Gender and Social Inclusion In Urban Sanitation

A framework for urban sanitation in Odisha in the context of an open digital platform for waste management services

ABSTRACT

This report is based on a study to inform the Sanitation Mission of eGovernments Foundation in the process of its development of a digital platform to support the efficient and effective functioning of FSM services, with a focus on Odisha. The findings from this study are expected to provide inputs for the design of gender equal and inclusive FSM services. The study is based on review of documents and discussions with the concerned state agencies and other stakeholders. Discussions with communities and FSTP management teams also provided valuable inputs.

The study, while highlighting the dynamics of gender and social inclusion in sanitation and FSM, reiterates the fact that these should be addressed as an integral part of service delivery to ensure outcomes and not as standalone elements and interventions. It also observes that mobile based applications, like Whatsapp, appear to be the most comfortable and usable method of digital communication for both the community as well as the service providers of FSM services. An overall framework for analysis, as well as an ecosystem map of urban sanitation with a focus on FSM, was also developed in the process of the study.

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Introduction: Setting the context

1.1 About eGov Foundation and its technology driven solution for better urban services[1]

This study is part of eGovernment Foundation's (eGov) process of developing an inclusive digital platform for its Sanitation Mission. eGov Foundation is a philanthropic mission that seeks to ensure that every person living in the urban areas in India has easy and equal access to local government services, thereby guaranteeing better living conditions for all citizens. Its aim is to transform the delivery of municipal services to citizens and make governance more accountable, accessible, transparent, and efficient. And this it does through scalable and replicable technology solutions like its flagship Digital Infrastructure for Governance, Impact and Transformation (DIGIT) platform.

DIGIT has been developed as a 'public good' (Digital Public Good) and an open source platform to facilitate transformation of urban services and quality of life at scale and speed. Therefore, eGov has adopted an eco-systems approach to deploying DIGIT, wherein 'samaaj (society), 'sarkar'(government) and 'bazar'(market) are the 3 key sector players[2] and the strategy is to collaborate, catalyse and co-create across these sectors and address the challenges of governance and service delivery.

1.2 eGov's Sanitation Mission

In line with its overall vision and strategy for digitally supported urban services, eGov has launched a Sanitation Mission (June 2021) — DIGIT Sanitation — a digital platform to provide waste management services. Working closely with stakeholders, the Sanitation Mission aims toensure there are zero deaths, diseases and environmental contamination resulting from poor sanitation.

The strategy of the Sanitation Mission is to facilitate citizens, government and agencies, business and industry, civil society and research and academic institutes to participate and co-create solutions (applications) that can have an impact on the entire sanitation value chain, including the waste management stream. It is hence, implementing a three -year project by operationalizing the value chain platform and extending access to citizens as well as enabling civil society and the market ecosystem to participate. Once measured and tested, eGov proposes to scale up the platform to cater to all the ULBs in the state and extend it to all types of waste management as an open digital infrastructure with a partner ecosystem. The digital platform will cater to an integrated set of Business Services like User Management, Billing, Collection, etc., and Domain Services, like Emptying Application/Scheduling, Containment Accessibility, Vehicle Tracking, Pricing Calculator, Treatment Compliance, Grievance Redressal, etc, in the case of FSM.[3]

Currently, the project is in the first phase of development, and eGov has targeted faecal sludge management (FSM) with a plan to include other waste streams in the future. It has initiated activities in three pilot cities of Dhenkanal, Balasore and Behrampur in Odisha. where the DIGIT powered sanitation platform is attempting to bring digital transformation in all the segments of the FSM service chain from on-site containment of the faecal waste to its transport, safe treatment, reuse and disposal. The next step is to develop a state-wide prototype together with a Theory of Change (TOC) and gender sensitive Monitoring and Evaluation(M&E) framework for the Mission.

1.3 Rationale for integrating a gender and social inclusion perspective into the urban waste management framework

Gender equality refers to the equal rights, responsibilities, and opportunities of women, men, girls, and boys. It involves changing the norms and expectations about female and male roles and changing power relations within the households, communities, institutions, and governments; and hence, it requires policies and programmes to take into consideration the interests, needs, and priorities of both women and men and to recognise the diversity among groups of women and men.

Social inclusion, on the other hand, assumes that men and women are further stratified by age, ethnic origin, beliefs, culture and practices, and other vulnerabilities like disabilities.[4] Because of this, their participation in community level discussions and decision-making processes are constrained and they may have limited

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1 Section 1.1. and 1.2 are based on information from eGov's website www.egov.org.in
2 The ecosystem includes the governments, administrators, businesses, academia, research institutions and civil society organisations, etc. as stakeholders
3 eGov- DIGIT; eGov & Sanitation Mission Overview; ppt presented at Kickoff Meeting, 21 March, 2022
4 Disability results from the interaction between a person's impairment and the environmental, social and institutional barriers they face. WaterAid (2018); Understanding and addressing equality, non-discrimination and inclusion in water, sanitation and hygiene (WASH);washmatters.wateraid.org/equity-non-discrimination-inclusion-toolkit

scope and access to development benefits, like improved sanitation facilities or ability to adopt hygiene behaviour. In fact, they may be forced to opt out of markets and services with short- and long-term cost implications for both individuals as well as the economy[5] Social inclusion, therefore, focuses on the process of improving the ability, opportunity, and dignity of people, who are disadvantaged based on their identity, to take part in society.

Textbox 1: Definitions

- **Participation** means that people are involved in the social, economic, political and cultural processes that affect their lives. This is recognised as a right.
- **Discrimination** means treating people less favourably because of their status or identity.
- **Marginalisation** is a process by which some people's needs become less visible, their voice is absent from decision-making, and resources are not shared equitably, as a result of discrimination; and the universal markers for marginalisation are **gender, age, disability and health** status.

Source: WaterAid (2018). Understanding and addressing equality, non-discrimination and inclusion in water, sanitation and hygiene (WASH) work. WaterAid; UK washmatters.wateraid.org/ equity-non-discrimination-inclusion-toolkit

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Both gender inequality and social exclusion are thus the result of **discriminations** leading to exclusion from participation in the development process, as well as from the outcomes of development. It also needs to be noted that gender and social exclusion also overlap in many ways, with people reflecting multiple identities of race, gender, religion, caste, etc. Hence, to examine this complex phenomenon, an 'intersectional' lens needs to be applied when assessing the nature and extent of gender inequality and social exclusion.

Addressing gender equality and social inclusion in sanitation interventions is essential, given the growing evidence that sanitation outcomes are **only partially achieved if every individual does not have access to equitable and sustainable facilities and services**. Besides, when women and girls have poor access to sanitation, they bear a greater burden and suffer worse outcomes than men. There are also strong indications that gender differences and social exclusions exist within households along the sanitation value chain, including waste management, and there are dynamics between men and women that influence their sanitation preferences, behavior, and decisions regarding the construction of toilets, and its use and maintenance.

In the waste management and FSM segment, which constitutes the backend of the sanitation value chain,[6] the major exclusion is the limited engagement with women and, the even more limited information and knowledge that women have about the related FSM tasks and practices. Besides, like in other cases, while decision making and oversight activities are with men, women have little role to play, except at the household level where they are primarily assigned the task of cleaning the toilets. Infact, tasks related to emptying, transporting, treatment, and disposal are largely in the male domain, and in countries like India, the responsibility of specific caste by default. In recent years, however, projects have been promoting the entry of women into the sanitation market at the backend, with considerable success. More specifically, it is evident that:

- Men have greater control over household financial decisions and can influence the choice to invest in sanitation; however, when women have decision making power in the household, they can access sanitation solutions that will meet their needs and lead to better outcomes for all.
- Gender and power differences within the household also influence the access to toilets and the use pattern (who can use it and when) while the limitation to women's mobility restricts their use of community or public toilet as compared to men, as does the lack of separate facilities for girls and boys in school.
- Men take the lead in construction and management of construction of toilets while its cleanliness

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5   UNICEF estimates that universal access to toilets with safely managed waste will generate $86 billion per year in greater productivity and reduced health costs. (Unicef Press Release, 18, May 2022; https://www.unicef.org/press-releases)

6   Currently, research and evidence in this area is limited

and maintenance at household level become the responsibility of women, and beyond that from containment to collection, transportation, treatment and reuse/ disposal, the domain of the male members of the community.

- Women are disproportionately under-represented across organizations in the sector which influence product and service design; in fact gendered differences are rarely considered in sanitation technology design and programming.

Hence, gender and social profiles matter in the sanitation value chain. They influence user behaviors, levels of participation and acceptance of sanitation products and services and consequently outcomes related to physical and mental health, education, and economic outcomes. Moreover, without addressing issues of gender equality and inclusion, not only would the outcomes of sanitation interventions be severely limited, but the economic costs too would be high. Gender differences between men and women, girls and boys and varying perspectives and experiences of different social and economic groups, therefore, need to be considered while planning and managing the sanitation value chain. This would ensure that facilities, services, institutions, and systems are designed and managed for the benefit of all.[7] In other words:

- Sanitation facilities and services are sensitive and responsive to the rights and needs of the poor and the vulnerable population— as users and as other stakeholders along the sanitation and waste management value chain.
- The 'vulnerable population' is not perceived as a single entity but recognised as consisting of several sub-sects of people who are vulnerable due to various attributes or combination of attributes— like income poverty, location and habitat-related vulnerabilities, caste and socially defined exclusionary practices, occupational vulnerabilities, vulnerabilities related to disabilities, and age and gender related vulnerabilities.
- Having recognised the multiple dimensions of vulnerability and its intersectionality, gender inclusion and social equity need to be embedded right from the stage of planning to implementation,

monitoring and waste management of urban sanitation programs and investments.

- Moreover, a gender equal and inclusive approach in sanitation also has the potential for a two-way impact – on one hand while gender inequality and social exclusions can be addressed to improve sanitation access and outcomes, on the other hand, sanitation programmes in turn can be leveraged to improve gender equality, women's empowerment, and inclusion of other vulnerable and marginalised population. However, integration of inclusive strategies must be carefully planned and institutionalised, and a systems approach adopted to build on these synergies.

Thus, from a global and national perspective, integrating gender and social inclusion into sanitation has become more than ever relevant over the last few decades. Ensuring water and sanitation for all without discrimination is a human right (2010 UN Resolution on the Right to Water and Sanitation) and is also a "gateway service" for the enjoyment of other rights;[8] and following which, UN member states, including India, have made a commitment, vis- a vis the 2030 Sustainable Development Goals(SDG), to reduce poverty and inequalities, with 'universal and equitable WASH for all' as one of the 17 strategic goals.

For eGov the most compelling reason to integrate gender and social inclusion into its Sanitation Mission is its own mandate to focus on 'every citizen'. This means that the organisation necessarily needs to ensure that the digital technology-based waste stream management options that it develops adopts and internalises the concept of inclusive sanitation in the waste management value chain.

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7 Alexander Greetz, et al(2018); Gender And The Sanitation Value Chain: A Review of Evidence; Bill & Malinda Gates Foundation

8 Zachary Burt, Kara Nelson, Isha Ray (2016); Towards gender equality through sanitation access- Discussion Paper, No. 12, March 2016; UN Women

Perspectives and practices on gender and social inclusion in urban sanitation and the FSM value chain

2.1 Global discourse and practices

The concept of gender and social inclusion in the sanitation sector has evolved over a period of several decades and progressed from addressing women's specific sanitation needs and concerns to meaningfully engaging with them and other excluded sections of the population across the sanitation value chain, albeit with varying levels and types of interventions. On the policy front most national policy statements are limited to acknowledging the needs of women in terms of privacy, safety, and dignity, with little action to realize the policy intent. Effective operational strategies or gender equality and inclusion are still in the process of evolving. Various agencies have adopted nuanced approaches, based on their own mandates and commitments, but a common trend is visible in the focus on defining vulnerability and inclusion, in the identification of the vulnerable and excluded, and in integrating gender and inclusion into sanitation policy objectives and the programme cycle.

2.1.1 Rights based approach

Globally, since the last two decades, most organizations in the sanitation sector have been broadly driven by the right based principles[9] founded on issues of equality, non-discrimination, and inclusion, entailing a paradigm shift in sanitation policies and programmes from a need-based approach of earlier years. A rights-based approach is conceptually grounded on established human rights principles wherein diversity within communities is recognized and respected. Further, issues assessed based on barriers to participation, empowers people to claim their rights, and holds duty bearers[10] accountable for all actions. Besides, the marginalized population is placed at the center of the community with space to participate in decision making and processes, as inclusive development is about identifying barriers and putting in place interventions that will lead to their eventual removal.[11] Legal instruments and commitments like the UN resolution of 2010 and CEDAW and, in recent years, the SDGs and its principle of 'leaving

no one behind' has further strengthened the rights-based approach.

Within the rights-based framework itself, there is a distinct leaning towards defining access to sanitation as an issue of **equality and dignity for all,** with gender equality being at the centre of the discourse. Inadequate access to sanitation is primarily considered to be a 'gendered' problem requiring a 'gendered' solution; and in terms of human rights, entailing the creation of space for women's voices and unique needs in planning projects, in designing infrastructure, in creating financing options, in establishing partnerships with the government and other stakeholders, and in setting and tracking indicators of progress and success. With these parameters gender differences can be tracked along the sanitation value chain and their impact on access to sanitation assessed. Although there are gaps in this line of discourse, especially at the backend of the value chain that involves the FSM activities, there is sufficient evidence to suggest that gender does matter at each point of the value chain.[12]

2.1.2 The SDG framework of 'leaving no one behind'

With the launch of the SDGs in 2016, gender equality and inclusion in sanitation has gained further momentum. Inclusion is central to the SDG (2030) framework which is built on the principle of 'leaving no one behind', underpinning the notions of gender equality and inclusion and emphasising that all development policies and interventions must necessarily reach the poorest of the poor. In other words, the goal is to target the most difficult-to-reach groups who are vulnerable not only because of poverty, but also other disadvantages related to location, sex and gender identities, age, caste and ethnicity, physical and mental abilities, and much more. Thus, SDG 6, the water and sanitation goal, aims to '**achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.**'

2.1.3 Rights based and inclusive operational strategies

In operational terms, the rights-based concepts of gender equality and social inclusion, including the sanitation targets set by the SDGs (SDG 6), have been translated into various policies[13] and programmes, each

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9   Strengthened by the UN mandate in 2010 and in more recent years the SDGs (SDG 6)

10 All those have decision making authority, including within the households, and those who run services

11 WaterAid (2018). Understanding and addressing equality, non-discrimination and inclusion in water, sanitation and hygiene (WASH) work. WaterAid: London, UK. washmatters.wateraid.org/equitynon-discrimination-inclusion-toolkit

12 Alexander Greetz, et al (2018); Gender And The Sanitation Value Chain: A Review of Evidence; Bill & Malinda Gates Foundation

13 Most national sanitation policies are yet to integrate a comprehensive gender equality and inclusion lens. However, MHM has found a place in many

with a different focus or approach within the programme cycle. Organisations like the World Bank, WaterAid, SIDA and several others, including BMGF, have prioritized and mainstreamed gender into its core sanitation activities and created frameworks and toolkits to address gender differences along the programme cycle, while child focused organisations like UNICEF and Save the Children use a child rights framework.

