



Situation Assessment Study

Faecal Sludge Management in Sheohar
District of Bihar

January 2021

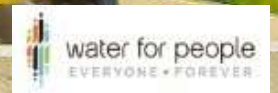


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Executive Summary



Executive Summary

Sheohar is a district carved out of Sitamarhi district. Its population as per Census 2011 is 6.56 lakhs of which 96% resides in rural areas. Its total land area is 443 square kilometres. The district is divided in 5 Blocks viz. Purnahiya, Piprarhi, Sheohar, Dumri Katsari and Tariyani. It comprises of 54 Gram Panchayats and 1 Urban Local Body. Economy of the district is predominantly agriculture based.

The rural areas of Bihar have been declared Open Defecation Free (ODF) in 2019 under Swachh Bharat Mission (Gramin) and the Lohia Swachh Bihar Abhiyan (LSBA). Under this campaign, toilets have been provided to 1.4 crore families of rural Bihar. Now the **emerging challenge is to manage the large volume of faecal sludge from the growing number of septic tanks, single and twin pit latrines**. Hence, proper manage of faecal waste through last mile coverage that maximizes safety and environment sustainability are emerging priorities. **Considering the high-water table in Sheohar, it is critical to safely treat the faecal sludge to prevent ground water contamination**. Faecal Sludge Management (FSM) can be looked as economical and quickly implementable approach for last mile coverage in sanitation for rural households. Water For people (WFP) and Ernst & Young LLP (EY) jointly conducted a Situation Assessment Study on Faecal Sludge Management in Sheohar from November - December 2020 to assist the district administration explore the potential for FSM.

This **study covered Gram Panchayats(GP) of all 5 blocks and Sheohar Nagar Panchayat**. Field visits were conducted and different stakeholders were consulted. Household survey was done in each GP and along with pan GP level survey. Different **stakeholders consulted**, were elected representatives, service providers such as **cesspool operators, sanitation workers, Self Help Groups (SHGs) and masons, financial institutions working in the field of sanitation and government officials**. Government officials consulted were **District Magistrate (DM), Deputy Development Commissioner (DDC), Executive Officer (EO) of Sheohar Nagar Panchayat, Block Development Officers (BDOs), GP Secretaries, District and Village Water and Sanitation Committees and representatives of Jeevika Mission**.

Executive Summary contd.

As far as access to toilets is concerned, almost entire population is covered with toilets and most have individual household toilets. While more than 90 % of the drinking water is sourced from ground water but more than 50% of the toilets are located less than 10 m from the ground water source. ~ 38% of Households (HH) are dependent on pits and ~60% on septic tanks. Out of these, 80% of septic tanks are unscientific and >90% of pits are single pits. 36% of Onsite Sanitation System (OSS), which comprises of pits and septic tanks, are unlined. 24% of the OSS opens directly to ground. All of these pose a serious threat of groundwater contamination and consequent health risk. In Nagar Panchayat (NP) area > 70% HHs are dependent on holding tanks. 16% OSS open directly to ground. **In both rural and urban areas there is no standard size of OSS which could be attributed to the lack of awareness among masons about scientific design of septic tank.**

In both Urban and rural areas most of the access roads are less than 5 m wide and most of OSS are either inside house and plastered completely. Therefore desludging requires breakage of the structures. **In rural areas** there is less prevalence of desludging as **~85% HHs have constructed toilets in the last 4-5 years**. Among those who have undergone desludging, **20% of them have undergone non-mechanised desludging**. So, proper implementation of Manual Scavenging Act is required. **Desludging activity in rural areas are conducted mainly by private cesspool operators**. In the NP ~66% HHs have constructed toilet in the last 4-5 years and 9% of households have undergone non mechanised desludging. So in both urban and rural areas there could be huge demand of desludging in coming years. Due to **lack of treatment facilities** cesspool operators (private and government) **dump the collected faecal sludge in open grounds and in water bodies**. There is **absence of regulatory mechanism to curb illegal disposal** of faecal sludge. Personal Protective Equipments (PPEs) are seldom used by cesspool operators and almost no training has been provided to cesspool operators.

Executive Summary contd.

During stakeholder consultation it was evident that, in Sheohar not much has been done on the FSM. Most of the work is limited to construction of toilets. During discussion with Water and Sanitation Committees it was informed that there is **limited understanding of FSM not only among citizens but also among those who are involved in sanitation activities**. Block Development Officers (BDOs) expressed that they want SHGs, JEEVIKA members, Swachhagrahi's to be regularly trained on these issues. GPs adjoining to NP areas have shortage of land for sanitation activities. In GPs there is poor drainage facilities due to lack of funds. **Self Help Groups (SHGs) are involved in creating awareness among the masses for the use of toilets but they are also unaware of the need for FSM. Masons were found to be have limited to no awareness of the scientific design of septic tanks.** This could be the reason for high number of unscientific septic tanks in the area. So training of masons is required. Sanitary workers appeared to be lacking adequate Personal Protective Equipments (PPEs). Since they are involved in a hazardous activities, their annual health check up is very important which is missing presently. There is dearth of Financial institutions. **Only one Financial Institution (FI) C-DOT is working in Sheohar on sanitation.** They too are providing finances only for construction of toilets as nobody has approached them yet, for financing other aspects of sanitation value chain.

Based on the situation assessment, several interventions can be proposed. Since there is no treatment facility available in the district, **Faecal Sludge treatment Plants should be developed. This could be done by preparing feasible clustering plan for different GPs.** Different treatment technologies should be assessed and appropriate treatment technology should be selected based on different factors like land area required, Capex and Opex and ease of operation and maintenance. Existing cesspool vehicles should be assessed for having adequate number of vehicles as per requirement. Therefore new vehicles could be purchased as per demand and considering access to narrow lanes. **GPS enablement should be done for existing and new vehicles to check indiscriminate dumping.**

Executive Summary contd.

A host of interventions could be done on regulations and governance part. This includes **training and licensing of cesspool emptying vehicle operators**. Building Byelaws could be made at district/ Block level for rural areas and amendments in Sheohar building bye-laws could be done to include provision of scientific containment of faecal sludge as part of building approval process. Provision of penalties for indiscriminate dumping of faecal sludge should be made. For effective planning of FSM interventions, **Block Sanitation Plan (BSP) for rural areas and City Sanitation Plan (CSP) for NP areas could be made**. City Sanitation Task force at NP level and Village Water and Sanitation Committees (VWSC) in rural areas could play a key role for effective implementation of these interventions. PPEs usage should be mandatory for all sanitation workers and legal mechanisms could be put in place to ensure regular provision.

Sheohar has currently 3 Public Toilets (PTs). The total requirement of Public Toilets (PTs) in the district could be estimated. Conversion of insanitary toilets to sanitary toilets could be planned in the long run. **Multiple Capacity Building programs is required** to be arranged for all stakeholders. Since there is very low level of understanding among sanitary workers , masons, CBOs such as SHGs and Ward Sanitation Committees and GPs, Blocks, NP and district officials, capacity building workshops should be arranged for them periodically to increase their involvement. Capacity building of masons for toilet construction and retrofitting should be done. Exposure visits to learn leading practices could help change perceptions and develop new outlook. Existing IEC/BCC campaigns could evolve to motivate people to convert insanitary toilets to sanitary using incentive provided under SBM. Communication regarding harmful impact of non-mechanized emptying and indiscriminate dumping to relevant stakeholders could be made.

All the proposed interventions will require sustainable operation models to maintain the upcoming FSM infrastructure and services. Local entrepreneurs and Jeevika members could play a key role in this which leads to local livelihood creation too while addressing a grave environment and public health challenge. A phased programmatic approach is required to prioritize multiple interventions along with technical handholding assistance to the administration.

Rationale of the Situation Assessment Study and Methodology adopted



Project background

Project Objectives

FSM becomes an important aspect of sanitation due to the emerging challenges of managing the large volume of faecal sludge from the growing number of septic tanks and single pit latrines. So, the project aims for Assessment of following in Sheohar district of Bihar:

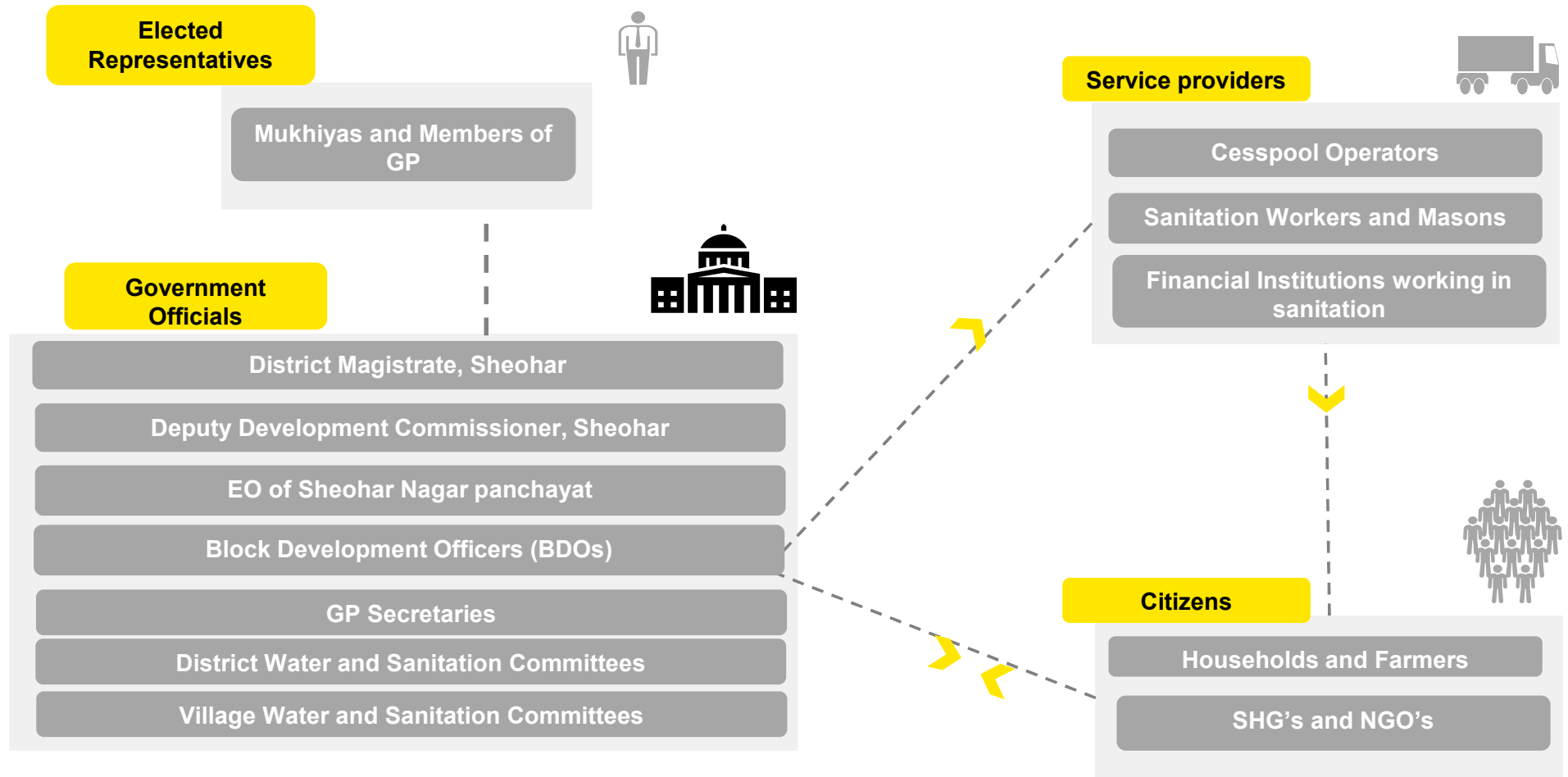
- ▶ Sanitation Practice and needs, reuse interests
- ▶ Institutional setup, government support, private sector support
- ▶ ODF alignment
- ▶ Legal and Regulatory framework
- ▶ Town structure and heterogeneity of sanitation practices
- ▶ Existing Financial flows

Project Outputs

- ▶ Situation Assessment of FSM*
- ▶ Shit Flow Diagram*
- ▶ FSM study report
- ▶ Sanitation Catalogue

* - This has been undertaken based on field study of select locations in all GPs

Stakeholders Consulted as part of Situation Assessment



Sample size for Focussed Group Discussions (FGDs) and In-Depth Interviews (IDIs)

Category of In depth Interviews (IDI)	Number of samples
District Magistrate, Sheohar	1
Deputy Development Commissioner, Sheohar	1
EO of Nagar Panchayat	1
BDOs	5
GP Secretary (GP level Survey)	7
Mukhiyas	9
Cesspool Operators	5 (4 private and 1 NP)
Financial Institutions working in Sanitation	1 (Only C DOT)
Category of Focussed Group Discussions (FGDs)	Number of samples
District Water and Sanitation Committee Members	1
Village Water and Sanitation Committee Members	9
Sanitary Workers	3
Masons	5
Self Help Groups	6

