jagannath Temple

Agenda

DAY 1: 21ST APRIL, 2025

09:30 – 09:45	Registration **OUA Team**
09:45 – 10:00	Introduction and Context Setting **Dasra Team**
10:00 – 10:15	Welcome Address **Shri. Santanu Rath** Director, Odisha Urban Academy
10:15 – 10:45	Keynote Address & Overview on Odisha's Urban Sanitation/CWIS Journey **Shri. Binaya Kumar Dash, OAS** Addl. Secretary. To Govt., H&UDD & Addl. Mission Director(SBM-Urban), Govt. of Odisha
10:45 – 11:45	State Urban Sanitation Policy Reforms, Strategy on CWIS, Administrative Mechanism,Interface withUtilities/Parastatal Bodies & ULBs **Shri. Sangramjit Nayak** Director, Municipal Administration, H&UD Department, Govt. of Odisha
11:45 – 12:00	Tea Break
12:00 - 12:15	Opening Remarks **Shri. Hemant Rai,** Additional Secretary Cum Director,Municipal Administration, UDD
12:15– 14:15	Odisha Inclusive Urban Sanitation Policy & Practices Model FSTPs and Overview of Odisha's Grey Water Management Journey **Shri. Prasanta Kumar Mohapatra,** Senior Expert, CPHEEO, MoHUA
14:15 – 14:45	Lunch Break
14:45 – 15:45	**Visit to Basuaghai FSTP** **Smt. Suryabarti Majhi,** Executive Engineer, OWSSB and Additional Director, Odisha Urban Academy
15:45 - 17:00	**Visit to Wealth Centre** **Shri. N. Ganesh Babu, OMAS** Asst. Commissioner (PR & Communication/MCC & MRF/Citizens Engagement/Sustainable Cell), Bhubaneswar Municipal Corporation
17:00 – 18:00	Travel back to Hotel

Overview on Odisha's Urban Sanitation Journey

Odisha has been at the forefront of urban development over the past decade. Sanitation is one of the most rapidly evolving and improved public services. The growth of urban life increased the generation and improper dumping of faecal waste into rivers. 2015 data from the Central Pollution Control Board (CPCB), highlighted severe pollution levels in major rivers of Odisha. The Government of Odisha recognised the need to address it urgently. Without proper treatment, faecal waste flows directly into rivers and other water bodies, which supply drinking water, underscoring the urgent need for effective sanitation management.

In response, a river pollution abatement plan was developed, later becoming central to the Odisha Urban Sanitation Strategy (OUSS). With over 98% of the state relying on non-sewered sanitation (as of 2020), laying sewer lines was deemed too costly and disruptive, prompting a shift toward decentralised solutions. Dhenkanal and Angul were the first towns to implement Faecal Sludge and Septage Management (FSSM), eventually expanding to all towns and cities spread across 115 Urban Local Bodies in the state. As per a 2022 CPCB Report, 12 out of 19 river stretches have come out of the severely polluted category to the non-polluted category and extent of pollution has reduced in the other seven.

In 7 years, 12 out of 19

River stretches declared non-polluted

Institutional reforms such as the Odisha Urban Sanitation Policy and Strategy (2017) and Model FSSM Regulations further advanced the state's efforts in FSSM. Odisha has since made significant strides in inclusive urban sanitation, with initiatives like the Jaga Mission, Mission Shakti, and the Garima Scheme. In 2021, key members of the National Faecal Sludge and Septage Management Alliance (NFSSM Alliance) united to establish the Odisha State Chapter. The aim of this collaboration was to work closely with the government towards transformative initiatives in the State, including the development of the Odisha Inclusive Urban Sanitation Policy 2024, the transformation of Odisha Water Academy into Odisha Urban Academy, and the rebranding and scaling of capacity-building programs.

120 FSTPs, present across all 115 ULBs in Odisha

2000+ Self Help Groups engaged in sanitation management

1680 slums have been transformed into Adarsh colonies

2X increase in average earnings for SHGs

700+ Core Sanitation Workers trained under Garima and certified as Sewer Entry Professionals

15% Risk & Hardship allowance and minimum wage ensured for core sanitation workers

For more details on the state journey, and stakeholders that enabled it, read the Odisha Impact Brochure

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Niti Aayog and NFSSM Alliance | Faecal Sludge and Septage Management in Urban Areas: Service & Business Models. Retrieved from https://www.niti.gov.in/sites/default/files/2021-08/NITI-NFSSM-Alliance-Report-for-digital.pdf.

N.d.). (rep.). Central Pollution Control Board: Polluted River Stretches in India. Retrieved from https://cpcb.nic.in/wqm/RS-criteria-status.pdf

Notes

Functions of a ULB - Deep Dive

The 18 functions of an Urban Local Body (ULB) are listed in the 12th schedule of the 74th Constitutional Amendment Act. The aim is that State Governments empower ULBs to operate as institutions of self-governance, and perform their functions with greater decentralisation and autonomy.

As of March 2021, out of 18 functions, the Odisha State Government had devolved 17 functions to the ULBs, either partially or fully, with the 'fire services' function yet to be devolved to the ULBs.

The 18 functions are as follows:

- **Burials and burial grounds; cremations, cremation grounds**
- **Cattle pounds; prevention of cruelty to animals**
- **Regulation of slaughterhouses and tanneries**
- **Urban planning including town planning**
- **Slum improvement and upgradation**
- **Planning for economic and social development**
- **Urban poverty alleviation**
- **Roads and bridges**
- **Water supply for domestic, industrial and commercial purposes**
- **Public health, sanitation conservancy and solid waste management**
- **Urban forestry, protection of the environment and promotion of ecological aspects**
- **Public amenities including street lighting, parking lots, bus stops and public conveniences**

- **Provision of urban amenities and facilities such as parks, gardens, playgrounds**
- **Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded**
- **Regulation of land use and construction of buildings**
- **Fire Service**
- **Vital Statistics Including birth and death registration**
- **Promotion of cultural, educational, and aesthetic aspects**

ULBs receive funds from the Government of India and the State Government, in the form of grants, for execution of various developmental works. In addition, ULBs also have their own sources of revenue collection, such as taxes on holdings, trades, rent on shops and buildings, and other fees and charges, which constitute the revenue receipts of the ULBs.

CHAPTER 4 Section A An Overview of Urban Local Bodies in the State. (n.d.). Retrieved from https://cag.gov.in/uploads/download_audit_report/2023/7.-Ch-4-An-Overview-of-ULBs-in-Odisha-0651c2062a30e00.68017625.pdf

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Odisha Inclusive Urban Sanitation Policy & Practices

In 2017, the State notified the Odisha Urban Sanitation Policy, which aimed at achieving safe sanitation in all cities through FSSM, recognising sanitation as a basic right of citizens. This was followed by the creation of infrastructure such as FSTPs, and adopting mechanisms to enhance the efficiency and effectiveness of services to reach the last mile, covering all ULBs in the state.

In 2022, the State embarked on its CWIS journey, which prompted a revision of the Odisha Urban Sanitation Policy to explicitly incorporate an inclusive lens in its policy framework, and prioritise the expansion and sustainability of sanitation efforts. To this end, in 2024, the government launched the Odisha Inclusive Urban Sanitation Policy (OIUSP), India's first of its kind, which has since transformed the State's urban sanitation landscape.

