

**FSSM - Triggering Workshop**

**Name of ULB**

**DD MM 2018**

**The better the question. The better the answer.  
The better the world works.**

**EY**

Building a better  
working world

Sanitation over view in Odisha on the perspectives of FSSM

FSSM value chains - concepts and practices

FSSM state and national policies, institutional framework in Odisha

Preparation of implementation plan for JEC/BCC activities

Roles and responsibilities of ULB in FSSM implementation



# 1

## Sanitation overview in Odisha on the perspectives of FSSM

FSSM value chains - concepts and practices

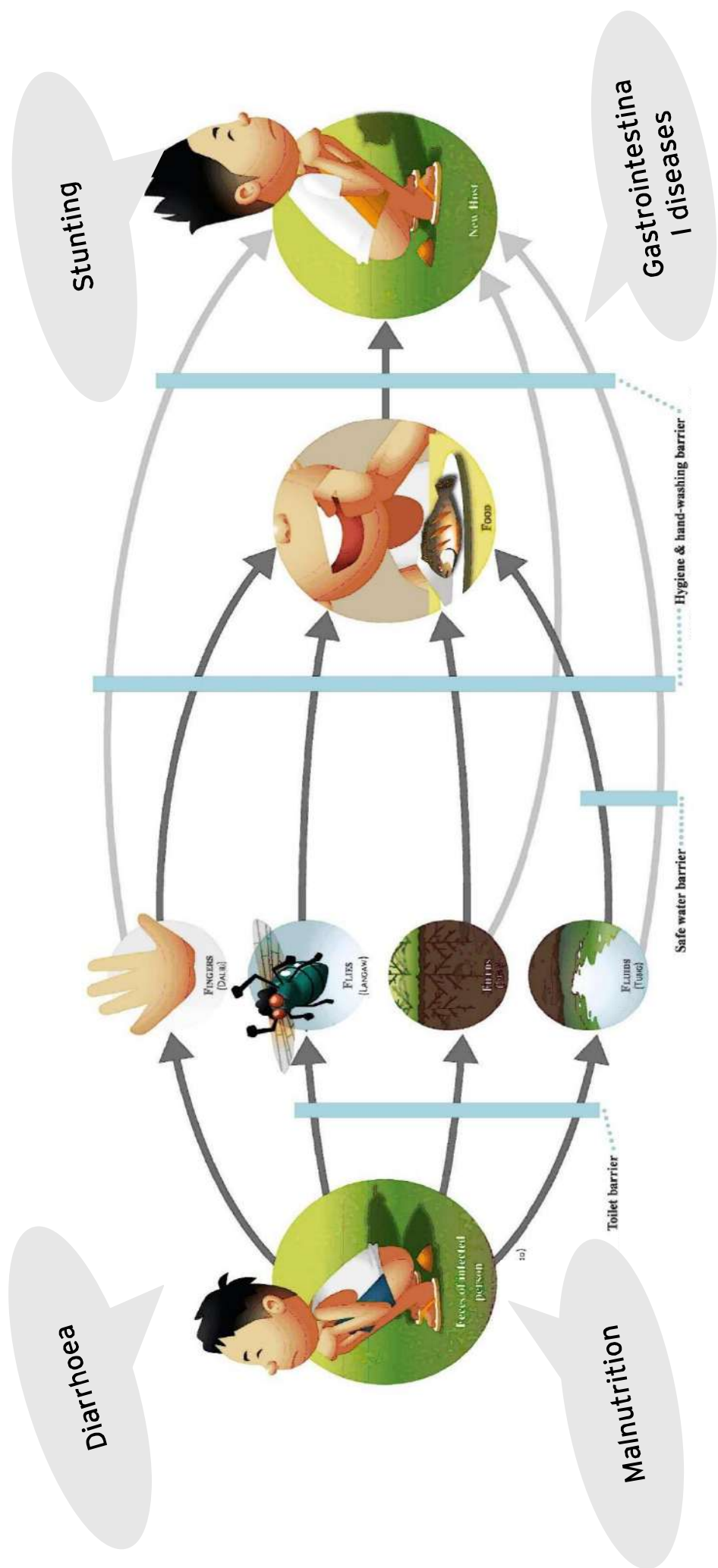
FSSM state and national policies, institutional framework in Odisha

