



सत्यमेव जयते
Government of Rajasthan



National Institute of Urban Affairs



Sanitation Capacity
Building Platform



Rajasthan Urban Sanitation Stakeholder Consultation Workshop

A REPORT

HCM RIPA Auditorium
Jaipur, 21st July 2017



About Sanitation Capacity Building Platform

The Sanitation Capacity Building Platform (SCBP) is an initiative of the National Institute of Urban Affairs (NIUA) with the support of Bill and Melinda Gates Foundation. It works within the framework of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Swachh Bharat Mission (SBM) Urban programmes, and on the directions of the Ministry of Housing and Urban Affairs (previously known as Ministry of Urban Development). The SCBP is a platform of credible expert institutions, most of which are aligned under an umbrella body called the National Faecal Sludge and Septage Management Alliance (NFSSM Alliance).

The SCBP supports activity-based Faecal Sludge Management (FSM) learning, policy and capacity building of officials of urban local bodies (ULBs), elected representatives and the private sector. The Platform has supported State Governments and city officials in Uttar Pradesh, Bihar and Andhra Pradesh in 2016 and has now expanded its scope to Rajasthan and national nodal training institutions for capacity building and outreach at the national level.

(Brochure on SCBP: Annexure 2, SCBP Partner Profiles: Annexures 3-6).

In 2016, the SCBP undertook a Capacity Needs Assessment in Uttar Pradesh, Bihar and Andhra Pradesh. The findings of this assessment helped identify and develop specific faecal sludge and septage management (FSSM) capacity building recommendations for beyond the six towns where the assessment was undertaken. *(Recommendations in Box 1)*

Following this, in early 2017, NIUA and its partner Consortium of DEWATS Dissemination Society (CDD Society) undertook an assessment of 100 small towns of Rajasthan to assess the situation of urban sanitation, septage and waste water. NIUA along with SCBP partners and the Department of Local Self Government (DLSG), Government of Rajasthan, and the City Managers' Association (CMA) developed a capacity building plan for the state.

Proceedings

The consultation workshop conducted in Jaipur was a joint initiative of NIUA for the Urban Sanitation and the Heritage Programme initiatives. This report focusses on the proceedings related to Urban Sanitation initiatives only.

(Agenda: Annexure 1)

Purpose of the Urban Sanitation Workshop was sharing and finalization of :

1. Findings and recommendations of the 100 Towns Assessment for Faecal Sludge, Septage and Waste water management and the next steps
2. FSM Capacity Building Plan for Rajasthan ULBs for 2017-18

The workshop was presided over by Dr Manjit Singh (IAS), Principal Secretary, Department of Local Self Government, and Shri Pawan Arora (IAS), Director & Joint Secretary of Local Bodies, Department of Local Self Government, Government of Rajasthan. Officials of ULBs from 40 towns across the state, senior officials from Rajasthan Urban Infrastructure Development Project (RUIDP) and Rajasthan Urban Drinking Water Sewerage & Infrastructure Corporation Limited (RUDISCO), sanitation experts and NGO functionaries attended this event.

Key recommendations from Capacity Needs Assessment Urban FSSM, SCBP, 2016: Priority areas of FSSM capacity building in general and for State governments and ULBs

• **SCBP Strategy for FSSM Capacity Building**

- (a) Capacity building for FSSM should be state wide for all sanitation and parastate water and sanitation agency staff.
- (b) FSSM capacity building is more than formal classroom based training; it should incorporate a set of activities based on capacity building support.
- (c) Formal training modules for FSSM capacity building should start with a basic FSSM exposure and orientation for higher level ULB functionaries and elected representatives.
- (d) State nodal training institutes are best suited to deliver the FSSM capacity building work.
- (e) Hands-on support for implementing incremental FSSM improvements at town level a critical input.
- (f) National level urban sanitation research and advocacy needed.

• **Priority Capacity Building Areas for FSSM**

- (a) Technology options for FSSM should be left to ULBs to choose from what is available in the market.
- (b) Develop financing options for setting up faecal sludge treatment plants (FSTPs) needed and capacity of ULBs for accessing them.
- (c) Use appropriate frameworks and tools for FSSM planning, depending on the ULB capacity and need.
- (d) Integrate FSSM into the service level benchmarks (SLBs) for urban local bodies' performance rating
- (e) Developing appropriate training modules for different levels of ULB staff and stakeholder and align or AMRUT and SBM capacity building modules.

• **FSSM Promotion by State Governments**

- (a) Have an incremental framework for addressing sanitation and FSSM. States should aim to achieve open defecation free (ODF) cities and then ODF + and ODF ++. FSSM to come under ODF and ODF ++.
- (b) Provide an incentive fund for ODF cities to adopt FSSM.
- (c) Strengthen systems at state level to enable FSSM and sanitation uptake.

- (d) Strengthen the ULBs by creating a cadre of permanent professional staff for town planning that can also handle FSSM.
- (e) Enable a state level FSSM policy environment
- (f) Develop a state FSSM strategy and mechanism to achieve incremental FSSM improvements starting with a few towns and expanding phase-wise to all towns and cities of the state.
- (g) Institute enabling state level reforms and laws that enable ULBs to enforce norms and regulations for septic tanks, desludging and treatment and disposal.
- (h) Ensure clarity of roles and responsibilities among different parastate nodal agencies for implementing FSSM solutions and for managing O&M.
- (i) Undertake a state-wide FSSM capacity building and orientation programme for all towns of the state and use AMRUT funding for this activity.

• **FSSM Promotion at ULB/Town Level**

- (a) Situate FSSM in the larger urban planning and sanitation context within a city for all aspects of liquid and solid waste management.
- (b) Undertake awareness activities for scheduled desludging/regular emptying of household septic tanks.
- (c) Undertake capacity building of local masons for septic tank construction and maintenance works.
- (d) Create a city level fund to capture potential sanitation funding from CSR, donors and philanthropists.
- (e) Integrate FSSM solutions as part of Master Plan or City Sanitation Plan of town/city.
- (f) Undertake a sanitation census and mapping of towns that is not just a toilet census but also takes into account septage related variables.
- (g) Undertake assessment of the FSSM/septage problem of towns, based on analysis of the census results. Seek guidance from the state to support improvement measures.
- (h) Initiate FSSM improvement actions
- (i) Adhere to national and state level norms and guidelines and parameters for FSSM

Session 1 : Welcome Address by Dignitaries

Following the lighting of the lamp and felicitation of the dignitaries, **Shri Rajendra Vijavargia, Senior Town Planner, Department of Local Self Government, Government of Rajasthan**, briefly addressed the participants. He spoke about the importance of septage management and adopting simple and cost-effective technologies. Acknowledging the technical partnership of NIUA, Shri Vijavargia said that the project could be piloted in certain cities.

Shri Pawan Arora, Director & Joint Secretary of Local Bodies, Department of Local Self Government, Government of Rajasthan, spoke about the emphasis in SBM on ending open defecation. He said that as unsafe disposal of faecal waste is a health and environmental hazard, it was important to address urban sanitation from the toilet construction to the safe conveyance, treatment disposal of human waste. Current trend of small septic tanks that are essentially container systems for storing toilet waste, are not sanitary toilet systems.

Acknowledging that laying sewer lines networks was a costly affair and that not all households in the towns are connected to it, he emphasised the need to look at the septic tank management based solutions that MoHUA and NIUA are promoting as per the National FSSM Policy of February 2017. The narrow lanes of heritage towns of Rajasthan make it difficult to lay sewer systems. Moreover, more water is needed for sewer based systems as compared with septic tank-based solutions, which is a challenge for a water-scarce state such as Rajasthan. Centralised sewerage systems have not only high water requirement, but



also high CAPEX and OPEX challenges to deal with topography issues and pumping and electricity costs, that smaller towns and ULBs may not be able to afford.

Shri Arora identified the following aspects in which ULBs could engage:

- (i) Identification of places where FSM is needed
- (ii) Financial management
- (iii) Educate and inform people about importance of FSM
- (iv) Type design
- (v) Costing evaluation
- (vi) IEC and creating the right environment
- (vii) Identification of space for faecal sludge treatment plants (FSTPs)
- (viii) Planning capacity of FSTPs



Shri Arora said that the assessment of 100 AMRUT towns undertaken by CDD Society and NIUA revealed that FSM can be useful in those towns. He also added that the role of ULBs was significant in facilitating community participation, technical knowhow, identification of land and acquiring appropriate vehicles. He ended with the hope that the workshop would help pave the way for addressing urban sanitation in Rajasthan.

Shri Jagan Shah, Director NIUA, stressed the need for integration of different development agendas that the Honourable Prime Minister has been advocating in a slightly different context at the national level, with the slogan Sabka saath sabka vikas. Through this workshop and with the active support of DoLSG Rajasthan, NIUA is trying to integrate Heritage Development with Urban Sanitation as these are complimentary in nature. He further added that urbanisation requires planning and that addressing emerging sanitation challenges was a priority. Technologies, concepts and formal education training systems are needed to develop a basic level of standardised solutions. Lack of standardisation, he voiced, may emerge as a major challenge in future.



Shri Shah also spoke of the importance of partnership between the local government, the citizens and the private sector for investment in FSSM. He ended by emphasizing the importance of an inclusive approach stemming from convergence, planning and public private partnership for urban sanitation.

Session 2 : Presentation of Report of Rajasthan Urban Faecal Sludge and Septage Situation

Shri Amresh Sinha of CDD Society presented the findings of the Rapid Assessment of Faecal Sludge and Septage Situation in 100 Towns of Rajasthan. (*Presentation by CDD Society: Annexure 7*)

Q&A session: A participant expressed concern over how arsenic would be separated from the drinking water and waste water. The type of treatment (anaerobic vs aerobic) and the type of plants and bacteria for treatment of waste water was discussed. The example of Devanahalli FSTP near Bengaluru was given by CDD Society to highlight its odourless operations since the last two years.

Key Recommendations: Rapid Assessment of Faecal Sludge and Septage Situation in 100 Towns of Rajasthan

- Sewerage Treatment Plant is not the ideal solution for a state where more than 59% of the small towns studied receive only 40-70 LPCD of water that is insufficient to run sewerage system based solutions. FSTPs should, therefore, be promoted as a state level policy. Any alternative technology options including Small Bore Sewerage Systems should be assessed for its cost effectiveness and O&M vs. setting up FSTPs.
- The state should promote adoption of safe sanitation norms – lined, properly designed septic tanks as per CPHEEO standards that are viable containment and primary treatment systems. Unlined septic tanks that are large storage pits are polluting the ground water and a major health hazard of the future.
- Sewerage Treatment Plants are proposed for all AMRUT towns and towns above 50,000 population in Rajasthan. An assessment should be made of all left out urban settlements of large Corporations and AMRUT towns. Priority should be for connecting these areas with the sewerage system, if not then co-treatment of septage by emptying using vehicles and trading it in the plant should be done. If both are not possible then setting up FSTPs for left out urban settlements should be considered.
- Capacity building initiatives to support the FSM initiative for a state wide Capacity Building for FSM - basic and advanced orientation of FSM for most ULB officials, elected representatives and private sector.
- Committing funding and developing city-wise incentives for setting up FSTPs.
- A state level FSM Monitoring Dashboard will be useful to monitor implementation, city-level preparedness, incentives and use of FSM grants.

Session 3 : Capacity Building Plan for Rajasthan Urban Faecal Sludge and Septage Management

Shri Depinder Kapur presented the background of the work done by NIUA on capacity building for FSM in UP, Bihar and AP in 2016 and the lessons learnt thereof for developing a year-long capacity building plan for Rajasthan as well as national.

The capacity building plan of NIUA for Rajasthan comprises two components: Technical Support for a few towns and Capacity Building at scale.

Capacity building will include the following:

- (a) Four module-based trainings and exposure visit for state/ULB officials
- (b) Integration of FSSM module into existing training programmes of AMRUT/SBM/RUIDP, provision of resource persons
- (c) Training of Trainers of resource persons for nodal training agencies/academic institutes/NGOs from Rajasthan
- (d) Training programmes for other stakeholders – masons, private operators, consultants

Technical support will include preparation of DPRs for FSTPs, Sanitation Action Plans, support to cities for incremental changes and support to the state in developing necessary policy and regulatory framework for FSSM.

(Presentation by NIUA: Annexure 8)

Ms Utkarsha Kavadi, Director, All India Institute of Local Self Governance (AIILSG), Mumbai, shared the detailed capacity building plan for ULB officials of Rajasthan. The plan comprises three components: Training of Trainers, Training to all ULBs, Training to masons.

(Presentation by AIILSG: Annexure 9)

Session 4: Formal Release of Rajasthan Urban Faecal Sludge and Septage Situation Assessment Report

The Report was released by Dr Manjit Singh, Principal Secretary, Department of Local Self Government, Government of Rajasthan, together with several other dignitaries including Shri Rajendra Vijayvargia, Shri Pawan Arora, Shri S.K. Goel and Shri Jagan Shah.