Key Challenges Faced in Odisha

Urbanisation

In the 2011 census, Odisha ranked as one of the least urbanised states in India, with only 17% urbanisation. However, it showed a significantly high decadal growth rate of 27%, with considerable inter-district variation in urbanisation levels.

Access to Toilets

Over 35% of urban households had no access to toilets and 33% practiced open defecation in 2011. Most community and public toilets in larger cities were poorly maintained or non-functional.

Disposal & Treatment

The ULBs relied mainly on on-site sanitation (OSS) systems, with limited used water and septage treatment facilities, and poor septic tank construction, with direct discharge into open drains. In 2015, only 2% of faecal sludge generated was being treated through sewage treatment plants. Safe and scientific disposal of solid waste was also a challenge for the State.

Sanitation Workers Safety & Dignity

In 2015, there was a high dependence on manual emptying compared to mechanised desludging. The nature of the work, combined with the fact that many sanitation professionals come from already marginalised castes, subjected them to increased stigmatisation, exclusion, and discrimination.

Housing and Urban Development Department | ODISHA INCLUSIVE URBAN SANITATION POLICY 2024. Retrieved from https://urban.odisha.gov.in/sites/default/files/2024-01/OIUSP%20Report%2029-1-24_Digital_removed.pdf.

Keeping these challenges in mind, the OIUSP was created. It states that "the primary aim of the Policy is to ensure that all citizens, without any form of discrimination, in all cities and towns in Odisha access and use inclusive, equitable, safe, and sustainable sanitation services planned, managed and delivered by responsible and accountable ULBs, with the active involvement of all citizens and stakeholders, especially the marginalised and vulnerable populations."

The core principles that drive this policy are as:

Financial Framework Adopted under OIUSP for ULBs

The OIUSP established a structured financial framework to ensure sustainable and equitable sanitation service delivery across urban areas. The State has prioritised inclusive financial planning, emphasising resource allocation for underserved communities while ensuring financial sustainability through various funding mechanisms.

Allocation and Resource Mobilisation

The State has mandated that 25% of the Municipal Budget be allocated for urban poor settlements, ensuring improved sanitation access in slum and non-slum areas.

ULBs mobilise funds through multiple sources, including:

- **Central Government Schemes:** Swachh Bharat Mission (SBM), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), National Urban Livelihood Mission (NULM), and Pradhan Mantri Awas Yojana (PMAY).
- **State Finance Sources:** Finance Commission of India and State Finance Commission grants.
- **Additional Funding Avenues:** District Mineral Fund, Odisha Mineral Bearing Areas Development Corporation, Corporate Social Responsibility contributions, and State-led programs like Mukhya Mantri Karma Tatpara Abhiyan (MUKTA) and Mission Shakti.
- **Urban-Rural Convergence:** Collaboration with schemes like SBM-Gramin (SBM-G) to ensure integrated sanitation solutions.

Revenue Generation and Cost Recovery Mechanisms

To ensure financial sustainability, ULBs are required to implement measures such as:

- **User Charges:** Levying and collecting user charges for water supply and solid and liquid waste management services, with periodic revisions to offset operation and maintenance (O&M) costs.
- **Efficiency Measures:** Plans to improve fee collection efficiency including performance-based mechanisms, integrated property databases, and digital revenue collection channels.

Financial Transparency and Accountability

The State emphasises financial discipline and transparency in fund allocation and utilisation through:

- **Fund Tracking & Transparency:** Development of digital platforms and dashboards to monitor fund flows, ensure timely disbursement, and improve resource management.

- **Public Finance Optimisation:** Reduction of delays and effective utilisation of funds to incentivise private sector participation, starting with the adoption of simple procurement processes.

Long-Term Financial Planning for ULBs

The State aims to assist ULBs in creating comprehensive medium-and long-term financial plans that ensure:

- **Equitable Infrastructure Development:** Financial models based on ULB population size to ensure fair sanitation service costs, equitable access to funds, and affordable user fees.

- **Inclusive Financial Planning:** Tariffs and sanitation infrastructure to be responsive to gender, physical disabilities, and economic vulnerability.

By integrating diverse funding sources, enforcing revenue collection mechanisms, and ensuring financial transparency, the OIUSP provides a robust financial framework to support ULBs in delivering safe, inclusive, and sustainable urban sanitation services.

Notes

Overview of Odisha's Greywater Management Journey

Odisha's sanitation strategy is holistic, addressing various facets of environmental and public health, including greywater management. Community participation lies at its core, where greywater is to be managed at a household lane or street, community and outfall level.

Greywater comes from non-toilet plumbing systems from domestic and industrial sources, whereas blackwater comes from toilets.

2014

In March 2014, during the Reinvent the Toilet Fair, the Government of Odisha made a strong case for cost-effective, impactful and decentralised used water management systems considering the high dependence of Odisha towns on onsite sanitation systems. Though this led to the initiation of Project Nirmal in 2015, which aimed at overall improved sanitation service delivery through institutional and financial arrangements and increased private-sector participation, greywater was not an explicit priority.

2017

In Odisha's 2017 Urban Sanitation Policy, used water management was included alongside septage as a priority.

2023

After successful pilots in two ULBs, Dhenkanal and Jatni, in 2023, grey water management efforts were launched in 11 Lighthouse ULBs in the State.

2024

The Odisha Inclusive Urban Sanitation Policy was launched, explicitly mentioning used water management and enabling its institutionalisation. It says, "The State aims to ensure that black and grey water generated in the urban environment is safely confined, regularly collected, safely transported, and disposed of after being adequately treated."

Further, focusing on circularity and reuse, the policy includes, "The ULBs will maintain environmental and safety standards during the reuse of treated used water and bio-solids. The State will design a comprehensive strategy for the reuse and recycling of used water and bio-solids from FSTPs, Sewage Treatment Plants (STPs), and grey water."

Ernst & Young LLP, E. (2018). Odisha's Journey of Faecal Sludge and Septage Management Towards sustainable sanitation goals.
http://www.owssb.nic.in/WebFiles/Document/OWSSB_FSSM_book_Odisha.pdf
Housing & Urban Development Department, Govt. of Odisha. (2016, December 30).
http://www.owssb.nic.in/WebFiles/Document/OWSSB_Policy_Manual_Guidelines_OUSP_State_sanitation_Policy_2017.pdf
Housing & Urban Development Department, Govt. of Odisha. (2024, January 18).
https://urban.odisha.gov.in/sites/default/files/2024-01/OIUSP%20Report%2029-1-24_Digital_removed.pdf