Thus, SIDA, focuses on policy-advocacy, operations, and M&E as critical entry points to address gender within WASH programs, while for UN Women, interpreting and aligning with the **gender transformative strategies** called for in the SDGs, means developing interventions based on the understanding of gender-specific needs and the barriers that women and girls face to realize their rights to safe water and sanitation. Hence, strengthening meaningful participation, transforming infrastructure and service delivery for gender equality, and improving data on gender and sanitation for effective monitoring, are critical entry point interventions. Further, to ensure that all vulnerability and exclusions are addressed, UN Women advocates for a **life cycle approach** to service delivery; and emphasises the need for policy, programme, and institutional accountability to gender equality and social inclusion. Institutional accountability to gender and social inclusion would entail closing the data gap on gender and other inequalities; fostering evidence-informed and inclusive policies; and engaging duty bearers to strengthen political will and commitment.[14]

Pioneering organisations like WaterAid have been integrating gender analyses into its CLTS[15] programs in several countries. It consults with women to understand their preferences related to sanitation design, privacy, safety, and distance; involves women as members of water committees, etc., and highlights women's perspectives on sanitation preferences in its policy and advocacy work. It is also attempting to build robust measurement and evaluation (M&E) systems to assess the impact of the interventions on changes in gender dynamics and sanitation.[16]

A new emerging area, post the recent global pandemic and its health and economic outcomes, are policies and

Textbox 2: CWIS Principles

- Everyone, including the urban poor, benefits from equitable safe sanitation services.
- Gender and social equity are designed into planning, management, and monitoring.
- Human waste is safely managed along the sanitation service chain, starting with containment.
- Authorities operate with a clear, inclusive mandate, performance targets, resources, and accountability.
- A range of funding, business, and hardware approaches is deployed to meet goals.
- Long term planning fosters demand for innovation, is informed by need/ resource analysis.
- Political will and accountability systems incentivize service improvements in planning, capacity, and leadership

Source: BMGF

strategies to ensure safe water and sanitation in such situations, especially for the most vulnerable sections of the population. The "urban poor and migrants", who have so far been in the periphery of the urban vulnerable are now gaining visibility. Developing a **shock response strategy** and continuing to work within the rights-based framework are the primary approaches being adopted. Collecting and disaggregating age, gender, disability, and location data is critical for such an approach to be effective.

2.1.4: The City-Wide Inclusive Sanitation Approach

The failure to recognize the importance of data, transparency, clear service goals and the lack of a systematic analysis of challenges[17] and barriers, more so in relation to the poor and vulnerable population, has led

policy document as a critical requirement for improving women's access to sanitation and ensuring dignity and health outcomes.

14 UN Women, (2017); Gender Equality & Water, Sanitation and Hygiene-Report of the Expert Group Meeting; New York, 14-15 December 2017
15 Community Led Total Sanitation
16 Case studies in gender integration- Community Led sanitation in Timor-Leste; BMG; February,2018

17 Fecal Sludge Management has been gaining importance since the beginning of the 2020s but is mostly being implemented as stand-alone projects and designed with a technology lens. This keeps the focus on hardware at the cost of- the quality and reach of the service delivery system and its outcomes.

to the emergence of a new approach — the City-Wide Inclusive Sanitation (CWIS) — in 2015-16.[18]

CWIS is defined as a 'public service' approach to planning and implementing urban sanitation systems to achieve outcomes visualised by SDG 6: safe, adequate, equitable, and sustainable sanitation for everyone in an urban area, paying special attention to the needs of the poor, the marginalized, and of women and girls.[19] It is based on a comprehensive set of seven principles and a service framework developed around core Service Outcomes of Equity, Safety and Sustainability — and System Functions, characterised by Responsibility, Accountability and Resource Planning & Management.

Under CWIS, system design and the choice of technology for sanitation are informed by a set of well-defined service outcomes for all citizens and the feasibility of system in terms of financial, environmental, political, organizational capacity. Priority outcomes of sanitation as a public service are also defined and monitored using performance indicators. The CWIS framework and principles are still evolving. However, several development agencies, policy makers, and governments[20] across the globe are adopting this approach and redesigning urban sanitation services as a public services system with defined outcomes, while building in elements of equity and inclusion into the design.[21]

Globally 'mainstreaming' gender and inclusion into core sanitation activities of organisations, is the most common strategy being followed in the sanitation sector at present. Within this scheme of things, the waste management stream and the backend of the sanitation value chain is a lesser explored area in terms of gender equality and inclusion. Currently, inclusion is largely being realised through a limited number of activities like training community groups — especially women — in slum and poverty pockets to raise awareness and sensitize communities about scheduled desludging; creating new employment opportunities for women in desludging and treatment; and creating sanitation entrepreneurs for re-use of treated products. What continues to be of

concern, however, is that not only are these interventions project-based and small in scale, but services to the poor are generally marked by adhocism, restricted funding, services provided by informal agencies and are generally insufficient, unsafe, and unregulated.

2.2 National perspectives and policies: evolution and milestones

In India, urban sanitation, as a policy-backed, planned, and budgeted country-wide intervention, emerged as a full-fledged sector only in 2008, with the launch of the National Urban Sanitation Policy.

2.2.1 Pre-2008 events that shaped the urban sanitation sector

Prior to 2008, the **Integrated Low-Cost Sanitation Scheme (ILCS)**, started in 1980, was the flag ship programme in the urban areas, aimed at converting existing dry latrines to low-cost, two-pit pour-flush latrines with superstructures or constructing new ones to stop open defecation. ILCS targeted households from the Economically Weaker Section (EWS) but had no specific focus on gender or social inclusion. Subsequently, the **International Decade of Drinking Water Supply and Sanitation (IDDWSS-1980-91)**, brought a paradigm shift with States encouraged to set timebound targets to eradicate open defecation, mobilise communities to participate in the construction as well as financing of toilets, and ensure a minimum of 40 liters per capita per day of water use and maintenance of the latrines — apart from use for drinking and domestic purposes. IDDWSS, infact resulted in sanitation being addressed as a priority rather than just a driver of public health; it also led to changes being brought about in the delivery mechanism, committed budgetary resources and engagement with Non- Government organisations (NGOs).

In 1993, the 74th Amendment to the Constitution introduced the process of decentralisation with the onus of service delivery being vested on the urban local bodies. **The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993** was also enacted at the same time, bringing the plight of the scavengers into the realm of legislations. Subsequently, two decades later the Act was amended and the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013** was passed in the year 2013.[22] Putting pressure on the local

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18   70 leading organisations and individuals in the sector endorsed the CWIS concept and gave a "Call to Action" at a workshop in Atlanta in 2016

19   Alyse Schrecongost, Danielle Pedi, Jan Willem Rosenboom, Roshan Shrestha and Radu Ban (2020); Citywide Inclusive Sanitation: A Public Service Approach for Reaching the Urban Sanitation SDGs; Policy Brief; Frontiers in Environmental Science, 28, February 2020

20   The World Bank, ADB, etc., have made financial commitments; UNICEF has adopted CWIS as a key initiative in its global framework for urban WASH; countries in East and South Africa, Bangladesh is piloting the approach.

21   In 2014, the Shit Flow Diagram was developed (WSP-World Bank) as a tool to assess the context and outcomes of the flow of excreta through the city and identify where improvements are needed. It also facilitates in ensuring that all settlements are included.

22   Water and sanitation are State subjects under the Constitution; however, most states had ignored MSCDLP(P) and hence, the amendment of the Act by the Central Government.

bodies to do away with manual scavenging and provide for infrastructure.

The growing recognition of sanitation as critical to both the health and dignity of communities saw increased focus in the subsequent Five-Year Plans and the construction of individual and community toilets subsequently, became a part of major housing and slum development programmes. It also became a critical component of the path breaking **Urban Basic Services for the Poor (UBSP)** launched across multiple cities in 1992. UBSP, strengthened by the 74th Amendment, went on to lay the foundation for a model of community participation and slum development through women's neighbourhood groups, which have matured over the years into community development institutions that are now an integral part of urban development interventions, and the local governance structure across programmes and States.

In 2005, with the launch of the **Jawaharlal Nehru National Urban Renewal Mission (JnNURM),** the urban sector stepped into a reforms era, with a thrust on improved housing, water supply and sanitation **as a service rather than just the provision of infrastructure**, and an increased and planned focus on engagement with communities. A separate sub-mission (**Basic Services to the Urban Poor**) within JnNURM focused on integrated development of slums through projects for providing shelter, civic amenities, and basic services like water and sanitation, to the urban poor, together with security of tenure at affordable prices. The service delivery approach led to the setting up of **service level performance benchmarks (SLB)** with 28 performance indicators covering water supply, wastewater, solid waste management, and storm water drainage. [23]

2.2.2 National Urban Sanitation Policy, 2008 and thereafter

In 2008, the first comprehensive **National Urban Sanitation Policy (NUSP)** was drafted by the Ministry of Urban Development. The NUSP, aimed to transform all urban areas into community-driven, totally sanitised, healthy and liveable cities for all the citizens with special focus on developing hygienic and affordable sanitation facilities for the urban poor and women. To operationalise this goal, every State was mandated to prepare State Level

Sanitation Strategy and city level City Sanitation Plan. Subsequently, the **Nirmal Sahar Purskar** instituted in 2012, mobilised cities to strive for 100 percent access to sanitation facilities and 100 percent safe disposal of all city generated waste.[24] While a more comprehensive approach to urban sanitation was initiated and the coverage appeared to improve, the progress was slow with achievements short of national goals and the MDG commitments.

Subsequently, in 2014 a mission mode was adopted and the **Swachh Bharath Mission-Urban (Phase 1)** was launched. The three major objectives of the Mission were to achieve 100 percent open defecation free status, achieving 100 percent solid waste management and behaviour change through *Jan Andolan*, and elimination of manual scavenging. It also aimed to augment the capacities of ULBs to create an enabling environment for private sector participation in Capex (capital expenditure) and Opex (operation and maintenance). The strategy, like in the case of NUSP, included the preparation of State sanitation concept and strategy, and the development of

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Text Box3: Service Level Indicators for Wastewater

- Coverage of toilets
- Coverage of wastewater network services
- Collection efficiency of wastewater network
- Adequacy of wastewater treatment capacity
- Quality of wastewater treatment
- Extent of reuse and recycling of wastewater
- Extent of cost recovery in wastewater management
- Efficiency in redressal of customer complaints
- Efficiency in collection of sewerage-related charges

Source: GoI, MoUD (2010); Improving Urban Services Through Service Level Bench Marking

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23   Other acts also exist that are applicable to the provision and management of urban sanitation. These included the Environment (Protection) Act, 1986 and Water (Prevention and Control of Pollution) Act, 1974; BIS Code of Practice for Installation of Septic Tanks (IS:2470), 1985; the Water (Prevention and Control of Pollution) Act of 1976, 1988 and 2003 .

24   CPHEEO Manual on Sewerage and Sewage Treatment, 2013, provided specifications on FSM

city sanitation plans, together with behavioural change strategy and IEC.

The idea of 'special focus groups' was introduced into the Mission to ensure that manual scavenging is stopped and the workers adequately rehabilitated; the informal workers in the solid waste system are integrated into the formal service network; all temporary accommodation of migrants and informal workers in the city have access to adequate and safe sanitation in the form of community and public toilets; all construction labour have access to toilets at the construction site and place of accommodation; and vulnerable households with children, elderly, pregnant women, lactating mothers, and disabled persons will be given priority during construction of toilets.[25] In 2017 revised guidelines and manual was issued for the District Level functionaries wherein engagement with the community was emphasised.

The focus of Swachha Barath Mission-Urban (SBM-U), continued to be on construction of facilities at the household, community, and public levels, and in the context of gender, the guidelines did not go much beyond broadly advocating for adequate provision of separate toilets and bathing facilities for men, women and the physically disabled. However, as the Mission progressed gender and inclusion became a growing priority, and MoHUA issued guidelines for **Empowering Marginalised Groups Through Convergence between SBM and Day-NULM** (2018) and for **Gender Responsive SBM-U** (2020) together promoting sanitation business models around SHGs.[26]

The guidelines for **convergence between SBM and DAY-NULM**[27] defined the architecture and process of convergence between the two schemes. Convergence was to be affected through strengthening community engagement platforms for sanitation and SWM outcomes, promoting sanitation and SWM based livelihoods skilling and placement in sanitation and SWM sector jobs, facilitating financial access and support for sanitation and SWM enterprises.

The **gender responsive guidelines,** in turn identified certain parameters for inclusive sanitation facilities like: safety and privacy, need to cater to menstrual hygiene management and other hygiene requirements,

accessibility for all users, well-maintained and managed facilities that are affordable and available when needed, while meeting the requirements of caregivers and parents. In the context of waste management (primarily for solid waste), the gender dimensions to be addressed included income and employment, cultural barriers, social inequalities, and control over resources. The guidelines recommended creating employment opportunities in solid waste management; converging with other government schemes related to skill development, livelihoods, etc; provision of financial assistance and loans to women so that they can access better sanitation solutions according to their specific needs, providing space and scope for inclusion of the voices of women in policy development, program execution and product design; and investing in behavioural change and capacity building interventions. The guidelines also suggested a functional framework for integrating gender into sanitation at the State and city level wherein the objective was to build social support platforms; promote gender inclusion and budget in sanitation services; and ensure periodic monitoring through inclusive sanitation monitoring protocols.[28] The first phase of SBM (U), is reported to have achieved significant success: Solid waste management efforts were accelerated through the **SWM Rules 2016, C&D waste rules, Plastic Waste Management rules**, etc.; an enabling environment through policy reforms, adequate infrastructure and services led to cleaner and healthier cities; the economically weaker sections and women's self-help groups have been co-opted into various activities of waste collection and safe disposal, resulting in improved livelihoods and income and over 90,000 informal waste workers formalised into the SWM system.

Reportedly all, except one, out of the 4372 ULBs in the country have become ODF. And to sustain the ODF status the ODF+ and the ODF++ protocols have been adopted — the former focusing on O&M of CTs/PTs and the latter safe containment, evacuation, transportation, and processing of faecal sludge from toilets together with safe disposal. Additionally, the Water + protocol ensures that no untreated wastewater is discharged into the water bodies or the open environment.[29] **Swachh Survekshan**, star rating protocol for garbage free cities based on various SWM parameters, ensuring ease of access to public toilets

25   SBM Guidelines 2014

26   GoI-MoHUA; Gender responsive Guidelines Under SBM-U- Issues, Solutions and Case Studies

27   GoI-MoHUA, DAY-NULM, (2018); SBM Empowering Marginalized Groups-Convergence between SBM and DAY-NULM, March 2018

28   Developed by the ASCI, CSTEP and CFAR

29   Till 2nd October 2021, 3,309 cities have been certified as ODF+, 960 cities as ODF++, and 9 cities have become Water+. (Ministry of Housing and Urban Affairs, GoI; Swachh Bharat Mission-Urban 2.0- Making Cities Garbage Free, Operational Guidelines, October 2021)

through Google Maps, were some of the innovative features of SBM. Besides, to ensure that every citizen benefits from the Mission, assessment protocols for CT-PT includes such parameters as 'gender-friendly, child-friendly, *divyang*-friendly features'. During the implementation of the Mission, several other challenges were encountered and addressed.

With the increasing construction of toilets across cities, faecal sludge management and wastewater disposal were becoming a major concern. Only 40 percent of urban toilets were connected to sewer networks, with the remaining dependent on on-site sanitation systems, and much of the wastewater generated discharged untreated into water bodies or on land. In such a scenario, Faecal Sludge management (FSM) emerged to be the most safe, feasible and cost-effective means of ensuring safely managed sanitation for all the population, especially in small and medium towns and parts of larger cities not covered by a sewerage network.

Further, concerns about the risks and increasing fatalities that were occurring in the process of manual cleaning of sewer lines led the Government of India (GoI) to issue Standard Operating Procedures (SoPs) for cleaning of sewers and septic tanks, and more importantly an advisory for setting up **Emergency Responsive Sanitation Units** (ERSU)[30] in every ULB in the country. An **Advisory Note on Septage Management** was issued in 2013 which was subsequently supplemented with a **Premier on Faecal Sludge and Septage Management (2016)** that emphasised the need for state-wide operative guidelines, city-level toolkits, operational manuals, operating plans and allocation of finances for implementation of state level FSM. **The National Faecal Sludge and Septage Management Alliance** of several stakeholders was also formed in the same year. In 2015, with the launch of AMRUT, wherein sewerage facilities and septage management was one of the thrust areas, gave further fillip to the FSM interventions in the country.

And, finally in 2017 the National Policy on **Faecal Sludge and Septage Management (FSSM)** came into existence. The key objective of the FSM Policy is to set the 'context, priorities, and direction, facilitate, nationwide implementation of FSM services in all ULBs so that safe and sustainable sanitation becomes a reality for all. The Policy clearly states its intent to mitigate 'gender-based sanitation

insecurity directly related to FSM, and thereby reduce the experience of health burdens and structural violence'. It also promotes the involvement of both genders in the planning for and design of sanitation infrastructure. More specifically, the design of on-site sanitation; frequency of desludging; operating procedures for desludging including safety procedures with an emphasis on the safety, health and dignity of sanitation workers; tariff; penalty for untreated discharge for households as well as desludging agents and unsafe emptying and handling of faecal waste; and registration of private service providers were all to be regulated.