Dr Manjit Singh, Principal Secretary, Department of Local Self Government, Government of Rajasthan, thanked NIUA and CDD Society for supporting the state government's efforts to address sanitation challenges. He began by saying that the state was a late starter as far as addressing urban sanitation was concerned. Funds allocated for IEC in SBM in Rajasthan had not been spent in most cities, he expressed. Rajasthan is a large state and sewerage systems are an expensive and unaffordable solution to the emerging challenge of urban sanitation, he said. As high a sum as `15,000 crore is estimated to cover the remaining parts of the town not covered by sewerage system, he informed. Hence, decentralised solutions to address faecal sludge, septage and waste water are needed. Dr Singh stressed the commitment of the state to fully support the initiatives taken up by NIUA and CDD in this regard for Rajasthan. The state has come out with a State Sewerage and Waste Water Policy in 2016 and will also be releasing the State FSSM policy soon. Dr Singh requested that CDD Society prepare DPRs for at least 30 cities/towns from among the 100 towns studied.



The workshop ended with a vote of thanks by Shri Vijayvargia.

Annexures

Annexure- 1

AGENDA

Time	Details
09:00 – 09:55	Registration
09:55 - 10:00	<i>Welcome of Dignitaries and Lamp Lightning</i>
10:00 - 10:05	<i>Welcome and Inaugural address</i> Shri Vijayvargia , Senior Town Planner, Directorate of Local Bodies
10:05 - 10:10	<i>Release of Report on Sanitation and Septage Management of 100 Towns of Rajasthan</i>
10:10 - 10:25	<i>Key note address</i> Dr. Manjit Singh (IAS) , Principal Secretary, LSGD, GoR
10:25 - 10:45	<i>Special Address</i> Shri Shrichand Kriplani , Hon'ble Minister, UDH and LSG, Govt. of Rajasthan
Technical Session	
10:45 - 11:00	<i>Talk on Heritage-led Economic Development & Sanitation Capacity Building</i> Shri Jagan Shah , Director, NIUA
11:00 - 11:15	<i>Talk on Heritage and City Development</i> Shri D. Ajay Suri , Regional Advisor-Asia, Cities Alliance
11:15 - 11:40	<i>Inclusive Revitalisation of Historic Towns and Cities of Rajasthan- Approach, Findings, Key Strategies & Stakeholder Roles</i> Ms. Madhurima Waghmare , Team Leader , WB-CA- Technical Assistance
11:40 - 12:00	Experience Sharing by Experts Dr. Shikha Jain , Director, DRONAH, Gurgaon, Haryana Ms. Shruti Poddar- Shruti Foundation, Gurgaon, Haryana Mr. Jagdish - Clayart, Mollela, Rajasthan
12:00 - 12:15	Tea Break
12:15 - 12:25	100 Towns Assessment - Findings: Way forward Mr. Amresh Sinha , Program Manager, CDD Society, Bangalore
12:25 - 12:40	Capacity Building Plan for Septage & Waste Water Management Depinder Kapur , Team Leader, Sanitation program, NIUA Ms. Utkarsha K, Director, AILSG Mumbai
12:40 - 01:00	ODF and ODF + Framework of SBM Mr. Aasim Mansuri , Sr. Research Associate, Centre for Environmental Planning and Technology, University
01:00 - 01:15	Open Discussion
01:15 - 01:30	Way forward & Vote of Thanks Shri. Mukesh Kumar Meena , Additional Director, LSGD, GoR
01:30	Lunch



Sanitation Capacity Building Platform

Goal

To build the capacity of cities and other stakeholders working in urban sanitation to ensure improved delivery of sanitation services through decentralized approaches.

What is the Sanitation Capacity Building Platform?

Sanitation Capacity Building Platform (SCBP) is designed to support and build the capacity of towns/cities to plan and implement decentralized sanitation. The platform also aims to facilitate knowledge and experience sharing among cities on decentralized. Decentralized sanitation is a key solution to accomplish national missions like Swachh Bharat Mission, AMRUT, Smart Cities Mission and Namami Gange programme.

The platform supports the Ministry of Urban Development (MoUD), Govt of India's focus on urban sanitation. It assists states and cities to move beyond open defecation free status by addressing safe disposal and treatment of human faeces.



How Does the Platform Work?

National Institute of Urban Affairs (NIUA) is the anchor organization for this platform which comprises a network of partners who are credible national and international expert agencies. These partners include prominent universities, training centres, resource centres, nongovernmental organizations, consultants and experts such as CEPT University, CDD and BORDA, iDeCK, ASCI, CPR, CSE, WASHI and UMC.

NIUA actively reaches out to towns and states to understand the sanitation situation, assess needs, and develop customized capacity building programmes. NIUA then connects each state and city with the appropriate capacity building partners of the platform. The partners deliver capacity building activities for all stakeholders involved in sanitation value chain, including officials from Urban Local Bodies (ULBs), elected representatives and private sector. NIUA responds to requests and enquiries from states and cities.

Why Decentralized Sanitation?

Ambitious goals of various national missions such as Swachh Bharat Mission, AMRUT and the Smart Cities Mission cannot be achieved solely through conventional, centralized wastewater treatment systems. Given that, 49% of the urban population in India relies on on-site sanitation such as septic tanks and pits, decentralized sanitation options such as Faecal Sludge Management (FSM) and Decentralized Wastewater Treatment Systems are very much critical for achieving the goals for urban sanitation under various national missions. Decentralized sanitation options are scientifically proven solutions to complement centralized systems, serving the underserved, particularly in peri-urban areas and informal settlements.



Faecal Sludge Management is the collection and transportation of faecal sludge from containment system, treatment of the sludge in a designated site, and then safe disposal or reuse of the treated sludge. Decentralized Wastewater Treatment Systems

comprises of sewers to convey domestic wastewater from a neighbourhood or local catchment to a small, local treatment plant where it is treated through a natural processes without any requirement for external energy to operate the system.

Services Offered

- Undertaking FSM situation assessment and diagnostic study of existing sanitation situation of cities
- Orientation and exposure visits for state and ULB officials and elected representatives for understanding Septage and Faecal Sludge risks and challenges
- Supporting national, state and city level FSM Policy and Regulatory reforms
- Institutional capacity strengthening of nodal state/regional level Training Institutions for delivering high quality FSM Trainings
- Facilitating capacity building activities for stakeholders involved in the FSM value chain - government officials, masons, private sector
- Creating knowledge resources and advocacy material on FSM technology, institutional, legal and financial eco-systems
- Preparation of model Detail Project Report (DPRs) for FSM and Learning materials
- Promoting Behaviour Change for moving beyond Open Defecation free status.

Capacity Building	Planning	Implementation
<ul style="list-style-type: none"> • Orientation and exposure visits for understanding Septage and Faecal Sludge risks and challenges • Institutional capacity strengthening through training of trainer programmes • Capacity building activities for stakeholders involved in the FSM value chain - government officials, masons, private sector • Creating knowledge resources and advocacy material on FSM technology, institutional, legal and financial eco-systems 	<ul style="list-style-type: none"> • Baseline data collection on FSM • FSM situation assessment • Diagnostic study of existing sanitation situation • Stakeholder mapping and analysis • Analysis of legal and institutional framework • Policy and guideline formulation 	<ul style="list-style-type: none"> • Model DPRs for Faecal Sludge Treatment Plants and Decentralized Wastewater Treatment System • Planning for emptying and transport services • Transaction advisory for FSM • Designing of Behaviour Change Strategy

Partners of the Platform

Currently there are 10 partners delivering capacity building services on decentralized sanitation. Partners have extensive experience working in the sanitation sector in India and internationally. They have worked closely with many cities in various states and have an excellent understanding of the context and stakeholders. Additional partners will be added to the platform in the future.



About NIUA

NIUA is a premier national institute for research, capacity building and dissemination of knowledge in the urban sector, including sanitation. Established in 1976, it is the apex research body for the Ministry of Urban Development (MoUD), Government of India.

NIUA is also the strategic partner of the MoUD in capacity building for providing single window services to the MoUD/States/ULBs.

The Institute includes amongst its present and former clients, the Ministry of Urban Development (MoUD), the Ministry of Housing & Urban Poverty Alleviation (MoHUPA), Housing and Urban Development Corporation (HUDCO), the Planning Commission of India, City and Industrial Development Corporation (CIDCO) of Maharashtra USAID, World Bank, Asian Development Bank,

GIZ, UNICEF, UNEP, UNOPS, Cities Alliance, Bill & Melinda Gates Foundation, Rockefeller Foundation, Global Green Growth Institute (GGGI), and the Bernard van Leer Foundation (BvLF). Some of the major areas of work include:

- Provide research support to MoUD
- Conduct research studies on contemporary urban issues
- Coordinate capacity building and training activities
- Disseminate information through networks and knowledge hubs
- Analyze and promote policy change agenda
- Monitor and evaluate Government of India's urban programs/schemes

Annexure- 3



About Us

CDD Society is a not for profit organisation formally registered in 2005 to promote decentralised sanitation solutions across the country. To make more of an impact, we work with a network of like-minded partners. We are the primary implementation partner of BORDA-South Asia, in India.

Our Mission

Release of untreated liquid and solid waste pollutants to the immediate surroundings of a community directly threatens the life and well-being of the entire ecosystem – humans, animals and plants. CDD Society's mission is to provide robust and sustainable post-toilet infrastructure with the aim of improving health and hygiene, preserving the environment and securing water resources.



Faecal Sludge Management

Supporting local governments to develop technical solutions, regulatory frameworks and sustainability plans for safe collection, treatment, and reuse of faecal sludge.



Wastewater Treatment

Engineering design and implementation support for natural wastewater treatment solutions at households, communities and in remediation of water bodies.



Technical Capacity Building

Building technical capacities across various stakeholders in the sanitation sector through customized training and field exposure programs.



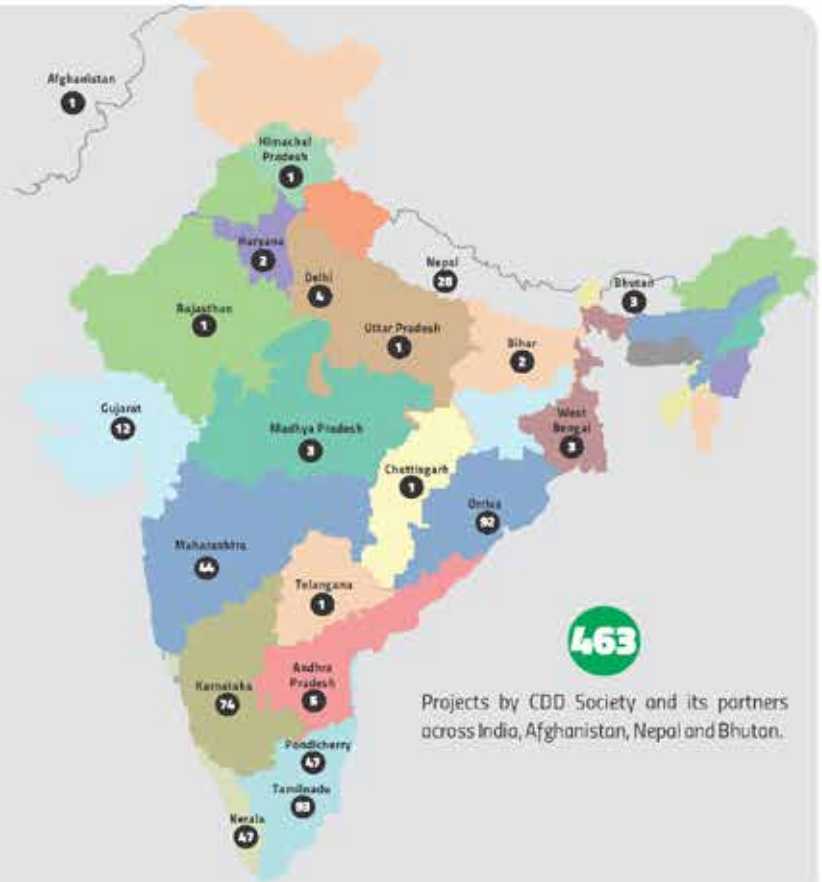
Consulting Services

Partnering with local governments for holistic sanitation planning to address Solid Waste, Wastewater, and Faecal Sludge.



Our Impact

- Setup India's first dedicated Faecal Sludge Treatment Plant in Devanahalli, Bangalore in partnership with the town
- Built decentralised wastewater treatment systems (DEWATS™) for Bangalore Metro Rail, MMRDA Office, ITC factories, IIT Gandhinagar, Aravind Eye Hospital, Flipkart and others; these systems treat wastewater generated by 1.5 lakh people everyday
- Prepared city sanitation plans for several cities in India (Shimla, Kochi, Raipur, Varanasi and others) and 31 towns in Bangladesh
- Trained engineers, city managers and decision makers from 20 countries across the world in decentralised sanitation
- Key Resource Centre for Capacity Building for the Ministry of Drinking Water Supply and Sanitation (MoDWSS)



Our Work

Our team provides solutions across the spectrum – from treating the wastewater of communities, to remediation plans for drains and lakes, to sanitation plans for cities. In order to multiply our impact we dedicate considerable resources to training stakeholders – skilled operators, professional practitioners, municipal engineers, and decision makers. Through these collective efforts we constantly work towards 100% sanitation for all.

Our Approach

At CDD we believe that decentralizing sanitation interventions, with emphasis on leveraging existing infrastructure, is the way to go. With exploding populations urban infrastructures are severely challenged. Vertical growth maxes out capacity and horizontal growth results in unserved areas. Decentralized sanitation options complement existing solutions, enable fast implementation, and require low investments thus preventing pollution

Our Offices

CDD Society's head office is in Kengeri, Bangalore. We have regional offices in Nagpur and Mumbai.