Site selection and sample size methodology for HH Survey and GP level Survey

Name of Block/ NP	Number of GP	Number of Villages	No. of Households	Sample size @95% Confidence interval	Sample size per GP
Dumri Katsari	8	30	20943	378	47
Piprahi	11	27	28107	379	34
Purnahiya	8	27	21600	378	47
Tariyani	16	78	44888	381	24
Sheohar	11	45	34606	380	35
Sheohar (NP)	NA	NA	5858	381	NA
Total				2277	

Stakeholder Consultation



Consultation with DM



Consultation with Mukhiyas



Consultation with Households



Consultation with Households



Consultation with SHGs

Sheohar Profile



Demographic Profile Sheohar, Bihar

Description	Value
Population of Bihar State	10,40,99,452
Population of Rural Bihar	9,23,41,436
Population of Sheohar District	6,56,246
Population of Sheohar (Rural)	6,28,130
Area of Sheohar (sq Km)	443
No. of Blocks in Sheohar	5 Purnahiya Piprarhi Sheohar Dumri katsari Tariyani)
No. of Gram Panchayats (GPs)	54
No. of Villages in Sheohar	207 Purnahiya - 27 Piprarhi - 27 Sheohar - 45 Dumri katsari - 30 Tariyani - 78

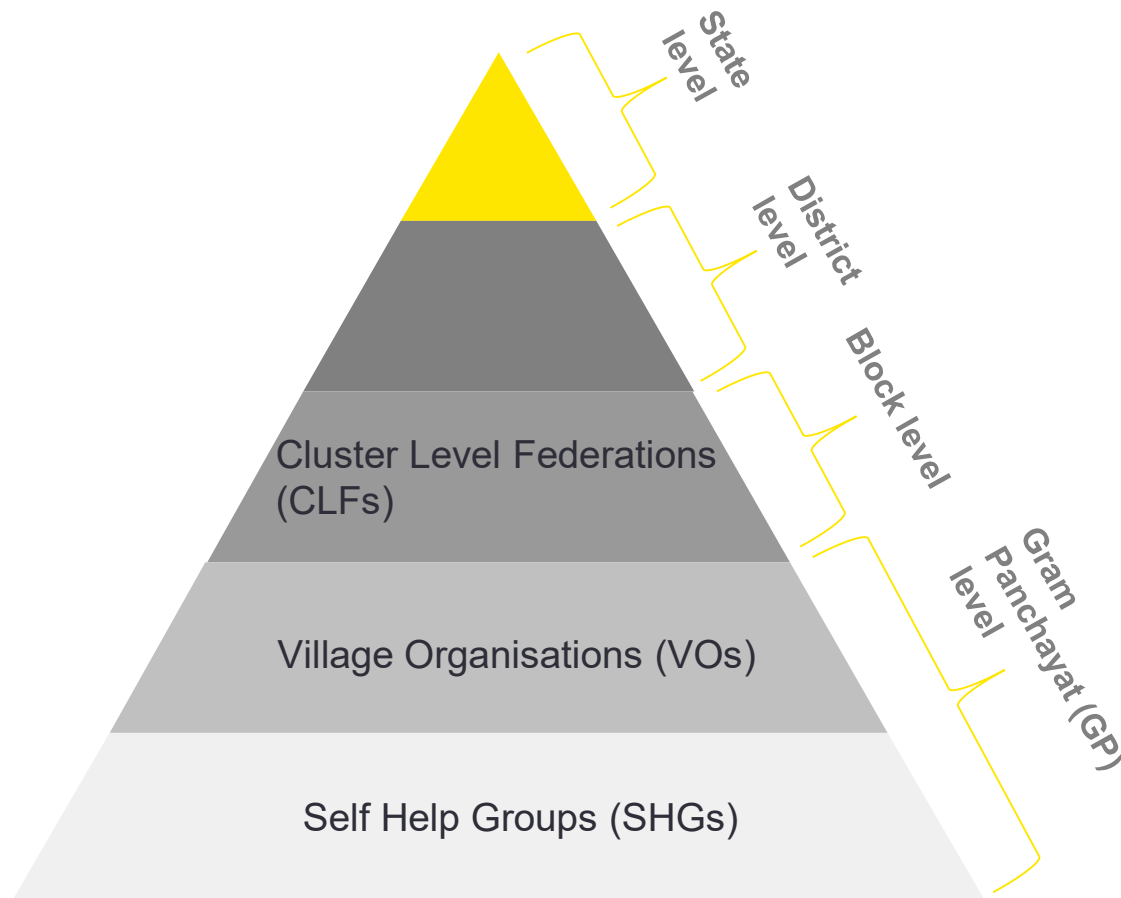


Source: www.mapsofindia.com

Sheohar NP

All the Population are as per Census 2011

Community based institutions in Sheohar, Bihar



Community based institutions are managed by Bihar Rural Livelihoods Project (BRLP), locally known as JEEViKA with the objective of social & economic empowerment of the rural poor. Different levels are managed as:

- 1) State Project management Unit (SPMU): at State level
- 2) District Project Managers: at District level
- 3) Block Project Managers : at Block level

Different SHGs consulted during stakeholder consultation are:

- 1) Gayatri Swayam Sahayta Samuh
- 2) Kumkum Swayam Sahayata Samuh
- 3) Anu Jeevika Samuh
- 4) Shivani Jeevika Samuh
- 5) Kaali Swayam Sahayta Samuh
- 6) Maa Durga Swayam Sahayta Samuh

Policy, regulatory and institutional framework



Institutional Structure for Sanitation in Rural areas

Level	Institutional Structure	Roles and Responsibilities
State level	Executing Body: Rural Development Department State Project Management Unit (SPMU – LSBA*) Members: CEO, Director Livelihood Mission and State Project Manager – Sanitation, Health and Nutrition with technical staff	<ul style="list-style-type: none"> ▶ Policy Formation ▶ Guidelines and directions ▶ Monitoring of sanctioned schemes ▶ Capacity building ▶ MIS development
District level	Executing body: District Water and Sanitation Committee Members: Chairperson – District Magistrate, Vice chairperson - Deputy Development Commissioner (DDC), Member Secretary - Director Accounts of District Rural Development Agency (DRDA) Other Members - Executive Engineer, Public health Board, District Project Manager (DPM) – Jeevika	<ul style="list-style-type: none"> ▶ Implementation of SLWM ▶ Technical and administrative approval ▶ Review of work plan developed by GP ▶ Monthly monitoring and evaluation of SLWM activities in GPs ▶ Direction to different departments to help in SLWM through other schemes and activities as and when required
Block level	Executing body: Block level monitoring unit (BPMU) Members: Chairperson- Block Development Officer (BDO), Member Secretary- Block Coordinator	<ul style="list-style-type: none"> ▶ Monitoring & Evaluation of different SLWM activities at block level ▶ Technical inputs to GP for SLWM activities ▶ Forwarding technical and financial recommendations of GPs to district
Gram Panchayat level	Executing body: Gram panchayat Implementation committee (GPIC) and Ward implementation and Management Committee (WIMC)** Members: Chairperson- GP head for GPIC and Ward member for WIMC, Member Secretary- GP Secretary	<ul style="list-style-type: none"> ▶ Formation of Village and ward level work plan ▶ Implementation of SLWM activities at ward level ▶ Collection of user charges for SWM

Existing Policy Framework in rural areas

Existing Policies for Sanitation in rural areas

- ▶ State level guidelines for Solid and Liquid Waste Management (SLWM), October 2019
- ▶ No policy at the state level for liquid waste management
- ▶ Lack of local bye-law for GP that covers FSM

Key highlights of SBM (G) guidelines

- ▶ Atleast one FSTP per district
- ▶ Source of funding for sanitation activities can be as:
 - ▶ Construction of Individual Household Latrines (IHHLs) : SBM funds
 - ▶ Retrofitting of Toilets: 15th Central Finance Commission
 - ▶ Faecal Sludge management Plants Construction: SBM Funds – INR 230 per capita at district level for village clusters

Key highlights of SLWM guidelines for Bihar

- ▶ Sanitary inspector can be employed at GP level (min. 1 per GP)
- ▶ For SLWM activities GPs can be provided with finances as:
 - ▶ GPs with 150 HH: Max. 7 Lakhs
 - ▶ GPs with 300 HH: Max. 12 Lakhs
 - ▶ GPs with 500 HH: Max. 15 Lakhs
 - ▶ GPs with >500 HH: Max. 20 Lakhs
- ▶ Finances can also be arranged from Nir Nirmal Pariyojana (NNP), Ganga Action Plan (GAP), Mukhyamantri Payal Yojana, RURBAN/ MNREGA/14th Finance commission/ 5th State Finance commission
- ▶ Community Procurement can be done through NNP

Existing Policy and Regulatory Framework for NP

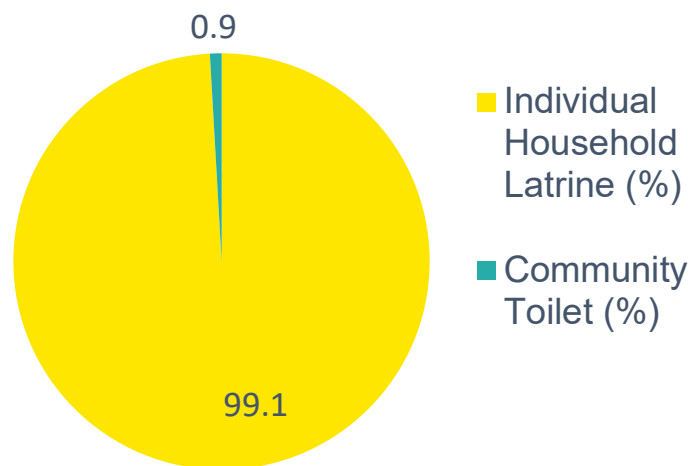
Existing Policies for Sanitation in urban areas

- ▶ State has already provided guidelines for Faecal Sludge and Septage Management in June 2018
- ▶ No policy and Rules at state level for SLWM in Urban
- ▶ No SLWM guidelines at Sheohar Nagar Panchayat level
- ▶ No City Sanitation Plan (CSP) for Sheohar Nagar Panchayat
- ▶ No City Sanitation Task Force has been formed yet at city level
- ▶ Bihar Building Bye Laws issued in 2014 but no provision for evaluating proper Onsite Sanitation System (OSS) during building approval process

Situation of FSM value chain

A - Toilet Containment Typologies

Access to toilets in rural Sheohar



Accessibility to different Toilets



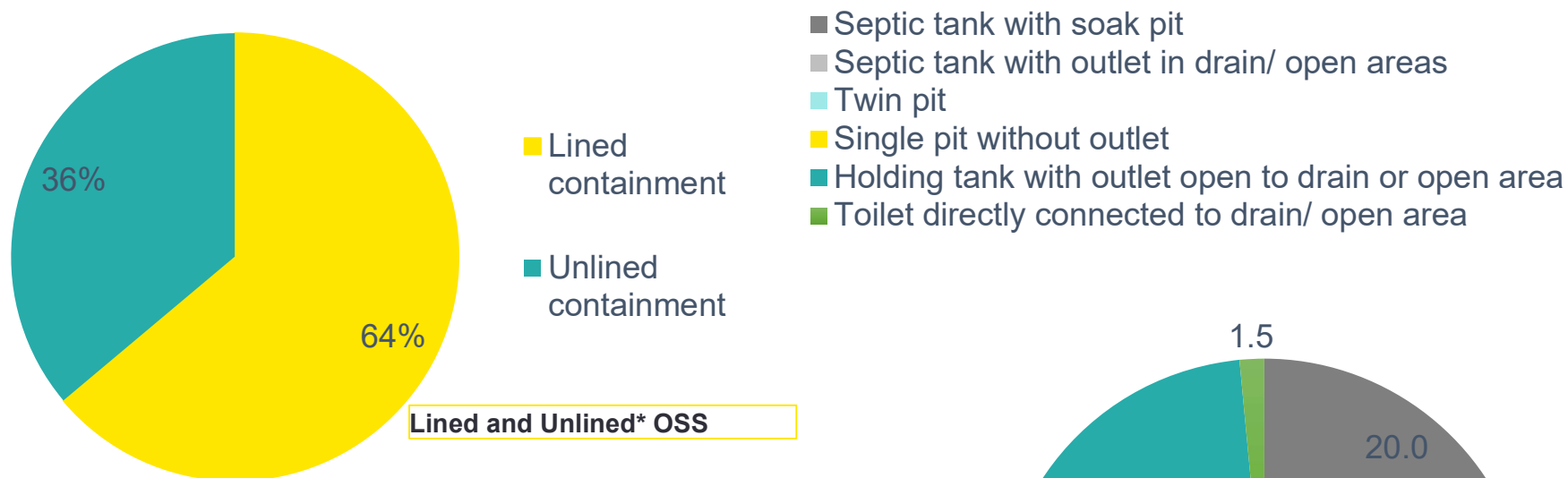
Source of ground water near sanitation facilities