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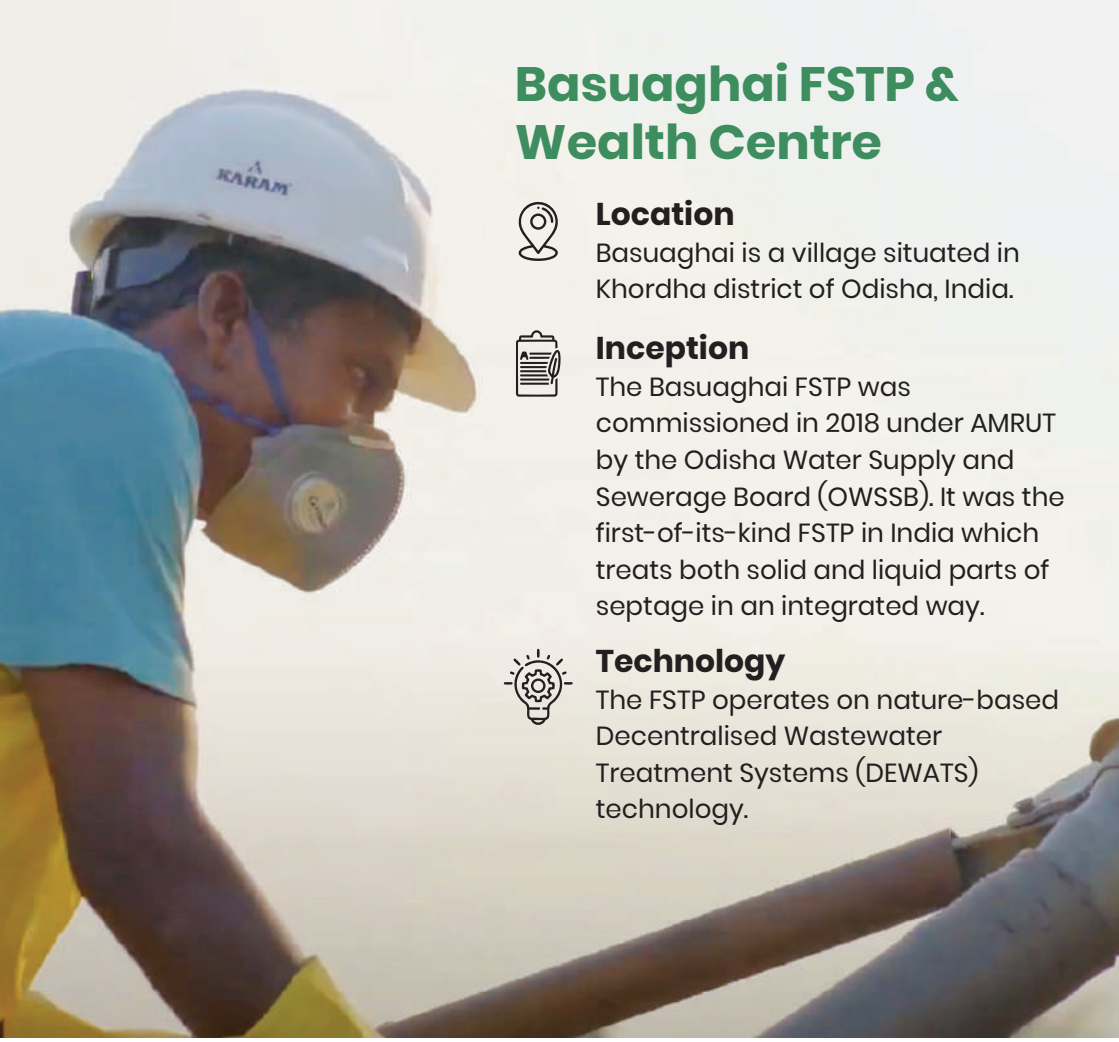


Basuaghai FSTP & Wealth Centre

Location

Basuaghai is a village situated in Khordha district of Odisha, India.

Inception

The Basuaghai FSTP was commissioned in 2018 under AMRUT by the Odisha Water Supply and Sewerage Board (OWSSB). It was the first-of-its-kind FSTP in India which treats both solid and liquid parts of septage in an integrated way.

Technology

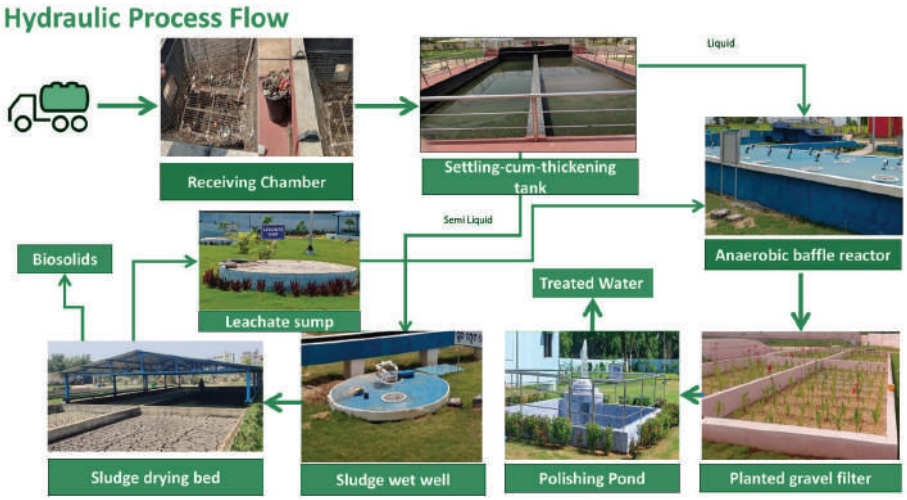
The FSTP operates on nature-based Decentralised Wastewater Treatment Systems (DEWATS) technology.

Snapshot

- Capital cost: INR 3.54 crore
- Monthly operational and maintenance cost: INR 1.5 lakh
- Area: 2.47 acres
- Serves: 2.2 lakh people from both urban and rural areas.
- Features 10 KW solar panels that are grid connected.
- Byproducts: Treated used water used for landscaping and biosolids for soil conditioning.

Description:

- The FSTP includes a receiving chamber - settling-thickening tank, an unplanted sludge drying bed, a leachate sump, an anaerobic baffled reactor with filter, a planted gravity filter, and a polishing pond



- The plant has an elevated unloading platform for desludging vehicles
- Faecal Sludge (FS) is emptied into a sludge receiving box of 1.5 m x 1.5 m
- FS goes into an inlet channel which is 3m long
- Screen bar is placed in the channel at an angle of 45°
- From screens, influent goes to Setting-Thickening (S-T) tanks of L x B x D = 14.5 m x 2.5 m x 2.55 m
- Thickened sludge is taken out of S-T tanks after a period of 10 days and the supernatant goes into the Anaerobic Baffled Reactor (ABR) chambers
- Thickened Sludge is taken to sludge drying beds where they are kept till they are fully dried under direct sunlight
- The supernatant is then kept in the ABR for 2-3 days for anaerobic treatment
- Effluent from the ABR is then sent to the horizontal planted/unplanted gravel filter
- Water from gravel filters is then taken to the polishing pond and finally the treated water is used within the plant premises for landscaping.

As part of the Urban-Rural Convergence programme, both urban and rural households were mapped and tagged to the FSTP. Community mobilisation and Information, Education and Communication (IEC) activities were undertaken to connect the households to the FSTP. Around 29 Gram Panchayats have been tagged to this plant for desludging from septic tanks and single pits.

The FSTP has a “Wealth Centre”, which converts treated faecal sludge into valuable products like fertiliser or biochar—bringing the “Waste to Wealth” concept to life.