In 2018 FSM was scaled up with several states framing state specific regulatory mechanisms and guidelines and scaling up activities. The foremost amongst them have been the States of Andhra Pradesh, Maharashtra, Tamil Nadu, Telangana, Rajasthan, Uttar Pradesh, and Odisha. Currently over 20 states and UTs have adopted FSM policies *(Annexe 2: State level regulatory guidelines and frameworks for FSM)*. In 2019 FSM indicators were integrated into Swachh Survekshan and 442 towns announced or issued tenders to construct FSTPs and by 2020 more than 700 towns across the country had FSM plans that were at various stages of implementation.

In 2021, **SBM-U 2.0** was launched as a 5- year Mission, as studies by NSSO and NITI Ayog had indicated the need for continued investments in IHHL and CT/PT; the need to focus on the entire value chain, including FSM, for inclusive sanitation; need to manage different types of solid waste; and need for budgetary support to dispose of legacy waste. The primary objective of SBM-U2.0, is hence, to create garbage free cities by ensuring sustainability of progress made on toilet access, ensuring continued usage of facilities created, providing sufficient water and connections for sanitation systems to work, and ensuring proper collection, containment, treatment, disposal, or recycling of faecal waste from septic tanks and pits. This is to be achieved by addressing sanitation as a holistic process with end-to-end solutions along the value chain.[31] Besides, used water will be treated before discharge into water bodies, and treated water will be reused as much as possible. SBM 2.0 also will aim to eradicate hazardous entry into sewers and septic tanks and sustain elimination of manual scavenging through mechanization of sewer and septic tank cleaning operations. The focus of interventions is on decentralised

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30   GoI-MoHUA, CPHEEO,(2019); Emergency Response Sanitation Unit (ERSU) Ministry of Housing and Urban Affairs Govt of India Central Public Health and Environmental Engineering Organisation- An Advisory, 2019.

31   Defined as: Safe containment of fecal sludge, scheduled emptying, transport, treatment and disposal of fecal sludge, management of sewage

networks, recycling, and reuse of wastewater, cost effective FSM, etc., with universal coverage.

Sabhas for community engagement and sensitization for behaviour change to achieve the objectives of the Mission.

Table 1: Digital Innovations

Technology	State
GPS usage, central tracking through common control centres.	Odisha/ Bhubaneshwar
FSM operator applications	Wai and Sinnar cities of Maharashtra; Warangal Municipal Corporation area, Telangana
SANI Track for desludging services linked to payment	Wai and Sinnar, Maharashtra, which leverages private desludging contractors.
Customer requisition apps / online – S-line model of Warangal	S-Line was launched in 2016 at the Greater Warangal Municipal Corporation, Telangana.
Monitoring platforms – SANI-Track, SANI-Tab and San-Q and other dashboard tools	Wai and Sinnar cities in Maharashtra; Deployed in Odisha
Smart contracting	Odisha

Source: FSM Alliance and NITI Ayog, 2021; Faecal sludge and Septage management in Urban Areas-Service and Business Models; 2021

In the light of SBM-U, MoHUA issued guidelines for community engagement, including participation of women. The **Community Engagement Guidelines[32]** emphasised the setting up of community platforms and structures and enabling them to leverage the support of other community institutions and front-line workers, and building capacities to manage community sanitation facilities. Community Engagement was also sought for faecal sludge management and solid waste management. The **National Capacity Building Framework for Garbage Free Cities** (MoHUA, 2022)[33], a SBM -U2.0 initiative, also includes a component for building capacities of field level institutions like SHGs, community-based organisations and Ward

Infact, the two successive SBMs appear to have created potential space for the participation of community institutions like SHGs and, to some extent, the private sector, even in the back end of the sanitation service chain (FSM). For instance, SHGs have been involved in operation and maintenance of community and public toilets in several states across the country, City Level Federations of SHGs have been using government / ULB owned vehicles for demand-based desludging activities, SHGs/ ALFs are operating FSTPs, apart from other interventions like solid waste collection and management and even awareness creation on hygiene and promotion of sanitation.

On the other hand, studies indicate that private sector participation in FSM, is yet to make a significant dent at scale because of several pre- and post-contractual challenges and barriers. These include stringent geographical and technological procurement conditions; inability to easily

32 GoI-MoHUA; Guidelines for Community Engagement under Swachh Bharat Mission - Urban
33 GoI-MoHUA(2022); Swachh Bharat Mission (Urban) 2.0: National Capacity Building Framework for Garbage-Free Cities; March 2022

accommodate technological innovations under schemes and policies; delays in tender, land acquisition and design approvals; inadequate prior assessments of costs and risks requiring multiple contract revisions; delayed payments to private sector; information gaps due to lack of data driven approach and absence of a robust government driven data collection and MIS effecting the sector credibility, etc.[34]

SBM-U has been giving much thought to **digital innovation** to enable people centric services and accelerate the implementation and progress of the Mission. Providing e-services at doorsteps is one of the objectives of the digital interventions that has led to improved governance and redressal of complains. A national level citizen grievance redressal mobile app '**Swachhata MoHUA App**' was hence developed to empower citizens to demand better sanitation service delivery from the concerned city authorities. The App is being widely used under SBM-U as a digital grievance tool for engaging citizens to demand good sanitation services from the ULBs and has been showing impressive performance.[35] A toilet locator facility is also being provided via Google maps since November 2015 for navigating and locating the nearest public toilet.[36]

It also provides a platform for better maintenance based on citizens' feedback. There is also a **My Toilet facility App** that allows citizens to provide direct feedbacks to the caretakers of public and community toilets for upkeep and maintenance. And finally, an e-learning platform that emerged from the need to build capacities of the large number of ULB officials on sanitation and waste management has been established in partnership with Microsoft. A mobile app version was also launched in 2019, making it easier for citizens to educate themselves and move the process of *Jan Andolan* forward. It is obvious that since 2008 and the launch of NUSP, urban sanitation has gone a long way in terms of policies and programmes. However, concerns about inclusive and equitable approaches remain and infrastructure and technology improvement continue to dominate the sector at the cost of enhanced services. While some states and cities have from time-to-time exhibited examples of inclusive interventions, in most cases the policy intent, however superficial, have yet to be translated into a systemic and scaled up

process. Lack of disaggregated data for planning and monitoring, inclusive budgeting for sanitation, people centred infrastructure design, convergence between various departments for inclusive sanitation are some of the barriers to inclusive urban sanitation in India.[37] And it is also the failure to look at the sector as a basic service sector, backed by national and global rights-based mandates.

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34 India Sanitation Coalition & E&Y, (2020); Accelerating private sector engagement for Faecal Sludge and Septage Management in India - Creating a supportive environment for profitable businesses; November 2020

35 So far with a total of 1.8 crore users, who have posted 2.39 crore complaints, of which 2.24 crore complaints have been resolved, with a resolution of above 93.7 percent.

36 Around 60,000 PTs have been uploaded on the map

37 Anju Dwivedi, (2021); Why gender inclusion is important to achieve sustainable sanitation outcomes; First Post October 21, 2021

URBAN SANITATION AND WASTE MANAGEMENT IN ODISHA

3.1 Urban perspective — paradigm shift in policy and approach to development

Odisha, located on the eastern coast of India along the Bay of Bengal, is one of the least urbanised States in the country. According to the 2011 Census, there were 223 towns in the State. The urban population accounted for around 17 percent of the total population as against 31 percent for the country. However, the Census also indicated that the decadal (2001-2011) urban growth rate in Odisha had been significantly high (27%), with considerable inter-district variation in urbanization levels, an increase in the number of towns and a skewed distribution of the urban population with a growth in slums and slum population.

The 2011 Census also showed that the State had a significantly high percentage of Schedule Caste (17.13%) and Schedule Tribe (22.85%)[38] population, together accounting for nearly 40 percent of its total population; and that the sex ratio was low, but marginally higher than the national average.[39] Poverty, vulnerability, and exclusions were an integral part of urban Odisha, with over 22 percent of the urban population living in slums without any security of tenure, and over 28 percent living in poverty, with a lower per capita income than the national average and deprived of adequate housing and basic services like water and sanitation. In 2011, among major cities and towns, Bhubaneswar and Cuttack had the highest slum population (1.64 lakhs each) followed by Rourkela (1.14 lakhs). The State was then predominantly dependent on the service sector (58% of the state GSDP) with industry and agriculture contributing to 26 percent and 16 percent respectively of the GSDP.

Since then, there has been significant developments in the overall economy as well as in the urban sector in Odisha, primarily driven by proactive and inclusive policies and initiatives taken by the State Government. The continuity of the same government at the helm of the State for over two decades, was an added factor that has sustained the development process.

Text Box3: The transformation towards a new Odisha as visualised under 5T

An Empowered Odisha where...
- poverty will be a thing of the past
- women are equal partners in growth and development.
- the dreams of the youth come true; and
- which is inclusive of all vulnerable sections in its landscape of development.

Source: odisha.gov.in/vision-5t

The foundation of the change process is the **5T principles** of Transparency, Technology, Teamwork, Time, and Transformation (5T) adopted by the State to improve the quality of governance and services in the urban areas, amongst other sectors, through participation and inclusion. The 5T initiatives are also aligned to several of the SDGs such as No Poverty (SDG1), Zero Hunger (SDG 2), Good Health & Well- being (SDG3), Clean Water and Sanitation (SDG 6), Innovation and Infrastructure (SDG9), Reduced Inequalities (SDG 10), Sustainable Cities and Communities (SDG11), etc.

To operationalise the 5T principles and achieve the SDGs, the State Government has launched several programmes in recent years like the Urban Housing Schemes (PMAY) and slum development programmes; SMART City Projects; planning and implementing equitable, efficient and sustainable urban water supply projects, including the 'Drink from Tap-Mission', BASUDAA and convergence with other scheme like UIDSSMT, AMRUT, to ensure water through universal coverage of piped water supply; urban sanitation programmes; JAGA Mission, AAHAAR, DAY-NULM for reduction of poverty and vulnerability of the urban poor households; and more recently, a wage employment project -**MUKTA** — a wage employment programme in the wake of COVID and lockdowns.

Moreover, committed to advancing gender equality, the State has adopted **Gender Budgeting** since 2012-

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38   Spread across 9 tribal districts of Mayurbhanj, Keonjhar, Sundargarh, Kandhamal, Gajapati, Koraput, Rayagada, Malkangiri and Nabarangpur
39   Total sex ratio: 979 against a national average of 943; Urban sex ratio: 932 against the national average of 929

13 and is implementing schemes like **Mission Shakti** to support women's economic empowerment. Besides, the State has been empowering various vulnerable sections of the society through extensive coverage of basic service and social protection schemes and initiatives. Odisha has taken proactive measures to strengthen the institution of local governance and promote community engagement through community institutions, in both the rural and urban areas. Its community-based Disaster Management Model has long been recognised as a best practice and was an effective channel for providing relief during the COVID pandemic.

Odisha is ahead of many other States in adopting e-technology and leveraging effective technology solutions for a wide range of services. The state has undertaken major e-governance transformation (5T) initiatives in various sectors to reduce compliance burden for citizens in availing Government services. The prime example is that of the "**Odisha One**" Portal, an integrated service delivery framework for over 430 Government-to-Citizen (G2C) services through self-mode or through Mo Seva Kendra (MSK) at the Gram Panchayat level.

Similarly, **SUJOG** a transformative digital platform for online urban services, has also been operational since 2021. SUJOG has been developed to provide enhanced quality of urban services to citizens through online or single-window service delivery channel that is, on one hand, convenient and transparent, and minimizes the number of visits required by the citizens to the ULBs; and, on the other, leads to internal efficiency and effectiveness in the performance of the ULB by automating and optimizing the back-office processes and helping to stay focused on the core functions. Besides, it can also integrate departments and functions within ULBs for better information flow and transparency and facilitate secure and cost-effective online payment options for taxes and fees.

The state has also launched a mobile web-based app — **AMA SAHAR** — in 2020. It is a citizen engagement and performance management app that facilitates citizens to post request for garbage pickups and raise complaints if necessary. It also allows them to pay SWM user fee. The app provides input data to the ULBs, facility managers and sanitation workers on a daily basis to help them monitor performance of the SWM facilities and processes, besides submitting utilisation certificate online for better fiscal management.

The most recent Economic Survey (2021-22) hence, reports that Odisha is now one of the fastest-growing states in the country and is expected to grow at over 10 percent in 2021-22, almost 1.3 points higher than the National growth rate. The State's per capita income has grown significantly at almost 17 per cent in 2021-22, and unemployment rate has declined from 7.1 percent in 2017-18 to 6.2 percent in 2019-20. The incidence of absolute poverty has declined in the state and the Multidimensional Poverty Index (MPI) of NITI Aayog shows that although the MPI Head Count Ratio is higher in Odisha as compared to the national level (India-25.01%; Odisha-29.35%), the intensity of poverty is marginally lower at 46.42 percent (India 47.13%). Not surprisingly, the SDG India Index 2020-2021 (NITI Ayog) categorises Odisha as a "performer" State with a score of 61, and a front runner in several SDGs, including SDG 6: Clean Water & Sanitation, SDG 10: Reduced Inequalities, and SDG 11: Sustainable Cities & Communities.[40]

3.2 Urban sanitation facilities and services

Odisha has a total of 223 towns, classified according to population size as defined in Census 2011; and 114 Urban Local Bodies, consisting of 5 Municipal Corporations, 48 Municipalities and 61 Notified Area and a total of 2035 wards. 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), being some of the important ones. These Acts prescribe the roles and functions of the various categories of ULBs, and indicate the ULBs mandate on provisions of latrines, urinals and cesspools, cleaning and safe disposal of sewage and filth, public and private drains, and drainage and sewerage along with the civic responsibilities of the citizens and households. While the mandate for providing services to slum communities is clearly outlined, reference to women is made in the context of broadly ensuring that their specific needs are met.

The 2011 census indicated that Odisha was one of the poorest performers in urban sanitation in the country. According to the census, 33 percent of the urban households were without toilets and were defecating in the open; school sanitation was a concern, with little attention paid to separate facilities for girls and community toilets

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40 In 2021, Puri became the first city in the country, to provide 'Drink from Tap' facility under the SUJAL mission of the government of Odisha; similar facilities are to be extended to all the 114 Urban Local Bodies by 2025.

were largely dysfunctional. On-site sanitation system was the prevailing practice with poorly constructed septic tanks, and negligible facilities for wastewater and septage treatment. Even as recently as in 2015, there were no septage treatment plants in the State and only 2 percent of the fecal sludge generated was reportedly being treated and 40 percent of the population had access to mechanized emptying systems. Municipal or private cesspool operators were few and manual scavenging was very prevalent, with the community engaged in scavenging subject to discriminations and exclusions. Sewerage system was absent in most of the urban areas; only a little over 11 per cent of the households with toilets had direct access to sewerage, and almost 50 percent of the households relied on septic tanks which were poorly constructed. What was a bigger concern, however, was that septage was safely collected for less than half of the households that relied on septic tanks (45 per cent). Further, some of the toilets were serviced manually, which confirms the continuing practice of manual scavenging. And the only 'guiding document'[41] for urban sanitation then was the Odisha Urban Strategy, 2011.

By 2021 however, the State was ranked 11 in the Swachh Survekshan, with 93 of the ULBs being certified as ODF + and 21 ULBs as ODF++. It has surpassed its Mission target for the construction of IHHL (142336 against a target of 132509) but is yet to achieve the same level of success in the construction of Community and Public toilets (12211 against a target of 17800). 119 FSTPs across the State are in various stages of construction and completion; and 45 of them across the seven districts of Khurda, Sambalpur, Mayurbanj, Balasore, Denkanal, Angul and Ganjam are being developed as pilots for extending the FSTP facility to identified groups of Gram Panchayats in its vicinity. This convergence model is unique, calling for close collaboration between the Department of Housing and Urban Development and the Department of Panchayati Raj.