Highlights:

- ▶ Between 2015 and 2020, 109071 no. of toilets were added
- ▶ Almost entire population is covered with toilets and most have Individual Household Toilets¹
- ▶ **>50% of toilets located <10 m from ground water source**
- ▶ **>90% of drinking water is from ground water**
- ▶ 3 Public Toilets (PTs) in the entire district

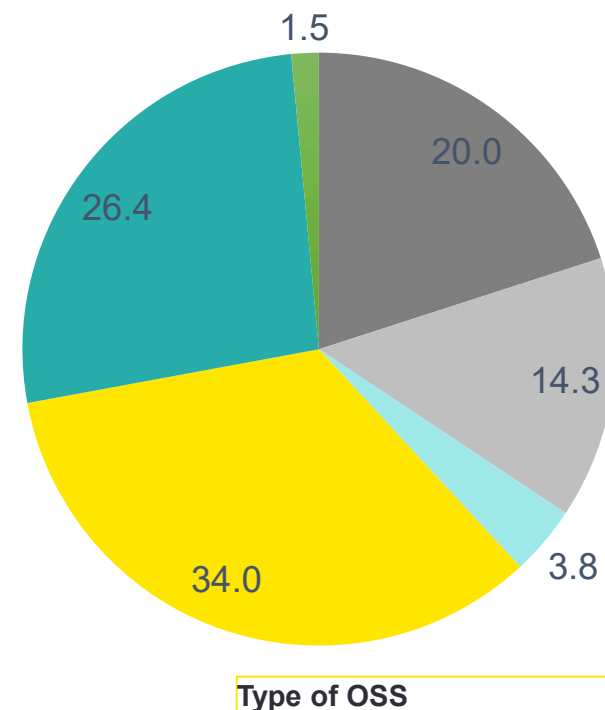
"GPs need more Community Toilets (CTs) due to more footfall in existing CTs" –Mukhiyas of Kolhua Thikha, Purnahiya block and Parsauni Baij, Piprahi block

Onsite Sanitation System (OSS) types in rural Sheohar

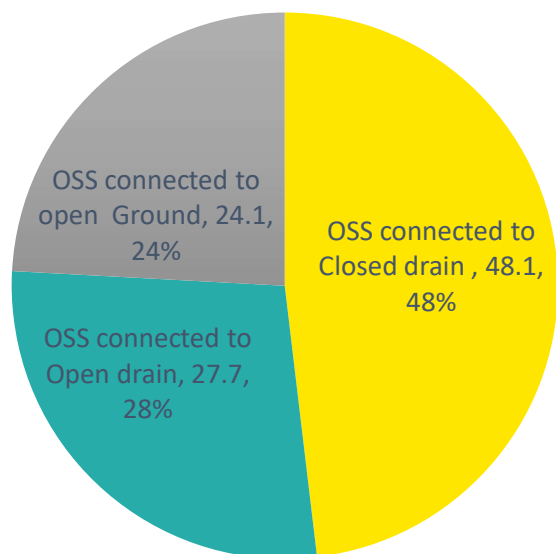


Highlights:

- ▶ 38% HHs dependent on pits, ~60% on septic tank
- ▶ 80% of septic tanks are unscientific
- ▶ >90% of pits are single pits. There is growing preference for twin pits.
- ▶ 36% of OSS are unlined which poses a serious threat of groundwater contamination
- ▶ There is no standard size of OSS



Onsite Sanitation System (OSS) types in rural Sheohar



Supernatant discharge of OSS

- OSS connected to Closed drain
- OSS connected to Open drain
- OSS connected to open Ground



Toilet built on top of OSS

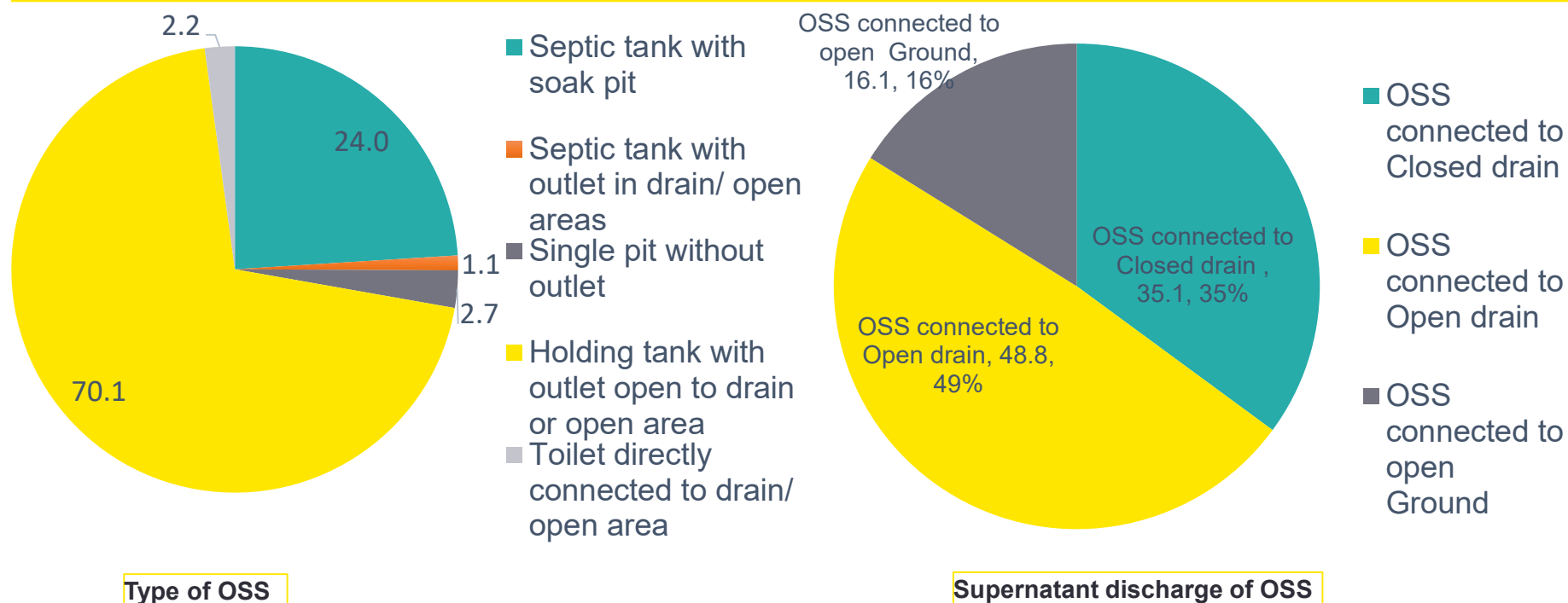
Highlights:

- ▶ 24% OSS open directly to ground
- ▶ Most OSS within house and are sealed



OSS discharging in open ground

Onsite Sanitation System (OSS) types in Sheohar NP



Highlights:

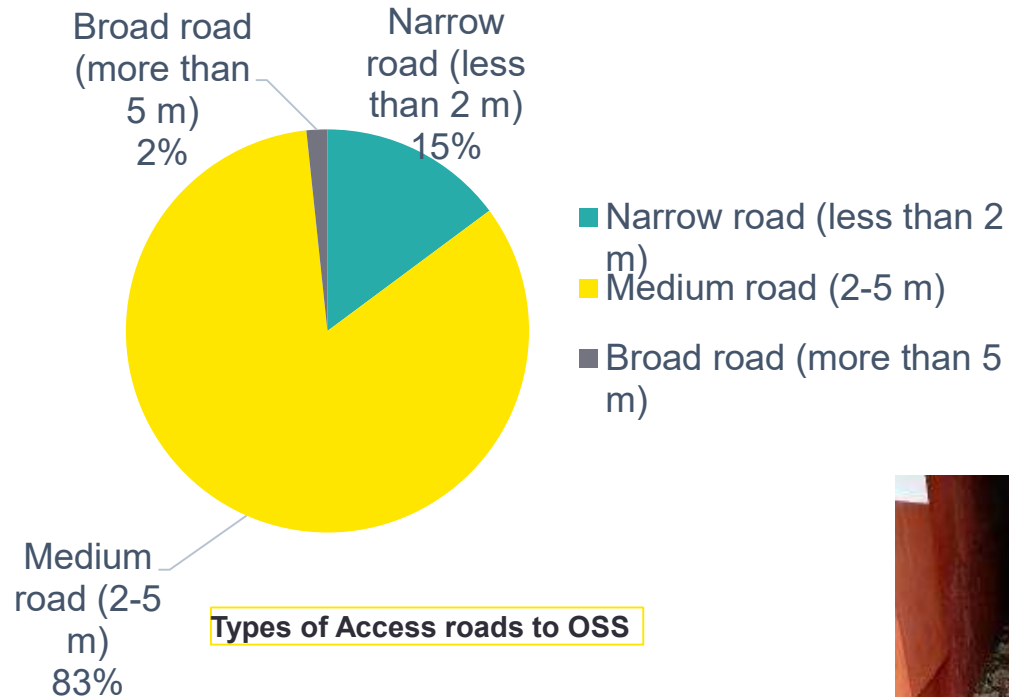
- ▶ > 70% HHs dependent on holding tanks
- ▶ 72% of septic tanks are unscientific
- ▶ There is no standard size of OSS
- ▶ 16% OSS open directly to ground which is a serious matter for any city
- ▶ Lack of awareness in masons about scientific design of Septic tank

"We have been provided training on construction of pre-cast ringed pit" – Mason, Sheohar

Situation of FSM value chain

B - Emptying, transportation, treatment & disposal/ reuse

Access roads to containment system in rural Sheohar



Highlights

- ▶ Most of the access roads are <5m wide
- ▶ Most of OSS are either inside house and plastered completely

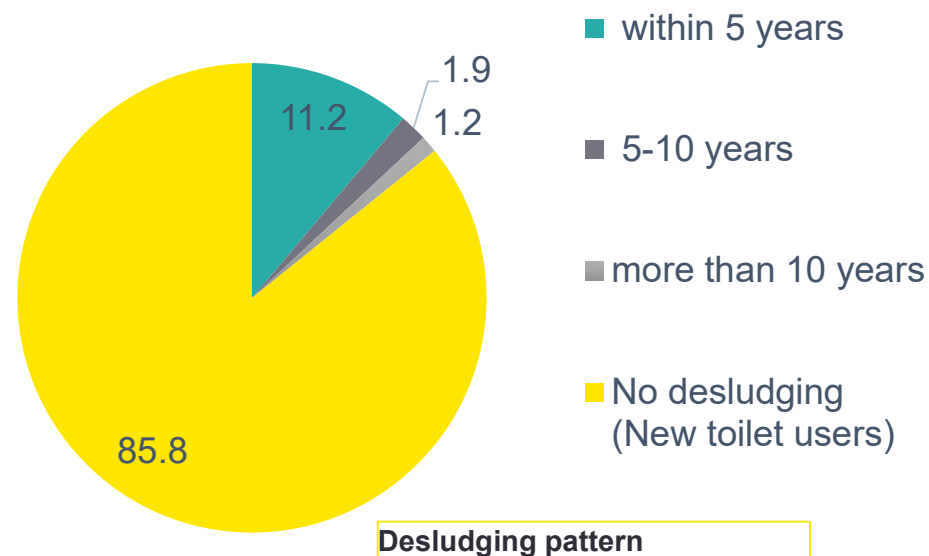
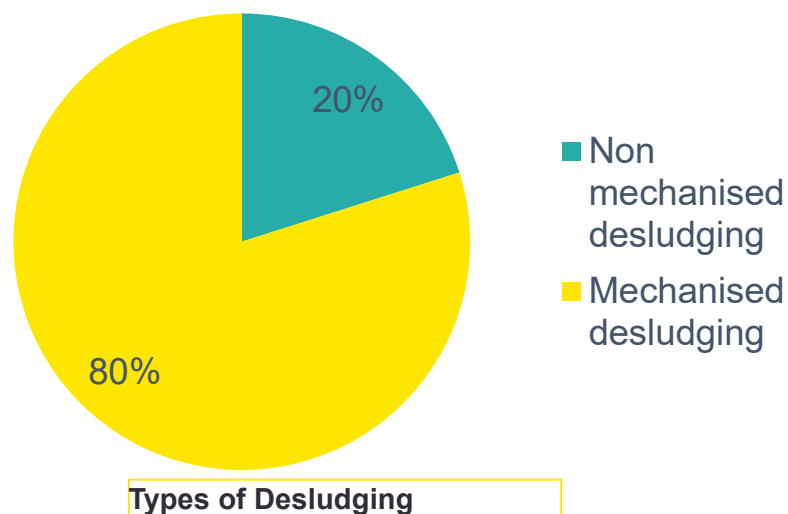