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Roles and responsibilities of ULB in FSSM implementation



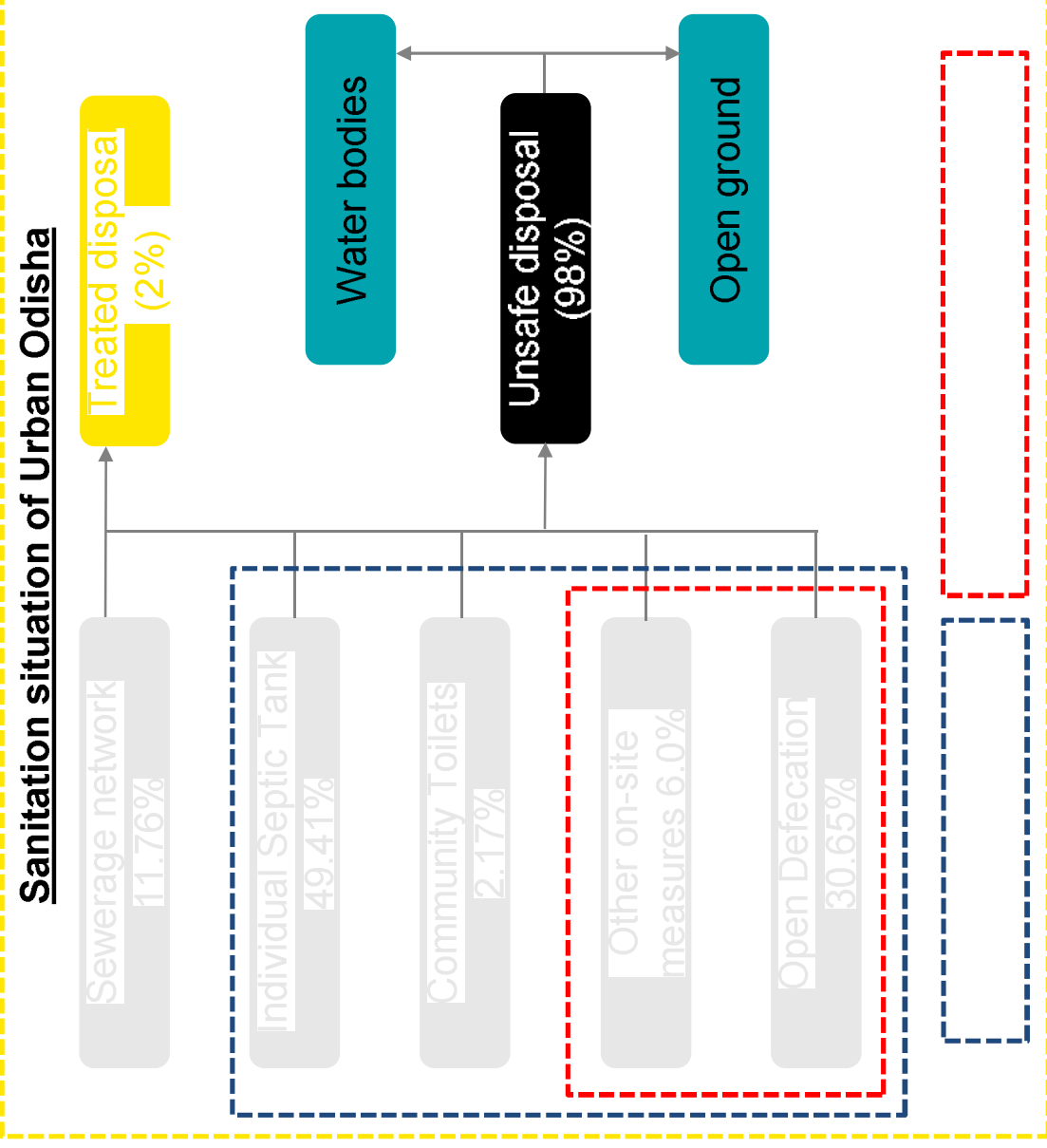
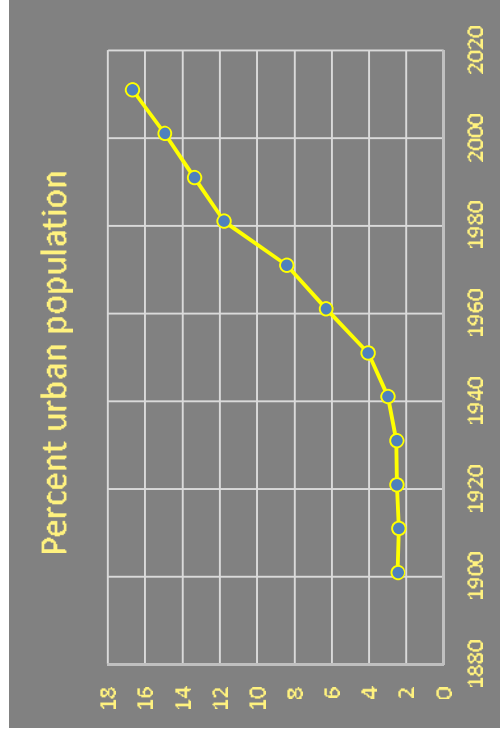
# Health and environment risk of poor sanitation