All this has been made possible by an enabling environment and a series of proactive policy and programme measures to not only significantly improve the facilities and services but to also make it inclusive and gender responsive.

3.3 An enabling environment for gender responsive and inclusive urban sanitation and waste management services in Odisha

3.3.1 Policies, legislations and guidelines

Odisha stepped into a planned and at-scale phase of urban sanitation interventions with the **Urban Sanitation Strategy of 2011 (OUSS)**, that was in response to NUSP, 2008 and in line with the National Water Policy 2002, the National Environmental Policy 2006 and the State Water Policy 2007. A situation analysis of urban sanitation carried out earlier in 2009, also influenced the focus of the OUSS[42]; while the devolution of governance as well as local functions and services to the ULBs provided the institutional environment which would facilitate addressing the challenges of liquid and solid waste.

The goal of OUSS was to ensure that all cities and towns in the State became totally sanitized, healthy and livable, with hygienic and affordable sanitation for all, especially the women and urban poor. Sustained behaviour change, ODF cites, integrated city-wide sanitation, 100 percent safe and sanitary treatment and disposal of human excreta and liquid waste, were the specific objectives. Extending facilities and services to poor communities and un- served population including the 'poorest of the poor, the vulnerable and marginalised like the homeless, rag pickers and migrants' was a priority. Hence, emphasis was also on providing community planned and managed toilets for households who had problems with land and space. Sanitation was therefore, to be treated as a service and delinked from tenure. City Sanitation Plans (CSP) with citizens participation were to be prepared and the interventions were to be managed by ULBs with the participation of citizens. CSPs were prepared for some cities, including Bhubaneswar, Cuttack, Behrampur, Sambalpur, Rourkela, Puri, Balasore and Baripada reportedly, with stakeholder consultations.[43] However, the progress was slow in the next few years with no significant change, until 2014.

Several simultaneous events in 2014-15 provided an opportunity for Odisha to take stock of its urban sanitation sector and embark on more focused measures to improve the situation. The almost simultaneous launch of SBM-U

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41 GoO, HUDD, G. Mathi Vathanan, Principal Secretary; Non- sewer sanitation in urban Odisha; https://cdn.cseindia.org/userfiles/Mainstreaming-FSM-Odisha-Experience-Sharing.pdf

42 The Situation Analysis highlighted the need for baseline information, especially about the sanitation value chain; ensure access to the un-served; build capacities for participatory city-wide sanitation management; set standards for service delivery and technology, including wastewater man-agement; create awareness on linkages with health, etc.

43 Prepared in 2010 with NIUA as the Technical Coordinator

and the SDGs in 2014-15 and the approval of GoI to initiate a River Basin Pollution Abatement Strategy,[44] were the immediate triggers. A series of guidelines and policy documents were issued and notified, including the Odisha Urban Septage Management Guidelines For Urban Local Bodies in 2016, the Odisha Urban Sanitation Policy and Strategy in 2017, and the Faecal Sludge and Septage Management Regulations in 2018 for adoption by all ULBs to address regulatory gaps. Project Nirmal, a pilot FSM project in Dhenkanal and Angul[45] was also initiated in 2015.

The **Odisha Urban Septage Management Guidelines 2016** is a set of operative guidelines for ULBs to implement FSM interventions across the value chains. It provides standards for septic tanks and other on-site systems, safe transportation of septage, regulation and coordination, and standards for O&M and M&E. It defines the duties and responsibilities of households with toilets for desludging and related functions.

Subsequently, the **Model Faecal Sludge and Septage Management Regulations**, 2018 came into existence and was mandatory for each ULB to adopt — the ULBs were empowered under the Odisha Municipal Act, 1950 and the Odisha Municipal Corporation Act 2013, to make such regulations. The Regulations, while holding each ULB responsible for the safe management of FSM within their jurisdiction, also protect the interest of the sanitation workers by providing checks and measures for regulating the cleaning of the septic tanks. The onus of getting the septic tanks cleaned mechanically by the Municipality, or by the cesspool operators registered with the Municipality, with adequate safety measures, is vested on the owners of the premises. No manual cleaning is allowed, and penalties are prescribed for non-compliance or violations. Besides, the cesspool operators must ensure that all workers are trained to use the protective gear and follow hygiene practices, ensure that all safety equipment, are operational and in good condition, and first aid kits and safety equipments are readily available in the vehicle before proceeding to a collection site and, most importantly, the sanitary workers do not enter a septic tank under any circumstances.

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The guidelines are to be adopted by all 114 ULBs in the State. In May 2020 HUDD also notified the establishment of **Emergency Response Sanitation Units** in all the ULBs to further secure the safety of the sanitation workers.

Text Box 5: Highlights of 2018 FSM Regulatory Framework

- Connecting toilets to sewerage systems, onsite containment units or decentralized treatment units
- Mechanized emptying of containment units through sanitary workers and through registered operators and registered cesspool emptier vehicles
- Scheduled desludging of containment units
- Registration of operators and cesspool emptier vehicles
- Disposal only at treatment plant or designated site
- Treatment as per standards and norms
- Providing Urban Local Bodies the authority to inspect and ensure compliance
- Penalties for offence such as contravention

Source: Extracted from E&Y, (2018); Odisha's Journey of Faecal Sludge and Septage Management — Towards Sustainable Sanitation Goals

In December 2016, the **Odisha Urban Sanitation Policy, 2017** proposed for a period of 10 years, was notified by the State government. There were multiple reasons for the revision of the 2011 Policy related to the developments that had taken place across the sector at the national and global level, as also Odisha's own experience in dealing with the urban sanitation challenges. A situation analysis indicated that the uneven spread of urbanisation in the state, high levels of open defecation, the need to cover the full sanitation value chain, the need for a clear policy for FSM and septage management, especially for small and medium towns, the realities of increasing numbers of Census towns and the apprehension of them being the future areas of concern, were some of the factors that

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44   A series of independent studies, including a sanitation landscaping exercise (Practical Action) had raised concerns about the high pollution levels in the major rivers in the State caused by untreated sewage discharge from cities. The studies helped in identifying nine river basins in Odisha where there was scope of strengthening drainage and septage management to stop the discharge from these cities to flow untreated into the river systems.

45   Partnership with Practical Action and Center for Policy Research

triggered and influenced the drafting of a new urban sanitation policy.

The basic premise of the policy was that the realities of increasing urban growth in Odisha must be taken into consideration and be at the core of the policy for sanitation; that the policy must incorporate a river basin pollution abatement component; and, that the governance of urban sanitation must be aligned to outcomes and should be supported by capacity building of institution. Capacities of local bodies should be significantly enhanced to manage the expanding need for sanitation and FSM in the State. More significantly, the Policy made a sea change in the way urban sanitation was addressed by focusing on 'outcomes', which moved the spotlight from construction of toilets to the need for improved services to the forefront. Besides, much of the outcomes were visualised around the safe management of solid and liquid waste. And interestingly, women and girls' access to safe menstrual hygiene management was defined as an outcome rather than an objective, expanding the scope for their participation in the provisioning process.

The Policy thus, defined six outcomes, around which strategies and interventions were to be designed and implemented. The outcomes included: (i) urban areas are open-defecation and discharge free; (ii) Municipal Solid Waste is safely managed and treated; (iii) sewage, septage / faecal sludge and liquid waste is safely managed, treated, and disposed; (iv) safety standards and guidelines are followed in the physical handling and management of waste; (v) women and girls have access to safe menstrual hygiene management (MHM); and (vi) cities/towns do not discharge untreated waste (solid, liquid, and faecal waste) into the water bodies in the State. These were to be achieved in three progressive stages wherein stage 1 would be the basic ODF stage; Stage 2 will be ODF+ with no undesignated discharge of septage; and Stage 3 will be ODF++ with no open discharge of human faecal and liquid waste, and safe containment, transport, treatment and disposal of all human faecal waste.

The Outcomes were backed by six principles that would constantly keep the interventions on the track of improved sanitation services to all with the ULB at the core of activities: sanitation was to be treated as a basic service; equity and safety of access and use was to be ensured;[46] increased awareness of the collective goal of sanitised cities was to be promoted; institutional roles, responsibilities, and capacity development was to be in line with the 74th amendment; emphasis was on operations and maintenance of sanitation infrastructure and integrating broader environmental concerns, and choosing technology and solutions appropriate to the context

The OUSP, 2017 was supported by the **Odisha Urban Sanitation Strategy, 2017.** The uniqueness of the strategy document was that, perhaps for the first time, the State detailed out indicators for each of the 6 outcomes. The Strategy defined the three stages of achievement of open defecation and discharge city-wise, as Basic ODF+ and ODF++ along with a framework for the stages and the related indicators and measurements of success.

MHM interventions were focused on access to information, access to sanitary and affordable material, safe disposal of waste material at household level, access to facilities that ensure privacy and safety, access to water and soap, and access to disposal facilities. And finally, for ensuring that the cities and towns do not discharge untreated waste solid, liquid, and faecal waste into the water bodies, immediate and intermediate actions like eliminating insanitary single pits and dry latrines and open defecation was to be targeted with septage treatment facilities and wastewater management with zero untreated waste disposal being the final target.

With the OUSP, both FSM and SWM came into its own as full-fledged programmes with clear strategies and planned outcomes. FSM interventions began with pilot projects in Dhenkanal and Angul initiated in 2015 in partnership with CPR and Practical Action (supported by BMGF). Several City Sanitation Plans were again commissioned during the same years, and some selected ULBs also began to transfer all or many of the FSM functions to women SHG groups. In 2017 Behrampur became one of the first Municipal Corporations to pass a resolution to partner with local SHGs to promote mechanized desludging and also for the operation and management of the septage treatment plant in the city through a service contract. Subsequently, many other cities like Balasore, Bhubaneshwar, Bhadrak, Cuttack, etc., also adopted similar initiatives which is now

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46   Particularly to the vulnerable and un-served populations: will be ensured. Socio-economic status, caste, gender, age, or legal status of land/status of migration will not dictate access to services. Where security of tenure is an issue, the State will take action to resolve this and provide individual or community facilities, without any claim on the land. Adequate arrangements for the differently abled will also be made.

being scaled up to almost all the 114 ULBs in the State.

Between 2017 and now (2022) the wider sanitation sector and the waste management, especially FSM, interventions in Odisha have grown gradually from activities in a few selected towns and cities, to having a distinct presence as a state-wide intervention. A turning point was the decision in 2020-21 to adopt a convergence model wherein GPs within 20 Km radius of STPs are tagged to them. On one hand this model allows the mostly underutilised FSTPs to function at enhanced capacities; and secondly it provides a safe, organised and viable method for desludging in the rural areas and prevents the dumping of untreated sludge in open fields and water bodies. Registering requests for service and payments is the responsibility of the GP who also collects the fees (in instalments if need be) from the households and transfers it to the FSTP when the later raises a monthly invoice.

More importantly, the FSM interventions in the State have evolved organically through responsive policies and strategies and integrated solutions across the FSM value chain. Some of the key initiatives so far include the creation of demand for FSM through IEC and interpersonal communication; improving processes and systems; building capacities of government, private sector stakeholders and community-based organizations to plan and manage a community centred FSM system; addressing regulatory gaps at ULB level; developing robust monitoring and evaluation systems; facilitating the building of a supply chain ecosystem through various entrepreneurship programs and private sector participation that also leverage the strengths of the SHGs (Mission Shakti) in the state. *(See section 3.3.2 for more details)*

Private sector engagement in FSM is encouraged by the State, which engages with private operators in a partnership model — H&UDD procures the vehicles and transfers them to the ULBs, which in turn gives the responsibility of operating and maintaining the cesspool emptier vehicles to the private sector operators through annual licences. As a result, desludging activity is currently being carried out by both ULB-operated and ULB-contracted cesspool emptier vehicles. Other initiatives include SoPs for improving the delivery of FSM services; and taking measures to ensure financial sustainability for smooth FSM service delivery.[47]

3.3.2 Inclusion and engagement with communities — policy and programme environment

During the same period, Odisha was also striving to improve the overall status of the urban poor and migrants in the State and mainstream them into the development process as equal stakeholders. One of the first path breaking steps that it took was to provide tenure security to the slum dwellers through land titling, as it was assumed that this would lead to improvements in other aspects of their living conditions, including basic services like water supply, sanitation and hygiene.[48]

Thus, the **JAGA Mission** was launched by GoO in August 2017 with notification of the **Odisha Land Rights to Slum Dwellers Act**. The Act entitles the slum dwellers to security of tenure and, with it, other social benefits, and urban services. More specifically, the Act grants in-situ land rights in tenable slums and development of new habitats for untenable ones. The Act also aims to create an Urban Poor Welfare Fund (statutory) for slum infrastructure creation and development.

Overall, the JAGA Mission aims to transform the slums into liveable habitats with necessary civic infrastructure and services with the GoO (H&UDD), the communities, NGOs and CBOs, Technical agencies (private and Government) and financial institutions as stakeholders. The core strategy is to leverage and converge various programmes and funding opportunities through collaboration among various departments, urban bodies, non-government organisations, financial institutions, international agencies, trusts, communities, and other stakeholders. Thus, apart from land rights, the components under the Mission include housing, individual and community toilets, tap water to households, SMART LED streetlights, skill upgradation and livelihood support, internal roads, covered drains, and parks and playgrounds.

The Mission adopts a systematic approach to identify slums and develop a plan, based on community mobilisation, and slum and household surveys including Participatory Infrastructure Needs Assessment at slum level for primary infrastructure facilities and Infrastructure Gap Assessment Profile to assess the infrastructure gap at slum level and to plan for slum upgradation. In fact, the Mission has successfully utilised technology tools to prepare GIS

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47   E&Y, (date); Odisha's Journey of Faecal Sludge and Septage Management — Towards sustainable sanitation goals.

48   Odisha has 2919 slums spread across its 114 cities and towns.

maps of cities, locating slums and their boundaries and collecting household data on population and services available at household level and in the communities. An SOP has also been developed for participatory upgradation and delisting.[49]

In the first pilot phase of the project 1.6 million urban poor received land rights, 550 slums have been upgraded (in-situ) with basic infrastructure and services, and 2225 others are in various stages of upgradation. And 121 slums are to be relocated to 26 new habitats, to be planned, designed, and built by the community themselves.[50] In September 2020, the second phase of the Mission was launched, with the aim to build resilience in urban areas and slum proof the city by progressively moving from individual to community level to city level benefits, and ensuring increased stability for the urban poor.[51] Strengthening the SDAs or the **Slum Development Associations** as a 4th tier of governance has become even more critical to the scheme.

The SDAs were formed during the first phase, with 50 percent of the members being women, to engage with communities and ensure needed infrastructure and services within the slums. They are recognised by the government as equal partners of change. Further, the structure of the Ward is being strengthened by establishing Ward Committees and Ward Officers so that the process of mainstreaming and inclusion is organic and seamless. Besides, the State has made it mandatory for all ULBs to spend 25 percent of the funds under capital expenditure relating to development work in the annual budget on providing basic services to the slums, through an amendment to the Odisha Municipal Act, 1950 and the Odisha Municipal Corporation Act 2005. Funds are to be transferred to the account of the SDA and, through an MoU between the Executive Officer of the ULB and the SDA, the infrastructure within the slum will be transferred into the custody of the later. Over 3000 SDAs have already been created in Odisha and partnership in municipal service delivery, including in water and sanitation, and all other municipal function, has been made non-negotiable. Community engagement is seen not only as a means but also as an end in itself.

In line with the overall policy of making the urban poor and vulnerable equal stakeholders in the development outcomes of urban areas, Odisha adopted a strategy of working with communities at different levels to **ensure effective engagement for sanitation service delivery across all categories, including the vulnerable sections of the population.** The purpose is to ensure equity and positive and sustainable outcomes; to create an enabling environment for women to participate in decision making and to provide economic opportunities for them in the sector; and make women and other vulnerable groups partners in development. The State, more specifically the ULBs, were faced with the challenge of a need for skilled work force in large numbers across the State to provide services, manage facilities and support the process of sustainable sanitation. Hence, skilling and engaging women in the sector was a win-win situation for both the community and the ULBs as the service provider. The more than 35,000 urban SHGs in Odisha provided the base to operationalise this strategy.