Narrow lanes to OSS



OSS inside house

Desludging pattern in rural Sheohar

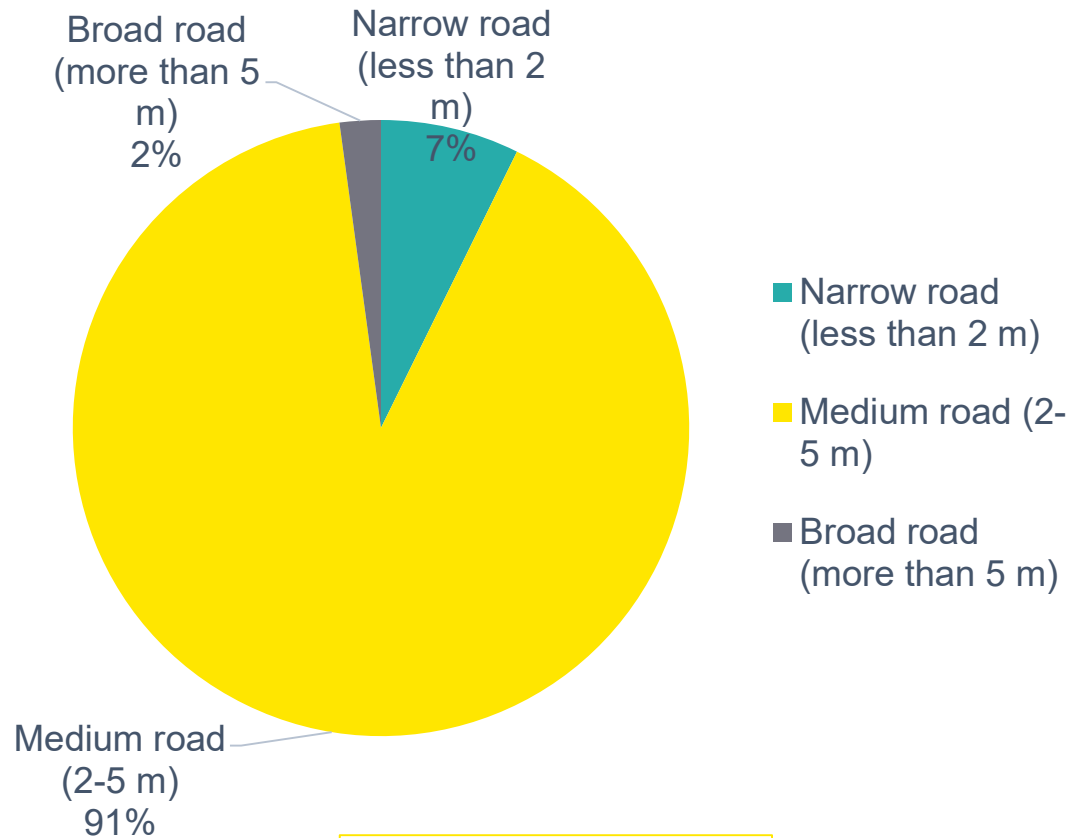


Highlights

- ▶ ~85% HHs have constructed toilet in the last 4-5 years
- ▶ There could be huge demand of desludging in coming years
- ▶ Desludging requires breakage of structure
- ▶ Desludging mostly done by private cesspool operators
- ▶ 20% of households have undergone Non mechanised desludging. So, proper implementation of Manual Scavenging Act is required

"We are struggling for disposing collected faecal sludge. Everybody wants to get their tanks cleaned but no one wants it to be emptied in drains or open areas. If FSTPs are constructed, then it will be a big relief to cesspool operators" – Private Operator, Sheohar

Access roads to containment system in Sheohar NP

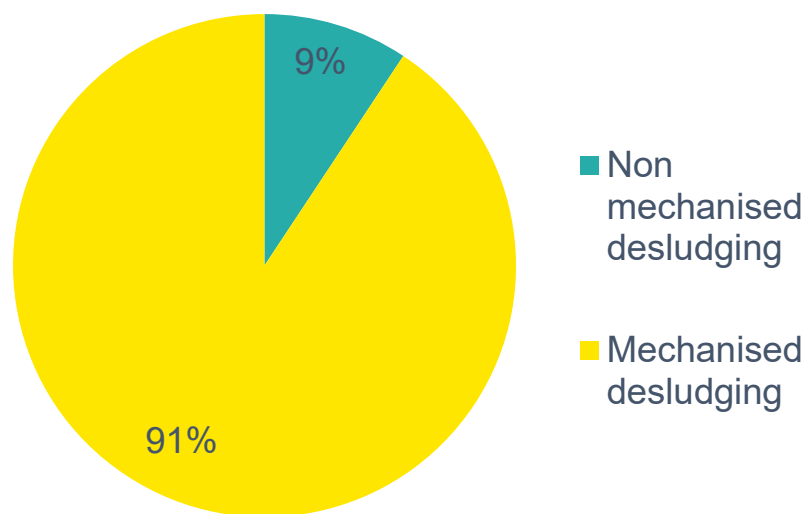


Types of Access roads to OSS

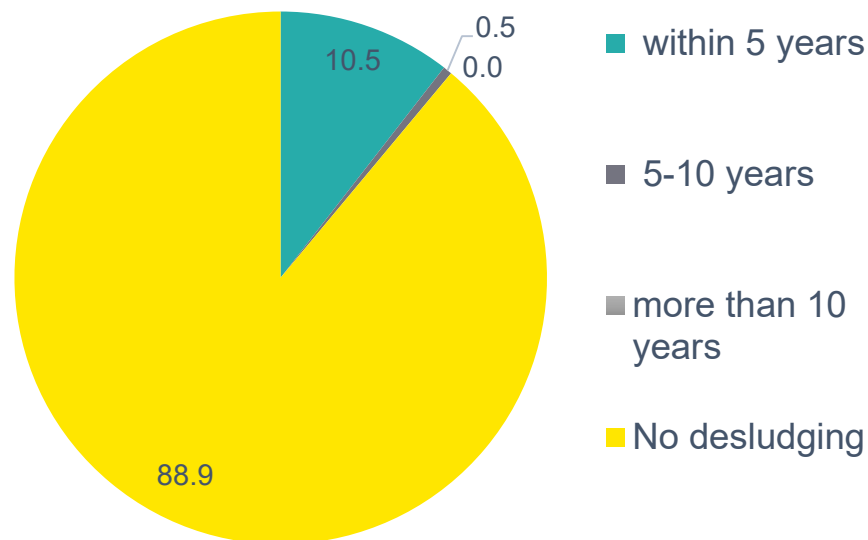
Highlights

- ▶ Most of the access roads are <5m wide
- ▶ Most of OSS are either inside house and plastered completely

Desludging pattern in Sheohar NP



Types of Desludging



Desludging pattern

Highlights

- ▶ ~66% HHs have constructed toilet in the last 4-5 years
- ▶ ~ 22% HH have never gone for desludging
- ▶ There could be huge demand of desludging in coming years
- ▶ Desludging requires breakage of structure
- ▶ 9% of households have undergone Non mechanised desludging.

"We are working in such hazardous environment, we should be provided with PPEs and annual health checkup should be arranged for us" – Sanitary worker, Sheohar

Emptying transport and disposal practices

Desludging and disposal practices

- ▶ Desludging is mostly done by private cesspool operators. Sheohar Nagar Panchayat (NP) also has desludging vehicles.

Private Operations

- ▶ 4 private operators identified with 12 vehicles (6 vehicles of 6 KI capacity and 6 vehicles of 5KL capacity)
- ▶ ~INR 1500 or more per trip for desludging (no fixed fee).
- ▶ Extra charges for breakage to gain access to septic tank/pit.
- ▶ Household is responsible to provide place for disposal
- ▶ Private Operators sometimes refuse service if disposal site is not provided

Sheohar NP

- ▶ Sheohar NP has 2 cesspool vehicles of 4 KI capacity (out of which 1 is under breakdown) which covers entire district
- ▶ Lack of vehicle is inhibiting their ability to provide services
- ▶ INR 1500 per trip for desludging (fixed fee).
- ▶ Extra charges for breakage to gain access to septic tank/pit.

Other points:

- ▶ There is absence of regulatory mechanism to curb illegal disposal
- ▶ PPEs are seldom used by cesspool operators
- ▶ No training has been provided to cesspool operators



Desludging Operation in progress



Desludging Vehicle of Sheohar NP

Sheohar Site Visit



OSS discharging in open ground in Harnahi GP of Sheohar block



Desludging Operation in Sheohar by workers without PPEs



Disposal from cesspool emptying vehicle in the outskirts of Sheohar



Disposal by worker without using PPE

Stakeholder consultations



Key Insights from stakeholder consultation - Government

Stakeholder's consultation insights

Block Development Officers (BDOs)

- ▶ Regularly involved in monitoring of different works undertaken by GPs but that is limited to toilet construction.
- ▶ Although awareness campaigns are regularly undertaken but nothing concrete has been done on FSSM
- ▶ They are of view that it is very crucial subject and will be ready to do something in this field
- ▶ They want SHGs, JEEVIKA members, Swachhagrahi's to be regularly trained on these issues

Gram Panchayat Chiefs (Mukhiyas)

- ▶ Toilet construction has been a focus. FSM needs attention.
- ▶ Lack of funds with GPs which leads to poor drainage facilities
- ▶ GPs adjoining to Sheohar NP even has shortage of land availability
- ▶ GPs need more Community Toilets (CTs); more footfall in existing CTs

Village Water and Sanitation Committees (VWSC)

- ▶ Involved in mostly awareness campaigns for more use of toilets and health hygiene aspects
- ▶ Not sound understanding of FSM, they know only desludging
- ▶ Involved in monitoring of toilet construction and sanitation activities like drains construction

Gram Panchayat Secretaries

- ▶ Sanitation related database maintained manually; has very limited and incomplete information
- ▶ More than 50 % of the GPs provided with piped drinking water network but very low availability of water in taps. But as per secretaries 50-60 litres per capita/day water provided

Key Insights from stakeholder consultation – Non Gov.

Self Help Groups (SHGs)

- ▶ Mostly not aware about FSM and its value chain but only health hazards of its ill management
- ▶ Mostly providing awareness in public for use of toilet, helping them to get employed, getting loans for entrepreneurship and providing education to all

Masons

- ▶ Almost all are unaware of Indian Standards (IS) of Septic tank designing
- ▶ Most of the masons are misinterpreted tanks made from precast ring as septic tank.
- ▶ Clear need for training on regular basis

Sanitation workers

- ▶ Not involved in FSM activities, rather in solid waste only and that too only in Nagar Panchayat (NP) area
- ▶ Limited availability of Personal Protective Equipments (PPEs)
- ▶ Not much exposure to training on different aspects.
- ▶ Workers involved in hazardous activities, their annual health check up is very important which is missing presently

Financial Institutions

- ▶ Only one Financial Institution (FI) C-DOT working in Sheohar on sanitation.
- ▶ Involved in only providing finances for toilet construction. No body has approached them yet, for financing other aspects of sanitation value chain.