NFSSM Alliance. (2024, August 2). The ABC of FSSM Operations | A Deep Dive into Bhubaneshwar’s STP. YouTube. https://www.youtube.com/watch?v=AtWO901-SEI

Singhal, S., & Ravi K. (2023, September 25). Waste to Wealth. Down to Earth. https://www.downtoearth.org.in/waste/waste-to-wealth-challenges-india-needs-to-overcome-to-use-biosolids-for-improving-soil-health-meeting-sdgs-91934

NFSSM Alliance, & NITI Aayog. (2021). Faecal Sludge and Septage Management in Urban Areas. https://www.niti.gov.in/sites/default/files/2021-08/NITI-NFSSM-Alliance-Report-for-digital.pdf

Meghna Sahoo

As the President of the Transgender SWIKRUTI Self Help Group (SHG) in Odisha, Meghna has been a driving force in empowering the transgender community by creating sustainable livelihood opportunities. Under her leadership, the SWIKRUTI SHG took on the responsibility of operating the Basuaghai FSTP, providing dignity and financial stability to its members. Further, in coordination with the Bhubaneswar Municipal Corporation and the Housing and Urban Development Department, the SHG members secured capacity and technical resource building for the management of the FSTP. Her innovative approach has not only changed lives but also helped raise awareness about transgender inclusion in sanitation work. Today, Meghna is a beacon of hope, creating a ripple effect across Odisha.

For more details

Suryabarti Majhi

As Project Engineer of Odisha's Water Supply and Sewerage Board, Suryabarti Majhi was instrumental in the successful implementation of the state's Faecal Sludge and Septage Management (FSSM) vision. She played a pivotal role in the planning, construction, and commissioning of 110 FSTPs in Odisha. She has led FSSM execution in the state, while keeping people and the environment at the center of her work. She has also played a key role in training 700 women and transgender SHG members managing the FSTPs. Her presence at the operational plants guiding the SHGs has enthused several SHG members. She truly embodies the vision of the State for safely managed sanitation embracing inclusivity, gender equity, and community engagement.

For more details

Notes

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Agenda

DAY 2: 22ND APRIL, 2025

10:00 – 11:00	Salient Features of Garima Scheme: Safety, Dignity of Core Sanitation Workers **Smt. Durgesh Nandini Sahoo, OAS** Addl. Secy., H&UDD & Addl. Mission Director (SBM-Urban), Govt. of Odisha
11:00 - 11:15	Tea Break
11:15 – 12:15	Community partnership & NULM/SBM convergence for CWIS **Smt. Pranati Das,** State Programme Lead, Urban Management Centre
12:15 - 13:15	FSSM Service Delivery through Community Partnership – Odisha's Experience **Shri. Om Prakash Rath,** Consultant, EY (TSU-FSSM) Strengthening FSSM through CWIS: Defining Stakeholder Roles for Effective Service **Shri. Rajarshi Patty,** Consultant, EY (TSU-FSSM)
13:15 – 14:15	Lunch Break
14:15 – 15:00	Travel to Adarsh Colony Maa Mangala Basti **OUA Team**
15:00 - 15:45	**Visit to Adarsh Colony** **Shri. KP Sivaram** Senior Manager, Janaagraha
15:45 - 16:00	**Visit to Garima Griha** **Shri. Ganesh Parida,** Urban Management Centre
16:00 – 17:00	Visit to Khandagiri **OUA Team**
17:00 – 17:30	Travel back to Hotel

Garima Scheme: Safety and Dignity of Core Sanitation Workers

The Government of Odisha introduced the first-of-its-kind scheme in India for the safety, dignity and welfare of core sanitation workers in 2020. The term 'Garima' means 'dignity' in Odia and Hindi, and through various provisions, the scheme aims at ensuring safe working conditions for sanitation workers and making this work a dignified profession. It also seeks to improve the socio-economic conditions of sanitation workers and their families through the provision of a comprehensive package that ensures service-level benefits, social security and financial benefits to the core sanitation workers and their families.

Through the enabling environment created by the Odisha Urban Sanitation Policy and Odisha Urban Sanitation Strategy in 2017, this scheme is being implemented in all 115 ULBs of Odisha. The Government of Odisha set up a corpus fund with an initial amount of INR 50 crore dedicated to enhancing safety and dignity of core sanitation workers and their families, and committed to providing additional funds required based on actual demand during implementation.

Key Components of the Garima Scheme:

Identification and Registration: Field surveys were conducted to identify and register core sanitation workers, along with the provision of government IDs to enable access to benefits

Technical Support and Capacity Building: Orientation, periodic capacity building and skill development of the core sanitation workers are undertaken to ensure safety and efficient service delivery.

Service and Occupational Benefits: Health and life insurance, assured minimum wage, retirement benefits, periodic health check ups, disability support, issue of caste certificate, and reduced working hours are provided.

Social Security Benefits: Additional benefits such as access to educational institutions for their children, grants for housing and buying a two-wheeler, mandatory provision of Personal Protective Equipment (PPE) and safety devices, provision of mobile phones, and others, are provided to target the disadvantaged social positions of core sanitation workers.

Key Features:

- Through this scheme, Odisha has identified 5 categories of core sanitation workers as “skilled” or “highly skilled”: sewer line cleaners, septic tank emptiers, operators of community and public toilets, drain cleaners, and operators at STPs and FSTPs

- Dedicated rest houses called Garima Grihas have been constructed, where workers can maintain personal hygiene and store their belongings.

The impact of the Garima Scheme has inspired the National Action for Mechanised Sanitation Ecosystem (NAMASTE) scheme. The NAMASTE scheme was launched by the Ministry of Social Justice and Empowerment in convergence with the Ministry of Housing and Urban Affairs at the national level in July 2023, and is now being rolled out across the country.

UMC (2024). Sanitation Work with Safety and Dignity: The Garima Story. https://umcasia.org/wp-content/uploads/The-Garima-Story-Sanitation-Work-With-Safety-and-Dignity-2.pdf

Babuli Nayak

Babuli Nayak, a certified Sewer Entry Professional from Bhubaneswar, has spent over a decade working in challenging and often hazardous sanitation conditions. Despite the risks and social stigma, Babuli remained committed to his work, supporting his family and contributing to a cleaner city. His life changed with the introduction of Odisha's Garima scheme, which provided him with formal training, safety gear, health coverage, and dignified working conditions. Today, Babuli stands as a proud and empowered sanitation worker—no longer invisible, but recognised for his essential role in urban sanitation. His story is a testament to how policy interventions rooted in dignity and protection can transform lives, and how frontline workers like Babuli are key to building inclusive sanitation systems.

For more details

D. Siva

D. Siva, a sewer worker in Odisha, inherited this profession from his father, and like him, endured harsh conditions in his early years, often working without adequate protection and facing exploitation. However, with advancements in the sanitation sector, including the provision of Personal Protective Equipment (PPE) and comprehensive training, his working conditions have significantly improved. He and his fellow coworkers now find adequate safety and stability in their sanitation work, due to the fact that proper rules and protocols are in place. They express hope that more individuals will be encouraged to join the profession, knowing that their safety is prioritised. Siva's commitment to his work is recognised and appreciated by his community, who rely on his tireless efforts to maintain sanitation standards.

For more details

Notes

Community Partnership: SBM x NULM Convergence

The convergence of SBM and the National Urban Livelihoods Mission (NULM) marks a significant step toward ensuring dignified livelihoods for sanitation workers while strengthening inclusive and sustainable urban sanitation systems. Recognising the interconnected nature of sanitation services and urban livelihoods, the convergence guidelines integrated Self Help Groups (SHGs) with urban sanitation delivery, bringing together infrastructure and people, transforming sanitation into a people-led, community-owned effort.

The integration enables sanitation workers, often from marginalised communities, to access structured livelihood opportunities, capacity-building programmes, and financial empowerment. By creating SHGs of sanitation workers and linking them with skilling and employment schemes under NULM, this model uplifts workers from informal service provision to recognised, skilled professionals within the sanitation ecosystem.