SoPs and guidelines were developed to engage communities in operation and maintenance of sanitation infrastructure and in the provision of sanitation services; and capacity building of all stakeholders to implement community engagement models for sanitation was a key component —, together with institutional strengthening at ULB, district and state levels —, to work with communities and CBOs. Thus, communities, primarily SHG groups, are engaged in activities in the FSM value chain: from construction of toilets to management of public and community toilets; and from O&M of treatment facilities to reuse of treated waste, preparation of manure through co-composting and use of manure in gardens established within or close to the FSM plants. Women SHGs were also trained to undertake IEC and data collection for insanitary toilets, desludging practices, demand generation for mechanised desludging, etc.

SHG groups, including transgenders, under Mission Shakti, have been formally inducted into the sanitation activities, including the operation and maintenance of community toilets, FSM plants through service contracts and SWM facilities and services like door-to-door collection, and managing MRCs. Some of the SHGs have also been operating cesspool vehicles for safe emptying and transportation of toilet waste in a few cities. They are also engaged as Swacha Supervisors and SwachaSathis and operate and manage Battery Operated Vehicles (BOVs) and Micro Composing Centres (MCCs), Micro Recovery facilities and Construction and

49   GoO, JAGA Mission, Participatory Slum Upgradation and Delisting, SoP
50   Preeti Prada Panigrahi (2022); JAGA Mission — Transforming Lives, Leadership and Livability; URBANET, April21, 2022
51   Slums are to be turned into Adarsh Colonies

Demolition Waste Management Plants. As part of the tasks, they also collect user fees and assist in selling the 'Mo Khata' – the manure prepared from treated solid waste.

In September 2020, Odisha launched the **GARIMA** scheme to ensure the safety and dignity of the core sanitation workers who deal with faecal matters in toilets, septic tanks, sewer, and treatment facilities. The scheme aims at multiple outcomes, including the setting up of institutional and regulatory measures, creation of a corpus fund, provision of decent wages and a risk and hardship allowance, creation of a database of sanitation workers, (formalised, skilled and protected workforce), zero fatality and accident-free work environment, social security benefits, robust monitoring system and accountability of key stakeholders. The components of the scheme therefore include technical modalities like safety equipment, and protective back up and emergency services; service benefits like decent wages, hardship allowance, health and life insurance, EPF and retirement benefits, etc. social security benefits like pucca houses, education of children, mobility support, mobile support in order to access apps to log in for work, for grievance redressal, to apply for social security benefits and access social delivery structures, etc. Empowerment of the women members of the family is to be achieved by tagging them to WSHG or ALF (under NULM) to build their livelihood skills and entrepreneurship to set up microenterprises with concessional loans from the corpus fund proposed to be set up or from DAY-NULM. The sanitation workers, in turn are obliged to provide timely service to the service seekers.

Text Box 6: Service contract with SHGs for O&M of SeTP — Key areas

- The ULB with support from FSM-TSU and State Urban Development Agencies (SUDA) organises training and provides complete capacity building support to the SHG as and when required
- The ULB appoints Nodal Officers for addressing concerns of the SHG at the plant and guides them on technical and operational issues and challenges
- SHGs are is paid for the human resource deployed with additional overhead expenditure and the payment procedure adopted by the ULB is simple and hassle-free. SHGs are provided with required PPE from ULB/Public Health Engineering Organisation (PHEO)
- The ULB ensures complete health check-up of the SHG members engaged at the SeTP every quarter and additional budgetary provisions are made
- The SHG can take up other income generating activities like gardening and cocomposting at the plant with the permission of authorities and in adherence to the SOP

Source: Extracted from Engagement of Community Based Organisations in FSM value chain in Odisha; E&Y

3.3.3 Institutions, capacities, & inclusive programme delivery mechanism for FSM

Urban sanitation is a state subject, implying that the laws, regulations and programmes are to be planned and implemented by the respective States. H&UDD is the nodal Department for sanitation in Odisha and houses the State Sanitation Mission Directorate. It provides funds, human resource and technical support for the planning and implementation of sanitation policies and programmes, including the FSM components. H&UDD, in fact operates through a series of Directorates and organisations mandated to perform specific functions, including the Directorate of Municipal Administration (DMA). DMA coordinates and supervises the various activities of all ULBs, including sanitation, health, and all programmes for the urban poor. There are several other subsidiary organisations under H&UDD responsible for urban sanitation, including FSM, key amongst them being the State Urban Development Agency (SUDA) and Odisha Urban Infrastructure Development Fund (OUIDF).

Other institutions of equal importance to urban sanitation and FSM, but independent of H&UDD, are the Odisha Water Supply and Sewerage Board (OWSSB), Odisha State Pollution Control Board (OSPCB) and the Odisha State Commission for Safai Karamcharis (OSCSK). OWSSB is the State Level Nodal Agency (SLNA) for the various water supply and sewerage Missions and projects of the Central Government, including SBM-U and AMRUT; and while OSPCB is responsible for compliance to the national environmental laws, OSCSK is responsible for ensuring compliance to national laws related to manual scavenging and hazardous tasks like cleaning of sewers and septic tanks.

The Central Government, however, plays a pivotal role in the State by regulating certain key areas (like pollution control) and providing a significant part of the funds. Hence, the institutional structure and delivery mechanism at the State, District and ULB levels defined in the OUSP-Strategy, 2017 have, to some extent, been influenced by the Central Government mandates and guidelines. At the same time, with OUSP, 2017, Odisha embarked on a path of community centred and inclusive development, addressing the entire sanitation value chain. It made attempts to strengthen the existing three- tier structure to respond to the process of devolution, participation, and inclusion (74th Amendment) and to correct several institutional

and capacity gaps. Studies[52] have indicated that a lack of effective co-ordination and collaboration among the various government departments across state, district and local levels; limited awareness amongst government staff about the roles and responsibilities of FSM; limited technical and managerial capacities in ULBs on FSM; and absence of community structures that could facilitate community engagement at the slum and ward level, were major barriers that needed to be corrected and OUSP was a starting point.

Text Box 7: Sanitation team in the ULBs

- Executive Officer (In-charge of all services and facilities in the ULB)
- Health Officer
- Sanitation Inspector
- Sanitation I/C
- Ward Officers (JE/CO/ULB Staff)
- Sanitation Experts (outsourced/contract)
- Swacha Sathis / Swacha Supervisors
- ALFs including Sanitation Workers (Cesspool Drivers /operators)
- City Engineer is the nodal officer for FSM and FSTP, and One Junior Engineer is nominated as FSM Coordinator.

Hence, the new Policy (2017) focused on strengthening the decision making and oversight structures at all levels of government. At the State, a High-Powered Committee set up under the Chairmanship of the Chief Minister provides overall policy guidance, and oversight; and the State Mission Directorate, supported by the Project Management Unit is responsible for the day-to-day activities of implementation. Similarly at the district level, the District Level Review and Monitoring Committee is to ensure satisfactory monitoring of the project, while the District Urban Sanitation Committees within the District Urban Development Agency, headed by the district Collector, supported by Project Implementation Unit provides oversight functions. At the ULB level, the City Sanitation Task Force, and the City Mission Directorate, are the most critical units responsible for the design,

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52 Padmaja Nair and Anju Dwivedi (2017); Capacity Building Needs Assessment of Cities (Angul and Dhenkanal) and State Government on Sanitation: A Case of Odisha; Center For Policy Research, New Delhi

implementation, and monitoring of the sanitation projects, including waste management and FSM.

Most importantly, community engagement was institutionalised through formal contracts with the SDAs and the SHGs under Mission Shakti, both of which have become an integral part of the planning and O&M structures of FSM. Parallelly, the State focused on developing necessary SoPs and guidelines for integrating community institutions into the planning and management of sanitation and building the capacities of both the community institutions as well as the other stakeholders, including the various agencies under H&UDD.

H&UDD also works with a range of non-state stakeholders, including consulting Firms, NGOs and the for-profit private sector, to take its' sanitation and FSM agenda forward. The private for-profit sector consists of a wide range of players from small and medium size companies involved in manufacturing and supply of wastewater and sewerage cleaning equipment and technology, and setting up and managing wastewater treatment plants; and smaller operators of cesspool services, involved in emptying toilet pits and tanks, transporting and disposing off the sludge.

A study undertaken in 2018,[53] observed that the cesspool manufacturers were mostly from outside the state — Coimbatore, Ghaziabad, Mumbai, Pune, Jaipur, etc. and were engaged in the design and manufacturing of sewer cleaning and suction machines and equipment and also provided service support, often through local partners; the few GPS consultants who were present provided installation and hardware support, and software support like real time tracking, generating weekly reports etc., with data on fuel, truck load, emergency number etc., Several local vendors provide personal protection safety gears (PPE) like Neoprene gloves, rubber boots, face mask, eye protection and jumpsuit, etc. The containment manufacturers were based outside Odisha but sold their products across the state directly or through local vendors. The products included mini trucks, PPFR, septic tanks, Bio-digesters, etc. The technology providers were mostly based out of cities in other states and had a national presence. At that period of time, contracts were also awarded to eight private sector agencies for the FSTPs and SeTPs (Angul, Baleswar, Baripada, Badrak, Dhenkanal and larger ones like Sambalpur, Rourkela, Cuttack, Bhubaneswar). In recent

years the state has reportedly made it easier to engage with cesspool operators and provided licenses to private sector entities for the same.

The NGOs, on the other hand, support the implementation activities primarily related to community engagement, including institutional development, training, and capacity building. In fact, the State has created an effective environment for NGO partnership and engagement at the policy and decision-making level of the State as well as at the implementation levels.

The changing urban sanitation scenario called for capacity building across stakeholders and functions on one hand and enhancing the citizens awareness on sanitation and FSM on the other. Therefore, following an initial capacity building need assessment undertaken in Dhenkanal and Anugul, a capacity building plan for FSM was drawn and implemented across the State. The Plan brought within its scope the official from the concerned State Government departments, ULBs and administrative officials from the Districts, CBOs, Masons and Cesspool Operators. Enhanced awareness meant information, education and communication for behaviour change so that the communities became aware of and recognised the need for appropriate management of solid and liquid waste, with a focus on FSM, and were mobilised to demand for these services from the ULBs.

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53   Mapping the non-state eco-system for sanitation in small urban towns of Odisha; CPR, (2018), unpublished

EVIDENCE ON THE GROUND

To understand and reflect on how and to what extent the policies and strategies related to the FSM service chain have been translated into effective action on the ground, especially from an inclusive and gender equality perspective, a quick review of the status of FSM in the four ULBs of Dhenkanal, Cuttack, Sambalpur and Baripada in Mayurbhanj, was undertaken. These ULBs were selected because of their geographical representation, socio-economic profile and the extent of sanitation and FSM interventions. For ground analysis, FSM in each ULB was looked at as a function of the Citizens, the Call Centre, the Cesspool Operator and the FSTP. *(Annexe: Evidence)*

The emerging scenario from the ground is that of ULBs that are trying to come to grips with a relatively new sector simultaneously on three fronts: (a) understanding sanitation as a civic service that includes the whole service chain from containment to safe disposal of waste generated; (b) locating the most appropriate and cost-effective technology; and (c) untangling the somewhat complex management arrangements, based on partnerships and mandate for community engagement, especially engagement with women. The urban households, on the   other hand, while having recognised the advantages of household toilets in terms of convenience and privacy, are yet to fully absorb its' critical health and hygiene impact. More importantly, with limited technical support and supervision, they are also grappling with maintaining the facilities.

While there have been significant achievements in coverage and policy directions, gaps continue to exist in access to safe sanitation and hygienic facilities. Although, Dhenkanal, Baripada, Cuttack and Sambalpur, amongst other ULBs, have all been declared ODF, there are still (estimated 10-15 %) households, who do not have access to, or do not prefer to use toilets — individual or community. This is more so in the slums and low-income settlements, where households have not constructed toilets because of lack of resources or space; and, at the same time, are reluctant to use community or public toilets because of poor upkeep and maintenance, or a reluctance to pay the user fee. Further, only a relatively small percent of community and public toilets in the ULBs are being managed by the WSHG or the community (for instance 14% in Sambalpur),

with many of them being contracted out to private organisations like Sulabh International and Manju Services.

Besides, across all types of settlements, the quality of construction of soak pits and septic tanks is poor and do not always meet the specified standards; and tendency to provide group facilities (Cuttack) where space is a constrain, needs to be reconsidered. As a result, blockages, overflows and discharge of sludge and wastewater into open drains are still issues that need to be resolved. Inadequate monitoring, supervision and implementation of regulatory mechanisms are the primary reasons for the anomalies. Also, unplanned colonies and narrow lanes often make desludging difficult, resulting in many households resorting to manual cleaning.

The FSTPs in the ULBs have adequate capacity to cater to the current levels of sludge generated by the city and are also being prepared to cater to the sludge from the neighbouring gram panchayats, under the convergence model. While this would ensure better capacity utilisation, the challenge would be to effectively promote desludging activities in the GPs and arrive at a reasonable service fee for the rural households. A greater challenge would be

Women and Transgender Groups are at the core of waste management

Women SHGs and Transgender groups play a prominent role in the waste management activities in urban Odisha. They are the focus of several partners of H&UDD (E&Y, UMC, Janagraha, CPR, CFAR). The focus is on engaging them in various activities of the sanitation value chain for better sanitation outcomes as well as for empowering the excluded groups in the process. SHGs are trained and supported to not only manage FSTPs but also MCCs and MRCs and leverage sanitation as a livelihood; attempts are being made to make their workplace and activities safe and comfortable (safety-kits and insurance) and ensure overall dignity to the work; and systems are being strengthened to support the SHGs by introducing easy to use Apps for reporting and monitoring, and social media like WhatsApp for communication and information sharing.

the desludging of the single or twin pits model in the rural areas, with its honey-combed or pre-cast ring walled pits. The process becomes even more difficult and demanding depending on the location of the soak-pits, or if the settlement itself is congested and has narrow, difficult to access internal roads.

Overall, the management of the faecal sludge service chain shows mixed results. At one end of the service chain, the operation and routine maintenance of the FSTPs are in the process of being integrated into the functions of the ULBs. A standardised performance management contract with WSHG (and Transgender groups) for a period of 11 months, to be extended after a review by the ULB is the via media. However, it was observed that while some contracts have not been renewed yet (Cesspool operators' contract in Dhenkanal), others are being renewed for shorter periods of 6 months (Cuttack FSTP), causing some amount of uncertainty amongst the SHGs and perhaps some disruptions in service.

However, payment delays are now being addressed through an auto payment system and the call center, managed by women, set up to monitor timely payments. At the same time engagement with the FSTP had assured a steady income to the SHG/ Transgender groups even during the period of COVID; and the income earned is used on food and education of children. Besides, indicating a rising sense of awareness, the women also demanded for health insurance and retirement benefits. Moreover, the women and their work were slowly gaining acceptance at home and in the community because of its association with the government and, interestingly, the use of safety gears, PPEs[54] and sanitation kits by the workers. Working with the government also resulted in improved agency and confidence in the transgenders and other vulnerable groups. Perhaps for these very reasons, women from other castes, besides the Scheduled Castes, who were traditionally employed in the sanitation work, were also engaged in the FSTPs.[55]

The cesspool operations are carried out in a hybrid format — either outsourced to the SHGs; or vehicles owned by the ULBs leased out to private vendors; or private vendors given license to ply their own vehicle; or a mix of

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54   Some of the field workers were of the opinion that the PPE was not specifically designed for women.

55   Aastha Dang, Durgadas Menon, Indira Patil, Ritwik Sarkar, (2022); Sanitation-linked livelihoods opportunities for urban collectives: a learning study; International initiative for Impact Evaluation, August 2022

Manju, Plant Manager, Dhenkanal

Manju, the President of the Jeevan Jyoti ALF, has been working in the Plant for the last two and half years. Her responsibilities include monitoring all the activities in the Plant, reporting to the ULB about any technical issues as well as daily work completed, and housekeeping, including gardening.