Partners and Funders



Free Hanseatic City of Bremen



Federal Ministry for Economic Cooperation and Development



Ministry of Rural Development
Government of India

BILL & MELINDA GATES foundation



Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Annexure- 4



The Center for Water and Sanitation at CEPT University has been established to focus on improving water and sanitation services in India. We carry out various activities including action research, training and advocacy to enable state and local governments in improving delivery of services.

In 2008 CEPT University received a grant from the Bill & Melinda Gates Foundation for PAS Project, a major action research program on Performance Assessment System (PAS). The aim of this program was to develop better information on urban water and sanitation performance through the use of performance indicators and benchmarks. While, PAS Project remains the Center's main activity, its work has also extended into Sanitation research and action, especially in the state of Maharashtra. Activities now include supporting cities in implementing city sanitation plans, developing decision support tools for sanitation planning, research on innovative financing options and supporting State Government of Maharashtra in implementing the Swachh Maharashtra Mission for urban areas. The Center also provides capacity building of local government officers in use of tools and methods that enable improvement in urban water and sanitation service levels, Integrated Fecal Sludge Management and making cities Open Defecation Free.

To know more about our work on water and sanitation assessments, please visit www.pas.org.in

Our Activities

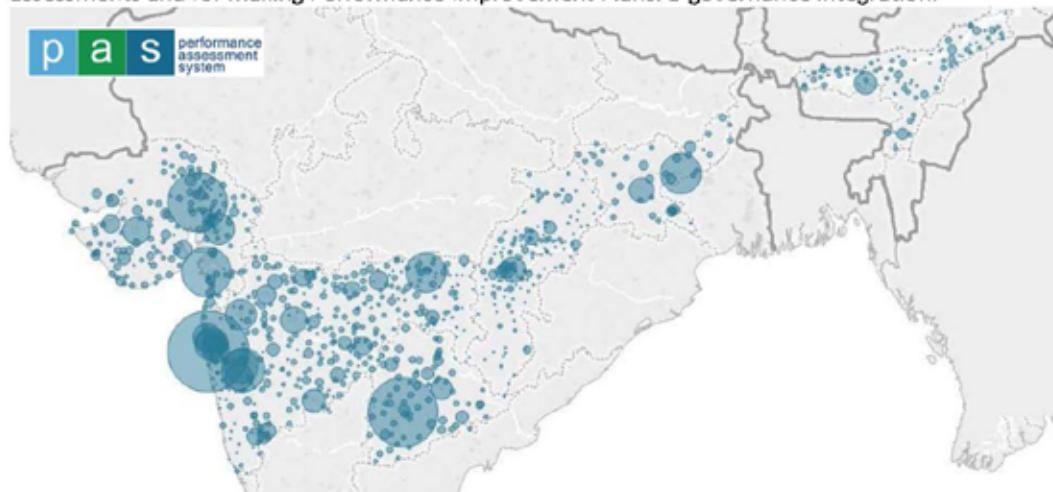
PAS Project

The Performance Assessment System for urban water and sanitation service delivery aims to develop better information on urban water and sanitation performance through the use of performance indicators and benchmarks and help state and local governments improve UWSS services.

The project which began with the states of Gujarat and Maharashtra has now been extended to a total of 6 Indian states including Chhattisgarh, Telangana, Assam and Jharkhand covering 850+ cities of India.

A Performance Assessment Framework was developed with an online portal for UWSS service assessment. These were aligned with the national Service Level Benchmarking initiative and the Centre was designated as National Technical Support Partner to MoUD for SLB.

PAS portal now hosts the largest UWSS database in India. This has further been used for City assessments and for making Performance Improvement Plans. E-governance integration.



Urban Sanitation Research and Action

In response to sanitation emerging as a national priority, the Center has focused its work on urban sanitation.

- Sanitation Service level Assessment
- City Sanitation Planning
- Fecal Sludge Management and Planning
- Innovative sanitation financing mechanisms
- Capacity building for city sanitation
- Contributions to State FSM policies

City Support for Sustainable and Equitable Sanitation

Lack of universal access to quality sanitation services in small and medium of India is a major issue. We pilot our approach in two towns in Maharashtra as a “laboratory” for us to test solutions that can be applied to other small and medium towns, as well as unserved areas in larger towns. The focus is on making the cities Open Defecation Free (ODF), and ODF+ through Integrated Fecal Sludge Management (IFSM).

Support to Swachh Maharashtra Mission

The Government of Maharashtra is determined to make the state ODF by 2017. The Center provides state level support to the Govt. for implementation Swachh Maharashtra Mission for Urban Areas. The Centre has prepared Guidelines and resource materials for making cities ODF, ODF++ and for sustainability.

Financing Water and Sanitation

The Center is exploring innovative financing options for investments in urban sanitation, for the entire sanitation service chain ranging from toilet construction to conveyance, treatment and reuse of waste.

We are also involved in State Sector Finance assessments for Gujarat and Maharashtra.

Urban Water security

Early efforts in the Project have included support to cities for improving their water supply systems through water audits, drawing a roadmap for continuous water supply and focusing on drinking water quality surveillance.

The Center is involved in knowledge management and advocacy for Participatory Ground Water Management and a Toolkit for Urban Water Security Planning has been prepared.

Equity in Municipal Services

In the past the team has supported the Ahmedabad Municipal corporation for universalizing access to Water and Sanitation through a Slum free City Action Plan under the Rajiv Awaas Yojna.

The Center was a partner in an UNESCO-IHE led activity to develop a “Pro-Poor Benchmarking of Water and Sanitation” program.

Tools for assessment and planning

The Center has developed a number of models and toolkits for service assessment, planning and improvement aimed at a range of users.

- SaniPlan: City sanitation planning tool
- SaniTab: Sanitation survey android app
- IFSM assessment and planning toolkit
- Toolkit for Private sector participation in FSM
- Water security planning toolkit
- PAS online Module

Dissemination, Advocacy, Capacity building

The Center is actively engaged in various advocacy and dissemination activities at state, national and global level in sanitation planning, tools and methods.

The Center is a member of various networks such as the SusSaNA, NFSSM, SCBP-NIUA. The team also regularly presents its work at various national and international forums.

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Annexure- 5

Ecosan Services Foundation

Ecosan Services Foundation is a section 8 non-profit organisation established in 2006. ESF integrates a vital mix of software and hardware solutions to ensure that every project represents a self-sustaining confluence. Through its dedicated, technically sound and streamlined staff, ESF promulgates capacity building of stakeholders while providing specialized cost effective technical engineering solutions.

VISION

Ecosan Services Foundation aims to transform into a sustainable key resource centre as a leading knowledge hub in sustainable sanitation and water management.

OBJECTIVES

Strengthening our position in capacity development through training, piloting and demonstration, awareness generation, R&D and coaching new enterprises.

Strengthen our networking platform with national and international experts in the sector.

Open dissemination of knowledge for institutional and individuals' development

Quality Management and organizational learning to highlight best practices in the sector.

PROJECTS

ESF through its extensive network in the Water and Sanitation Sector, partners up with different organization and conceptualises research and development projects. ESF has conceptualised and implemented projects constituting research and development, installing demonstration units, planning and integrated management approach. The projects have been funded by European Commission, Department of Science and Technology (Government of India), GIZ, GTO and others agencies.



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www.ecosanservices.org

CAPACITY BUILDING



At ESF, we realize the potential of the human resource capital conduct capacity building programs. We tailor make our courses with intention of (a) human resource development, (b) organizational development and (c) institutional framework development. ESF offers tailor made courses on Sustainable Sanitation and Water Management (SSWM). The topics and modules range from Integrated Water Resource Management, Faecal Sludge Management, Entrepreneurship Development in SSWM and so forth.

CONSULTING

ESF in one stop solution for all your sustainable sanitation and water management needs. We provide consulting for optimising your water consumption and conserving the precious resource. We expertise in decentralized wastewater treatment systems, ecological sanitation, community development and school sanitation

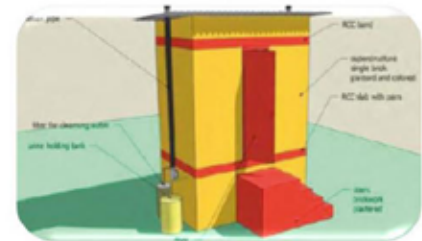
SEWAGE CURE

It is an ecological wastewater treatment system customized to your needs. We adopt a multibarrier approach to make sure that every drop which is treated with our system is safe for reuse for non-potable purposes.



SCHOOL SANITATION

ESF has developed a unique approach towards school sanitation. Along with providing schools with child friendly and easy to operate and maintain. To compliment this and ensure sustainability of the infrastructure, we also institutionalise and build capacities of School Management Committee and Bal Panchayat who are responsible for upkeep of the school infrastructure.



ECOSAN TOILETS

Ecosan toilet is the eco-friendliest toilet allowing the user maximum resource recovery and reuse. The toilet is apt for rural parts of India and is also included in list of toilets in Swachh Bharat Mission.

ECOSAN SERVICES FOUNDATION

1st Floor, 24 Prashant Nagar, 721/1 Navi Sadashiv Peth, Lal Bahadur Shastri Road,
Pune 411 030, Maharashtra, India.
+91 20 2543 0061 | +91 20 6400 0736
www.ecosanservices.org

Annexure- 6

ALL INDIA INSTITUTE OF LOCAL SELF-GOVERNMENT

Established in 1926, the All India Institute of Local Self-Government (AIIILSG) has been guiding Urban Local Bodies (ULBs) for more than eight decades. It has contributed to the principles and practice of urban governance, education, research and capacity building. It has designed and developed a vast array of training literature and courses and trained officials in diverse areas of urban governance and urban service delivery.

These activities of the AIIILSG are practiced through 30 regional centres spread across the country. The Institute anchors the Regional Centre of Urban and Environmental Studies (RCUES) at AIIILSG, Mumbai which was established by the Ministry of Urban Development (MoUD), Government of India (GoI) to undertake urban policy research, technical advisory services and strengthening work capabilities of senior and middle level municipal officials and elected members from the States of Goa, Gujarat, Maharashtra, Rajasthan and UTs of Diu, Daman, Dadra & Nagar Haveli in the Western Region and States of Assam and Tripura in the North East Region. The RCUES, Mumbai is fully supported and recognized as a National Training Institute (NTI) by the MoUD, GoI. The additional chief secretaries of the six states are members of advisory committee of RCUES, Mumbai.

With a view to cater to the growing requirement of ULBs in regard to services, the AIIILSG runs specialized capacity building institutions such as the National Fire Academy, the Nupur Institute of Nursing Science and Research and the Centre for Environment & Disaster Management at Vadodara, PRUDA at Ahmedabad, National Resource Centre, Centre for Equity and the Centre of GIS at Pune. It also runs the Solid Waste Management (SWM) Cell of the Govt. of Maharashtra. In recent years, AIIILSG has also ventured into rural and tribal capacity building and handholding of rural institutions of self-governance.

Over the years, AIIILSG has organized local, national and international seminars and conferences to foster debate on issues of urban relevance with a view to dissemination of ideas, better understanding and policy advocacy. It has undertaken a wide gamut of projects to assist states and organizations in the delivery of specific outputs that they have sought. In all that AIIILSG has done, it has taken care to work with a full range of stakeholders – grassroots organizations, NGOs, ULBs, state and national governments, international organizations, organizations of the UN, research organizations and universities.