This convergence is grounded in the principles of CWIS and enables local governments to address service gaps by building community trust, fostering local participation and embedding accountability within service delivery systems.

Key Components of the Convergence:

Formation of Sanitation Worker SHGs

Enabling collectivisation of sanitation workers for service delivery, financial literacy and management, and mutual support

Skilling and Technical Support

Training sanitation workers in safe desludging, toilet maintenance, and resource recovery practices.

Livelihood Generation

Formalising the workforce through formal contracts between SHGs and ULBs for sanitation service delivery.

Capacity Building and Inclusion

Focusing on leadership, rights awareness, and social inclusion of sanitation workers, particularly women, the transgender community, and members from other marginalised backgrounds.

Odisha has enabled the inclusion of vulnerable groups across the sanitation value chain by engaging women and transgender SHGs as service providers. The State has led by example in SHG engagement by ensuring that challenges are addressed at both the SHG and ULB levels and roles and expectations are clarified at both ends through equitable service contracts that protect SHG interests.

Notes

Saraswati Bhoi

Saraswati Bhoi, a beacon of change in Niladunguri village, Sambalpur district, has played a pivotal role in transforming sanitation practices in her community. While the village had a high toilet coverage, the toilets were predominantly connected to a single-pit containment system, which came with a myriad of challenges. Recognising the urgency of the situation, Saraswati rallied her SHG members and engaged with Community Resource Persons to lead the transition from single-pit to twin-pit toilets, ensuring 100% toilet coverage and retrofitting for all households. Her efforts have not only eliminated open defecation but also set Niladunguri firmly on its ODF+ journey, inspiring neighbouring villages to follow suit. Saraswati's leadership reflects the power of community-driven action and the lasting impact of local champions in advancing inclusive and sustainable sanitation.

For more details

Strengthening FSSM Service Delivery

Despite progress under SBM, over 70% of faecal waste in India remains untreated, posing serious risks to public health and the environment. Strengthening FSSM through decentralised, sustainable, and inclusive service delivery models is critical to bridging this gap and ensuring long-term sanitation outcomes.

A key challenge is ensuring sustainable O&M, which hinders the sustainability of FSSM systems. This is due to factors such as limited capacity and accountability of service providers, gaps in financing, and low levels of community ownership.

To address these gaps, states such as Odisha have adopted inclusive service delivery models. While FSSM was typically a male dominated field, Odisha engaged women and transgender SHGs across the sanitation value chain, and notably in the O&M of FSTPs. These efforts have resulted in community ownership, and seeing the success of this model, the women have become master trainers for other SHGs. They also lead awareness generation efforts, engaging with the community to ensure regular desludging and waste management. These models have improved infrastructure upkeep, ensured regular desludging, and generated income for SHG members, while enhancing accountability.

Mallapur, C. (2016, January 27). 70% of urban India's sewage is untreated. Indiaspend. https://www.indiaspend.com/70-of-urban-indias-sewage-is-untreated-54844-2

Notes

Visit to Adarsh Colony

The Jaga Mission or Odisha Livable Habitat Mission was launched by the Odisha Government's Housing and Urban Development Department (HUDD) in 2018 with the objective of transforming existing slums into livable habitats. The term 'Jaga' means land in Odia, with this scheme aiming to provide ownership and land rights to its citizens, through :

- **Land tenure security**
- **Holistic habitat development**
- **Improved housing**
- **Integrating the voices of the urban poor in policy planning and budgeting.**

House water supply	Pavered roads	Street lighting	Access to individual household latrines (IHHL)	Pucca storm water drainage
In-house electricity	Children's play area	Open space development	Parichay (community centers)	

Slum Dwellers' Association (SDA)

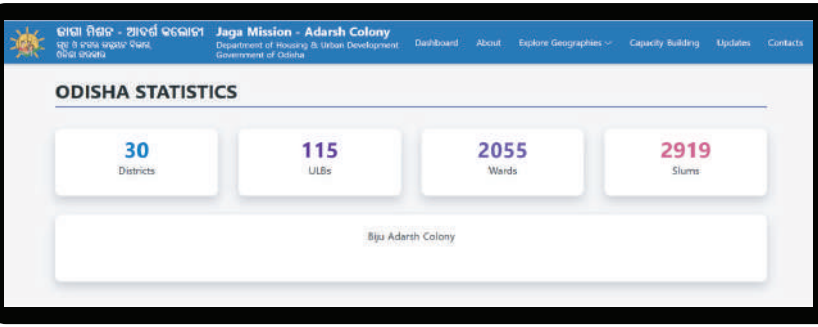
- The SDA is a formal platform that acts as a bridge between the ULBs and slum dwellers.
- Each SDA has an Executive Committee of 10 members from the community.
- During SDA meetings, members discuss, identify, and prioritise issues and draft their solutions or demands in a resolution. The resolution is submitted to the Municipal Corporation, which helps them facilitate the proposed solutions, with the Ward Officer acting as the nodal officer.
- Members of the community execute the construction, operation and maintenance of infrastructure.
- 25% of the ULB's budgets are allocated to slum development. The ULBs credit the SDA Savings Bank Accounts with money for different purposes such as procurement of materials or payment of wages for labourers working on slum upgradation.
- Slum Dweller's Associations work in partnership with ULBs as the 4th tier of governance.
- It is mandated that 50% of the SDA members are women, and in practice it is an even larger proportion. Such measures serve as institutional mechanisms through which women feel encouraged to participate.

Key Features

1. The Jaga Mission has its roots in the 'Odisha Land Rights to Slum Dwellers Act 2017

2. The Jaga Mission involves delisting of slums, which means removing the classification of "slum" for a given area, and undertaking slum-proofing measures.

3. The Biju Adarsh Colony (BAC) portal, an online GIS mapping-based portal, shows the number of slums and their details including the status of the nine key amenities. Jaga mission's office team monitors every project by tracking the weekly meetings and reports, and escalating needs to the ULBs where required.



To learn more about the Jaga Mission, read this handbook

Impact

- 2,919 slums were aerially surveyed by the Jaga Mission using GIS technology to generate a database of 4 lakh slum households in Odisha within a short span of one year.

- 250,000 families were granted Land Rights Certificates and Land Entitlement Certificates following the GIS mapping, door -to- door survey and an eligibility evaluation process.

- 1,680 slums across Odisha have been transformed into Adarsh colonies.

Echoes Equity: A HANDBOOK FOR RE-CREATING THE JAGA MISSION. Retrieved from https://www.nfssmalliance.org/reports/download/jaga-mission

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Visit to Garima Griha

Garima Grihas are dedicated rest houses where workers can maintain personal hygiene and store their belongings, helping combat stigma.

Core sanitation workers deal with hazardous waste in difficult settings, including extreme weather conditions, and are therefore mandated to wear the prescribed PPE. However, initial discussions with sanitation workers revealed that they faced severe challenges due to a lack of washrooms to wash themselves after performing their jobs as well as lack of any dedicated space to store their PPE. Furthermore, they often do not have access to a decent space to rest between jobs or have their meals.

To address these challenges, the HUDD issued an advisory to establish Garima Grihas in all ULBs in Odisha. Garima Grihas serve as rest areas for sanitation workers and consist of seating spaces; facilities to wash, dry, and store PPE; bathing rooms; and toilets. A Standard Operating Procedure (SOP) has been prepared to standardise the design as well as the O&M of these Garima Grihas.