Shift Flow Diagram



Shit Flow Diagram (SFD)

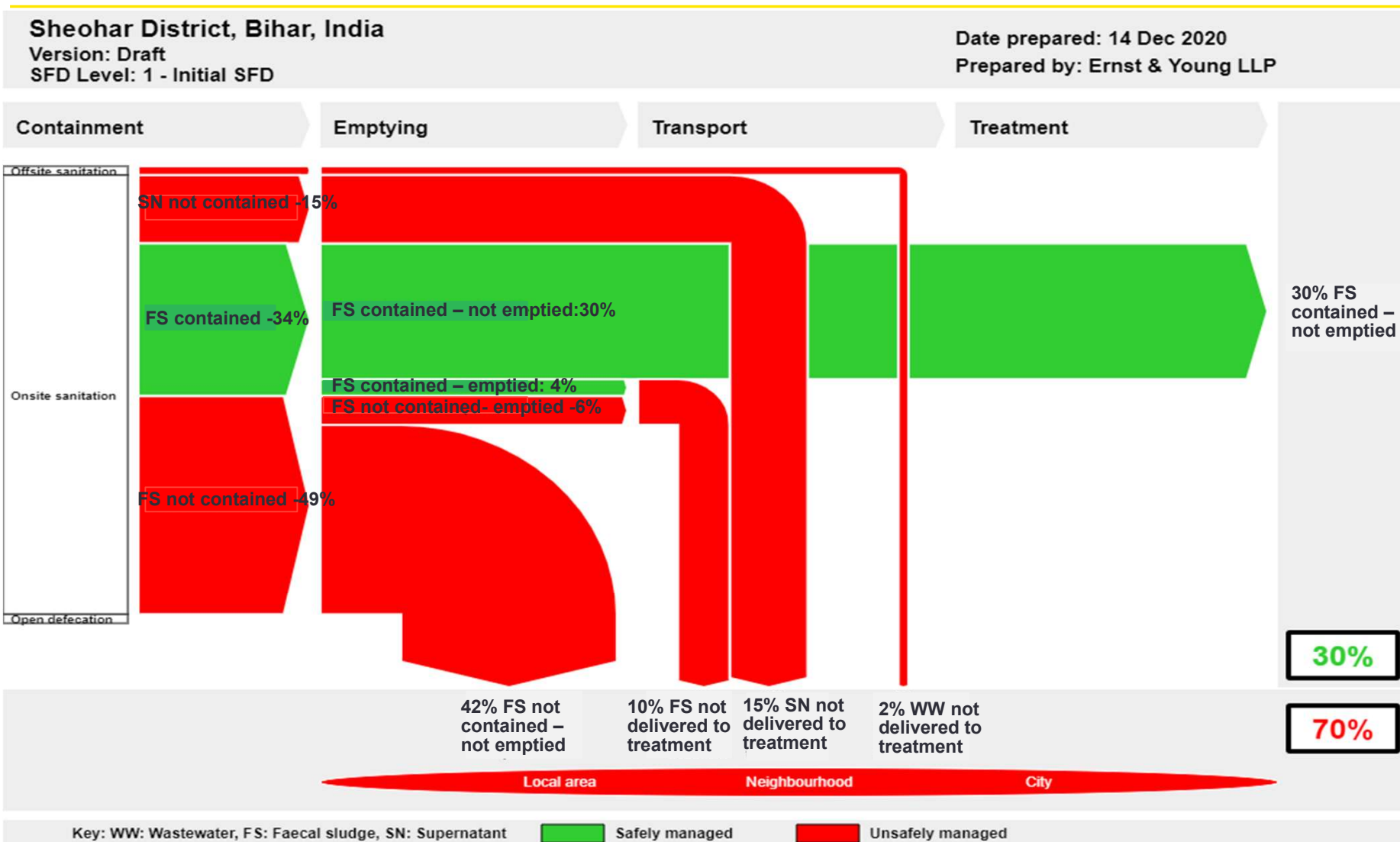
Key Terminologies of SFD:

- ▶ **Offsite sanitation:** includes both toilets directly connected to sewer network and toilets connected to open drain without OSS
- ▶ **Onsite Sanitation:** Toilets having some type of containment system (septic tanks, single and twin pit, holding tank etc)
- ▶ **Open defecation:** Not availability of toilets
- ▶ **Contained:** when pathogen transmission from faecal sludge is arrested (safe sanitation)
- ▶ **Not contained:** when pathogen transmission from faecal sludge is not arrested (unsafe sanitation)
- ▶ **SN:** Supernatant
- ▶ **FS:** Faecal Sludge
- ▶ **WW:** waste water

Highlights:

- ▶ 70% of FS managed in unsafe manner
- ▶ Septic tank with soakpit: unsafe for Sheohar
- ▶ Twin pits :unsafe for Sheohar




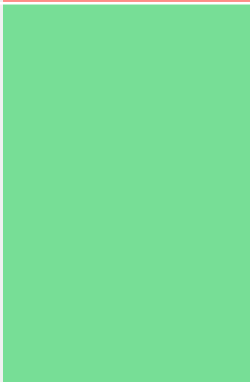
Shit Flow Diagram (SFD)






Proposed Interventions



Proposed Interventions

<p>Faecal Sludge Treatment Plant (FSTP)</p> 	<ul style="list-style-type: none"> ▶ Clustering plan for GPs ▶ Estimation of land area and devise selection criteria ▶ Selection of treatment technology ▶ Preparation of DPR ▶ Construction of FSTP ▶ O&M model and approach for FSTP 	
<p>Cesspool Vehicles</p> 	<ul style="list-style-type: none"> ▶ Procurement of desludging vehicles considering access to narrow lanes ▶ GPS enablement of existing & new Cesspool vehicles ▶ Procurement of vehicles as per demand 	

- ▶ Area to be allotted for setting up of FSTP (1-2 Acres) based on clusters of different GPs
- ▶ To work out the affordable cost which can be bear by citizens to go for schedule desludging

 **Short term intervention (0-6 months)**
 **Medium term intervention (6-12 months)**
 **Long term intervention (12-24 months)**

Proposed Interventions



Regulation and governance reforms



- ▶ PPE usage to be made mandatory
- ▶ Training and licensing of cesspool operators
- ▶ Desludging fee could be fixed and regulated
- ▶ Implementation plan for Prohibition of Manual Scavenging
- ▶ Implementation strategy of the Bihar SLWM guidelines (rural and urban)
- ▶ Amendments in Sheohar building bye-laws to include provision of scientific containment of faecal sludge as part of building approval process
- ▶ Building byelaws for rural areas at district/Block/GP level
- ▶ Provision of penalties for indiscriminate dumping of faecal sludge
- ▶ Formation of Block sanitation Plan (BSP)
- ▶ Finalizing City Sanitation Plan (CSP) for NP region
- ▶ Formalization and strengthening of community level institutions such as CSTF in Sheohar NP and VWSC in rural areas
- ▶ Service level benchmarking for each ward and its integration with CSP and BSP

Short term
intervention
(0-6 months)

Medium term
intervention
(6-12 months)

Long term
intervention (12-
24 months)

Proposed Interventions

 <p>Access to toilets</p>	<ul style="list-style-type: none"> ▶ Conversion from pits to scientific septic tanks ▶ At least one Public Toilet in each GP or each market ▶ Drainage to collect overflow from containment system and grey water ▶ Providing Point of Purchases (POP) for procuring sanitary items 	
 <p>Capacity building</p>	<ul style="list-style-type: none"> ▶ Capacity building of masons (Toilet construction and retrofitting) ▶ Building capacity of CBOs such as SHGs and Ward Sanitation Committees ▶ Strengthened monitoring at community level of Ward Sanitation committee, CSTF and SHG ▶ Capacitate GPs, Blocks, NP and district officials to increase their involvement ▶ Exposure visits to learn leading practices 	



Short term intervention (0-6 months)
 Medium term intervention (6-12 months)
 Long term intervention (12-24 months)

Proposed Interventions



IEC/BCC

- ▶ Motivate people to convert insanitary toilets to sanitary using incentive provided under SBM
- ▶ Disseminate information on OSS solutions available in market which are economical, retrofitable and quicker to implement
- ▶ Communication of harmful impact of non-mechanized emptying and indiscriminate dumping to relevant stakeholders
- ▶ Identify ways to increase penetration of information to citizens on mechanized emptying service providers

 Short term intervention (0-6 months)  Medium term intervention (6-12 months)  Long term intervention (12-24 months)

Key highlights from the Consultation Workshop held to share the findings of the Situation Assessment Study



District level consultative workshop on Situation Assessment Study on FSM

District level consultative workshop was organised on 18.12.2020 in Sheohar Collectorate.

Objective of workshop:

1. Provide orientation on Faecal Sludge Management (FSM)
2. To share the findings of the situation assessment study on FSM undertaken in Sheohar
3. To take feedback on the potential interventions identified
4. To seek inputs on the same from different stakeholders

Key Discussion Points

FSM Infrastructure Provisions

- ▶ DM highlighted the need of FSM in Sheohar. He insisted on funds availability and promised for land could be allocation and recommendation for financial approvals
- ▶ DDC insisted for solutions as per local needs
- ▶ Due to toilets construction in SBM, desludging demand could be more in future. So FSM estimation to be done for Vehicle procurement and FSTP construction. Engineers at block level could be leveraged.
- ▶ Single pits & twin pits in high water table to be relooked. Phase wise plan (short, medium and long term) could be devised
- ▶ NP receives 3-4 request daily. Some times have to reject desludging requests due to in accessibility. This point need to be considered in future during vehicle procurement
- ▶ Public toilets (PT) are low (3), requirement need to be estimated. Community Toilets (CT) need to be increased due to high footfall in some of the CTs
- ▶ Since O&M of CT and PT is a major problem, operation models to be proposed by WFP and EY in FSM report

District level consultative workshop on Situation Assessment Study on FSM

Key Discussion Points

FSM Infrastructure Provisions	<ul style="list-style-type: none">▶ DDC was of view that local specific solutions to be devised and FSM related solutions to be planned in phased manner- short, medium and long term goals▶ Apart from SBM (G) other schemes like Nir Nirmal Pariyojana (NNP) need to be explored for funding FSM initiatives
Operational Model	<ul style="list-style-type: none">▶ Case example of SHG integrated with FSM initiatives discussed▶ DPM Jeevika affirmed possibility of integration of SHG with FSM services and CT, PT management. District administration to explore such integration.
Policy & Regulations	<ul style="list-style-type: none">▶ Regularisation of private cesspool vehicles to be done through licensing. Licensing should focus on provisions on PPEs to workers and disposals at designated points.▶ Local byelaws or regulations (including provisions of penalties) to be passed at district level if possible, to regulate illegal dumping and toilets discharging directly in open drains.
IEC and Capacity Building	<ul style="list-style-type: none">▶ IEC need to be focussed, so far focus has been on toilet construction. Low level of FSM awareness among stakeholders.▶ Masons unaware of scientific designs of septic tanks, one of the reasons of incorrect designs of OSS in Sheohar. Regular training programmes need to be organised for masons▶ PPEs and annual health check up of sanitary workers need to be focussed▶ Funding of training of sanitary workers and masons through labour department to be explored

District level consultative workshop on Situation Assessment Study on FSM

Action Points Agreed

WFP and EY	<ul style="list-style-type: none">▶ Final FSM report to be submitted in January 2021 including:<ul style="list-style-type: none">▶ Clustering plan for FSTPs in consultation with BDOs and EO Nagar Panchayat▶ Technology options for FSTP▶ Land Area estimates and Broad cost estimate (capex and opex)▶ Total no. of vehicles required if any and associated costs▶ Phase wise implementation plan for creating OSS as per local needs▶ Potential financial sources▶ Operational model for O&M▶ Share existing IEC/BCC material with BDOs and EO Sheohar NP
District Administration	<ul style="list-style-type: none">▶ Ensuring availability of land for the proposed FSTPs and application for financial approvals▶ Provision of local bye laws/ regulation at district level for FSM▶ Licensing of Cesspool operators

Annexures



List of Abbreviations

Abbreviations	
BDO	Block Development Officer
BIS	Bureau of Indian Standards
BOD	Biological Oxygen Demand
BPMU	Block Level Monitoring Unit
BRLP	Bihar Rural Livelihoods Project
BSP	Block sanitation Plan
CBO	Community Based Organization's
CLF	Cluster Level Federations
CPHEEO	Central Public Health and Environmental Engineering Organization
CSP	City Sanitation Plans
CSR	Corporate Social Responsibility
CSTF	City Sanitation Task Force
CT	Community Toilets
DDC	Deputy Development Commissioner
DEWATS	Decentralized Wastewater Treatment
DPM	District Project Manager
DPR	Detailed Project Report
DRDA	District Rural Development Agency
EO	Executive Officer
FGD	Focus Group Discussion
FS	Faecal Sludge
FSM	Faecal Sludge Management
FSSM	Faecal Sludge and Septage Management
FSTP	Faecal Sludge Treatment Plant
GAP	Ganga Action Plan
GIS	Geographic Information System
GP	Gram Panchayat
GPIC	Gram panchayat Implementation committee
GPS	Global Positioning System

Abbreviations	
HH	Households
IDI	In-depth interviews
IEC/BCC	Information, Education and Communication/Behavior Change Communication
IHHL	Individual HH Latrines
KL	Kilo Litre
LSBA	Lohia Swachh Bihar Abhiyan
MLD	Million Liters per day
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MSW	Municipal Solid Waste
M	Meter
NGO	Non-Governmental Organisations
NNP	Nir Nirmal Pariyojana
NP	Nagar Panchayat
NULM	National Urban Livelihood Mission
NUSP	National Urban Sanitation Policy
O&M	Operations & Maintenance
OD	Open Defecation
ODF	Open Defecation Free
OSS	Onsite Sanitation System
PCB	Pollution Control Board
POP	Point of Purchases
PPE	Personal Protective Equipment
PT	Public Toilets
RfP	Request for Proposal
SBM (U)	Swachh Bharat Mission – Urban
SFD	Shit Flow Diagram
SHG	Self Help Group
SLWM	Solid and Liquid Waste Management

List of Abbreviations

Abbreviations

SPMU	State Project management Unit
STP	Sewage Treatment Plant
SWM	Solid Waste Management
ULB	Urban Local Bodies
VO	Village Organisations
WIMC	Ward implementation and Management Committee
WSC	Ward Sanitation Committee
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