Rapid Assessment Of Sanitation Situation In 100 Towns of Rajasthan

JANUARY – MAY 2017



Study Objectives



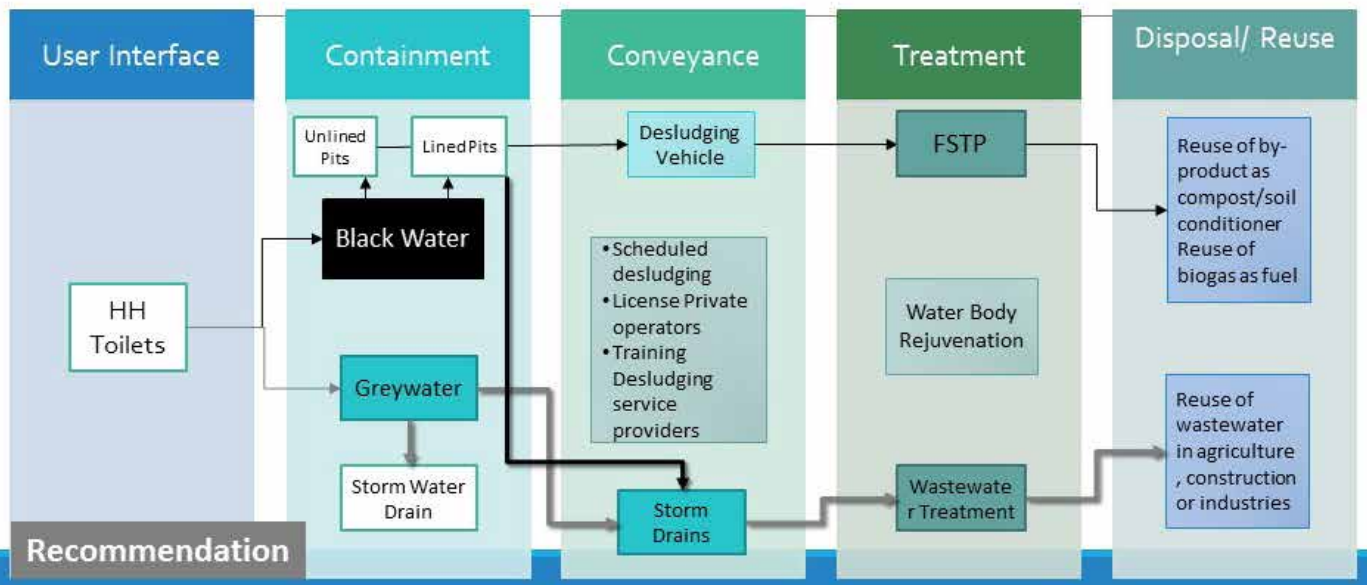
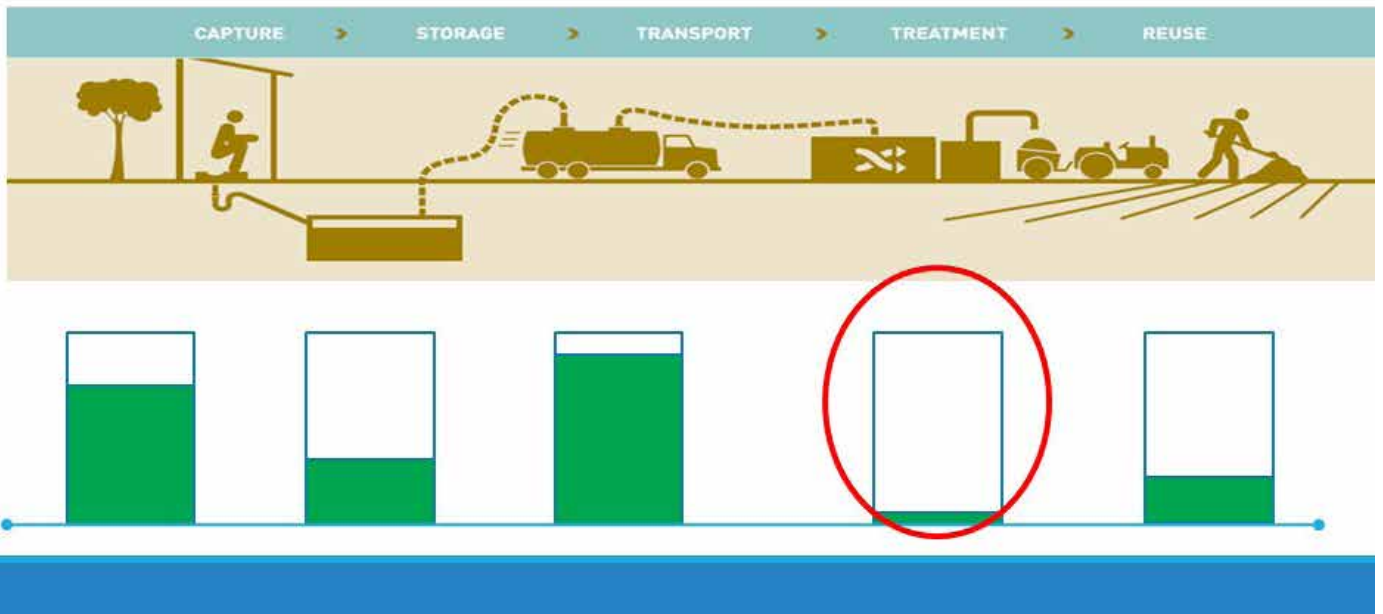




Transportation

Type of Cesspool vehicle	Number of trucks	Volume of trucks (Avg)	Type and details	Part of cesspool vehicle	Capital cost (INR)
Government owned	44	3500 liters	Tractor mounted	Tractor	4-5 lakhs
Privately owned	100+	4500 liters	Tractor mounted	Vacuum pump and truck	2-3 lakhs





Dumping



- 55% Agriculture Farms**
- 25% Water Bodies**
- 20% Open Land**

Devanhalli Plant Running for 2 Years



Odourless | Almost zero Electricity* | Safe | 100% Re-use

Approach	Notes	Cap Ex per Capita
1. Centralized Sewerage Systems	<ul style="list-style-type: none"> • Difficult and disruptive • Many failed / partial treatment 	Rs 20,000 [pop 500,000= Rs 100Cr]
2. De-centralized Wastewater Treatment Systems	<ul style="list-style-type: none"> • Implement in phased manner • Local re-cycling of water • Regulations—bulk generators invest 	Rs 4,000 – 6,000 [Rs 20Cr]
3. Faecal Sludge Management	<ul style="list-style-type: none"> • Very simple, quick and low cost • Need good logistics operations • Technical skills not easily available 	Rs 750 [Rs 3-4 Cr]

Phulera - Sambhar Cluster DPR

RUIDP, GOVERNMENT OF RAJASTHAN



Beneficiary

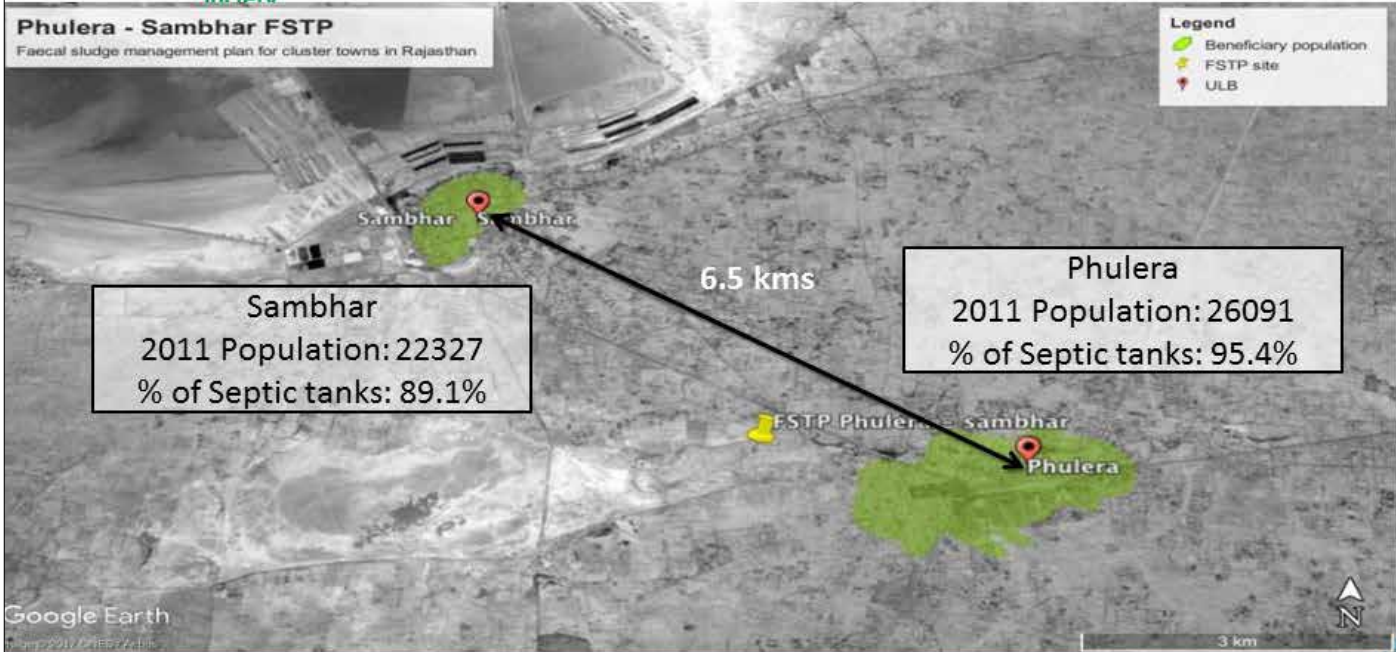


Phulera - Sambhar FSTP

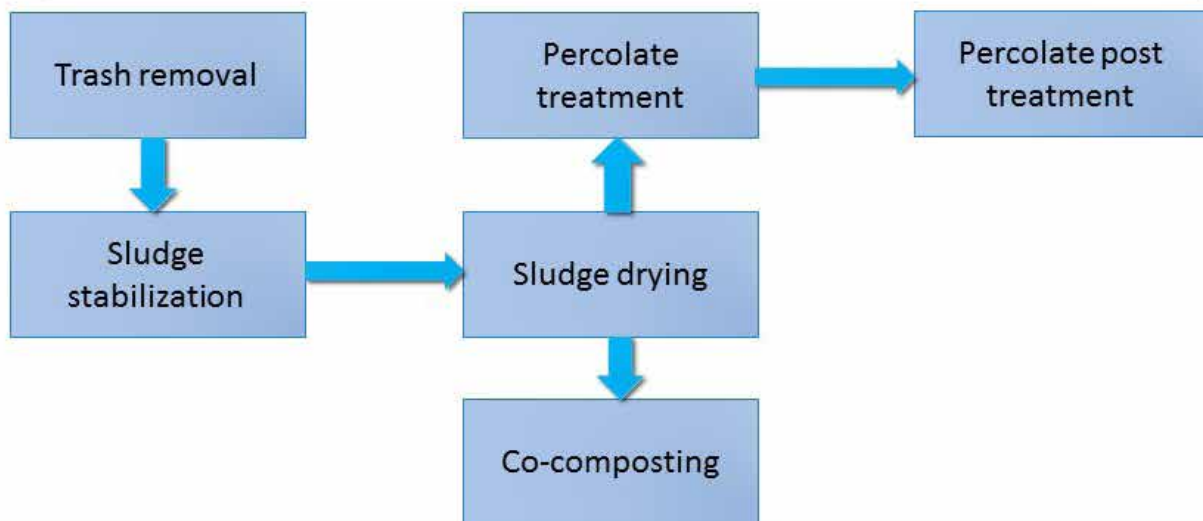
Faecal sludge management plan for cluster towns in Rajasthan