The opportunity to change out of their work-clothes and maintain personal hygiene before returning to their communities and living spaces helps combat some of the stigma associated with sanitation work and workers.

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Nama Nayak

Nama Nayak, a sewer entry professional from Cuttack, embodies resilience and quiet determination. Introduced to sanitation work by his uncle, he has spent over five years ensuring Bhubaneswar's sewers run smoothly—often working long hours to prevent service delays. With formal training, he now uses mechanised tools like jetting machines, reducing the need for risky manual entry. While infrastructure and safety have improved, societal stigma remains a challenge. Support systems like Garima Grihas provide him with a space to rest with dignity. Nama hopes that with the continued demonstration of hygiene he, and other sanitation professionals, can be treated with dignity.

For more details

Bishnupriya Mahakud

Bishnupriya Mahakud, the first woman Sarpanch of Sujanpur Gram Panchayat, is a powerful force behind Odisha's sanitation progress. Under her leadership, the village achieved ODF+ status, with community-led initiatives, SHG-driven waste management, and innovative use of government schemes like SBM-G and MGNREGA. She brought WASH awareness to schools and anganwadis through partnerships with UNICEF and UNDP, embedding hygiene in daily life. Her efforts helped Jajpur district rank 4th in Swachh Survekshan Grameen 2022. Bishnupriya exemplifies grassroots leadership—driving impact, equity, and dignity in sanitation through inclusive, sustainable, and people-powered solutions.

For more details

Agenda

DAY 3: 23RD APRIL, 2025

10:00 – 11:00	Digitalisation services of FSSM Value Chain in Urban Odisha **Shri. Abhisek Rout** Senior Program Associate, eGovernments Foundation
11:00 - 11:15	Tea Break
11:15 – 12:15	Urban-Rural Convergence (URC) in Sanitation and FSSM Policy: Odisha's Experience **Shri. Yogendra Singh** State Sanitation Consultant PR&DW Department
12:15 - 13:15	Interaction with TG Group engaged in O&M of FSTP Cuttack **Smt. Tanushree Behera** President, Bahucharamata TG SHG, FSTP Cuttack
13:15 – 14:15	Lunch Break
14:15 – 15:15	Travel to Konark **OUA Team**
15:15 - 16:15	Interaction with ULB officials to understand Solid Waste Management in Konark NAC **Shri. Pranab Chand,** Executive Officer, Konark NAC
16:15 - 18:15	Visit to Konark Sun Temple & Chandrabhaga Sea Beach **Konark NAC & OUA Team**
18:15 – 19:15	Travel back to Hotel

Digitalisation of the FSSM Value Chain

What is Digital Public Infrastructure (DPI)?

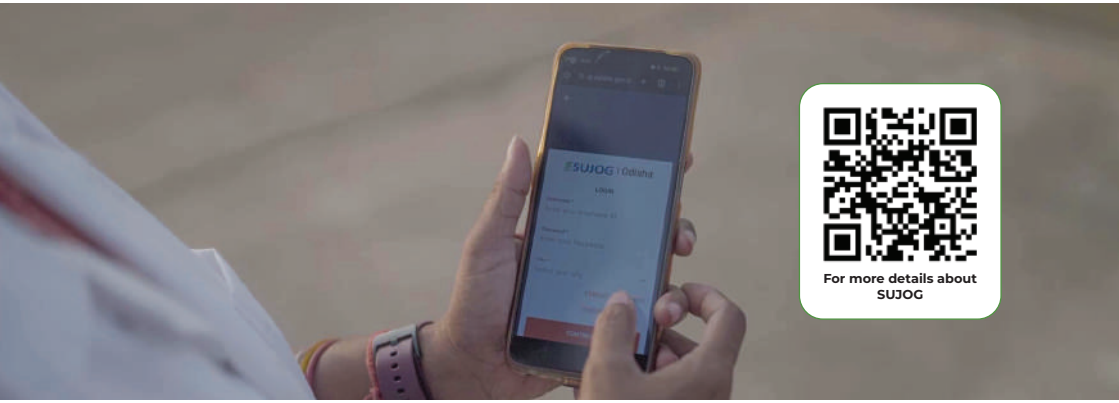
Digital public infrastructure refers to the technology-based systems and platforms that enable government entities to deliver public services efficiently. It encompasses digital tools, applications, networks, and databases that support the functioning of essential services such as healthcare, education, transportation, facilitating improved governance, and accessibility for citizens. DPI ensures tailored solutions for local communities, simplifies administrative challenges for governments and ensures data driven insights for timely course correction.

The Need:

A key challenge in urban sanitation has been the lack of transparency and accountability across the value chain. Citizens often lack visibility on what happens to waste **post collection**, and the absence of structured grievance redressal systems **weakens trust in public systems.**

SUJOG

Sustainable Urban Services in a Jiffy by Odisha Government – is a digital monitoring system that ensures timely, transparent, and trackable sanitation service delivery. It is a DPI platform operational since 2021, built on DIGIT (Digital Infrastructure for Governance, Impact, and Transformation)—a free and open-source platform.



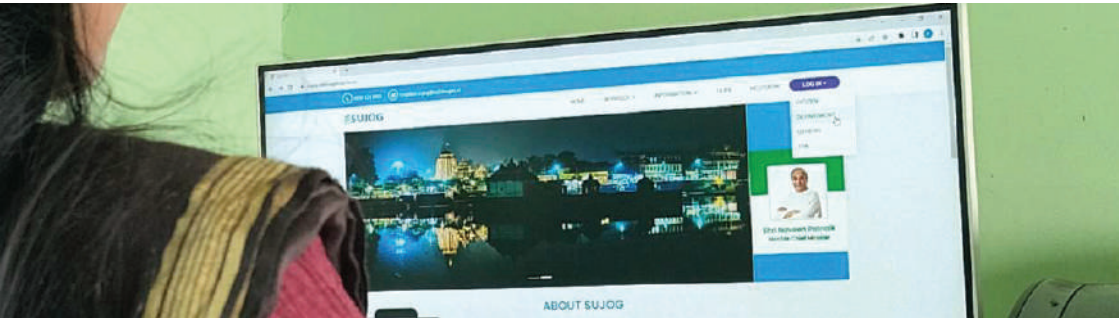
Features

DIGIT allows for seamless integration of various stakeholders, including citizens, government departments, private service providers, and sanitation workers.

- Simple interface where citizens can raise desludging requests and receive real-time updates.
- ULB officials and sanitation personnel can track, manage, and close service requests effectively.
- GPS-enabled tracking of cesspool vehicles.
- Integrated payment systems for payment recording and tracking.
- Dashboard access for all stakeholders to ensure transparency across the value chain.
- Integration of private operators and SHGs into the service model.

Scalability

With its open-source, customisable framework, DIGIT allows other states to adopt and adapt the platform to local needs. Its ease of integration, inter-operability, and low implementation costs make it a valuable tool.



Outcomes

- I**mproved service delivery:** Citizens gain consistent access to quality desludging services through a transparent, accountable system.
- **Data-driven governance:** Collected data enables analysis of performance, gap identification, and policy planning.
- **Revenue tracking:** Accurate logging of service payments facilitates better financial planning for O&M.
- **Enhanced stakeholder coordination:** The platform fosters collaboration across government bodies, private players, and local communities.