Communication with the ULB, especially on technical issues, is primarily through Whatsapp, as this also allows her to make video calls for live demonstrations. Cesspool vehicles are monitored through GPS tracking and through Whatsapp calls with the client-citizen. Whereas the activities of the Cesspool vehicles are manually recorded on a daily basis in registers assigned to each vehicle, and compiled by the Plant Manager every 15 days and sent to the Call Centre Operator (Sulochana) who then maintains a computer data sheet.

both ULB and private vendors. The arrangement, where the entire cesspool operations have been entrusted to an SHG (Denkanal), appears to be the most effective. Similarly, a dedicated Call Centre with clear cut responsibilities and processes, wherein a well-coordinated system of communication between the user, the Call Centre, the cesspool operators (from ULB), and the FSTP (Dhenkanal) is established, is efficient and effective. The private vendors, on the other hand, with high license fees and relatively poor coordination with the ULB/ Call Centre, reportedly not only face operational difficulties, but also do not find the business sufficiently viable.

The communication between the Call Centre and users of services in the community is dependent on calls over mobile phones or personal visits to the centre because the community still needs to develop faith in the use of the former to deliver results — face to face communication continues to hold more credibility.
(Annex 3: Case Notes on ULBs)

CONCLUSIONS AND WAY FORWARD

The conclusions that emerge from this study point towards the need for an overall and comprehensive policy and strategy for the state on gender equal and inclusive urban sanitation that needs to be viewed as a basic service. eGov with its focus on improving and making efficient the back-end segment of the value chain is, on the other hand, dependent on how inclusive the preceding segments are. eGov hence, needs to work closely in coordination with the state and other stakeholders in the sector to ensure that gender equality and social inclusion are an integral part of the sanitation from planning to management to monitoring, and hence is clearly reflected in the waste management profile and functions.

While ULBs like Dhenkanal have been equipped to a certain extent with a Call Centre and computers, and the teams at both the Centre and FSTP trained to use it, the popular mode of communication continues to be the mobile phone and its WhatsApp application, due to its easy accessibility and video calling facilities. Infact, even in the communities, while women have relatively less access to mobile phones and are less familiar with its various applications and use, there are indications that mobile based - solutions can address many of the sanitation challenges, including the gender gap in the state. Besides, experience elsewhere indicates that mobile technology enables urban sanitation service providers to reduce their operational costs and also increase customer reach. It will also provide ULBs and service providers with granular data to track as well as coordinate FSM services, including the type of sanitation facilities, pit emptying frequencies across settlements with socio economic profile, distance between pits and FSTPs, etc.

More specifically, while the study perceives an agenda for the State of Odisha, there is also a commensurate mandate for eGov.

5.1 An agenda for the State

It is evident that the urban sanitation sector in Odisha has seen a paradigm shift in approach and strategy over the last decade and initiated some bold steps to ensure improved service delivery to all the citizens. Innovations and improvements are not only seen in facilities, services, and technology, but also to some extent in management arrangements. And most importantly, there is a committed

recognition to address the needs of the vulnerable and marginalised population and bring them into the scope of interventions. Policies and programmes have hence, been accordingly revisited, enabling legislations enacted, and a re-think on institutions initiated.

The 2017 OUSP opened up the space for integrating social inclusion and gender equality into the sector by treating sanitation as a basic service; committing to ensure equality and safety of access and use, especially to the vulnerable and un-served populations; taking measures to resolve land tenure issues that prevent the poor and vulnerable to access facilities and regular services; providing guidelines and regulations to ensure that safety standards and guidelines are adhered to while manually handling and managing waste; and making provisions for woman and girls to have access to safe menstrual hygiene management.

However, there are some fundamental barriers that not only prevent the seamless integration of socially inclusive and gender equal elements and processes into urban sanitation interventions in the State, despite its policy commitments, but may not also sustain the process of inclusion in the long run, unless corrected. Gaps primarily exist at two basic levels:

1. **In the lack of clarity in perceiving urban sanitation, first and foremost, as a service delivery function.** The service delivery function implies the effective, efficient, and sustainable management of excreta from the facilities used by individuals through emptying and transport of excreta for treatment and eventual discharge or reuse,[56] preceded by the provision of safe sanitation facilities at household, community, and institutional levels. Within this framework of facilities and service provision, a gender equal and socially inclusive service delivery approach is extremely critical to ensure the realisation of the full health and environmental benefits of sanitation interventions and processes, as well as to uphold commitments to sanitation as a human right that aims to ensure that everyone, including people marginalised by gender, age, physical challenges or other social and economic reasons, benefit from equitable, affordable, and safe sanitation services. Translation of this understanding of urban sanitation as a gender sensitive and inclusive service into

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56   WHO-UNICEF, JMP; https://washdata.org/monitoring/inequalities.

practice would require (i) the development and design of city wide time-bound technical blueprints that leaves none behind, clearly indicating and benchmarking planned improvements in service levels; (ii) and identifying and addressing the gender and exclusionary elements that are <u>barriers</u> or <u>prevent</u> the proposed service improvements. In other words, integration of gender and inclusion must be city specific, and to address identifiable challenges that prevent the universal and equal realisation of benefits from sanitation services. Currently, interventions appear to be based on experience elsewhere and assumptions, rather than local evidence and context.

2. **And related to this is the absence of a firmed up functional framework for planning and managing urban sanitation as an inclusive and gender equal service.** Instead, the inclusion and gender equality interventions currently being pursued by the State, appear to be standalone projects which, while having an impact to some extent, may only partially address issues of exclusion and gender inequality. A planning and management framework that is built around addressing the comprehensive range of activities from provision of facilities to the end of the FSM value chain, wherein gender inequalities and social exclusions are addressed as an integral part of interventions, is hence called for.

There are also operational gaps, expected in the initial stages of any new approach or strategy, but are barriers to universal access to safe sanitation facilities and the SDG agenda of covering the last mile and hence, that need to be resolved to realize the benefits of integration of gender and social inclusion. Overall, the specific areas that need to be addressed by the State to ensure that sanitation services are gender equal and socially inclusive are:[57]

- Mapping the excluded population and establishing city and State level inclusive data base by undertaking vulnerability analysis, infrastructure deficiency analysis and mapping inclusion in access and use of facilities. The data will need to be hosted on a public domain for transparency and use by all stakeholders. This data will provide the base for an Inclusive City

Sanitation Plan(ICSP). The ICSPs will address the range of challenges that emerge.

- Targeted support to the vulnerable (excluded) population by bridging service gaps and through it bringing about transformative changes, especially in areas of gender discrimination, discrimination of sanitation workers, etc.

- Embedding equality and inclusion in the project planning and management process by adopting an inclusive planning and management cycle so that project norms and indicators clearly reflect gender and inclusion across functions, contributing to outcomes. Planning for inclusive sanitation will consider conditions of safety, equity and sustainability, and design projects; accordingly, implementation will follow a planned timeline, community involvement and ensure transparency; monitoring and evaluation will include developing State and ULB level M&E framework with indicators of equity, safety and sustainability at the outcome level, at the system function level and at the level of crosscutting issues like gender and sanitation workers. Baseline, Midline and Endline surveys will capture progress and changes.

- Ensuring that the ULBs and other related agencies have embedded structures and processes that ensure accountability, transparency and responsiveness to gender equity and inclusion; private sector players and community institutions, like SLCC/SDAs, SHGs, contracted by ULBs abide by the gender and inclusive policies of the government; establish a regulatory mechanism for pro-poor service delivery as a governance tool for equitable and safe sanitation, while also taking into consideration the interests of the service providers, the government and other users of the services.

- Engaging with communities and strengthen community structures to promote accountability and sustainability; strengthen the channels for information sharing and awareness.

- And finally, building capacities for inclusive sanitation services across all levels of the government and governance.

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57   This section has been developed from a draft Inclusive Sanitation Policy prepared for the GoO and currently under discussion.

The mandate for eGov

The inclusiveness — in terms of gender and other socially excluded groups — of eGov's digital platform for ensuring efficient and seamless FSM services from households and communities to the point of treatment and reuse is to a large extent dependent on two pre-conditions:

i. **The existence of inclusive and appropriate sanitation facilities and their proper use and maintenance by all sections of the community. This would mean that:**

    • Gender and inclusion are an integral part of planning, designing and construction as well as budgeting of the facilities and services. In other words, the facilities cater equally to the specific needs of all population disaggregated by sex, age, disabilities, caste, class, geographical location, etc.
    • Data for planning and managing the project, disaggregated by gender and social group at the community, institution, and household levels, have been generated.
    • Inclusive financing and funding arrangements to enable poor and marginalised households and women to access facilities and services.
    • Systems, including for monitoring of gender equal and socially inclusive facilities and services, is established and operational.
    • Mapping and geo-tagging of settlements and households, together with socio-economic profile, has been undertaken.
    • Inclusive community-based institutions have been established to facilitate community participation and local governance.

    Implications for eGov:
    • Work closely with H&UDD from the planning to the implementation stage to understand how gender and social inclusion are being addressed and adopted.
    • Understand the type of gender disaggregated and socially inclusive data that is being generated and used for

planning, designing and managing the project.

• Ensure that disaggregated data required for inclusive planning and operationalisation of digital based FSM services is being generated and is part of the O&M and M&E frameworks.[58]
• Ensure that disaggregated data – by gender and social groups — specifically required for inclusive FSM services will include, the following, apart from data already being generated:

    » Vulnerable settlements by geographical location, levels of poverty, occupation, community/caste.
    » Vulnerable households – women headed, single man/woman, occupied by old people, disabled occupant, occupied by chronically ill or pregnant woman, income levels, type of occupation.
    » Time taken to respond to service request by household
    » Cost incurred and payment methods by households
    » Safety gears and protocol used by service providers/ sanitation workers

• Build capacities of ULBs to operationalise a gender and inclusion responsive FSM digital platform
• Build awareness amongst the service providers on the needs to respond the vulnerable populations/ households

ii. **Awareness and information in the community and amongst all users of sanitation facilities about the need and method of FSM and the services being offered by the ULBs or licensed services provider.**

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58   Currently the FSM Data is collecting household level data on type of house and property, location, the desludging service provided, time taken, payment made etc.

This would mean:

- FSM infrastructure and services are in place and fully operational
- Supply side stakeholders and service providers are fully equipped and trained
- Systems for service requests and response are developed and operational information on FSM service provisions and modalities communicated with all communities

Implications for eGov

- Informing and promoting the availability of a digital platform-based FSM service that could be assessed through various channels, including the most popular mobile application Whatsapp.
- Providing step by step information on how it could be assessed and how the services will be provided.
- Informing about the cost — preferably subsidised for poor communities and slums.
- Creating awareness about the need and frequency of undertaking desludging services.
- Information / tips on how to protect and maintain the facilities so as to keep the pits from getting clogged or overflowing.
- Initially undertaken as an awareness campaign, subsequently the information flow could be sustained through periodic inserts in local newspapers, on bill boards and most importantly as Whatsapp messages to registered clients.

ANNEXURE 1

FRAMEWORK FOR GENDER AND INCLUSION ANALYSIS OF URBAN SANITATION WITH FOCUS ON THE FSM VALUE CHAIN[59]

Enabling Environment For Gender & Inclusive Policies and Programmes

Gender & Inclusive Waste Management Ecosystem (FSM Value Chain)

Gender & Inclusive Facilities, Services and Outcomes

POINTS OF INQUIRY: GENDER AND INCLUSION LENS

A. Status: Facilities, Practices and Outcomes	Policies, Programmes and Enabling Environment	FSM Value Chain (eco-system mapping and on- ground reality)
Demographic Profile • Disaggregated population data (sex, age, socio-economic class/disability) • Number of slums and slum population (disaggregated by sex/age/disabilities)	**Policies (Content Analysis)** • Gender and inclusion in state sanitation policies [60]	**Functions and activities** • Unpack function and activities • Locate points of gender and inclusion interplay and impact. • Assess function and activity gaps (efficiency, effectiveness) • Use of digital technologies/platform

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59   While this framework focuses on FSM, it may also be adapted for other waste management streams

60   Reference:; OUSM Guidelines, 2016; OUSP, 2017; SWM By-laws, 2017-18; FS&SM regulations,2018; GARIMA 2020, Prohibition of Manual Scavengers and their Rehabilitation Act, 2013

Access to adequate facilities at (i) Household level; and (ii) Institutional level (schools, anganwadis, health centers)	Positioning of gender and inclusion vis-à-vis:	Stakeholders in the value chain
Disaggregated data by sex, age, socio- economic class/slums as appropriate on: • Population with access to toilets • Type of toilets (hh/ community/ public/ institutional & type of technology) • Access to networked/ non-networked systems • % of dysfunctional toilets (hh, community, public, institutional) • Access to adequate water supply for toilet (source) • % of toilets with gender/ child and disability friendly designs (hh/ community/ public/ slums/ institutional)	o Vision, principles and approach (political economy and influence of national policies) o Enabling legislative framework/ legislations o Resources and budgetary commitments o Reflections of gender and inclusion in M&E and outcome framework and indicators. o Data and evidence building o Use of digital technologies and platforms in urban sanitation planning and management	• Identify stakeholders, roles, functions, activities, capacities • Define roles and functions by gender and socio- economic groups • Assess use of digital technology in managing the FSM value chain by gender and social groups.
Use of facilities • Reasons for not using toilets (by type of toilets sex/socio-economic group/slums/age) • % population (disaggregated by sex, age, socio- economic class/ disabilities) who have adopted handwashing practices • Reasons for some not practicing handwashing (by sex/ age/ socio-economic groups/ disabilities)	**Overall state policy on gender/ women's empowerment and inclusion [61]** • legislations, policies and programmes that are expected to bring about transformative changes in the urban areas vis-a-vis gender and inclusion. • Gender and inclusion in state sanitation policies	

[61] References: Odisha Land Rights to Slum Dwellers Act 2017, (and Odisha Liveable Habitat Mission (JAGA); Establishment of Slum Development Agency and Ward Committees(2020); SUJOG; The Transgender Persons (Protection of Rights) Bill, 2016, Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995;The Odisha Policy for Girls and Women, 2014 - Sexual Harassment of women at workplace- Prevention, Prohibition and Redressal Act, 2013

Outputs	1. Evidence of inclusion of marginalized population in the benefits and outcomes of sanitation interventions. 2. Gender and inclusion data gaps in urban sanitation.	1. Elements of intent/ commitment for an enabling environment for gender and inclusion in the urban sanitation sector in the state	1. Map of the FSM eco-system, indicating the key players, roles and functions and inter-relationships , identifying barriers and opportunities. 2. Gaps, if any, in informed and responsive integration of gender and inclusion in the FSM value chain 3. Gendered gaps in access to digital technology
	1. Framework for evaluation of gender and inclusion with a focus on waste management streams 2. Roadmap for integrating gender and inclusion into planning and management of FSM value chain and enhancing capacities to access digital tools for efficient performance.		

ANNEXURE 2

CURRENT STATE LEVEL REGULATORY GUIDELINES AND FRAMEWORKS FOR FSM

Andhra Pradesh	• Faecal Sludge and Septage Management: Policy and Operative Guidelines for Urban Local Bodies in Andhra Pradesh • Andhra Pradesh Government Order 134, March 201
Maharashtra	• Guidelines for Septage Management, 2016 • Government resolution to move beyond ODF to ODF+/++, 2017 • Maharashtra state FSM strategy • Government resolution on co-treatment of faecal waste at STPs, 2018 • Government resolution on setting up independent FSTPs at scale, 2019
Odisha	• Odisha Urban Sanitation Strategy • Odisha Urban Sanitation Policy (2016) & ULB's regulation (2018
Rajasthan	• Draft Policy on FSM, 2017 • State FSM Guidelines for urban Rajasthan, 2018
Tamil Nadu	• Tamil Nadu Septage Management Operative Guidelines, 2014
Telengana	• The 2018 State Faecal Sludge and Septage Management (FSM) Policy
Uttar Pradesh	• Guidelines for FSM in Uttar Pradesh, 2018 • Draft State FSM Policy, 2019

Extracted: NFSSM Alliance and NITI Ayog, 2021; Faecal Sludge and Septage management in Urban Areas — Service and Business Models, 2021

ANNEXURE 3

EVIDENCE ON THE GROUND: CASE NOTES

DHENKANAL is one of the two towns (the other being Angul) where a pilot initiative for FSM was launched in 2016-17 under **Project Nirmal.**[62] 90 percent of the households in the Municipality have individual toilets, while others reportedly have access to community and public toilets (17 and 23 respectively).[63] Onsite sanitation, with septic tanks and soak-pits, is the prevailing system, with many of the septic tanks upgraded to double pits over the last few years in compliance with government orders. A single FSTP of 27 KLD capacity has been constructed under Project Nirmal. When the State adopted a policy of convergence, in 2021, the desludging services were extended to the Gram Panchayats, located within 20 Km radius of the FSTP. 49 GPs have so far been tagged to the Dhenkanal FSTP in phases.