India loses INR 2.4 trillion per annum due to poor sanitation resulting per household loosing out INR 10,000 per annum - World Bank, 2011

# Urbanization and Sanitation situation of Odisha

SN	Description	Data
1	Urban population	6 million
2	% Urban population	16.7%
3	Total no. of ULBs	112
4	Urban households	1.3 million
5	Cities with partial sewerage system	3



# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities						Open defecation
	Septic tanks	Other systems*	Pits	Public latrines	Insanitary latrines		
Talcher (M)	55.00	1.76	1.12	1.13	0.22	38.57	
Anugul (M)	62.08	6.28	4.90	1.43	0.90	20.53	
Athmalik (NAC)	24.11	1.55	6.39	-	0.52	66.25	

Town	Onsite sanitation facilities						Insanitary latrines	Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines	Open defecation		
Jaleshwar (NAC)	33.7	5.1	17.8	0.5	3.2	39.7		
Nilagiri (NAC)	21.9	2.9	8.4	0.2	3.5	63.1		
Soro (NAC)	29.3	4	17.2	0.8	1.8	46.6		
Baleshwar (M)	59.2	3.6	8.5	2.2	12.8	17.2		

	Onsite sanitation facilities								
Town	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines	Open defecation			
Dhamanagar (NAC)	18.4	3.5	3.7	0	0.8	73.6			
Bhadrak (M)	44.5	2.8	6.4	2	8.7	35.8			
Basudebpur (NAC)	13.9	2.7	10.5	1.3	4.4	67.3			
Chandballi	48.1	8.1	1.2	0.7	22.5	19.3			



# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities						Insanitary latrines	Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines	Open defecation		
Banki (NAC)	11.46	1.06	5.11	0.26	1.05	81.05		
Athagad (NAC)	44.79	4.97	4.62	0.29	5.03	40.30		
Choudwar (M)	45.63	1.94	3.71	0.18	5.91	42.63		
Cuttack (M Corp.)	59.81	1.24	2.63	4.36	20.49	11.46		

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities							Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines			
Kamakshyana gar (NAC)	36.45	2.99	10.93	0.43	2.22		46.97	
Bhuban (NAC)	26.59	0.62	4.04	0.29	4.00		64.45	
Dhenkanal (M)	60.75	2.28	5.57	1.70	6.04		23.66	
Hindo	15.4	17.5	1	1	1		64.2	

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities						Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines		
Buguda (NAC)	38.90	7.33	2.33	0.60	0.22	46.10	
Bhanjanagar (NAC)	57.81	0.93	5.49	0.42	3.84	27.57	
Bellaguntha (NAC)	36.89	2.73	7.08	0.37	0.37	49.57	
Surada (NAC)	45.03	0.25	3.51	0.66	0.22	49.37	
Asika (NAC)	52.63	0.99	2.82	0.81	1.69	31.30	
Polasara (NAC)	33.67	1.13	3.28	2.56	1.30	52.24	
Kodala (NAC)	21.38	0.88	2.54	-	0.56	72.49	
Khailikote (NAC)	28.12	3.93	4.22	3.68	0.97	55.12	
Rambha (NAC)	19.72	0.70	5.71	2.96	0.78	69.35	
Chhatrapur (NAC)	73.76	2.46	1.35	1.46	2.46	14.54	
Ganjam (NAC)	35.03	3.07	2.56	0.12	0.51	49.08	
Purusottampur (NAC)	31.30	1.88	7.05	3.67	4.28	49.94	
Hinjilicut (NAC)	39.03	3.34	7.06	1.20	1.78	44.68	
Gopalpur (NAC)	17.63	1.80	10.55	-	15.96	51.35	
Digapahandi (NAC)	45.68	6.35	3.41	0.07	0.14	40.57	
Chikiti (NAC)	35.36	7.85	8.83	0.45	1.43	45.09	
Brahmapur (M Corp.)	63.13	2.50	2.27	2.58	6.96	11.66	
Kabisuryanagar (NAC)	42.11	5.21	5.33	0.73	0.03	44.84	