NFSSM Alliance. (2024, February). SUJOG Case Study. NFSSM Alliance. https://www.nfssmalliance.org/reports/download/sujogdigit#:~:text=SUJOG%20FSSM%20enables%20the%20collection,ensure%20their%20effectiveness%20over%20time.
eGov. (2019). A Digital Platform is Transforming How India Manages Sanitation – eGov Foundation. Egov.org.in. https://egov.org.in/articles/a-digital-platform-is-transforming-how-india-manages-sanitation

Sulochana Sahu

Sulochana Sahu, a Faecal Sludge and Septage Management Call Centre Executive in Dhenkanal Municipality, exemplifies an impactful role in fostering sustainable sanitation in the community. Sulochana leads the implementation of Faecal Sludge and Septage Management in both urban and rural areas, managing desludging requests, allocating cesspool vehicles, and maintaining service information on digital platforms. She also coordinates grievance redressal and fosters awareness on Faecal Sludge and Septage Management services, sanitation, and ODF. This unique model helps bridge the gap between availability of services and access by citizens, making her contribution significant. Her efforts resulted in disposing of over 19,923.6 KLD sludge, generating Rs. 78 lakh revenue and sensitising 22 women's SHGs and their communities. Sulochana's dedication earned her accolades at state and national levels, showcasing the power of individual determination in creating lasting change.

For more details

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Urban-Rural Convergence in Sanitation & FSSM Policy: Odisha's Experience

Urban-Rural Convergence: A Sustainable Approach to Faecal Sludge and Septage Management

Urban-rural convergence refers to the strategic integration of rural areas with urban infrastructure and services to optimise resource utilisation and enhance service delivery. One of the most effective applications of this approach is in Odisha, where it has been successfully implemented to manage faecal sludge.

Odisha's Pioneering Initiative

Odisha, in 2020, was the first state to formalise urban-rural convergence. The initiative involves collecting faecal sludge from rural areas within a 10-20 km radius and transporting it to urban treatment facilities (STPs and FSTPs). This approach is both cost-effective and efficient, avoiding the financial and logistical challenges of establishing separate treatment plants in rural areas.

Case Studies: Dhenkanal and Balasore

Dhenkanal District

In 2018, an FSTP with a 27 kilolitre per day (KLD) capacity was set up in collaboration with the Dhenkanal Municipality and the Odisha government. To support nearby areas lacking treatment facilities, and therefore maximise existing infrastructure, the plant was strategically positioned to accept sludge from surrounding regions. Initially underutilised, it gradually expanded operations, first covering 17 Gram Panchayats within a 10 km radius, and eventually servicing 49, thereby optimising capacity while strengthening rural sanitation systems.

Balasore District

To enable efficient service delivery across geographies, a 60 KLD FSTP was constructed on Gram Panchayat land with provisions for urban–rural convergence. The facility optimised capacity and improved operational efficiency by systematically incorporating sludge from nearby rural areas, supporting with their waste management, and ensuring optimum utilisation of the plant.

Key Advantages of Urban-Rural Convergence

Community Health Benefits
Effective faecal sludge management mitigates environmental contamination and reduces health risks in rural communities.

Cost-Effectiveness
Utilising existing urban infrastructure reduces the need for additional investments in rural treatment facilities.

Operational Efficiency
Consistent load amount from across urban and rural areas enables optimum utilisation of the plant.

The success of Odisha's urban-rural convergence has set a precedent for other states, showcasing its potential as a scalable and sustainable solution for waste management. By fostering collaboration between urban and rural areas, this model ensures a healthier and more sustainable sanitation ecosystem for all.

Migrator. (n.d.). 75 years of People's Power: Odisha's Denkanal, Balasore use urban-rural convergence to treat faecal sludge. Down To Earth. https://www.downtoearth.org.in/water/75-years-of-people-s-power-odisha-s-denkanal-balasore-use-urban-rural-convergence-to-treat-faecal-sludge-84314#:~:text=Odisha%2C%20in%202020%2C%20was%20the,SHG)%20operating%20under%20Dhenkanal%20Municipality.

Banita Diggal

Banita Diggal migrated to Bhubaneswar over 20 years ago and settled in Adivasi Gaon. Passionate about education and social change, she studied up to the 10th standard and began tutoring tribal children. Her involvement in a women's self-help group and Mahila Arogya Samiti led her to become the SHG Secretary. She joined the Community Management Committee (CMC) to address water and sanitation challenges. After training in liquid waste management and digital tools, she championed mechanised desludging services, promoting them across more than 1,000 households. By connecting 150 tribal homes using QR codes and encouraging grievance reporting via Janhit Vaani mobile radio, she helped 300 households access regular waste collection and water supply. Banita remains a tireless advocate for tribal communities and grassroots sanitation solutions.

For more details

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Cuttack FSTP and
Bahuchara Mata Transgender SHG

Matagajpur, Cuttack, Odisha

Commissioned in 2020 by the Cuttack Municipal Corporation under AMRUT

Co-treatment with the Sewerage Treatment Plant (STP)

Snapshot

- Treatment Capacity: 60 KLD
- Operator: Bahuchara Mata Transgender SHG
- Partnership: O&M through a formal MoU with the Cuttack Municipal Corporation

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Governance Now. (2022, May 11). How Odisha is paving the way for gender mainstreaming in urban governance. https://www.governancenow.com/views/columns/how-odisha-is-paving-the-way-for-gender-mainstreaming-in-urban-governance

Description of the FSTP

The Cuttack FSTP was established to fill the gap in septage treatment and support decentralised waste management systems in the city. Designed to work in tandem with the city's sewerage infrastructure, the plant integrates liquid-solid separation and co-treatment processes to manage faecal sludge efficiently. The plant is part of Odisha's larger commitment to decentralised and inclusive urban sanitation.

Inclusive O&M by Bahuchara Mata Transgender SHG

The Cuttack Municipal Corporation partnered with the Bahuchara Mata Transgender SHG to manage the plant's O&M. This group of 10 members became the first in the state to undertake such a role.

Impact and Achievements:

- **Awarded for excellence:** The group won the ISC-FICCI Sanitation Award 2021 for their pioneering work in FSM.
- **Dignified livelihoods:** Each member earns ₹8,000 per month through their engagement with the Cuttack Municipal Corporation.
- **Extensive training:** The SHG underwent two months of technical and leadership training, including plant operations and safety protocols.
- **Social transformation:** The SHG's role has helped break deep-rooted gender stereotypes and enhanced their visibility and dignity respect in public life.
- **Scale:** Following the success at the Matagajpur FSTP, the SHG has also been entrusted with managing the 8 MLD Pratapnagari Water Treatment Plant (WTP) operated by WATCO.

For more details on the Model of Community Engagement in Sanitation Based Livelihoods, watch this video

Sheetal Kinnar

Sheetal Kinnar's journey is one of courage, identity, and transformation. After embracing her identity as a transgender woman in 2005, Sheetal set out to create dignified livelihoods for her community. Sheetal's journey led to the formation of 'Bahucharamata', an SHG for transgender individuals, which began with the production of home cleaning products. Her leadership and the group's commitment to public service led to a groundbreaking opportunity—managing an FSTP under the Cuttack Municipal Corporation. With formal training and resilience, Sheetal and her team now lead critical sanitation work with pride and purpose. Her story stands as a powerful symbol of inclusion, empowerment, and the vital role transgender communities play in public systems.