HH Survey Format

Household Survey Format

FORM No:		House No.	
Residential <input type="checkbox"/>	Commercial Space <input type="checkbox"/>	Institutional Space <input type="checkbox"/>	
Full Name			
Number of Household members			
Telephone / Mobile No.			
Address			
On- Site containment Information			
Number of toilets in the house*			
Year of Construction of Toilet			
Last Desludging year			
Money spent on desludging (INR)			
Desludging Frequency (average), Years			
Mode of desludging		Manual <input type="checkbox"/> Mechanised <input type="checkbox"/>	
On- site containment system type	Single Pit <input type="checkbox"/>	Twin Pit <input type="checkbox"/>	
	Septic Tank <input type="checkbox"/>	Septic Tank with Soak pit <input type="checkbox"/>	
	No OSS <input type="checkbox"/>	Holding Tank with Soak pit <input type="checkbox"/>	
	Holding Tank with outlet open to drain or open area <input type="checkbox"/>		
	Other (specify)		
Size of Containment		L.....B.....H..... Or Diameter..... Depth.....	
On- site sanitation system	Partitioned <input type="checkbox"/>	Un-Partitioned <input type="checkbox"/>	
	Lined <input type="checkbox"/>	Un-Lined <input type="checkbox"/>	
	Outside <input type="checkbox"/>	Inside <input type="checkbox"/>	
	Slabbed <input type="checkbox"/>	Unslabbed <input type="checkbox"/>	

Overflow of OSS Outlet location	Open drain <input type="checkbox"/> Close drain <input type="checkbox"/> Ground <input type="checkbox"/> Nowhere <input type="checkbox"/>
Width of the access road to the containment tank	
Is Sanitation facility located <10 m from ground water Source??	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is Sanitation facility located uphill of ground water Source??	Yes <input type="checkbox"/> No <input type="checkbox"/>
Source of Drinking Water	Ground Water <input type="checkbox"/> Piped water supply <input type="checkbox"/>
Type of Ground water Sourcing	Protected boreholes/ protected dug wells/protected spring <input type="checkbox"/>
	Unprotected boreholes, dug wells or spring <input type="checkbox"/>
	No groundwater sources used <input type="checkbox"/>
Amount of Biodegradable/ wet waste generated per day, kg	
Amount of Dry Waste generated per day, kg	
Disposal of Biodegradable/ wet waste generated	Composting at household level <input type="checkbox"/>
	Collected by Gram panchayat <input type="checkbox"/>
	Other (specify)
Disposal of Dry Waste generated	Collected by Gram panchayat <input type="checkbox"/>
	Other (specify)

*each format to be filled for single containment system.

GP Survey Format

Survey questionnaire for GP/ NP level SWM and FSSM scenario

QUESTIONNAIRE ON MSW AND FECAL SLUDGE AND SEPTAGE MANAGEMENT	
General City Profile समाख्य चौकड़न	Name of the NP/ GP नगर पंचायत / ग्राम पंचायत का नाम
	Category of the ULB/ GP नगर पंचायत / ग्राम पंचायत का प्रकार
	Population (Recent Available) जनसंख्या (हाल की उपलब्ध)
	Year सन् Population जनसंख्या Households घरों की संख्या Slum Population झुग्गी की आबादी Area क्षेत्रफल
Ground Water Risk Assessment भू-जल जोखिम आकलन	Water Supply (lpcd) वाणी की आपूर्ति (लीटर प्रति व्यक्ति प्रति दिन)
	Depth of ground Water table भू-जल तालिका की गहराई
	Rock Type in Unsaturated Zone of Aquifer असंतृप्त क्षेत्र के जलभृत में मिट्टी का प्रकार
	Fine Sand, silt and Clay <input type="checkbox"/> महीन रेत, सिल्ट एवं क्ले
	Weathered basement <input type="checkbox"/> Weathered बेसमेंट
	Medium Sand <input type="checkbox"/> मध्यम रेत
Coarse Sand and gravels <input type="checkbox"/> मोटा रेत एवं ग्रेवेल	
Sandstones/ limestones fractured rock <input type="checkbox"/> सैंड स्टोन / लाइम स्टोन / fractured रॉक	
% Sanitation facility located <10 m from ground water Source? शौचालयों की संख्या (प्रतिशत में) जिनकी दूरी भू-जल के स्त्रोत से 33 फीट से कम है?	>25 % <input type="checkbox"/> <25 % <input type="checkbox"/>
% Sanitation facility located uphill of ground water Source?? शौचालयों की संख्या (प्रतिशत में) जिनकी दूरी भू-जल के स्त्रोत से 33 फीट से कम है?	>25 % <input type="checkbox"/> <25 % <input type="checkbox"/>

GP/NP Sanitation Profile ग्राम पंचायत / नगर पंचायत स्वच्छता स्वरूप	शौचालयों की संख्या (प्रतिशत में) जिनकी दूरी भू-जल के स्त्रोत से 33 फीट से कम है?	
	% of Drinking Water source from ground water भू-जल से पेय जल के स्त्रोतों की संख्या (प्रतिशत में)	0 % <input type="checkbox"/> 1 25 % <input type="checkbox"/> >25 % <input type="checkbox"/>
	What is the water production technology Used जल उत्पादन प्रणाली	Protected boreholes, dug wells or spring <input type="checkbox"/> संरक्षित बोरहोल/ सरक्षित बगवेल/ सरक्षित स्प्रिंग Unprotected boreholes, dug wells or spring <input type="checkbox"/> असंरक्षित बोरहोल, बगवेल और स्प्रिंग No groundwater sources used <input type="checkbox"/> कोई भू-जल स्त्रोत इस्तेमाल नहीं होता
	ODF Status ODF स्तर	
ग्राम पंचायत / नगर पंचायत स्वच्छता स्वरूप	% of population covered with OSSP और साइट सैनिटेशन प्रणाली पर निर्भर जनसंख्या (प्रतिशत में)	
	% of population covered with piped network पाइप नेटवर्क पर निर्भर जनसंख्या (प्रतिशत में)	
	Toilets constructed under SBM SBM के अंतर्गत शौचालयों का निर्माण	IMM - Conversion of insanitary toilets to sanitary toilets इंसानिटी शौचालयों का सैनेटरी में परिवर्तन Community Toilet - सामुदायिक शौचालय - Public Toilet - सार्वजनिक शौचालय
	Prominent type of OSSP in the town / Village (approx. % wise)	1. 2. 3. 4.
	ग्राम पंचायत में प्रमुख रूप से मौजूद और साइट सैनिटेशन प्रणाली (प्रतिशत में)	
	सेप्टिक टैंक, प्लास्टर युक्त कन्टेनमेंट, प्लास्टर विहीन कन्टेनमेंट, सिंगल पिट, दबिन पिट	
Present Sanitation issues in the town / Village ग्राम पंचायत में मौजूदा स्वच्छता सम्बन्धी समस्याएं	1. 2. 3.	

GP Survey Format

Desludging service provided by रिक्तिकरण सुविधाएं प्रदान की जाती हैं	Government Operators <input type="checkbox"/> सरकारी ऑपरेटरों द्वारा Private Operators <input type="checkbox"/> निजी ऑपरेटरों द्वारा Others <input type="checkbox"/> अन्य (उल्लिखित करें)
Number of private desludging Operators available निजी रिक्तिकरण ऑपरेटरों की संख्या Desludging vehicle/ equipment available (Both for government and private operators) मौजूद रिक्तिकरण वाहन / उपकरण (सरकारी एवं निजी ऑपरेटरों के लिए)	Type प्रकार Capacity and Number and year of purchase क्षमता, संख्या एवं क्रय का समय 1. 2. 3.
Source of Desludging equipment/ vehicle procurement and costing रिक्तिकरण वाहन / उपकरण की खरीद (स्रोत) एवं लागत की जानकारी	Source of procurement and cost of purchase खरीद का स्रोत एवं लागत 1. 2. 3.
Services to nearby towns/ villages (one served and request received in a month) आसपास के कस्बों एवं गांवों में पदार्थ की जाने वाली रिक्तिकरण सुविधाएँ (दूरी एवं महीने में प्राप्त आवेदन)	
No. of desludging operators (Driver and helper) (Total number of workers involved) रिक्तिकरण ऑपरेटरों की संख्या (ड्राइवर एवं हेल्पर) (कुल कर्मचारियों की संख्या)	
Details of safety gears provided to the desludging workers रिक्तिकरण कर्मचारियों को प्रदान की जाने वाली सुरक्षा उपकरणों का विवरण	
Mode of request for desludging रिक्तिकरण के आवेदन का प्रकार	By Application पार्श्व पत्र द्वारा By Call दूरभाष द्वारा

	Other (specify) अन्य (उल्लिखित करें)
Request/Addressal time (average) आवेदन निवारण का समय (औसत)	Within 24 hours 24 घंटे के भीतर Within 2 days 2 दिन के भीतर Within a week 1 हफ्ते के भीतर
No. request received प्राप्त आवेदनों की संख्या	Other (specify) अन्य (उल्लिखित करें) Weekly हफ्ते में Monthly मासिक
Season wise request pattern (average) मौसमी आवेदन का प्रारूप (औसत)	Summer - शीत ऋतु Rainy - मानसून - Winter - शरद ऋतु
Trips completed per day प्रतिदिन पूर्ण की गयी ट्रिप्स	Capacity - क्षमता Trips - ट्रिप्स
Reason for seasonal variations मौसमी परिवर्तन के कारण	
Maintenance cost of the vehicles (with frequency) वाहनों के रखरखाव की लागत (आवृत्ति के साथ)	
Cases of non-mechanized cleaning in the towns/ village (how is it addressed) ग्राम पंचायत में गैर यंत्रकृत सफाई के मामले (निवारण के लिए किन्हे गए उपाय)	
Desludging Fee Collection रिक्तिकरण शुल्क	Households हाउस होल्ड - Commercial - व्यावसायिक - Institutional संस्थानगत -
Charges for Desludging (per trip) रिक्तिकरण शुल्क (प्रति ट्रिप)	Capacity - क्षमता - Charge - शुल्क -
Additional trip charges अतिरिक्त ट्रिप शुल्क	Capacity - क्षमता - Charge - शुल्क -

GP Survey Format

Average last year fee collection from desludging रिक्लीकरण से पिछले वर्ष प्राप्त शुल्क	
Data base for desludging रिक्लीकरण डेटाबेस	Manual मैनुअल - Computerized - कम्प्यूटीकृत
Disposal Site for desludged waste रिक्लीकरण के बाद अपशिष्ट का निष्पादन	Undesignated Site (Provide Locations) - अनिर्दिष्ट साइट (स्थान) Nallahs Farmlands नाले खेत Waste disposal site - अपशिष्ट निष्पादन साइट - STP FSTP -
Major issues and Challenges related to FSSM in town/ Village ग्राम पंचायत में प्रमुख फेकल स्लज एवं सेप्टेज मैनेजमेंट सम्बंधित समस्याएं एवं चुनौतियां	Access पहुंच - Containment कन्टेनमेंट - Transportation परिवहन - Disposal - निष्पादन - Treatment उपचार - Discharge निर्वहन -
Cases of sanitary worker death in past 7 years (if yes, cases and details of the work in which the worker was involved) पिछले 7 वर्षों में सफाई कर्मचारी की मौत का मामला (यदि हाँ तो मामले की विस्तृत जानकारी जैसे किस तरह के कार्य में कर्मचारी लिप्त था)	
Community Awareness Programs on FSSM (conducted/planned) फेकल स्लज एवं सेप्टेज मैनेजमेंट पर सामुदायिक जागरूकता (संचालित/ योजनाबद्ध)	
Average frequency of desludging in the town/ Village (as per type of OSSF available) ग्राम पंचायत में रिक्लीकरण की औसत आवृत्ति (मीनूटा ओन साइट सैनिटेशन प्रणाली के अनुसार)	1. 2. 3.