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation systems						Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines		
Khordha (M)	62.40	1.31	2.58	0.75	0.82	30.22	
Jatani (M)	61.75	1.41	2.03	0.97	0.98	27.06	
Balugaon (NAC)	49.80	0.91	0.99	1.26	1.29	41.46	
Banapur (NAC)	44.77	1.97	2.94	0.29	0.32	48.69	
Bhubaneswar (M Corp.)	41.42	4.20	5.64	2.59	2.24	17.24	

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities						Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines		
Rairangpur (NAC)	36.27	2.20	2.06	0.80	0.29	55.71	
Karanjia (NAC)	46.03	1.78	3.56	2.43	0.34	45.22	
Baripada (M)	57.62	2.44	9.68	0.79	0.80	26.14	
Udala (NAC)	50.60	1.86	17.09	3.72	1.03	24.92	

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities						Insanitary latrines	Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines	Open defecation		
Pipili (NAC)	42.35	2.52	11.68	0.62	0.42	41.93		
Nimapada (NAC)	55.69	0.36	4.43	3.92	0.15	33.04		
Konark (NAC)	19.28	0.45	2.15	0.49	1.21	75.29		
Puri (M)	68.94	2.19	6.82	2.91	1.18	15.14		

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities							Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines			
Kochinda (NAC)	30.38	2.00	3.57	1.87	0.58		54.03	
Hirakud (NAC)	41.86	0.54	2.29	1.32	4.02		43.06	
Burla (NAC)	38.59	1.37	1.53	0.70	0.90		42.73	
Redhakhola (NAC)	24.18	3.54	3.89	0.32	0.11		65.91	
Sambalpur (M)	53.62	2.38	1.63	3.76	0.95		30.25	

# Sanitation scenario in your towns (as per Census 2011)

Town	Onsite sanitation facilities						Open defecation
	Septic tanks	Other systems	Pits	Public latrines	Insanitary latrines		
Sundargarh (M)	60.62	1.60	3.31	0.27	0.19	27.75	
Rajagangapur (M)	59.42	1.49	1.63	1.34	0.46	31.80	
Biramitrapur (M)	37.53	0.70	0.67	0.74	0.31	58.30	
Raurkela (M)	49.87	1.26	1.43	2.28	1.60	27.24	