Legend

- Beneficiary population
- FSTP site
- ULB

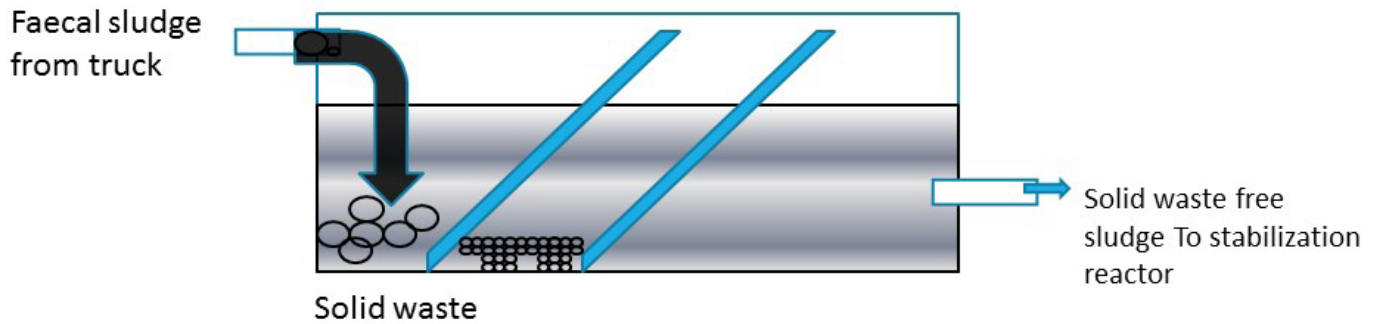


Faecal sludge treatment

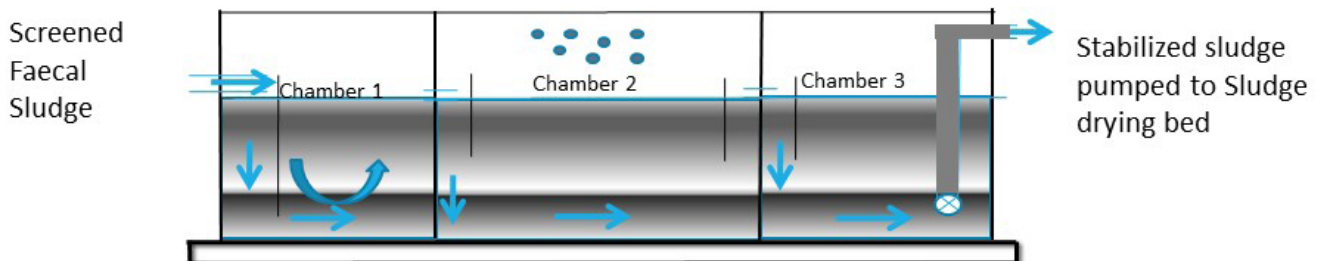




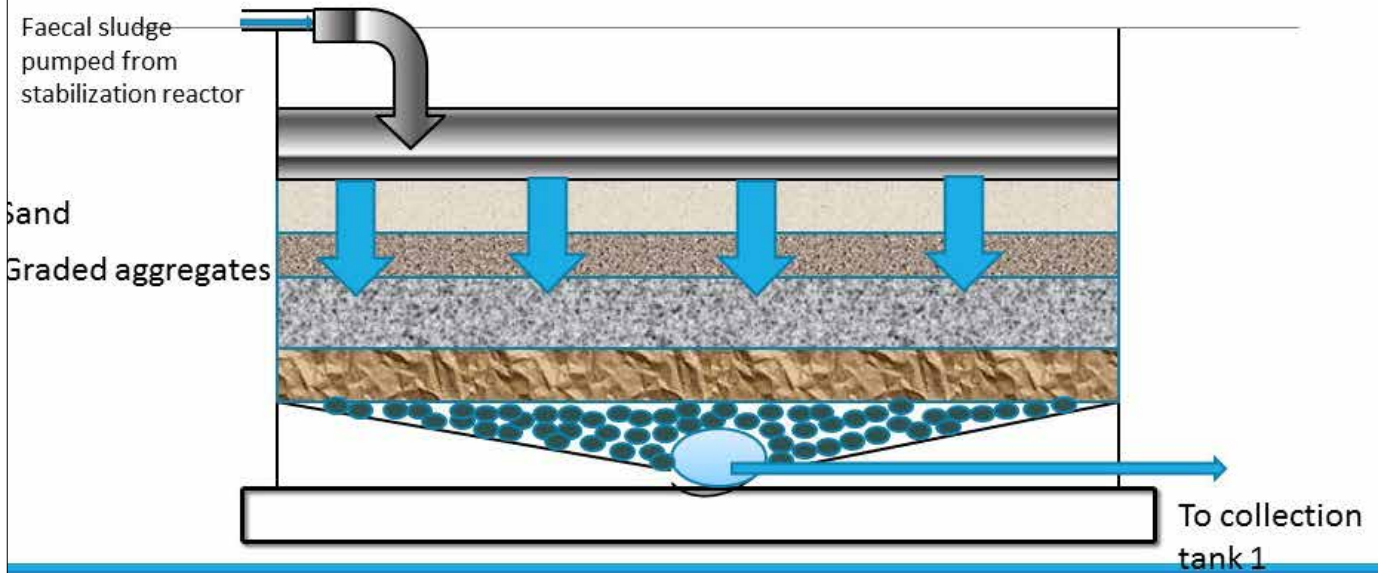
Screen chamber



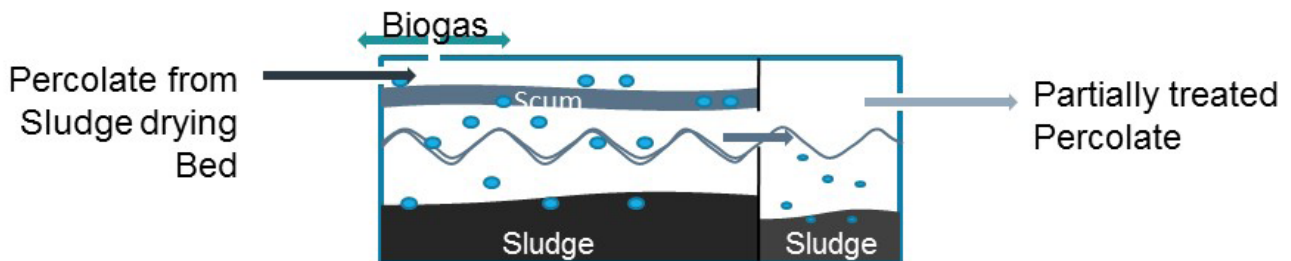
Stabilization reactor



Sludge drying

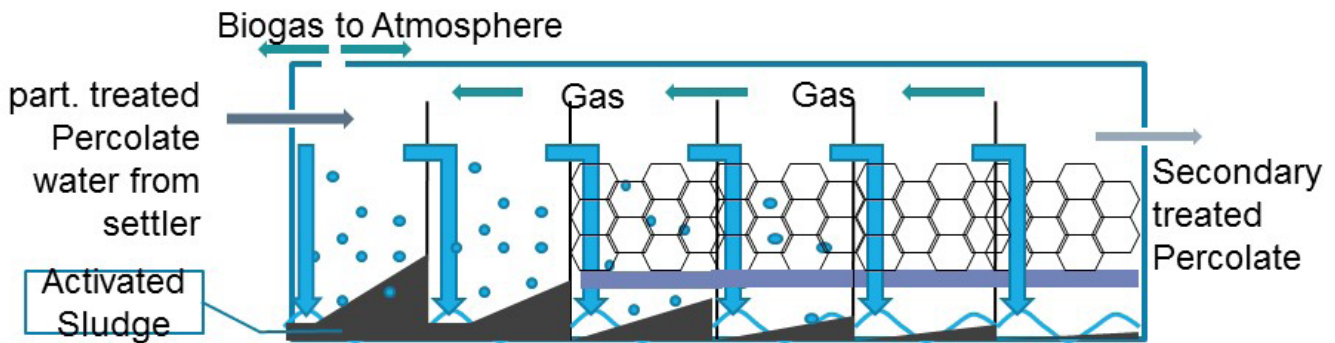


Percolate treatment- primary

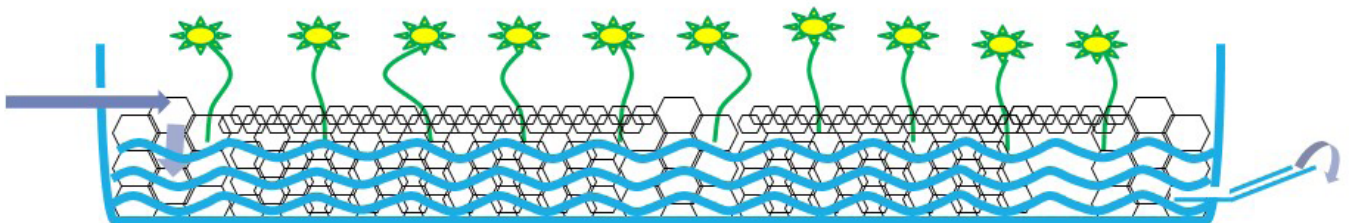




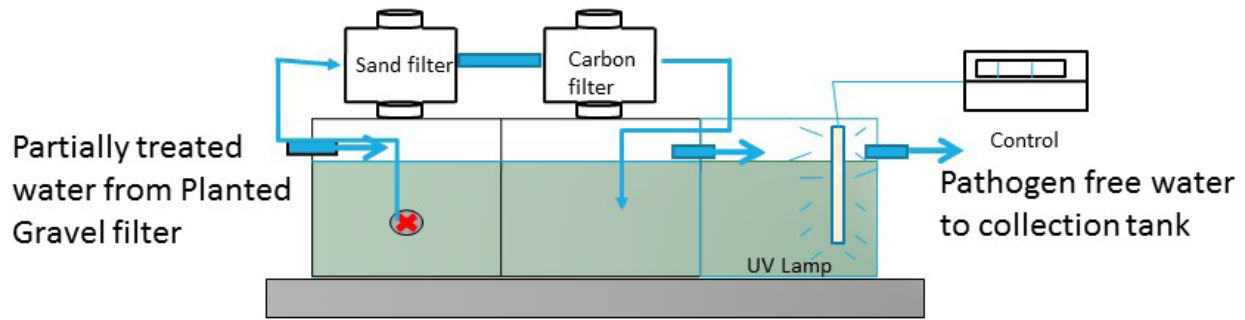
Percolate treatment –Secondary



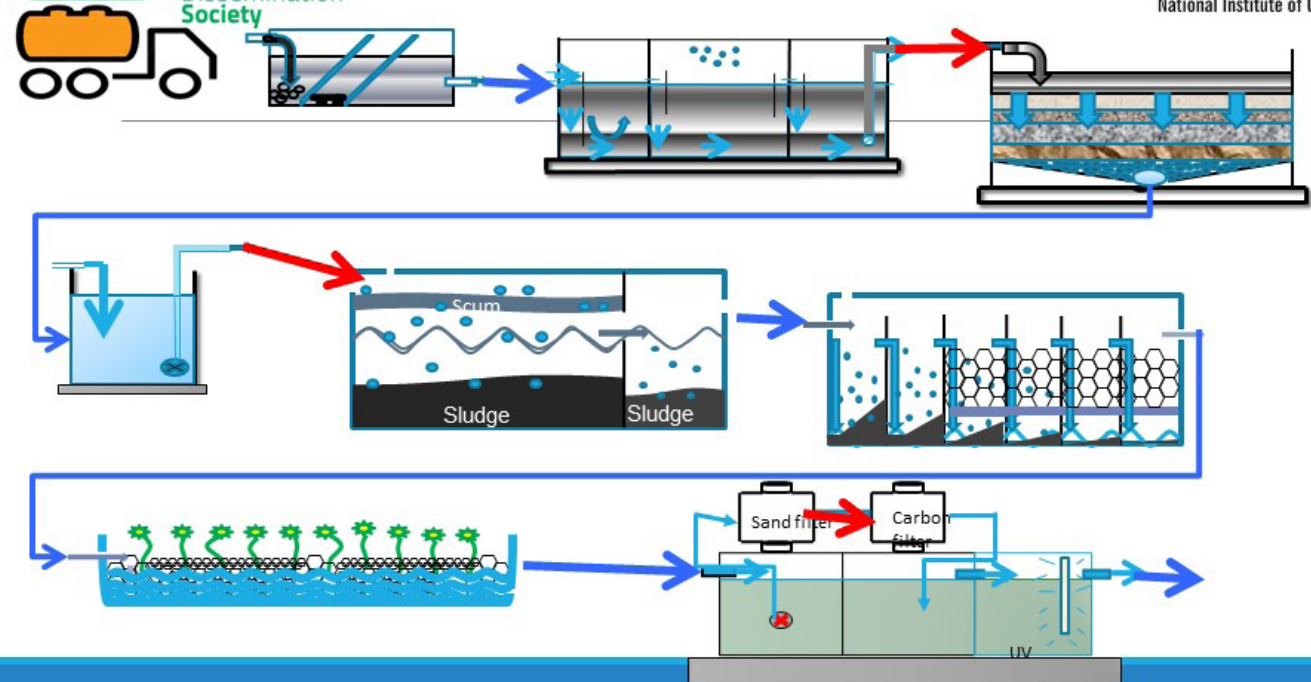
Percolate treatment - Tertiary



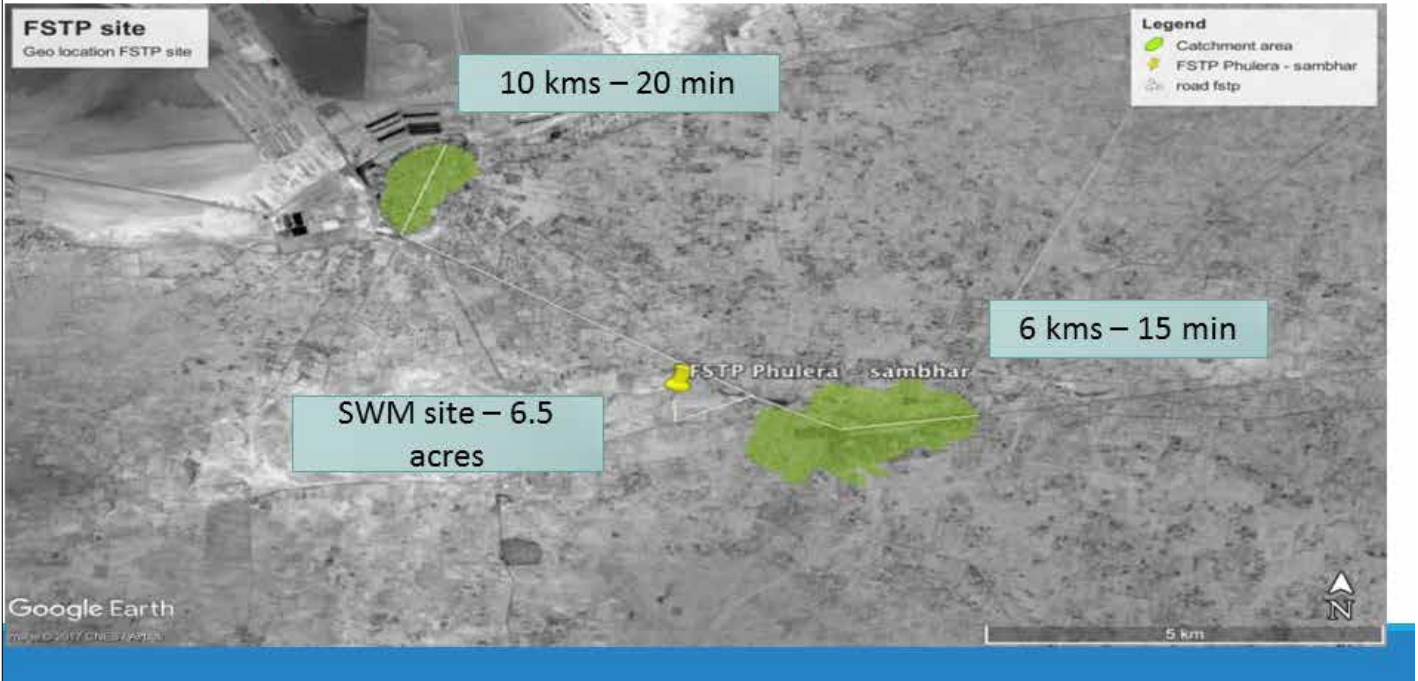
Percolate post treatment



Treatment Technology



Site - Details





End product Standards

Parameters	Input	CPCB Standards for discharge into water body	Output	Parameters	Characteristics
COD	30000 mg/L	< 50 mg/L	40 – 50 mg/L	pH at 5 % suspension	5- 7
BOD	20000 mg/L	< 10 mg/L	5-8 mg/L	Moisture %	10 - 30 %
TSS	6000 mg/L	<20 mg/L	12 – 16 mg/L	Organic carbon %	10 – 25 %
E-Coli	- N.A.-	< 100 MPN per 100 mL	< 100	Organic Nitrogen	2- 5 %
				Phosphorous	0.2 – 1%
				Bulk Density (Specific gravity)	0.65 – 0.9