MSW Scenario MSW परिदृश्य	OSSF wise request received (approx. % or number of request in a month) ऑन साइट सैनिटेशन प्रणाली के अनुसार प्राप्त आवेदन (लगभग प्रतिशत में अथवा महीने में प्राप्त आवेदन की संख्या) Arrangements for inaccessible areas of the town/ village कसबे या गांव के दुरीम क्षेत्रों के लिए व्यवस्था Provision for desludging of dried sludge (for toilets constructed under SBM) सूखे स्लज के रिक्लीकरण के लिए प्रावधान (SBM के अंतर्गत निर्मित शौचालयों के लिए) Provision for construction of FSTP FSTP के निर्माण के लिए प्रावधान Presence of sewage treatment facility (If yes, details) सीवेज उपचार सुविधा की उपस्थिति (यदि हाँ तो विस्तृत जानकारी)	1. 2. 3.
	Co-treatment facility at STP (Technology and disposal point at STP) STP पर को ट्रीटमेंट की सुविधा (तकनीक एवं एग्टीपी पर निष्पादन बिंदु)	Technology - तकनीक - Capacity - क्षमता - Design population - डिजाइन जनसंख्या -
	Applicability of Scheduled Desludging in town/ Village कसबे या गांव में योजनाबद्ध रिक्लीकरण की प्रयोज्यता	High उच्च Moderate मध्यम Low निम्न
	Is Composting Facility available at GP? क्या ग्राम पंचायत में कम्पोस्टिंग सुविधा उपलब्ध है ?	Yes <input type="checkbox"/> No <input type="checkbox"/> हाँ नहीं If yes, then capacity: यदि हाँ तो क्षमता: Other (specify) अन्य (उल्लिखित करें)

GP Survey Format

Is MRF/ Dry Waste processing facility available at GP? क्या ग्राम पंचायत में सूखे कचरे की प्रसंस्करण सुविधा उपलब्ध है ?	Yes <input type="checkbox"/> No <input type="checkbox"/> हाँ नहीं If yes, then capacity: यदि हाँ तो क्षमता: Other (specify) अन्य (उल्लिखित करें)
Amount of wet waste collected, transported and brought to treatment facility by GP ग्राम पंचायत द्वारा प्रसंस्करण सुविधा तक गीले कचरे का संग्रहण एवं परिवहन की मात्रा	
Amount of dry waste collected, transported and brought to treatment facility by GP ग्राम पंचायत द्वारा प्रसंस्करण सुविधा तक सूखे कचरे का संग्रहण एवं परिवहन की मात्रा	
Collection vehicles available for MSW MSW के संग्रहण के लिए वाहन	Yes <input type="checkbox"/> No <input type="checkbox"/> हाँ नहीं If Yes, Type: Capacity: यदि हाँ तो, प्रकार: क्षमता: Other (specify) अन्य (उल्लिखित करें)
Source of MSW Collection vehicle procurement and costing MSW संग्रहण वाहन की खरीद का स्रोत एवं लागत	Source of procurement and cost of purchase खरीद का स्रोत एवं लागत 1. 2. 3.
Present MSW Collection, Transportation and treatment issues: समय का MSW संग्रहण, परिवहन एवं उपचार सम्बंधित मुद्दे:	1) 2) 3)

In - depth Interview Format: BDO

BDO

Name of Block:

Name of BDO:

1. What are the key issues related to urban sanitation in the Block?

2. What are the key roles and responsibilities of Block officials in implementation of sanitation programmes?

3. What are the key challenges in making the Gram panchayats ODF+ in the Block?

4. What is the Block specific plan to address challenges in sanitation?

5. What kind of coordination presently exists between Block and the Gram panchayats?

6. How important is FSSM and SWM in sanitation in Gram Panchayats of the Block?

7. What kind of capacities need to be built to deal with FSSM and SWM at the Gram Panchayat and Block level?

8. Government has strategically planned to empower and capacitate Blocks as planning and monitoring agency for all sanitation services in the Block. What are your key suggestions on this?

In - depth Interview Format: Cesspool operators

Survey questionnaire for Cesspool Operator

Name of the Operator: _____

Education of Operator: _____

Registered name of the company and address: _____

Start date (year) of business operations: _____

Area of Service: _____

General Description:

- Age of the operator
- Caste of the operator
- No. of Vehicles operating
- No. of people employed in business
- No of people deploy for each vehicle

1. How did you come to know about the emptying and transportation business? (trigger for starting this business)

2. Number and type of vehicles owned at the start of business

Year Procured	Average trips in a day	Make/ Technology of vehicle	Capacity	Cost of Vehicle

3. Did you take any financing facilities/ loan from any financial institutions (Commercial banks/ NBFCs/ other financial institutions? If yes, then from which institution.

4. Do you see any increase in demand of your service after you have started operations?

5. Average number of trips per day in the current year of operations

6. User charges per trip in the current year

7. Did you apply for permissions to the government for starting the business

- Yes
- No

If yes, please list the departments and nature of permission

Department	Nature of permission	Requirements for giving permission	Time taken for approval	Charges paid
Industries department PCB				
Nagar panchayat/ Gram panchayat/ Block RTO				
Any Other				

8. Was there any directive or GO from the NP/ GP/ Block to initiate FSM services to the private operators?

- Yes
- No

If yes, please provide us the reference document

9. Do you have any contractual arrangement with the NP/ GP/ Block?

- Yes
- No

If YES please provide us a sample copy of contract documents (Eoi, RFP, etc)

10. How do you receive requests from households for emptying and transportation?

- Phone
- In person
- From NP/ GP/ Block
- Any other

In - depth Interview Format: Cesspool operators

11. What is the nature of information you seek from the household when a request for emptying and transportation is made?

Q1	
Q2	
Q3	
Q4	
Q5	
Q6	

12. Do you have any process of maintaining records in the form of a register or book for the requests received from households?

- a. Yes
b. No

If yes, please provide a copy of such record (register/book)

13. How do you plan your operations after a request is recorded and accepted?

14. Do you have any guideline or manual that needs to be followed for emptying and transportation?

- a. Yes
b. No

If yes please provide a copy and indicate the name of the author of guideline/manual

--

15. How do you advertise your operations and create awareness about your business among the households?

- ☐ Posters ☐ Pamphlets
☐ Wall Paintings in public areas ☐ News papers
☐ Mobile Street loudspeaker ☐ Display board at ULB
☐ Through Internet/ website

16. What are the tools provided to workers and vehicles for emptying and transportation?

17. What are the factors considered for planning the transportation routes? Please chose from the below and also add relevant ones?

Any traffic or peak hour protocols	
Most direct route	
Expected volumes of seplage of pumps	
Proximity of disposal pumps	
Others	

18. What are the key steps in locating the septic tank and initiating the dislodging?

--

19. What are the problems faced in initiating dislodging? (while locating the septic tank and parking the truck for operations)

--

20. Do you break open the floor or cover of the septic tank. If doing so who is responsible for repairing it and who bears masonary charges and do you take any permission for the same

21. Do you provide any masonry support for your costumers, if so what kind of engagement you have with the mason

22. What are the safety and security precautions taken by workers for initiating and completing dislodging?

23. Do you know the different types of safety gears that are used for operations?

- a. Yes
b. No

If Yes List them

Norm Source	Safety Equipment	Tick if responds
CPHEEO	Gloves	
CPHEEO	Boots	

In - depth Interview Format: Cesspool operators

CPHEEO	Hard Hat	
CPHEEO	Face Mask	
Robins, 2007	Hand wash supplies	
Robins, 2007	Light	
Self Domain knowledge	- Plastic/ Rubber over coat	

24. Do you have guidelines or rules to be followed either from NP/ GP/ Block or other organizations during dislodging?

25. What are your terms of agreement with your costumer (descriptive – What work is the operator providing to his costumer i.e. like sanitizing the site after cleaning etc) Describe

26. Is it mandatory for workers to wear safety gear and how do you ensure compliance?

27. Do workers experience any health problems after dislodging? Have they developed any prolonged illnesses which can be attributed to continuous exposure to the dislodging? (discuss with sub ordinates)

28. What are the key steps after completing the dislodging including sanitizing the location, washing hands etc?

29. What is the procedure for collection of user charges?

30. Do you maintain any billing book to account your payments?

- a. Yes
- b. No

If yes, please provide a copy

31. Did you follow any criteria for pricing your services? or How did you price your services

- a. Yes
- b. No

If YES, please describe the criteria

- a- Value of vehicle purchased
- b- Salary of operator & Helper
- c- Fuel expenses
- d- Operation and maintenance expenses
- e- Others if any

32. Did any customer ever raise a complaint on damage of his property?

33. Did neighbors or anyone in the community complain of the dislodging process? Explain

34. Are there any instances that you have either rejected or could not provide the service related to desludging? Explain

35. Did you or any of your staff members undergo training or awareness orientation with regard to septic tanks, collection, emptying, transportation and disposal activities?

36. What is proportion of septic tanks and leach pits are emptied by you in a month (separately)?

37. Is there any kind of septic tank that you cannot desludge? If yes give the reasons

- a- Not able to locate tank/Pit
- b- Septic tank is sealed/ Covered with tiles
- c- Not accessible for existing cesspool vehicle
- d- Due to no emptying for long period, desludging is not lucrative as time taken is inefficient
- e- Others if any

38. Are you aware about practice of manual desludging & emptying in the city?

In - depth Interview Format: Cesspool operators

39. If yes, are you aware how many septic tanks and pits are manually emptied in a month?

40. Do you provide support for costumers for manual desludgers?

41. Do you face any problems from the traffic authorities, neighbors, colonies or vehicles on road while transporting the sludge?

42. Did your truck breakdown anytime while carrying faecal load in the vehicle? What do you do if it happens??

43. Did your vehicle ever leaked from the container when it is loaded? What will be your first step if such thing happens?

44. What is the most commonly used location for disposal of faecal sludge? Provide locations.

SNo	Location	Land use

45. Do you have a dedicated faecal waste disposal place as prescribed by NP/ GP/ Block? List of the locations.

46. Do you face any problem or rejection from community or any other authority for disposing waste?

47. Did any authority levy fine or file a complaint for disposing waste in a particular location? Give the details and also share a copy of the same.

48. Did your vehicle retain faecal waste for few days, without disposing it for non-availability of site or any other reason? If so, how many days and reasons?

49. Do you dispose waste during day or in the night (preference and why)?

49. Do you sell faecal sludge to any person or any industry for example farmers, or fertilizer industries?

50. What is your annual business turn over?

51. Did you take any loan for the vehicle, if so can you please provide some details

52. What are your profits from last year?

53. Will you be willing to supply sludge if a treatment plant is established?

54. Will you be willing to construct or operate a septage treatment plant?

55. Will you support the entry of other operators into emptying and transportation and treatment?

56. If citizens expect a lower tariff for emptying, would you be open to the idea?

In - depth Interview Format: Deputy Development Commissioner

Deputy Development Commissioner

1. What are the sanitation priorities of the district for coming years?
2. Does the city have a City Sanitation Plan (CSP)?
3. How are you planning to meet the goals of SBM G – (Phase II)? What are key bottlenecks in implementing the programme?
4. Is there any strategy adopted to meet local level challenges in sanitation?
5. Has there been any plan to implement the recently notified Rural Sanitation strategy and SBM G (Phase II) guidelines issued by Ministry of Jal Shakti?
6. Is there any district level coordination between different agencies such as Blocks, PCB and Panchayati Raj department in sanitation infrastructures creation and management?
7. Are there any plans to utilize the potentialities of CSR and other sources of funding for sanitation programmes?
8. What are the key challenges with regards to FSSM and SWM in the district?
9. How do you see private participation in O&M of FSSM and SWM?
10. Awareness level is very low among the people on FSSM in comparison to SWM. How do you propose to undertake IEC, BCC and capacity building activities on FSSM in the city?
11. What kind of capacities need to be built to deal with FSSM at the city & district level?
12. What do you suggest could be the best way for effective FSSM in the city and district?
13. What do you think about the opportunities for reuse of treated septage and treated wet waste (fertilizer)?

In - depth Interview Format: Executive Officer, Nagar panchayat

Executive Officer of Sheohar

Name of EO:

1. What are the sanitation priorities of the city for coming years?

2. Does the city have a City Sanitation Plan (CSP)?

3. How are you planning to implement the SBM (Phase -II) in the city? What are key bottlenecks in implementing the programme?

4. Kindly provide State/ district level Policy, regulatory and institutional framework for Sanitation related activities. This includes existing regulatory framework.

5. How financial flows for Nagar Panchayat happens (this includes revenue and expenditure for last three years)?

6. Is there any State specific guidelines for SWM and Urban FSSM Guidelines?

7. What are the activities undertaken for awareness generation and behaviour change of the community and in what frequency?

8. Which budget is utilised for the same?

9. What are the key challenges with regard to FSSM and SWM in the City?

10. Has any guideline or SoP been developed for FSSM and SWM in the City?

11. How many cesspool vehicles does the ULB have at present? How do these vehicles operate? What is the average no. of trips per day?

12. One of the critical observation from other cities is affordability of desludging services? What price would you suggest for people to afford with?

13. Are you aware about private participation in FSSM?

14. Awareness level is very low among the people on FSSM in comparison to SWM. How do you propose to undertake IEC, BCC and capacity building activities on FSSM in the city?

In - depth Interview Format: Executive Officer, Nagar panchayat

15. Is there any provision for Faecal Sludge Treatment in the city? If so, then what is the progress for the same?

16. Have you attended any capacity building trainings on FSSM at any levels – city, district, state, national and international. Please list out

17. Have you undertaken any capacity building trainings on FSSM so far? If yes, please describe.

18. What do you suggest could be the best way for effective FSSM across the value chain in the city?

19. Has the City Sanitation Task Force (CSTF) been formed? If yes, who are the members and in what frequency does it meet?

In - depth Interview Format: Financial Institution

Financial Institutions

1. For how many years you are financing the sanitation related activities?

2. What are the prominent activities in sanitation sector for which you are providing financing facilities?

3. These loans are short term or long term?

4. What is the mode of financing facilities you are providing for sanitation?

5. What is the percentage recovery of finances in the sanitation related activities?

6. How much (in %) of your financing business constitute this sector?

7. What according to you are the key challenges faced by financing institutions to finance in the sanitation sector?

FGD Format: Masons

FGD questions for Masons

Name of Block:

Name of GP:

Masons Contacted and Contact Details:

1. Are you aware of IS standards for septic tanks and pits?

क्या आपको सेप्टिक टैंक एवं पिट के लिए IS मानक के बारे में जानकारी है?