## 2

Sanitation overview in Odisha on the perspectives of FSSM

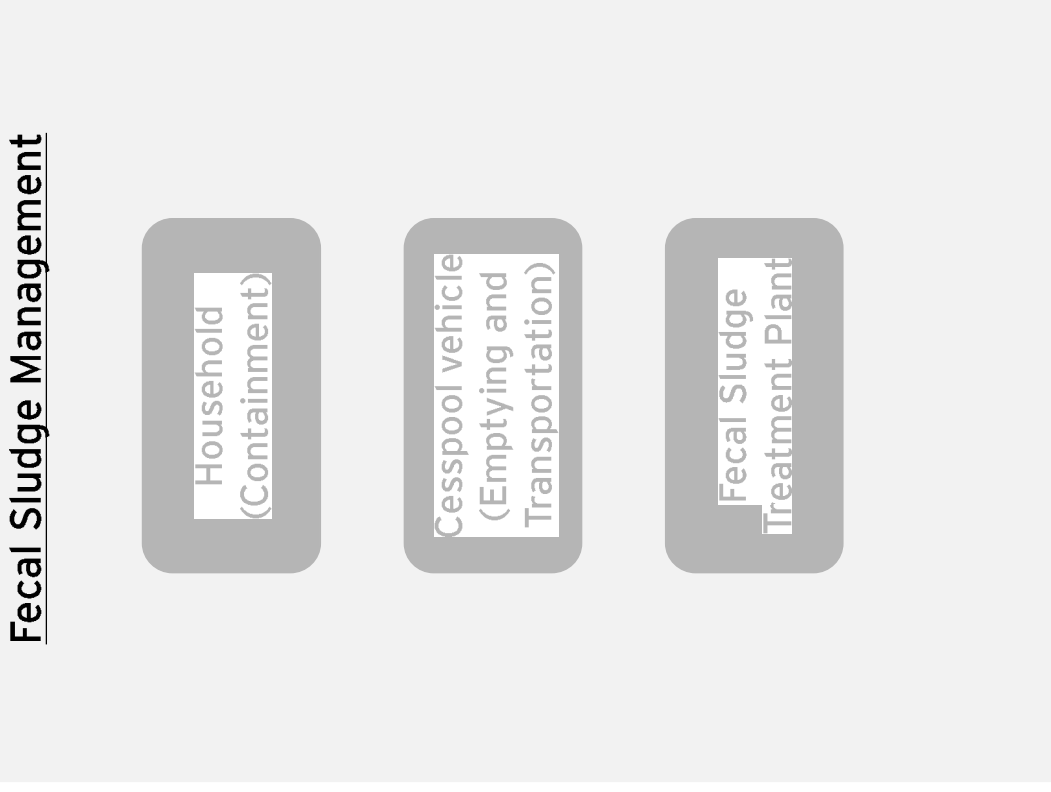
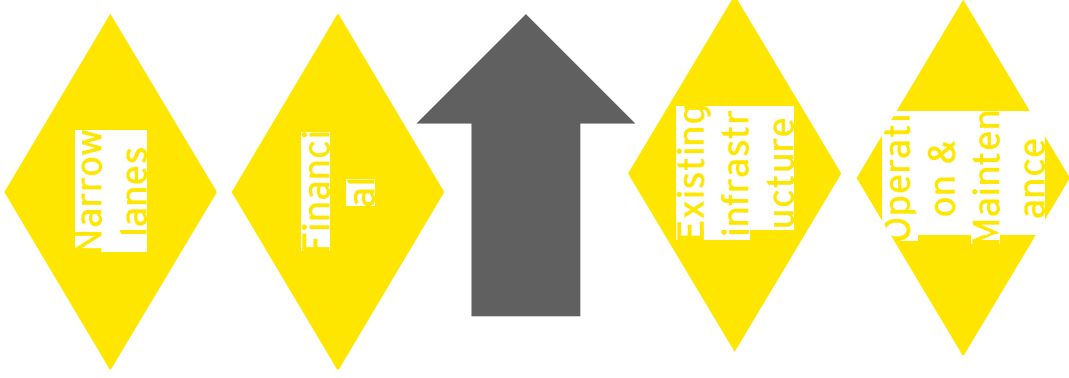
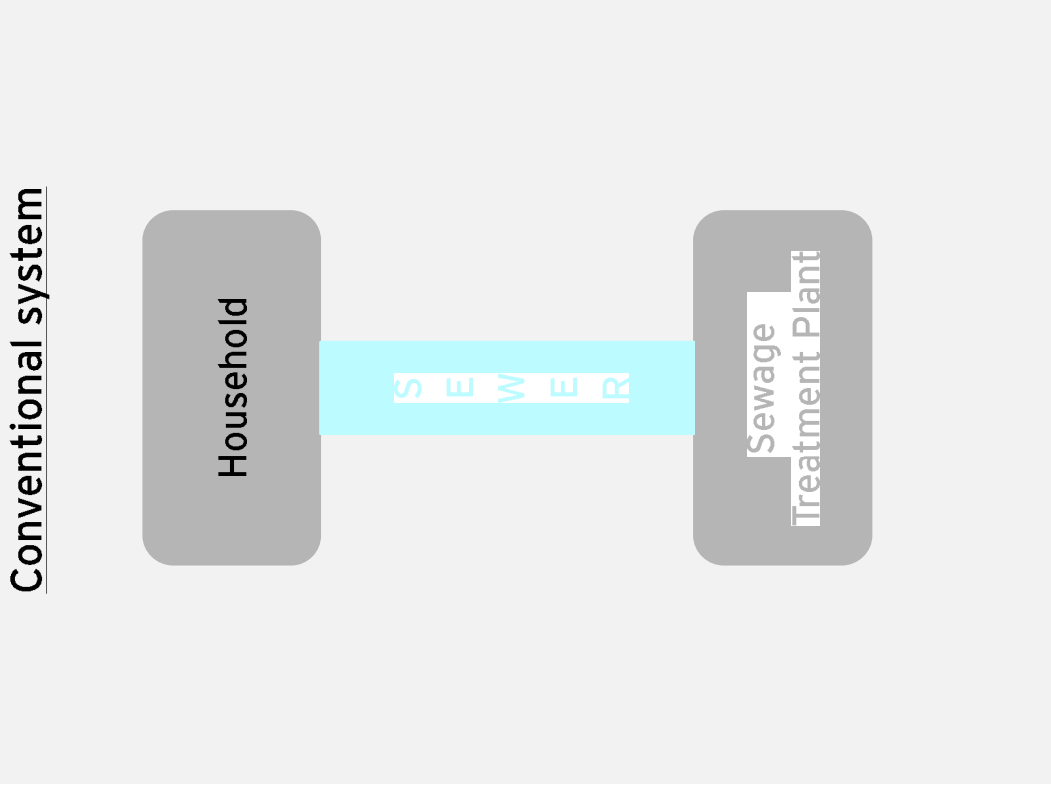