Project Summary

Treatment capacity	20 KLD
Number of trucks per day	6 – 8 trucks
Treated water per day	12 – 16 KLD
Bio solids per day	2 tons
CAPEX	Rs. 1.89 crore
Per Capita Capex	Rs 400
OPEX per annum	Rs. 8.5 lakhs
Per Capita Opex per annum	Rs 20 Per Annum
Number of operators	1
Area required	1. 3 acres



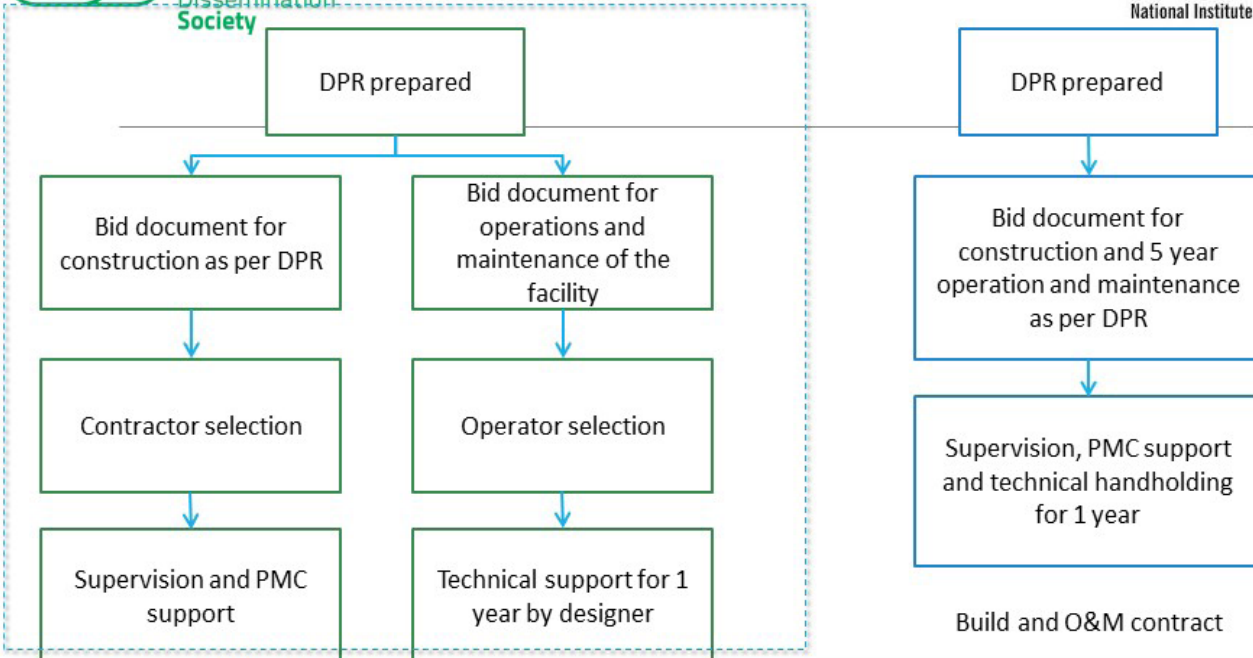
Proposed Operational Plan

Particulars	Amount
Annual expenditure FSTP and Co-composting	Rs. 15,92,000
Sale of Compost – Annual income @ Rs.1 per kg	Rs. 12,00,000
¹ Deficit	Rs. 3,92,000

1. Property Tax to fund Deficit
2. Desludging fee from FSTP O & M



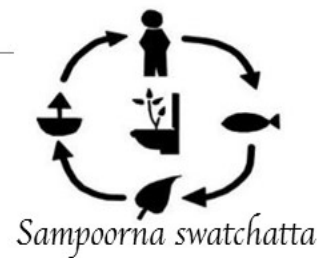
Way forward



Separate build and O&M contract

Project Management Unit

DEPARTMENT OF LOCAL SELF GOVERNANCE
GOVERNMENT OF RAJASTHAN



Consortium for
DEWATS
Dissemination
Society



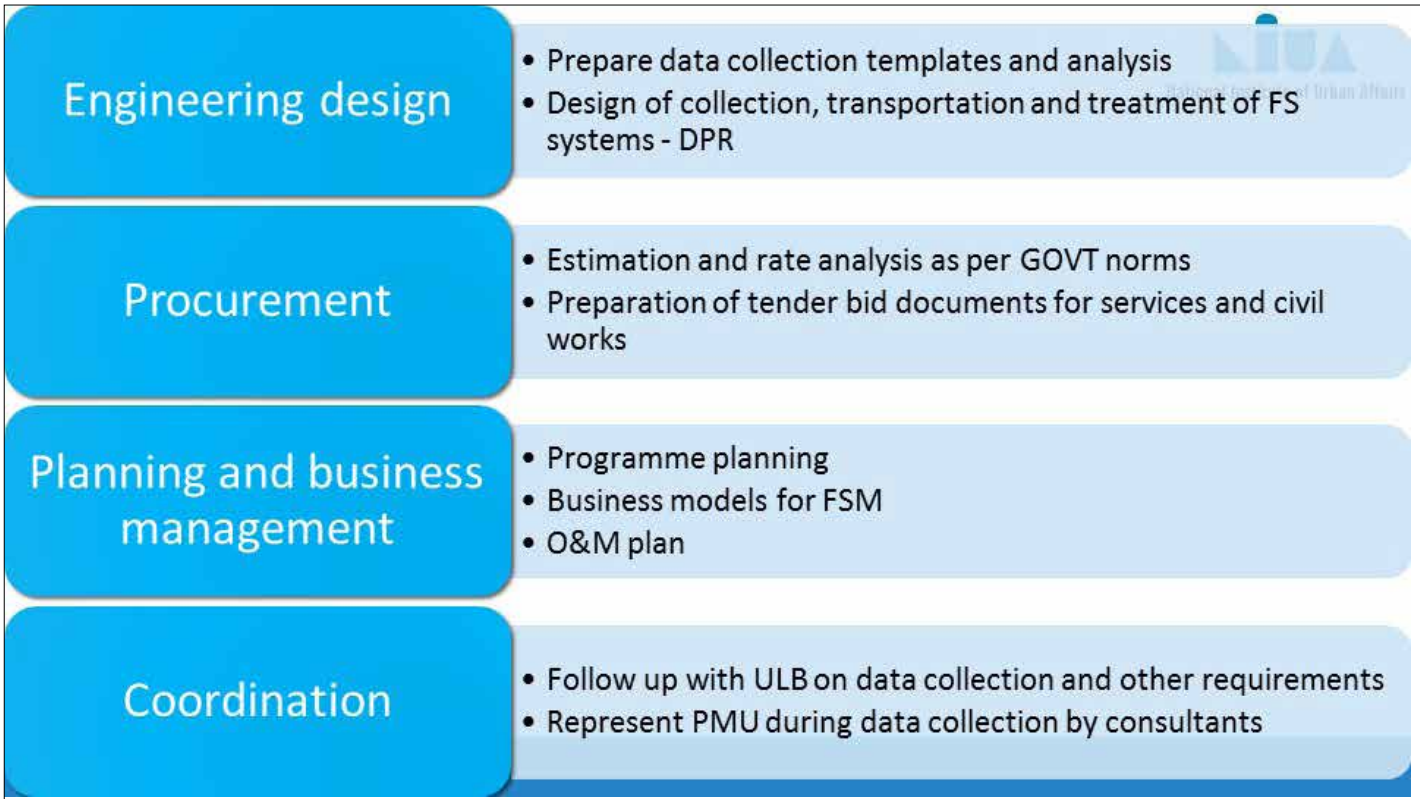
Program goal

Faecal sludge management for 100 towns in Rajasthan

100 towns to have treatment plants to manage their FS

100 towns to have a plan for treating and managing their grey water

Capacity building of government staff and technical personnel in scaling up FSM to other cities



Timelines

Number	Activities	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
A1	Establishing and mainstreaming the program and PMU	█					
A2	Procurement support of consultants - structural, soil, lab, etc	█	█				
A3	Data collection and analysis	█	█				
	Support the ULB in data collection	█	█				
A4	Preparation of DPRs		█	█	█		
	Bid document for construction				█	█	
A5	Statutory clearances	█	█	█	█	█	
	Bid selection and start of construction – implementation support						█

Phase 1: Towns Targeted

Kishangarh Renwal	Vijainagar (Ajmer)	Shri Karanpur	Ramganj Mandi
Ramgarh Shekhawati	Sarwar	Anupgarh	Chhabra
Khandela	Kekri	Rajaldesar	Aklera
Losal	Asind	Kapasan	Bhawani Mandi
Pilani	Gulabpura	Piparcity	Lakheri
Vidyavihar	Shahpura	Nohar	Gajsinghpur
Mukandgarh			

Any questions?



Annexure- 8

Stakeholder Consultation Workshop on Urban Sanitation Capacity Building Program

21st July, 2017,

HCM Rajasthan State Institute of Public Administration, Jaipur, Rajasthan

SANITATION CAPACITY BUILDING PLATFORM
NATIONAL INSTITUTE OF URBAN AFFAIRS



Sanitation Capacity Building Platform - SCBP

• **Purpose** of the platform is to support and build the capacity of the states, cities and all stakeholders - to plan and implement **decentralized sanitation**.

Capacity Building

- Orientation and exposure visits for understanding Septage and Faecal Sludge risks and challenges
- Institutional capacity strengthening through training of trainer programmes
- Capacity building activities for stakeholders involved in the FSM value chain - government officials, masons, private sector
- Creating knowledge resources and advocacy material on FSM technology, institutional, legal and financial eco-systems

Planning

- Baseline data collection on FSM
- FSM situation assessment
- Diagnostic study of existing sanitation situation
- Stakeholder mapping and analysis
- Analysis of legal and institutional framework
- Policy and guideline formulation

Implementation

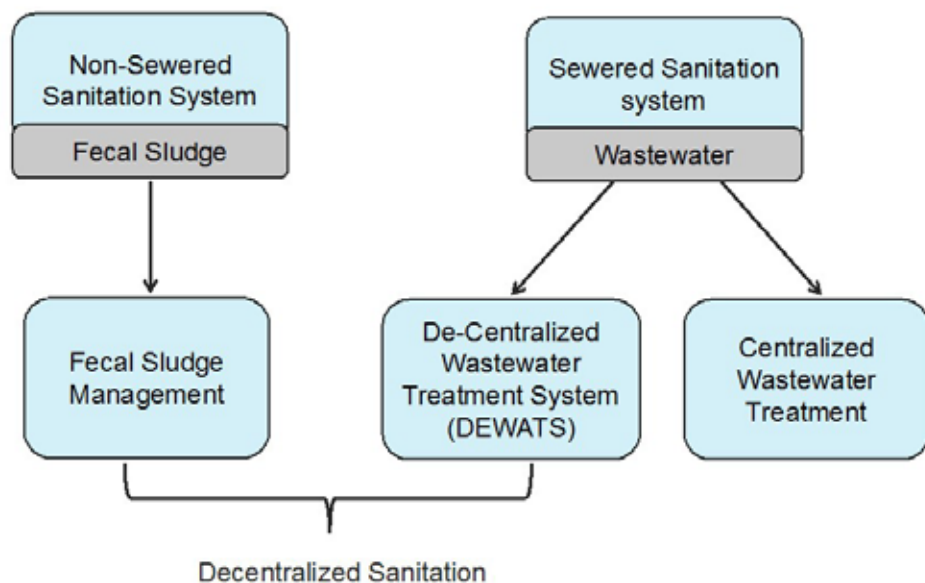
- Model DPRs for Faecal Sludge Treatment Plants and Decentralized Wastewater Treatment System
- Planning for emptying and transport services
- Transaction advisory for FSM
- Designing of Behaviour Change Strategy

Partners of the Platform

- Currently there are 10 partners delivering capacity building services on decentralized sanitation.
- Partners have extensive experience working in the sanitation sector in India and internationally. They have worked closely with many cities in various states.