2. Do you practice these standards while constructing the septic tank?

क्या आप सेप्टिक टैंक के निर्माण में इन मानकों का प्रयोग करते हैं ?

3. Based on your experience, what percentage of septic tanks and pits conform to these standards?

आपके अनुभव के आधार पर कितने प्रतिशत सेप्टिक टैंक एवं पिट इन मानकों के आधार पर होंगे?

4. Do you think the current design of the septic tank is good? If No, can you suggest the best kind of technology for FSM that you provide?

आपके अनुसार वर्तमान में सेप्टिक टैंक के लिए इस्तेमाल किया जाने डिज़ाइन अच्छा है ? यदि नहीं तो क्या आप किसी अच्छी तकनीक का सुझाव देना चाहते हैं?

5. Have you ever been trained or imparted knowledge on septic tank construction by any govt /Private agency?

क्या आपको कभी किसी सरकारी या निजी संस्थान द्वारा सेप्टिक टैंक के निर्माण के लिए प्रशिक्षण दिया गया है?

6. Who are the builders of septic tanks and pits in the city/ Village and do you think they have adequate knowledge about design of septic tanks and pits as well as emptying and transportation?

आपके शहर या गांव में सेप्टिक टैंक का निर्माण करने वाले कौन हैं और क्या आपके अनुसार उन्हें सेप्टिक टैंक एवं पिट के डिज़ाइन, रिक्लीकरण एवं परिवहन का पर्याप्त ज्ञान है?

7. Do you think households in the city/ village have knowledge of any specification or standards for construction of septic tanks and pits?

आपके अनुसार आपके शहर या गांव में आम लोगों को सेप्टिक टैंक एवं पिट के निर्माण सम्बन्धी मानकों का ज्ञान है ?

8. Which type of septic tanks and pits are easier for emptying?

किस तरह के सेप्टिक टैंक एवं पिट रिक्लीकरण के लिए आसान हैं ?

9. Who contacts you for construction of septic tanks and pit latrines?

a) Builders
b) House owners?

सेप्टिक टैंक एवं पिट के निर्माण के लिए आपको कौन संपर्क करता है ?

a) बिल्डर्स
b) मकान मालिक

10. What kind of capacity building do you require to build standard septic tanks and pit latrines?

आपको मानकों के अनुरूप सेप्टिक टैंक एवं पिट तैयार करने के लिए किस तरह की क्षमता निर्माण की आवश्यकता है ?

In - depth Interview Format: Mukhiya

Mukhiya

Block Name:

Gram panchayat name:

Name of Mukhiya:

Contact details:

1. What are the major sanitation issues in your Gram Panchayat?

2. Whether Village Water and Sanitation Committees have been formed?

3. If yes, what is the size of the Committee and how does it function?

4. What role do Sarpanch and water and Sanitation committees play in making their respective wards ODF?

5. How is faecal sludge/septage managed in your Gram Panchayat?

6. How can communities from your Gram Panchayat be mobilised to participate in FSSM?

7. What kind of capacity building do you require to work on FSSM?

8. How can Village Water and Sanitation Committees members be effectively engaged for improved sanitation in the Gram Panchayats and help the communities raise demand for sanitation services?

FGD Format: Sanitary Workers

Survey questionnaire for Sanitary Workers

Name of Block:

Name of Gram Panchayat:

Name of persons Consulted and Contact Number:

आपने अनुसूचित सफाई से आपके शहर या गांव की स्वच्छता सुविधाएं सुधारने के लिए क्या उपाय करने चाहिए ?

1. Is FSSM a part of the sanitation services in the city/ Village??

क्या फिकल स्लज एवं सेप्टेज मैनेजमेंट आपके शहर / गांव के मौजूदा स्वच्छता कार्यों में शामिल है ?

2. What are the Key issues related to FSSM value chain in the city/ village?

आपके शहर या गांव में फिकल स्लज एवं सेप्टेज मैनेजमेंट मूल्य श्रृंखला से सम्बंधित क्या प्रमुख मुद्दे हैं ?

3. What are the Key issues related to SWM value chain in the city/ village?

आपके शहर या गांव में ठोस अपशिष्ट प्रबंधन मूल्य श्रृंखला से सम्बंधित क्या प्रमुख मुद्दे हैं ?

4. Are you provided with Personal protective equipments (PPEs) while doing sanitation services (MSW and Faecal Sludge)?

क्या आपको स्वच्छता सेवा प्रदान करते समय व्यक्तिगत सुरक्षा उपकरण प्रदान किये जाते हैं ? (MSW एवं फिकल स्लज)?

5. Are you provided with some training from government or other departments regarding safe discharge of sanitation duties? How often this training is provided?

क्या आपको सरकारी एवं अन्य विभागों की ओर से सुरक्षित तरीके से स्वच्छता सेवा का निर्वहन करने के लिए प्रशिक्षण दिया गया है ? कितने अंतराल पर ये प्रशिक्षण दिया जाता है ?

6. Does your employer provides you annual health checkup for you?

क्या आपके नियोजता आपकी वार्षिक स्वास्थ्य जांच कराते हैं ?

7. What according to you should be done by government to improve the sanitation facilities of the city/ village?

FGD Format: Self Help groups (SHGs)

FGD questions for Self Help Groups (SHGs)

Name of Block:

Name of GP:

Name of SHG:

SHG Contact person and Contact Details:

1. What are the key health issues related to sanitation in rural and Urban areas of Sheohar? Please state the top three?

2. On what sanitation issue do you work in Sheohar district?

3. In which blocks/ GPs do you work and with whom do you work with?

4. What kind of community mobilisation activities do you do?

5. Do you use any kind of communication activities to inform and mobilise communities?

6. Have you worked on MHM in any of the blocks/ GPs of Sheohar?

7. Are you aware about FSSM value chain in sanitation?

8. How can communities be made more aware about their role and participation in FSSM?

9. What kind of capacity building and support do you require to work on FSSM?

FGD Format: District/ Village Water and Sanitation Committee

District/ Village Water and Sanitation Committee Members

Name of Block:

Name of Gram Panchayat/ Nagar panchayat:

Contact person and Name:

1. What are your key responsibilities with regards to sanitation at the District/ Village level?

स्वच्छता को ले कर जिला / ग्राम पंचायत के स्तर पर आपकी क्या प्रमुख जिम्मेदारियाँ हैं ?

2. Name three barriers and enabling factors while mobilising communities to adopt desirable sanitation practices.

स्वच्छता कार्यों को अपनाने के लिए समुदायों को संगठित करने में आने वाली 3 बाधाएँ एवं समर्थकारी पहलुओं का उल्लेख करिये

3. Is FSSM currently a part of the various sanitation issues on which you mobilise the community?

क्या फिकल स्लज एवं सेप्टेज मैनेजमेंट मौजूदा स्वच्छता मुद्दों में शामिल है, जिसके लिए आप समुदायों को संगठित करते हैं ?

4. What do you communicate when you mobilise people to build toilets? Do you say anything on standard construction of septic tanks and pits?

जब आप लोगों को शौचालय बनाने के लिए संगठित करते हैं तो उनसे क्या संवाद करते हैं ? क्या आप सेप्टिक टैंक एवं पिट के मानक के अनुसार निर्माण की बात करते हैं ?

5. Do community members approach with regards to septic tank/pit cleaning from the community?

क्या समाज के लोग सेप्टिक टैंक / पिट की सफाई के लिए आपके पास पहुंचते हैं?

6. If yes, how do you address it?

यदि हाँ तो आप उसका कैसे निवारण करते हैं?

7. Are you aware of any agency or district/ Gram Panchayat level septic tank cleaning service facilities available in your district/ Village?

क्या आप अपने जिले / ग्राम पंचायत के स्तर पर किसी एजेंसी को जानते हैं जो सेप्टिक टैंक रिकतीकरण की सुविधा प्रदान करते हैं ?

8. How can communities be made aware about the FSSM services and participate in the same?

आपके अनुसार कैसे समाज को फिकल स्लज एवं सेप्टेज मैनेजमेंट सुविधाओं के बारे में जागरूक किया जाना चाहिए ताकि वो इसमें अपनी भागीदारी प्रदान कर सकें ?

Attendance Sheet: District level consultative workshop on Situation Assessment Study on FSM

District Level Consultative Workshop on FSM Water For People India Venue- Collectorate Office, Sheohar

Time- 11am to 1:30 pm

Date- 18.12.2020

Attendance Sheet

Sr No	Name	Designation	Org/Department	Mobile No/ E-mail	Signature
1	Avaneesh Kumar Singh	District Magistrate			<i>[Signature]</i> 18/12/20
2	Vissal Raj	Deputy Development Commissioner			<i>[Signature]</i> 18/12/20
3	Ashish Kumar	BDO, Purniya			<i>[Signature]</i> 18/12/20
4	Rakesh Kumar Singh	BDO, Tarighani			<i>[Signature]</i> 18/12/20
5	Mr. Wasique Hussain	BDO, Pipsrahi			<i>[Signature]</i> 18/12/20
6	Rakesh Kumar	BDO - Sheohar			<i>[Signature]</i> 18/12/20
7	Ajay Kumar	Executive Officer NP, Sheohar			<i>[Signature]</i> 18/12/20
8	Anurag Prakash	FF			<i>[Signature]</i> 18/12/20
9	Satyendra Kumar	NLU, Purniya			<i>[Signature]</i> 18/12/20
10	Ramkrishna Mishra	Project - Coordinator	Water For People	8521506111	<i>[Signature]</i>
11	Kumar Ramesh	FF	S.R.F.	7488528244	<i>[Signature]</i>
12	Vidya Nath	D.C. DWS, Sheohar	DWSA, Sheohar	8987382892	<i>[Signature]</i> 18/12/20
13	Oikendra Kumar	BDO - Gaud			<i>[Signature]</i> 18/12/20
14	Bhushan Kumar	Capacity Building Coordinator	WFP	8051498424	<i>[Signature]</i>
15	अमिताभ	महिला	मुद्रा	800268313	<i>[Signature]</i>
16	मीनो कुमार	पंचायत सचिव	किरीतपुरा	9934809373	<i>[Signature]</i> 18/12/20
17	राम प्रियंका	मुखिया	कराहा	9934248399	<i>[Signature]</i>
18	Nivek Sharan	State-in-charge, Bihar	Water For People	9934314254	<i>[Signature]</i>
19	Suraj Kumar	Admin Assistant	Water For People	9135823081	<i>[Signature]</i>

District Level Consultative Workshop on FSM Water For People India Venue- Collectorate Office, Sheohar

Time- 11am to 1:30 pm

Date- 18.12.2020

Attendance Sheet

Sr No	Name	Designation	Org/Department	Mobile No/ E-mail	Signature
1	Anish Kumar	V.L.W (P.S.)	Block	993049761	<i>[Signature]</i>
2	Subodh Kumar	RLW	Agriculture	9431826844	<i>[Signature]</i>
3	Anurag Kumar	RLW - cum - PS	Agriculture	7903268292	<i>[Signature]</i>
4	Raj Kumar Singh	V.L.W	Agriculture	7870083007	<i>[Signature]</i>
5	Binal Kumar	P.S.	Panchayat	8939864043	<i>[Signature]</i> 18/12/20
6	Dorna Sah	MUKHIA (Mali)		9431403770	<i>[Signature]</i>
7	अमिताभ	P.S. (Mali)	P.S.	8521146758	<i>[Signature]</i> 18-12-20
8	अमिताभ	मुखिया	मुखिया	9852123293	<i>[Signature]</i> 18/12/20
9	अमिताभ	ग्राम - मुखिया	मुखिया	9430030523	<i>[Signature]</i>
10	अमिताभ	मुखिया	मुखिया	9471660373	<i>[Signature]</i>
11	Santosh Ram	V.L.W Purniya	Agriculture	8228048935	<i>[Signature]</i> 18/12/20
12	Anurag Kumar	Block - Coordinator	LCBA	7766887225	<i>[Signature]</i> 18/12/20
13	Dharmendra	PD	SSS	9006519951	<i>[Signature]</i>
14	Chandramani	PD	ग्राम	947021585	<i>[Signature]</i>
15	Anurag Kumar	P.S.	Block	9471974828	<i>[Signature]</i>
16	Vidya Kumar	WFP	District	9304716413	<i>[Signature]</i>
17	Bhinder Kumar	WVANSKVS	PD	9504616985	<i>[Signature]</i>
18	अमिताभ			9507295588	<i>[Signature]</i>
19	Ratima Devi	C.M.	S.S.S.	9852530198	<i>[Signature]</i>