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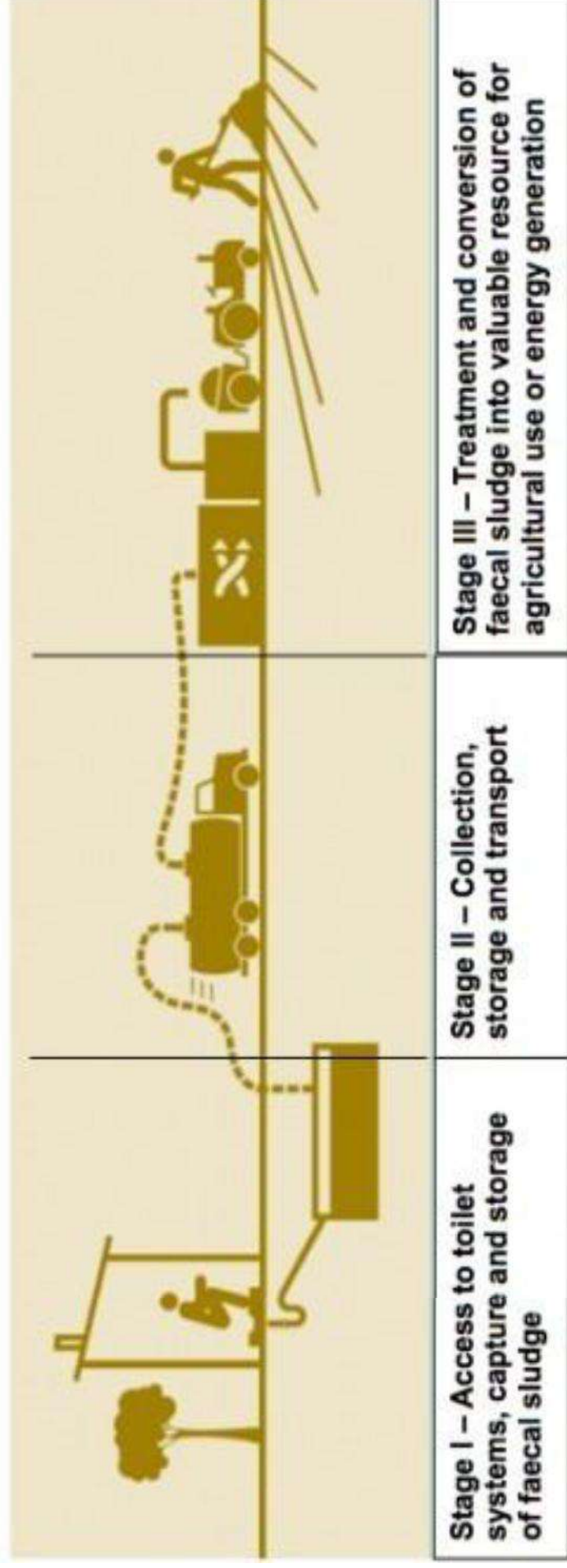
Roles and responsibilities of ULB in FSSM implementation