For more details

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Solid Waste Management at Konark NAC

The world heritage site Konark NAC, Puri District, Odisha, is grappling with the problem of managing the solid waste generated by both residents and tourists.

Area:
35 sq. kms
in **13** wards

Infrastructure Composition:
5,000 households,
1,500 commercial establishments
50 institutions.

Daily generation of waste:
Approximately
6 MT/day

To tackle issues such as lack of an adequate facility, infrastructure, and human resources, the district administration of Puri commenced implementation of the 'No Open Waste' (NOW) model in the town. In line with the Swachh Bharat Mission, this initiative aims to make Konark NAC the first heritage site with no visible waste in the town.

- **The project commenced in July 2019, with key implementing partners coming together to discuss modalities of implementation.**
- **This was followed by a town-wide sensitisation meeting to make everyone aware of the gravity of the solid waste situation of the town and the purpose of the proposed 'NOW' initiative.**
- **As a starting point, the existing beach cleaning initiative was integrated into the overall 'NOW' framework, training volunteers in segregation of solid waste through one such beach cleaning initiative.**

Initiatives:

- A pilot Integrated Decentralised Solid Waste Management Model was developed in Konark NAC.
- A Micro Composting Centre (MCC) and Sanitation Park have been developed to meet the SWM requirement of the city.
- Door-to-door collection of segregated waste is undertaken, which is then brought to the MCC.
- The segregated waste is categorised as wet waste or biodegradable, dry waste or recyclables (i.e. plastics, wood, metals, paper, paper board, glass, textiles etc.), domestic bio-medical and domestic hazardous waste. Secondary and tertiary segregation is done at the MCC.
- The wet/biodegradable waste is converted into compost through the composting units built at the MCC. The MCC has 14 composting pits.
- Dry waste/recyclables are segregated based on their economic value, washed and stored in classified sacks, and sold to identified vendors.
- Domestic bio-medical and domestic-hazardous waste is sent to a treatment plant for safe disposal.

Konark NAC: A leap towards "No open waste" town. Feedback Foundation. (n.d.). https://feedbackfoundation.in/konark-nac-a-leap-towards-no-open-waste-town/

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Agenda

DAY 4: 24TH APRIL, 2025

09:30 – 10:00	Reflection Session **Dasra Team**
10:00 - 10:15	Feedback Session **Shri. Santanu Rath** Director, OUA
10:15 - 10:30	Valedictory Session **Shri. Arindam Dakua, IAS,** Director Municipal Administration, Ex- officio Additional Secretary, H&UD Department
10:30 - 12:30	Travel to Puri via Dhauli Temple **OUA Team**
12:30 - 13:30	**Visit to Co-Treatment Plant, Puri** **Shri. Bikram Rout,** General Manager, WATCO Puri Division
13:30 – 14:30	Lunch Break at Swosti Premium, Puri **OUA Team**
14:30 – 18:30	Visit to Lord Jagannath Temple, Puri/ sea beach, Puri **Shri. Parikhsit Khandual,** Assistant Manager, WATCO Puri Division
18:15 – 19:15	Travel back to Bhubaneswar

Co-Treatment Plant, Puri

- **Snapshot**
- **Scale of Service:** City level
- **Year of Commissioning:** 2016
- **Designed Capacity:** 25 KLD
- **Impact:** Catering to 8,40,834 population
- **Capital Investment:** INR 1.76 crore
- **O&M Cost:** INR 16.9 lakh/year
- **Agency Responsible:** Odisha Water Supply and Sewerage Board (OWSSB)

For more details, access this workbook to plan and implement Co-treatment of faecal sludge in STPs

Co-Treatment at Aerated Lagoons-Based STP

Puri is among the first AMRUT towns in India to adopt co-treatment as a cost-effective and integrated solution for managing faecal sludge. Operational since 2016, the co-treatment unit is housed within the existing 15 MLD STP at Mangala Ghat, strategically located along the banks of the Dhaudia River.

The plant receives faecal sludge at an elevated unloading platform, where it is discharged into a sludge receiving box (1 m × 1 m), followed by passage through a 3 m inlet channel equipped with a 45° inclined screen bar for solid separation.

The influent is then routed to settling-thickening tanks (7 m × 2.5 m × 2.55 m), where solids are retained for up to 10 days. The thickened sludge is later transferred to sludge drying beds for complete sun-drying and safe disposal. Meanwhile, the supernatant is directed to the aerated lagoons of the STP for further biological treatment, enabling effective integration of liquid and solid waste streams.

This model demonstrates how existing infrastructure can be optimised for dual-stream treatment, minimising capital investment while advancing inclusive sanitation goals. The success of the Mangala Ghat co-treatment plant makes it a strong replicable case for medium and small cities across India.

Co-treatment at aerated lagoons based STP at Mangala Ghat, Puri. Centre for Science and Environment. (n.d.). https://www.cseindia.org/co-treatment-at-aerated-lagoons-based-stp-at-mangala-ghat-puri-9065#:~:text=FS%20goes%20into%20an%20inlet,of%20the%20co%2Dtreatment%20unit

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ODISHA URBAN ACADEMY

About Odisha Urban Academy

Odisha Urban Academy (OUA), a premier institution for urban development in India, was established in April 2021 under the aegis of the Housing & Urban Development Department, Govt of Odisha, with a mandate to build human capital to tackle the challenges in urban service delivery and development.

OUA has emerged as a leading institution in training and skill building in Drink From Tap/24x7 Water Supply Management and FSSM, and has facilitated exposure visits for real-world experiential learning in SWM, CWIS, and other areas for diverse stakeholders.

The Academy is committed to drive change by disseminating practice-based knowledge, and designing and delivering innovative training solutions towards supporting and facilitating transformative changes in the entire urban landscape. The Academy actively builds strong partnerships with various alliances and research organisations to share sectoral knowledge and insights on various urban missions, programmes, and schemes. This dedication to fostering positive change reflects OUA's pivotal role in shaping the future of urban development not only in Odisha but across India and the world.

The NFSSM Alliance

The NFSSM Alliance is a collaborative, multistakeholder platform driving transformative change in India's sanitation sector. It is a group that comprises 35+ expert organisations and 120+ professionals committed to advancing inclusive, safe, and sustainable sanitation practices across India.

Supported by the Gates Foundation, the Alliance has worked extensively to shape policy, support capacity building, and strengthen institutional frameworks for sanitation across national, state, and city levels. Dasra serves as the secretariat for the NFSSM Alliance.

NIUA

National Institute of Urban Affairs (NIUA) is a premier institute of the Ministry of Housing and Urban Affairs (MoHUA), Government of India, for research and capacity building for the urban sector in India. Established in 1976, NIUA's broad objective is to bridge the gap between research and practice on issues related to urbanisation.

Parvat Manthan

NIUA through its Hill Forum- Parvat Manthan: Manifestation of Clean and Sustainable Hill States, is supporting the Indian Himalayan Region (IHR) in addressing the septage management, used water and solid waste management challenges through the lens of inclusivity and climate resilience.

REFLECTIONS

Which of the initiatives that we saw or discussed would you like to contextualize to your geography?

1. What role will governance, policy, financing, and community engagement play in adapting this practice?
2. What learnings can you take on collaboration across stakeholders (government departments and levels, private sector, community)?
3. What challenges do you anticipate and what support will you require to contextualize these practices?

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dasra

www.dasra.org