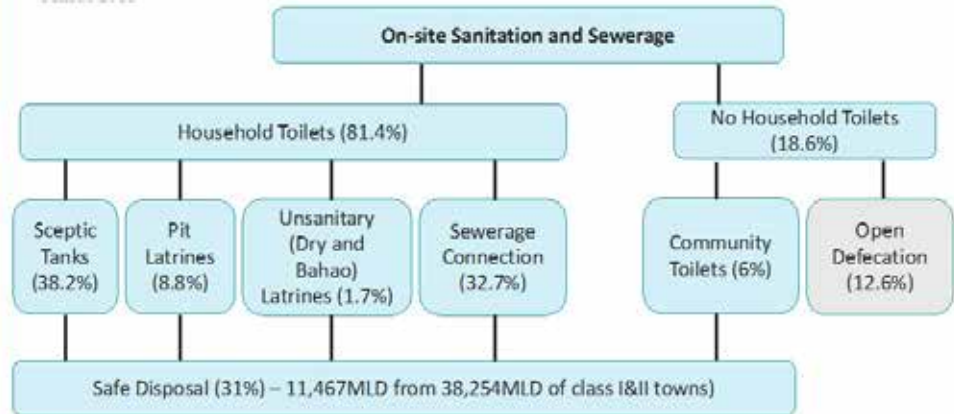


Why Decentralized Solution - Sanitation Systems



Why Decentralized Sanitation Solution

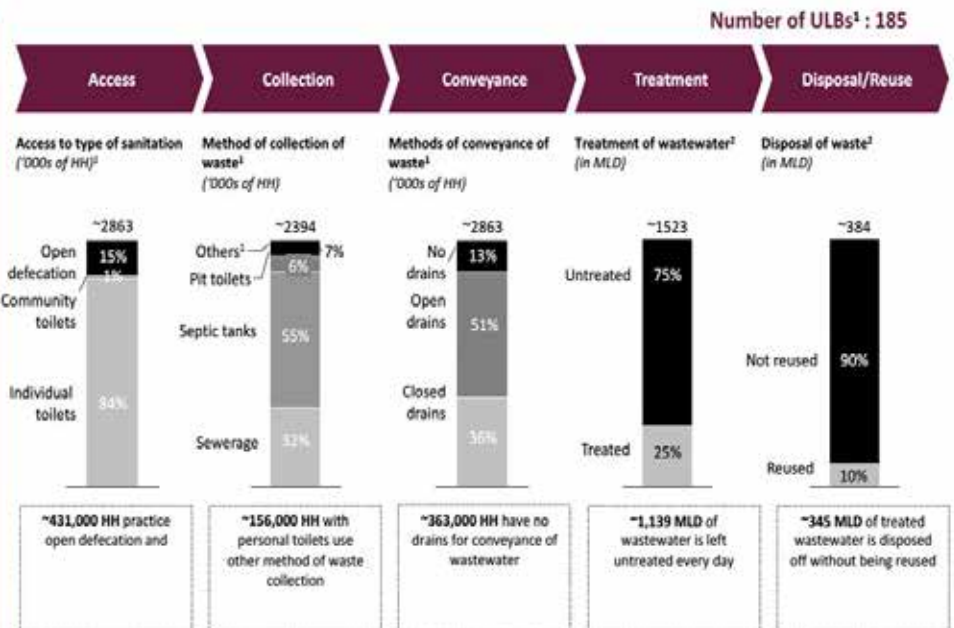
Urban Sanitation Situation in India



- 75% of fresh water resource which is being used for drinking purpose is contaminated.
 - Sewage contributes 60% of the total pollution load.
 - 93% of total domestic wastewater is generated in Class-I cities.
- Ref.: CPCB Report, 2009

Urban Sanitation Situation in Rajasthan:

Significant gaps exist across the sanitation value chain in Urban Rajasthan

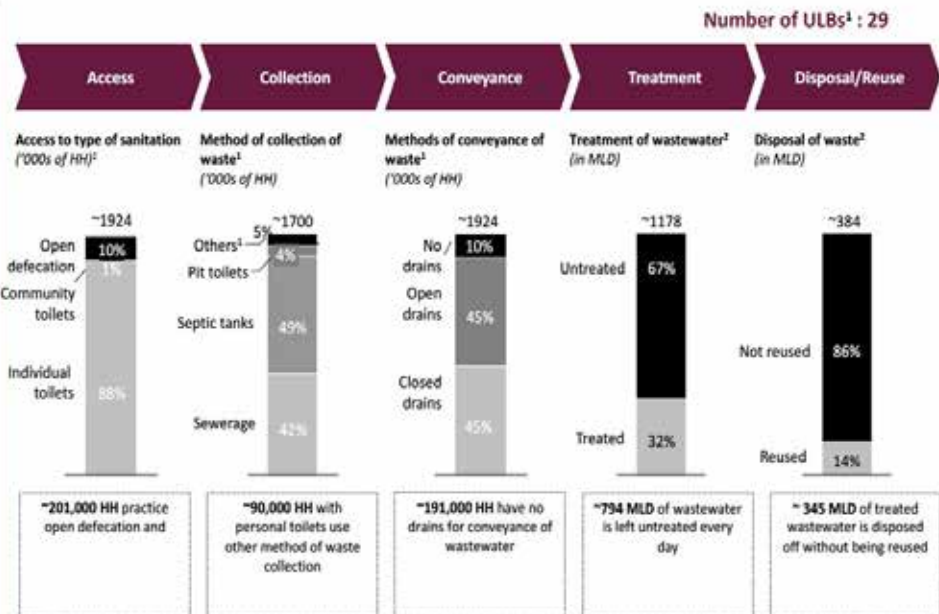


Source:

1. Census 2011 - Tables on Households Amenities

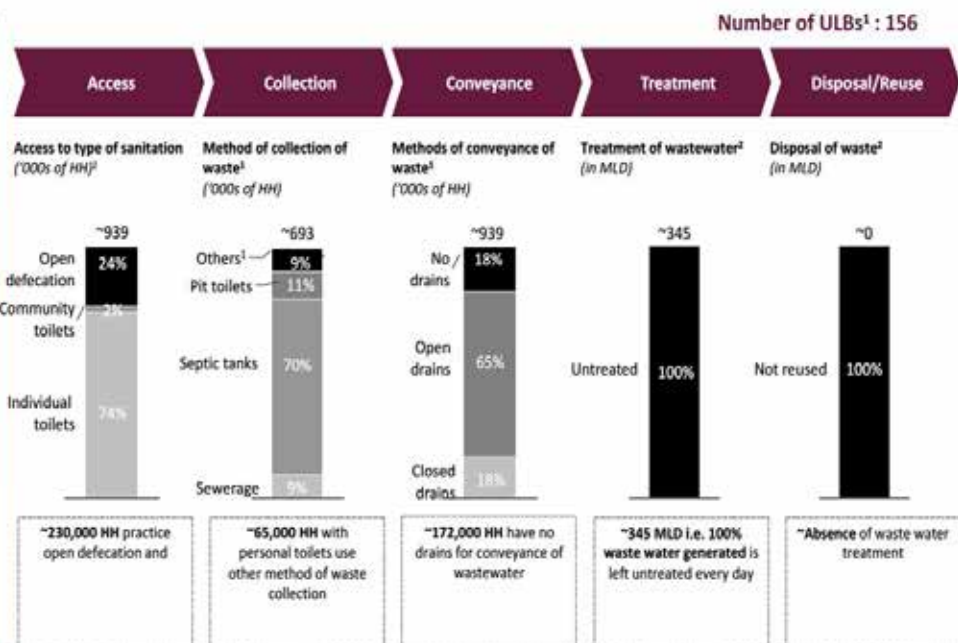
2. CEPT Analysis using information from (i) Draft Note on State Sewerage & Waste Water Policy - 2015, Department of Local Self Government, Government of Rajasthan (http://www.rajasthan.gov.in/Content/Water_Policy_Draft_CMAA_06102015.pdf); (ii) Inventory of sewage treatment plants, Central Pollution Control Board - 2015 (http://www.cpcb.co.in/aligned/NewsItems/NewsItem_110_Inventory_of_Sewage_Treatment_Plants.pdf); (iii) Service Level Benchmarking Gazette Notification 2013-14, (<http://www.mca.gov.in/Download.aspx?file=131>)

Gaps across the sanitation value chain: AMRUT Cities of Rajasthan



Source:
 1. Census 2011 - Tables on Households Amenities
 2. CEPT Analysis using information from (i) Draft Note on State Sewerage & Waste Water Policy - 2015, Department of Local Self Government, Government of Rajasthan (http://www.rajbhaskar.com/Content/Water_Policy_Draft_CMAA_052015.pdf); (ii) Inventory of sewage treatment plants, Central Pollution Control Board - 2015 (http://www.cpcb.nic.in/upload/newforma/newform_110_inventorisation_of_sewage_treatment_plant.pdf); (iii) Service Level Benchmarking Gazette Notification 2013-14, (<http://www.mca.gov.in/Download.do>)

Gaps across the sanitation value chain: Non - AMRUT Cities of Rajasthan



Source:
 1. Census 2011 - Tables on Households Amenities
 2. CEPT Analysis using information from (i) Draft Note on State Sewerage & Waste Water Policy - 2015, Department of Local Self Government, Government of Rajasthan (http://www.rajbhaskar.com/Content/Water_Policy_Draft_CMAA_062015.pdf); (ii) Inventory of sewage treatment plants, Central Pollution Control Board - 2015 (http://www.cpcb.nic.in/upload/newforma/newform_110_inventorisation_of_sewage_treatment_plant.pdf); (iii) Service Level Benchmarking Gazette Notification 2013-14, (<http://www.mca.gov.in/Download.do>)

Support provided by SCBP for promoting FSSM solution in the state of Rajasthan

Capacity Building:

- Four module based training and exposure visit for state/ ULB officials
- Integration of FSSM module in to existing training programs of AMRUT/ SBM/ RUIDP – provision of resource persons
- Training of Trainers for resource persons for nodal training agencies/ academic institutes/ NGOs from Rajasthan
- Training programs for other stake holders – masons, private operators, consultants

Technical support

- DPR for FSTP
- Sanitation Action Plan
- Supporting cities for incremental changes
- Supporting the state in developing the necessary policy and regulatory framework for FSSM

Capacity Building – Four module based training and exposure visit for state/ ULB officials



Capacity Building – Four module based training and exposure visit for state/ ULB officials

- **Sensitization/ orientation training** for all ULBs
- **First Specialized Training** for Commissioner/EO and Engineers:
 - **ODF and ODF++ City and exposure visit to Wai/ Sinnar** (selected ODF cities)
 - **Integrated waste water management and exposure visit to Pune** (cities where DPR is planned)
 - **Technology option for FSM and exposure visit to Devanahalli** (cities and cities where DPR is planned)
- **Second Specialized Training on planning and financing of FSSM projects** (for officials from 10-15 selected cities where detailed engagement is planned for supporting incremental changes/ preparation of DPR)
- **International Exposure visit** for state officials, ULB officials (five selected cities)

Capacity Building – Role of SCBP Partners

Activity	Anchor partner	Supporting partner
Sensitization/ orientation training	AIILSG	CDD, CEPT, ECOSAN
ODF and ODF++ City and exposure visit to Wai/ Sinar	CEPT	AIILSG
Integrated waste water management and exposure visit in Pune	ECOSAN	
Technology option for FSM and exposure visit to Devanahalli	CDD	
Second Specialized Training on planning and financing of FSM projects	CEPT	
International Exposure visit	IWK	CEPT, ECOSAN

Capacity Building – Training calendar

Activity	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April
Sensitization/ orientation training	1	2	2	5	2				
ODF and ODF++ City and exposure visit to Wai/ Sinar	1					1			
Integrated waste water management and exposure visit in Pune			1			1			
Technology option for FSM and exposure visit to Devanahalli		1		1					
Second Specialized Training on planning and financing of FSM projects				1			1		
International Exposure visit			2		2	1			

Technical support - Activities planned by SCBP

State agency	DLSG (for all ULBs)	RUDSICO (AMRUT Towns)	RUIDP
DPR for FSTP	✓	✓	
Sanitation Action Plan	✓		
Supporting cities for incremental changes	✓	✓	✓
Support for developing the necessary policy and regulatory framework	✓	✓	✓
Training of officials for FSSM	✓	✓	✓
Training of other stake holders in project town – masons, private operators, community engagement	✓	✓	✓

Technical support – Role of SCBP Partners

Activity	Anchor partner	Supporting partner
DPR for FSTP	CDD, ECOSAN	
Sanitation Action Plan	ECOSAN	
Supporting cities for incremental changes	AIIILSG	CEPT
Support for developing the necessary policy and regulatory framework	CEPT	CDD, ECOSAN, AIIILSG
Training of officials for FSSM	AIIILSG	ECOSAN, CEPT, CDD
Training of other stake holders in project town – masons, private operators	AIIILSG	
community engagement	CIFAR	AIIILSG, ECOSAN



www.niua.org



National Institute of Urban
Affairs (NIUA)
Core 4B, India Habitat
Centre, Lodhi Road
New Delhi 110003