# Liquid waste management



# The sanitation value chain

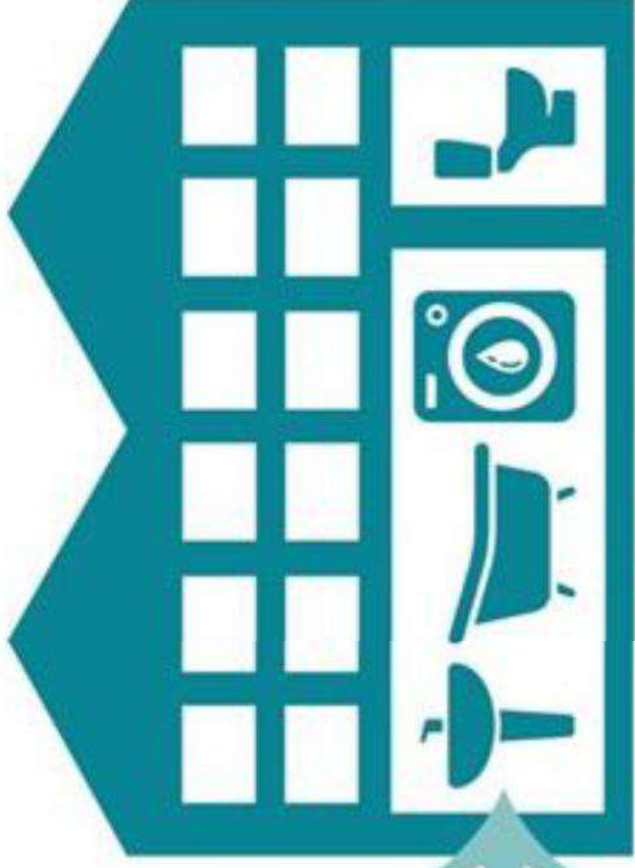
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# What is FSSM and key concepts

*Fecal sludge and septage management (FSSM) is the effective and efficient collection, transport, and treatment of fecal sludge from pit latrines, septic tanks or other onsite sanitation systems*