The FSTP was initially operated by the Blue Water Company and subsequently O&M responsibilities were handed over to an SHG — a member of the Jeevan Jyothi Area Level Federation (ALF) — on the basis of a service contract between the SHG and the ULB. Six out of the initial seven members of the SHG who were selected to work as a team to manage the Plant, backed out, due to concerns about the nature of work and the continuing social stigma associated with handling sludge. Only one member, who also happens to be the President of the JJ-ALF, remained, and continues to work as the Plant Manager.[64]

A second SHG, from the same ALF, was also selected to manage the operation and maintenance of the cesspool vehicles, including the Call Centre. The contract with the SHG responsible for the cesspool vehicle operations however, was not renewed after the initial year. Hence, while the task of vehicle maintenance has been transferred to the same SHG as that which manages the FSTP, the Call Centre operator has been retained on an individual basis and is paid a salary by the ULB.[65] The plant manager

is hence, currently supported by a team comprising of a plant operator, two drivers and two cesspool operators (from the SC community), a vehicle maintenance technician, a gardener, and a guard, all of whom are male and whose payments are routed through the SHG. The plant manager monitors all the activities, within the plant, keeps the ULB informed about any issues or complications and sends regular reports to the ULB and Call Centre, including that of the activities of the cesspool vehicles. Mobile calls and WhatsApp are the primary means of communication. The FSTP has a computer, however it is rarely used, reportedly, because of network issues.

The Call Centre is located within the ULB and the operator receives and registers requests for desludging. Citizens have the option to lodge a request for desludging service through the single window at the ULB, through telephone (tollfree number 14420), mobile application or online portal (sujog.odisha.gov.in). Details of the caller, service required, location of the house, distance from the main road, date of last cleaning, etc., are recorded by the Call Centre Operator, who then assigns a cesspool truck of the required capacity for service. The information about the household is recorded on Excel sheets and the Fair Register (Desludging Register); hard copies are also maintained. Subsequently, the information is also used for various purposes such as during documentation of Swachha Survekshan and other internal requirements.

The Call Centre Operator forwards the service request and details of the household to the Cesspool Truck Diver and Cesspool Operator through the WhatsApp group that has been created for the purpose, or via telephone. The Truck Driver/ Cesspool Operator in turn contacts the concerned household and collects basic information on the location and accessibility of the toilet, and subsequently carries out desludging, collects the prescribed service fee, issues a receipt, and finally deposits it in the ULB's account. Rs. 1000 is charged as fee for the services of a 3000 litre Cesspool for clients in the urban areas and Rs. 1250 in the Gram Panchayats.

The Cesspool vehicle driver also has the task of safely transporting the sludge to the Plant and emptying it into the designated tank, while the Operator has the additional job of manually cleaning the truck, while protected with approved PPE Kits. The driver and Cesspool Operator work in close coordination during the whole operation and immediately report to the Sanitation In-charge at

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62 Project Nirmal was jointly anchored by Practical Action and CPR with support from BMGF, in close partnership with the ULB and H&UDD.

63 Material Collection Centres(5) and Material Recovery Facilities(3), have also been established under SWM and are managed by SHGs.

64 For SWM, all 23 Wards are outsourced to a private company which deploys sanitation workers, cleaning of roads and open drains in the city.

65 The Plant Manager also initially faced rejection from her friends and neighbours. Reportedly, while some people are still sceptical, the stigma associated with sanitation work has gradually become less potent with sustained awareness generation by the ULB, Practical Action & local leaders.

the ULB when the work of desludging is completed or when they encounter any difficulties or emergency. They also post visuals on the WhatsApp group as evidence during desludging. The Call Centre as well as the vehicle in-charge are informed in case the cesspool vehicle has a break down. The Call Centre tracks the Cesspool truck and the plant operations through GPS. Reportedly, plans to map the septic tanks in the ULB are also under discussions.

On an average the Call Centre receives about 4 to 5 calls a day and the cesspool vehicle makes about 9 to 10 trips. No desludging is carried out after sunset. The calls for service are more in the summer months; and during the monsoons when the number of calls decrease, the Call Centre operator herself calls up households who she may assess as needing desludging services. Only around 25 percent of the calls for service are received from the rural areas. Apart from the fact that the rural settlements are more difficult to access, they are also reportedly, at a relative disadvantage because of the poor levels of awareness regarding the need for desludging as well as information about the availability of such service with the ULB.

The SHG is contracted on a contract value of Rs. 1.30 lakhs. The Call Centre Operator is paid a salary of Rs. 11,000 per month, while the truck driver and cesspool operator get Rs.14,000 and Rs. 11,000 respectively.

The sanitation team in the ULB, led by the Municipal Engineer and consisting of a Sanitation In-charge, Sanitation Inspector, Health Assistant (Sanitation), Sanitation Expert (Outsourced), and Swachh Supervisors with a team of 25 Swachh Sathis, provide technical and managerial support to the Plant and to the FSM operations. Dhenkanal, has instituted a system of need identification and planning for sanitation interventions through a participatory approach and regular ward level meetings are held together with ULB officials, ward residents, Swachha Saathis and Swachha Supervisors, with the Executive Engineer being the final authority to take decisions. Regular monitoring of the activities is undertaken by the Municipal Engineer and the Sanitation Expert, and data is collected and updated on Ama Shahara Mobile Application daily. The Swachh Sathis act as the bridge between the community and the service provider.

Interactions with the community[66] confirmed that Dhenkanal was ODF and that the Swachatta Sathis regularly

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66   Refugee Colony, WN 02; and

monitor their respective wards. In the slum settlements, most of the toilets have been provided with double pits or converted to twin pit-septic tanks over the recent years; the non-slum settlements, on the other hand, have generally had single tanks that have not always been constructed according to the specifications prescribed by the ULB. The households in the slums contact the Swachatta Sathis when they want to de-sludge their pits and the latter in turn help them register with the Call Centre for services. The non-slum communities report that they too utilise the services of the ULB for desludging, and it generally takes about 2-3 days for the service to be provided. Institutions like the anganwadis are adequately equipped with toilet facilities and use the services of the cesspool operators through the offices of the Swachata Sathis; A 11 member SHG in the slum is responsible for awareness creation and information dissemination.

The process of creating and grounding a FSM system in Dhenkanal has been promising, but full of challenges, that still need to be resolved. They are primarily related to promoting the practice of desludging in the community and the technical and institutional capacities of the ULB to drive this change.

BARIPADA, the oldest municipality in the state, is in the tribal district of Mayurbhanj and was declared ODF in 2018. There are 10 community and 10 public toilets in the city, owned by the ULB and managed by Sulabh International. Onsite sanitation system, with a large percent of septic tanks connected directly to open drains, is the most prevalent containment pattern reported here.

FSM activities started in 2019, and the Shradha Saburi ALF has been managing the FSTP since 2020 with a team of 13 workers on a contract value of Rs. 1, 10,000 per month. A private operator has been looped into the system and two ULB vehicles have been allotted to the operator who runs it with the support of three drivers and three cesspool operators. The private operator is responsible for minor repairs on the vehicle, while the major ones are the responsibility of the ULB. The vehicles are monitored regularly and a fine imposed if it does not comply with the safety standards and other mandatory requirements.

The ULB, on the other hand, has one driver and one cesspool operator. The private operator must pay Rs. 50,000 per vehicle to the ULB every month for an estimated 225-250 trips per vehicle, per month. In case the trips per month

crosses the 250 mark, an additional Rs. 200 per trip must be paid to the ULB. For the user, the cost per trip is Rs. 1,150 for a 3 KL capacity vehicle and Rs. 800 for a 1 KL capacity vehicle. Currently the ULB and the private operators together undertake an average of 420-450 desludging trips in a month. The ULB has appointed a Call Centre operator on a remuneration of Rs. 8000 per month. Calls are received through a helpline (14420) or requests registered in person by the users at the ULB. Records of requests for services and action taken are maintained manually in a register and the work coordinated between the Call Centre operator, desludging Operators and the FSTP.

In a typical slum settlement like the Raghunathpur Sadak Sahi slum — a tribal community with 95 households — only a small percent of the households have individual toilets with single septic tanks. The toilets were constructed by a contractor who was paid Rs. 8000 by every household. There is also a 5 male and 4 female seater community toilets in the slum. However, most of the residents of the slum, reportedly use the public toilet, managed by Sulabh International, and open from 4.30 am to 9.00 pm.

In SAMBALPUR, located in the western part of Odisha, 85 percent of the households (total households over 77,000) have individual toilets. In addition, there are 53 community toilets and 17 public toilets. However, there is only one FSTP of 20 KLD capacity to cater to the sludge generated; the FSTP, has not been functional for a while now.

The Maa Pateneswari SHG has been maintaining the FSTP since 2019. The SHG has 11 members (Plant Manager, Sanitation Workers, Gardener, Securities, MTS) in its group and has been contracted for a monthly value of Rs. 92,000. The Plant Manager-cum-Lab Technician is responsible for the Laboratory related work, generating vouchers and the overall supervision of the FSTP. Technical and Management support is provided by the OWSSB (Asst. Executive Eng.) and the Sambalpur Municipal Corporation. (Municipal Eng, and Jr. Eng) Cesspool services are provided upto 20 Kms radius with normal service charges. Beyond that the charges are higher due to fuel expenses (1 Lt Diesel per additional 3 Kms).

There is no dedicated call centre in Sambalpur to manage the desludging services. Instead, a 24 X 7 Helpline number 14420 is operated and managed by OWSSB. The work is supervised by the SE-OWSSB, who maintains a basic register at the ERSU cell. The ULB operates a 1000 litre cesspool vehicle with 1 dedicated driver and 1 operator;

besides, three private desludging operators with cesspools of 3000 and 1000 lts capacity have also been given the license to operate; the license has however, expired and needs to be renewed.

Kusum Pada is a slum, within the city with around 200 households. With only around 20 percent of the households having access to individual toilets and with no community or public toilets in the neighbourhood, a significantly large number of people continue to defecate in the open. The toilets are of the single pit type and desludging is unknown to the community. The slum is proposed to be developed as a model slum and an SDA has been formed and is active. The women in the community are active too and have approached the SMC several times for facilities and services. However, while they have received some positive response on programmes like PMAY and MUKTA, the ULB is sluggish to any request for improved sanitation services.

Kadam Mal, on the other hand, is a small slum on the outskirts of the city, consisting of 72 households, none of whom have an individual toilet. While 20 households have reportedly applied for toilets, a 10-seater (5 each for men and women) community toilet has been constructed and is operated by an SHG. However, due to a shortage of funds and irregular payments by the ULB, maintenance of the community toilet is poor. Besides, there is no provision for bathing and piped water supply in the community toilet. And hence, only few people tend to use the facility, making it even less sustainable. And not surprisingly, residents are unaware of the desludging facilities. Recognised as a Biju Model Slum, an SDA as well as an SHG has been constituted; however, both are primarily involved in MUKTA projects such as road and other infrastructure development interventions.

CUTTACK Municipal Corporation (CMC), bordering Bhubaneswar, has a population of almost 6.3 lakhs (2011 Census) spread across 59 wards. Over 6500 household toilets and 42 community and 24 public toilets cater to the needs of the population within the jurisdiction of CMC, with many of the community toilets having come up under Project Samman in 2018-19. CMC is now focusing on promoting individual toilets rather than community or public toilets. A FSTP of 60 KLD capacity and an SeTP of 39 MLD have been constructed and currently handle the sludge and septage generated in the municipality; another SeTP of 60 MLD capacity is to soon become operational.[67]

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67 14 MCCs, 10 MRCs (only 3 operational) have also been set up to manage the solid waste generated within the MC. Cuttack also has a water treatment plant of 129 MLD.

The FSTP however, has not been functional for the past couple of months as both the motor and pump have technical problems. Besides, reportedly the viscosity of the sludge is also high.

Since 2020 the O&M of the FSTP has been entrusted to the Bahucharamata Transgender Group (T-SHG) through an annual contract (value of Rs. 1.32 lakhs). While the Public Toilets have been contracted out to Sulabh International and Manju Services, the Community Toilets are being managed by Manju Services and the Community Groups formed under Project Sanmman. However, after the first contract period had expired, subsequent contracts with the T-SHG for the FSTP have been limited to six months; and that of the community toilets under Project Sanmman have not been renewed, for reasons that are not clear.

The T-SHG group managing the FSTP consists of ten members, including the President. While each of them has responsibility for various tasks in the FSTP, like sweeping, gardening, gatekeeping etc., the sanitation related work has been assigned to two male workers hired for the purpose. Besides, two guards have also been appointed at the FSTP as the T-SHG members cannot stay the night at the Plant. A Lab Technician too has also been hired on contract from outside the T-SHG. Each of the T-SHG member receives a salary of Rs. 10,000/month. However, payments are irregular and although they have been registered under the Garima scheme, the benefits are yet to be rolled out.

Unlike Dhenkanal, there is no call centre in CMC for desludging services, and instead the calls are attended to by a ULB staff assigned for the purpose, and vehicles assigned for desludging. Requests for desludging are made directly by the citizens who visit the ULB or through a dedicated helpline number (14420) which was not functional at the time of this field visit and was under process of being transferred to the office of the WATCO.

The ULB has two cesspool vehicles of its own, one of which was given to the male SHG for operations but broke down soon after and is yet to be repaired. Besides, 4 private operators have also been given license to operate in the CMC and between them have 12 vehicles of 4000, 3000 and 1000 litres. The private vehicles must pay an annual licence fee of Rs. 24,000 per vehicle, which is far more than the Rs. 1000 recommended by H&UDD. The driver/ Cesspool operator of the ULB operated vehicle is informed about desludging service requirements by the dealing assistant from the ULB through mobile calls. After confirming the location and accessibility of the service point, the driver and the cesspool operator together move to the point and complete their work.

In the case of the private operators, requests for desludging are routed through the ULB or directly by the user. The relationship between the ULB and the private operator is largely limited to issuing the annual license and some cursory checks on compliance. The private operators reportedly, receive very few calls in a day and hence, find it difficult to sustain their operations. The private operators also point out that several households within the CMC have connected their septic tanks or overflow pipes directly to open drains and hence do not require desludging services.

Nuapatana is a slum settlement in ward No. 59 of CMC where only about 10 percent of the 60-70 households have individual household toilets. Around 20 households had received grants under the Awas Yojana but did not construct a toilet along with the house and chose to continue to defecate in the open. In addition, a Community Toilet (five male and four female seater) was also constructed and was maintained by Project Sanmman. However, the ULB's contract with Project Sanmman ended a while back and has not been renewed yet. The caretaker tried to continue to operate the toilet but could not sustain it inspite of increasing the user fee from Rs. 3 to Rs. 5 per use; eventually it was closed as the footfalls were very low to make it viable. Of more concern, and perhaps the real reason for the CT to be shut down, was the overflow from the septic tank and the ULB's reluctance to clean and restructure it without payment from the agency.

The Jai Ma Mangal Adarsh Colony is another low-income settlement in Cuttack consisting of about 700 families. This is a recently resettled colony under the JAGA Mission along the banks of the Mahanadi river. Originally the colony consisted of about 150 sanitation workers, subsequently more non-sanitation worker families were added. 80 percent of the women here work as sanitation (sweepers) workers with the CMC and complain of delayed salary payment and lack of coordination between the private SWM agencies and the ULB, who together, manage the collection and disposal of solid waste in the city.