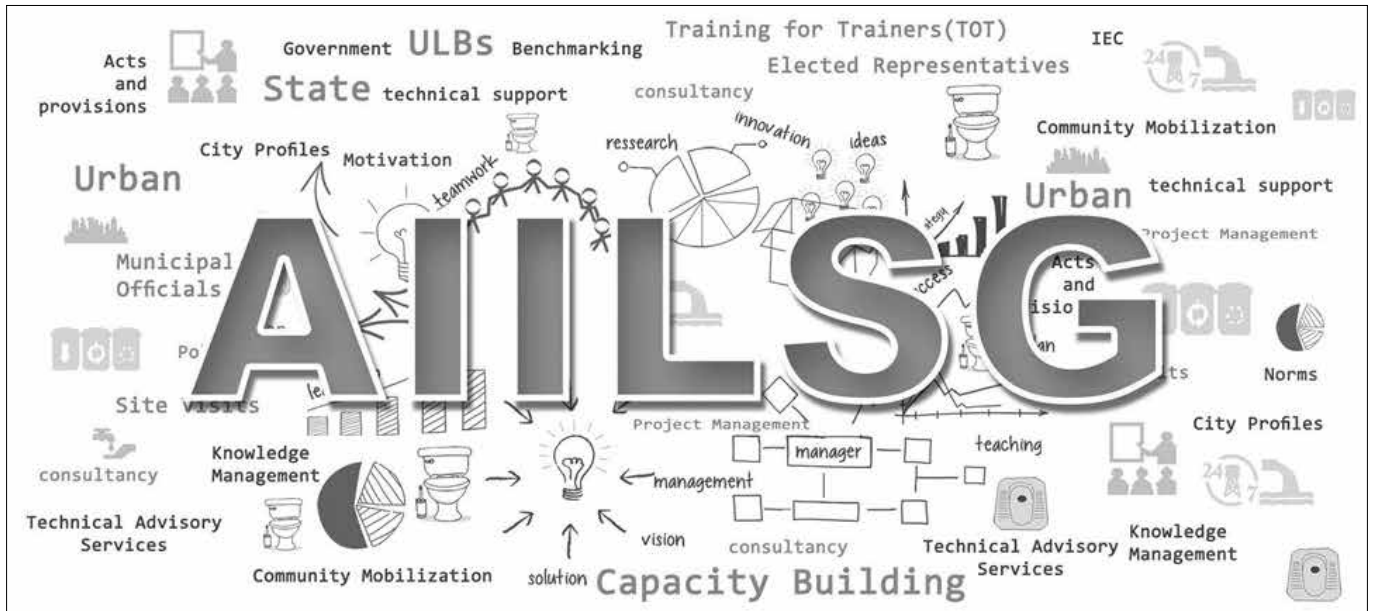
011-24617517, 24643284



dkapur@niua.org

THANK YOU

Annexure- 9



Implementing capacity building programmes on faecal sludge management for ULBs in Rajasthan

with the experience of making cities ODF and ODF+ / ++



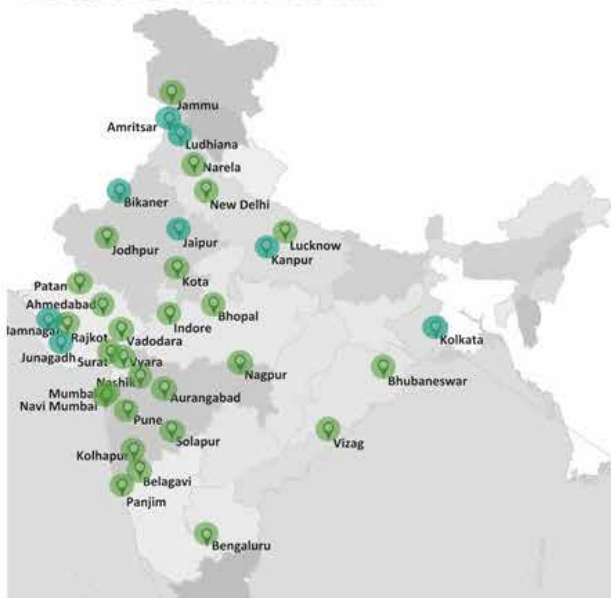
All India institute of Local Self Government, Mumbai

ALL INDIA INSTITUTE OF LOCAL SELF GOVERNMENT, MUMBAI

(www.aiilsg.org)

Established in 1926

Contributed to the principles and practice of urban governance, education, research, technical support and **capacity building**



• **Regional Centre for Urban and Environmental Studies (RCUES) - Supported by MoUD, GoI- Empanelled as technical advisor to States and ULBs**

- Capacity Building of Municipal Officials and Elected Representatives
- Urban Policy Research
- Advisory and Technical Support
- Knowledge Management
- Studies and Study Visits
- Project Management and Consultancy
- Community Based Interventions
- IEC

Presence over **13** States of India
 30 Regional Centres
 10 Special Institutions
 8 Affiliated Centres

- Solid Waste Management Cell
- National Resource Centre for Urban Poverty (GOI/UNDP)
- SLB Cell – as per GoM’s GR in 2012

Training programmes' glimpses

 Inauguration	 To break the silence	 Experts to speak	 A stress buster	 Ground level experiences	 Lets plan it together	 Witness the change
Introduction	Ice Breaker	Experts to Speak	Energizers	ULBs to Speak	Group Exercise	Site Visit
						
More than 90 Programmes in Rajasthan in last 10 years						
						

Sanitation support to Government of Maharashtra –

ODF and ODF++ Cities

State Level



City Level



- ✓ First State to develop framework of ODF and ODF +/-++ Cities
- ✓ Systematic approach of enabling ULBs to achieve the targets
- ✓ **Achieved more than 220 ODF cities till date**

Capacity Building, AMRUT

Municipal Officials and Elected Representatives in 8 States of India

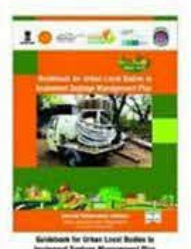
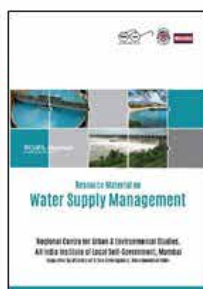
More than **1000** individuals being trained in 3 capsules

- Engineering and Public Health
- Administration
- Finance and Revenue
- Town planning

Orientation Programme Glimpses



Resource Material



Resource material – guidelines, handbooks, strategies, toolkits, Mobile Apps etc.

ODF and ODF+ Framework for Rajasthan

3,93,767 toilets to be constructed in Rajasthan (6%),

- **84% Individual Toilets, 1% CT/PT, 15% OD (Census 2011)**
- **~1,00,000 toilets** constructed so far (27%)
- **8th rank** in toilet construction at national level
- **7/ 189 Cities** ODF so far

67% Households dependant on onsite sanitation

Great Scope for Rajasthan to be ODF and ODF+/++



First step – enable ULBs ... build their capacities

FSM Capacity Building Programmes in Rajasthan

Component I- Training of Trainers

Aug. 17

Creating Resources within the State.

- For training organisations, universities, NGOs, individuals etc.
- 3 days module to cover every key aspect of FSM in detail

Component II - Training to all ULBs

Sept. 17 to
Feb. 18

Enable ULBs in implementing FSM Plans

- **189 ULBs** (spread across 7 divisions and 33 districts)
- More than **500 persons** to be trained
- **17 Batches** (~30 each) in the period of one year

FSM Capacity Building Programmes in Rajasthan

Component III - Training to masons

Dec. 17

In selected cities, for awareness generation on construction technologies and norms for toilets and septic tanks



Thanks

Utkarsha Kavadi
Director, AIILSG, Mumbai

utkarshakavadi@yahoo.com
91 9619679919

Annexure- 10

LIST OF PARTICIPANTS

S.No.	Name	Organisation & designation
1.	Aasim Mansuri	Senior Research Associate, CEPT University, Ahmedabad
2.	Utkarsha Kavadi	Director, AILSG Mumbai
3.	Jagdish Kumar	Village Molela, Rajasamand district
4.	Atul Khare	Research Associate, AILSG Mumbai
5.	Shweta Nagarkar	Research Associate, AILSG Mumbai
6.	Amresh Sinha	CDD Society
7.	Debasish Nayak	Centre for Heritage Management
8.	Hari K. Goenka	Zee Group
9.	Nogesh Bhardwaj	CDD Society
10.	Isha Dash	CDD Society
11.	Jagveer Singh	Senior Programme Coordinator, GUNML NGO
12.	Subhash Dhukad	State Project Officer, Centre for Advocacy & Research, Jaipur
13.	S.K. Goyal	RUDISCO
14.	D.B. Pandse	Director, Ecosan Services Foundation
15.	Saurabh Kale	Ecosan Services Foundation
16.	A.B.Raizada	Advisor, TM Environmental Consultancy
17.	Vishnu Sharma	Development Consultant
18.	Sandeep Thakur	SRO, NIUA
19.	Barun S. Gupta	Associate Professor, IICD Jaipur
20.	Binil Mohan	IICD
21.	Yogesh Katara	Green Tech Engineers
22.	Tanuj Sharma	Green Tech Engineers
23.	Sanjay Pande	Additional Director, Rajasthan Tourism
24.	Rajeev Tewari	Programme Director, Bhoruka Charitable Trust
25.	Amrita Bhatnagar	Research Associate, CSE
26.	Saakshi Joshi	Research Associate, CSE
27.	Gaurav Sharma	Dept of Local Self Government, Govt of Rajasthan
28.	Neeraj Jangid	Dept of Local Self Government, Govt of Rajasthan
29.	Dr Tarush Chandra	Dept of Architecture & Planning, MNIT Jaipur
30.	Hulas Raj Parmar	CAO, DLB
31.	Vishwas Singhal	Nagar Parishad Hanumangarh
32.	Sunil Kumar	Town Planning Asst, Nagar Parishad Hanumangarh
33.	Ram Prasad Meena	Executive Officer
34.	Suresh Kumar Verma	Executive Officer, Nagar Palika Chhapar
35.	Mukund Rawat	Nagar Parishad Banswara
36.	Vikas Kumawat	Executive Officer, Nagar Palika Gajsinghpur

S.No.	Name	Organisation & designation
37.	Rajesh Kumar Bajwa	Nagar Palika Chaksu
38.	Chandreshwar	ATP, Mount Abu
39.	Fawad Athar	Urban Planner, STP Cell, DLB
40.	Ram Lal Sharma	Executive Officer, Nagar Palika Rawatsar
41.	Ashish Kumar Singh	Town Planner, Nagar Parishad Sawai Madhopur
42.	O.P. Sahu	Municipal Corporation, Chittorgarh
43.	Rajpal Choudhary	ATP, DLB
44.	Siddharth Jandu	Municipal Board, Kesarisingshpur
45.	Vikram Jorwal	Junior Engineer, N.P. Chhapar
46.	Reshu	AEN, N.P.Alwar
47.	Mukesh Gupta	Executive Enginner, NNJ
48.	Ankur Goswami	AEN, Nagar Palika Sangaria
49.	Inder Gothwal	Senior Draftsman
50.	Gopal Singh	Secretary, Lokayan, Bikaner
51.	Pawan Sharma	RO (HQ) NNJ
52.	Rameshwar Meena	RI (HQ) NNJ
53.	Neha Mandavar	ARI, Jabner
54.	Dharmendra Kumar	ARI
55.	Eklavya	ARI, Chomu
56.	Pradeep	AEN Nagar Nigam Bharatpur
57.	Mangilal Vyas	Junior Accountant, Nagar Palika Pindwara
58.	Prabhu Lal	Nagar Parishad Banswada
59.	Mahaveer Singh	EO, Nagar Parishad Jhalarpatan
60.	Rishi Dev	EO, Nagar Palika Pilani
61.	Vazid Khan	EO Fatehpur
62.	Manish Pareek	EO Ramgarh
63.	Naresh Kumar	EO Kesarisingshpur
64.	Lal Chand Somkhia	EO Karnpur
65.	Hemant Tanwy	EO Mukundgarh
66.	Sohanlal	EO Nagar Palika Sadhulshahar
67.	Jhabbar Singh	Commissioner, Nagar Palika Bhinder
68.	Executive Officer	Sambhar Lake
69.	Kamlesh Kumar Meena	Nagar Palika Kapren
70.	Shalendra Kumar	Nagar Palika Bundi
71.	Anita Kheecha	Navalgarh
72.	Pramod Kumar	Commissioner, Churu
73.	Dwarka Prasad	EO, Ratannagar Churu
74.	Sumer Singh Meena	EO, Weir, Bharatpur
75.	Hari Narayan	EO, Kis Renwal

S.No.	Name	Organisation & designation
76.	Prakash Chand	EO, Rajgarh
77.	Narayan Lal Meena	Nagar Palika Kishangarh
78.	Abhilasha Singh	EO, NP Vidhya Vihar
79.	Seema Choudhary	EO, NP Uniyara
80.	Anil Jhingania	EO, NP Jobner
81.	Ajay Kumar	EO
82.	Saurabh Jindal	Commissioner
86.	Pankaj K. Mangal	Commissioner, Karoli
87.	Alok Srivastava	Nagar Nigam Jaipur
88.	Manjubala Purohit	Chairman, Banswara
90.	Prithviraj	Gajsinghpur
91.	Suresh Pingar	Nagar Palika, Mount Abus
92.	Kavita	Nagar Palika Jaisalmer
93.	Dr Vimala Sharma	Chairman
94.	Krishna Prajapati	Chairman, Jhunjhunu
95.	Radheshyam	Chairman, Mandawa
96.	Rajkumar Fanda	Chairman, Pilibanga
97.	Manish	Chairman
98.	Executive Officer	Tara Nagar, Churu
99.	Executive Officer	Aklera
100.	Executive Officer	Ratangarh



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