The Adarsh Colony households were each allotted 15 square feet of land and Rs. 50,000 for constructing a house. Piped water has been provided, although the supply is intermittent and available on alternate days. Besides, funds for group toilets — one for every 10 households — was provided as part of the resettlement package, which was pooled together to construct two community toilets — one for male and another for female. The construction was undertaken by a private contractor recommended by the ULB, while the toilets are being maintained by the community with a user fee of Rs. 100 per household. As the quality of construction is poor (the septic tanks were overflowing out into the open at the time of the visit) and the maintenance is not organised and sustained, many of the households prefer to defecate in the open on the banks of the river.

In a nearby non-slum settlement, on the other hand, the scenario is somewhat different. The toilets are mostly of the single pit/ septic tank variety. Few of the septic tanks have been mechanically de-slugged. Restriction of space and accessibility makes it difficult to carry out desludging and many of the households' resort to cleaning the tanks manually with the help of manual sanitation workers, while others use motor pumps and discharg the sludge into open drains during the night. The private operators, who largely provide service to this area, do not follow any safety rules, are not equipped with safety kits and any spillage is just left to dry out in the sun.

The CMC is facing several challenges in the sector, the major one being that of accountability of the ULB and inefficiencies in programme implementation. FSM does not appear to be a priority of the ULB and there are delays in payments, poor redressal of public grievances, inadequate number of cesspool vehicles with the ULB and persistent practice of manual scavenging and non- compliance of PEMSR Act.

ANNEXURE 4
MAPPING THE URBAN SANITATION ECO-SYSTEM IN INDIA (FOCUS ON FSM)
Conceptual Framework

Urban Sanitation Communities (Typologies)		Community Environment	Relationships
Description	Constituents of the urban sanitation eco-system — three key communities with the Citizen-Users at the core of the ecosystem. Each community is complex and a unique mix of sub-sects	Each community creates its own environment with its unique nature and functions. The evolution of each environment is influenced by a set of internal and external factors (Indicators and Attributes)	Each community establishes internal relationships, and relationships with other environment types to create the urban sanitation ecosystem. The nature of relationship within and between communities and mechanisms of the relationships may create barriers as well as provide opportunities for the ecosystem
Citizen –Users	**Sub-sects of citizen-users historically created by social norms and construct, and levels of economic empowerment:** • Homeless, transient workforce • Slum Households • Non-Slum Households • Differently-abled & Transgenders • Women and girls (cross-cutting) • Institutions	• Behavior and practices — individual and collective • Tenure status of households and settlements • Neighborhood typologies • Housing structures • Other infrastructure, facilities, and services • HH income • Demand for services • Norms and regulations of ULBs	**Within Citizen-User communities** • Limited interactions • Boundaries exist between neighborhood typologies — especially between slum and non-slum settlements. • Weak local governance and structures are barriers to community cohesions and city-wide and inclusive sanitation approaches. (Ward Committees are absent in most ULBs across States) • Strong and empowered community institutions, wherever they exist, enable inclusive access and use of sanitation facilities

Service providers	Mix of Welfare State and Market Economy • State agencies • Non-State agencies • Community institutions • NGOs • Informal/ un-organised sector (including sanitation workers and small-scale vendors and cesspool operators) • Private — For Profit	• Sanitation coverage (including years of coverage) • Development of the sanitation value chain and models (technology, management, and governance) with for profit small and medium scale operators in the Conveyance and disposal stage and not- for-profit operations at the Treatment stage. • Traditional service providers as stakeholders (informal sector) • Capacities (including empowerment) of community institutions • Viability for private sector • Rights/ inclusion- based mandate of NGOs • ULBs — gap filling function • ULB — Enabling environment	**Between Citizen Users and Service Providers (FSM)** • Interactions are primarily for desludging services — individual sanitation workers/ direct call to private cesspool operators/ cesspool operators through the ULB's • Constrained by lack of information on both need and process of desludging, on accessing desludging services and because of lack of funds **Between Citizen Users and Enablers/ Regulators** • No direct relationship with national and State level entities; limited awareness about national/state policies and legislations • Limited awareness about ULBs roles/ responsibilities, accountability, grievance redressal mechanisms • Relationship with ULBs limited to accessing subsidies, if any, and request for desludging services or other related grievances. **Within Service Providers** • Weak mechanism for collaboration/ coordination between service providers,
Influencers	Influencers are defined here as all non-state entities including international and bilateral agencies, domain networks, NGOs, CSR organizations, Research organizations, etc., who shape the sector through their inputs including funds and capacity development. They work across various levels of governments and through State and non-state entities.		

ANNEXURE 5
CHECKLIST FOR REVIEW & DISCUSSIONS

Stakeholder	Leads For Review / Discussion
HUDD	a. Urban sanitation policy and focus on FSM and SWM; Is there an explicit policy on gender equality and social inclusion in the sector, including sanitation in the slums; has a strategy for sanitation at the time of crisis and disasters been developed in the light of the recent pandemic? b. What are the priority areas in sanitation – Toilet Coverage/ Waste Management/ O&M and Sustainability? c. What is the system of planning and management for urban sanitation? d. What is the implementation structure and service delivery mechanisms; what kind of institutions and systems have been developed for urban sanitation, FSM and SWM? e. What is the extent and nature of participation of the private sector in urban sanitation intervention — focus on FSM and SWM? What is the state policy on private sector participation? f. What is the status of innovations and technology in the sector? What are the priority areas? g. What is the extent of participation of ULBs (Elected Representatives and the Executive) in the sanitation agenda; participation of women ER h. Which are the other state departments and agencies that HUDD engages with to take the urban sanitation agenda forward; the nature of engagement, tensions and challenges? i. Which are the non-government agencies and external agencies that HUDD partners with for SWM and FSM; nature of partnership j. What is the enabling environment for planning and implementing inclusive urban sanitation in the state (policy, legislation, institutional structure, capacities)? k. What are the challenges, if any, faced by HUDD in planning and implementing inclusive sanitation in the urban areas of the state, especially with reference to SWM and FSM. What are the challenges related to (i) systems, (iii) data generation and management, (iii) digital tools and use; (iv) human resource and capacities; (v) institutional structures and coordination l. What is GoO's policy on social inclusion; gender equality and women's empowerment; children and adolescents in general

SUDA	a. SUDA's role in facilitating the provision of safe sanitation in the slums; does SUDA attempt to make slums a part of a city wide inclusive sanitation system? b. Engagement and contribution of flagship programmes like JAGA Mission, Garima, Mission Shakti to urban sanitation programmes and initiatives c. What is the role of community institutions in ensuring sanitation in the slums — Slum Development Associations and SHGs; how effective and sustainable are these institutions? d. SUDA's engagement and partnership with other agencies to take its sanitation agenda forward?
ULB Executive Engineer/ Deputy Commissioner (Sanitation)/ Nodal Officer - Sanitation	a. Profile of sanitation in the ULB — Number of household toilets; number of community/ public toilets; status of FSTPs/ SeTPs/ MRCs; sanitation programmes being implemented (SBM/FSM/SWM); has the ULB been declared ODF; any externally/CSR supported initiatives b. Description and details of the FSM programme in the ULB c. Institutional structure and capacities to plan and implement sanitation; (focus on FSM with broad reference to SWM); what functions are undertaken by the ULB and what is outsourced to private agencies/ contractors? Roles and responsibilities. d. What is the system for need identification and planning for sanitation interventions? What kind of data is generated and used for planning for sanitation? How are sanitation projects monitored? e. What has been the achievement in sanitation in general and FSM in particular? f. What are the challenges faced? g. What are the modalities for convergence with the GPs? What are the challenges faced?
ULB – Call Center Operator/ Dealing Assistant	a. Role and functions of the Call Center Operator/ Dealing Assistant b. Type of consumers who get in touch with the call center/ Dealing Assistant? (socio-economic group/ male / female) c. What is the process of lodging a service request and responding to the request? What are the challenges faced by the Call Center Operator and the Dealing Assistant? d. What technology is used for registering sanitation service request and undertaking the job? How are records kept, maintained and used? e. How are the activities and relationships coordinated between the call center, the operators and the FSTP? f. What are the challenges in the project? How can the functions be improved and be made more efficient?

FSTP — Plant Manager/ Operator	a. What are the functions/ and activities in the FSTP? b. What is the profile of the management team in the FSTP – how many people are employed, their roles and functions? c. Who supervises the activities of the FSTP team? d. Who provides technical and management support to the FSTP team? e. What are the challenges faced and how can the functions become more active? f. Do you get sludge from the GPs? What are the challenges faced?
FSTP — Truck Driver/ Operator (sanitation worker)	a. The role and functions of the truck drives and operators b. The relationship between the truck drivers and operators c. The profile of the truck drivers and operators d. Who supervises their work and who do they provide service to? e. How many of the truck drivers and operators work directly for the ULB and how many are private operators/ truck drivers; what is the difference, if any, in their status and relationship with the ULB? f. Do you provide service to the GPs? What are the challenges faced?
Private De-sludging Operators	a. How many private desludging operators are there in the ULB? b. What is the role of women in the process? c. What is the difference in work, remuneration, etc. between the private operator and the operator from the ULB? d. What are the modalities for convergence with the GPs? What are the challenges faced?
Private Vendors — suppliers of machines and equipment	e. Where do the various machines and trucks for sanitation services come from? f. What is the mechanism for procuring goods and services in the ULB? g. Who is responsible for the maintenance of the machines and equipments? h. What are the challenges faced in undertaking this function and in this role?

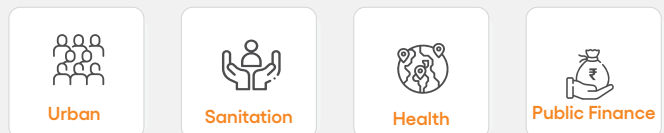|	
Users: Slum Communities	a. What % of HH have toilets — what type of toilet (networked/non- networked); What type of septic tank? b. Have they received any support or benefits from the ULB or state agencies? c. Where do those who do not have toilets defecate? d. Are the local schools, anganwadis and PHCs adequately equipped with toilet facilities and services? e. Have they used desludging services — ULB/ Private? What has been the experience? f. Is the community satisfied with the HH and institutional facilities and services? If not, what are the issues? How have they tried to resolve them? Who did they approach? g. What has been the achievements and challenges? h. Is there a community institution like SDA or SHG? If yes what is their role in sanitation?
Users: Non-Slum Communities	a. What type of toilets do they have? b. Have they at any point of time de-sludgged their septic tanks? If yes what was the experience and who all were involved?
Users: Community/ Public Toilets	a. What type of toilets are the community/ public toilets? b. Who owns it ? c. Who is responsible for the O&M and who actually does it? d. Have they used the desludging services anytime? If yes what was their experience?
Users: Institutions (schools, anganwadis, health centers)	a. What type of toilets are the community/ public toilets? b. Who owns it ? c. Who is responsible for the O&M and who actually does it? d. Have they used the desludging services anytime? If yes what was their experience?

ANNEXURE 6
LIST OF PEOPLE INTERVIEWED

SL.NO.	NAME / DESIGNATION	ORGANISATION	STATE/DISTRICT
1.	Prashant Kumar Mohapatra/Project Director, PMC	OWSSB	Bhubaneshwar
2	Preeti Prada Panigrahi/ Senior Manager, Civic Participation	Janaagraha	Bhubaneshwar
3	Rashmi Patel/ Project Team Lead	UMC	Bhubaneshwar
4	Dr. Hrudananad Mohanty/Team Lead and Research Fellow	CPR	Bhubneshwar
5	Sulochana Sahoo/ Call Centre Executive	Member of ALF, contracted by DM	Dhenkanal
6	Uttam Panda/ Sanitation Expert	Municipal Corporation	Dhenkanal
7	Manju/ FSTP Manager (with Plant Operator, Vehicle Maintenance Operator, Gardner, Watchman)	Dhenkanal FSTP (Member of ALF contracted by DM)	Dhenkanal
8	Bandana Barik/Swachh Sathi	Community	Dhenkanal
9	Atanu Kumar Samant/EO	Dhenkanal, Muncipality	Dhenkanal
10	Rashmita Mishra/ Municipal engineer		Dhenkanal
11	Prakash Sethi, Kulu Singh	Community	Dhenkanal
12	Biraj Sahu, Puja Mohapatra	Users of CT(Community)	Dhenkanal
13	Tikki Suman (Gardener) Ranjita (Sweeping) Tansushree (President) Sheetal (Secretary)	Cuttack FSTP(Members of the Bahuchara Mata TGSH, contracted by CMC)	Cuttak
14	Sanjibeeta Roy/ Deputy Commissioner - Sanitation)	Cuttack Municipal Corporation	Cuttack
15	Bishnoi Naik+ group of 3 men and 2 women from community	Jai Maa Mangal Adarsh Colony (resettled under Jagaa Mission	Cuttack
16	Chaturi Meher /Secretary	Kusum Pada SDA	
17	Shanker Kahdia/Prsident	-do-	
18	Leenu Kedia/ President	Kadammal SDA	
19	Kuni Kedia/ Secretary	-do-	

20	Anirudha Pradhan/ Commissioner	Sambalpur Municipal Corporation	Sambalpur
21	Devendra Nanda/ Dy. Commissioner	-do-	Sambalpur
22	Ajaya Kumar Behera/ Municipal Engineer	-do-	Sambalpur
23	Sr. Sanitation Expert	-do-	Sambalpur
24	Snigdha/Jaga Mission Fellow	-do-	Sambalpur
25	BB Pattnaik/ Junior Engineer	-do-	Sambalpur
26	Mahabir Meher/ Dealing Assistant	-do-	Sambalpur
27	Arti Naga/ SHG member	Maa Patneshwari SHG	Sambalpur
28	Madhusmita Bag / SHG member	-do-	Sambalpur
29	Pramila Beg/ Junior Engineer	OWSSB	Sambalpur
30	Nayak/Executive Engineer	-do-	Sambalpur
31	Sahadev Kisan/ executive Engineer	-do-	Sambalpur
32	Sidharath Mohapatra/ Telephone Opertaor	-do-	Sambalpur
33	Private Owned Cesspool Operator, Asif	Cesspool Operator (Pvt)	Sambalpur
34	Private SMC Cesspool Vehicle Operator	Cesspool Operator (Pvt)	Sambalpur
35	Gura Singh	Raghunathpur, Sadak Sahi, SDA	
36	Saroj Kumar Sahoo/ ULB Operated Cesspool Vehicle	Baripada Municipality	Mayurbanj
37	Ramesh Singh/ Sulabha Caretaker	Sulabh - Bhanjpur	Mayurbanj
38	Durjyadhan Singh/ Secretary SDA	SDA/ Community	Mayurbanj
39	Amlan Pattnaik/ Nodal Officer FSTP	Baripada Municipality	Mayurbanj
40	Sartha Prayas / Sanitation Expert,	Baripada Municipality	Mayurbanj
41	Santosh Mohanty/ Sanitary Inspector,	Baripada Municipality	Mayurbanj
42	Gouri Sankar Dash / Sanitation Expert	Baripada Municipality	Mayurbanj
43	Janaki Mukhi/ Operator	Baripada Municipality	Mayurbanj
44	Nirupama Swain/ President (FSTP)	Sradhasaburi SHG	Mayurbanj
45	Sonia Tudu /Secretary (FSTP)	Sradhasaburi SHG	Mayurbanj
45	Sakuntala Prabha/Treasure (FSTP)	Sradhasaburi SHG	Mayurbanj

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eGovernments Foundation started its journey in 2003 towards building ease of access and ease of living for every citizen and has been early on the digital infrastructure initiatives. Over the last 19 years, we have worked across India to spur new solutions and enable local capacity to solve problems.

Urban

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| 3 GOOD HEALTH AND WELL-BEING | 6 CLEAN WATER AND SANITATION | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 11 SUSTAINABLE CITIES AND COMMUNITIES | 16 PEACE, JUSTICE AND STRONG INSTITUTIONS | 17 PARTNERSHIPS FOR THE GOALS |

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