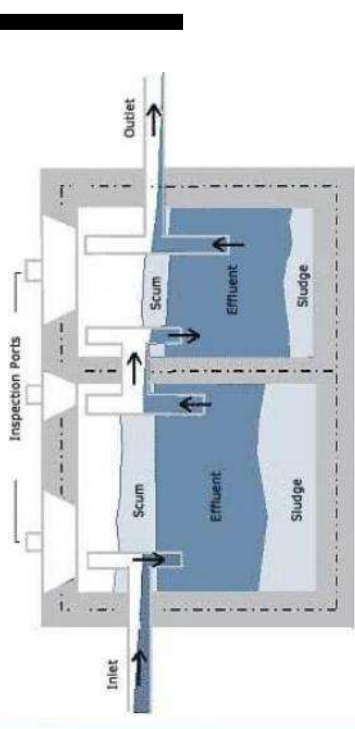
POTABLE  
CITY  
WATER

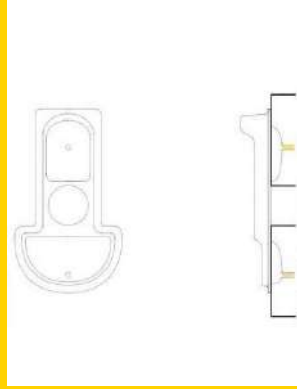


Grey water

Black water

Supernatant



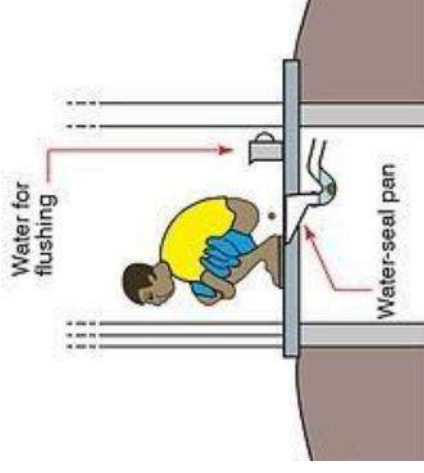
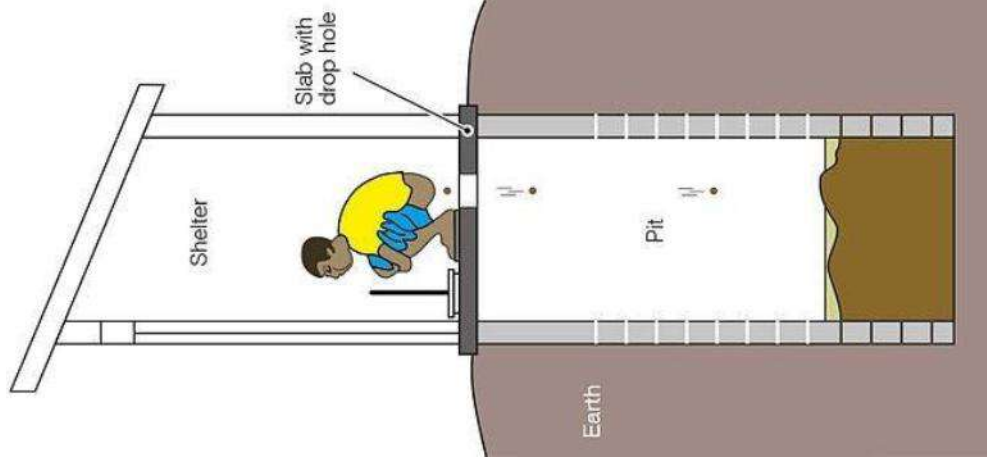


▶ Western style latrine

▶ Urine diversion toilet

# Containment

## Pit latrine



# Containment

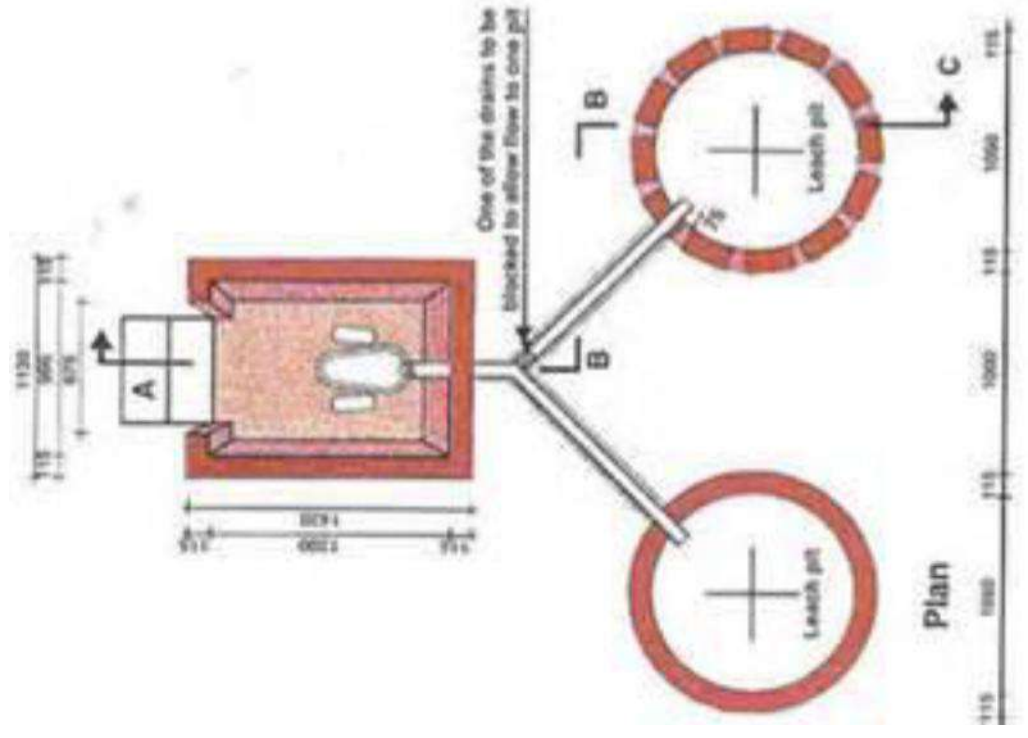
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Pit latrine



# Containment

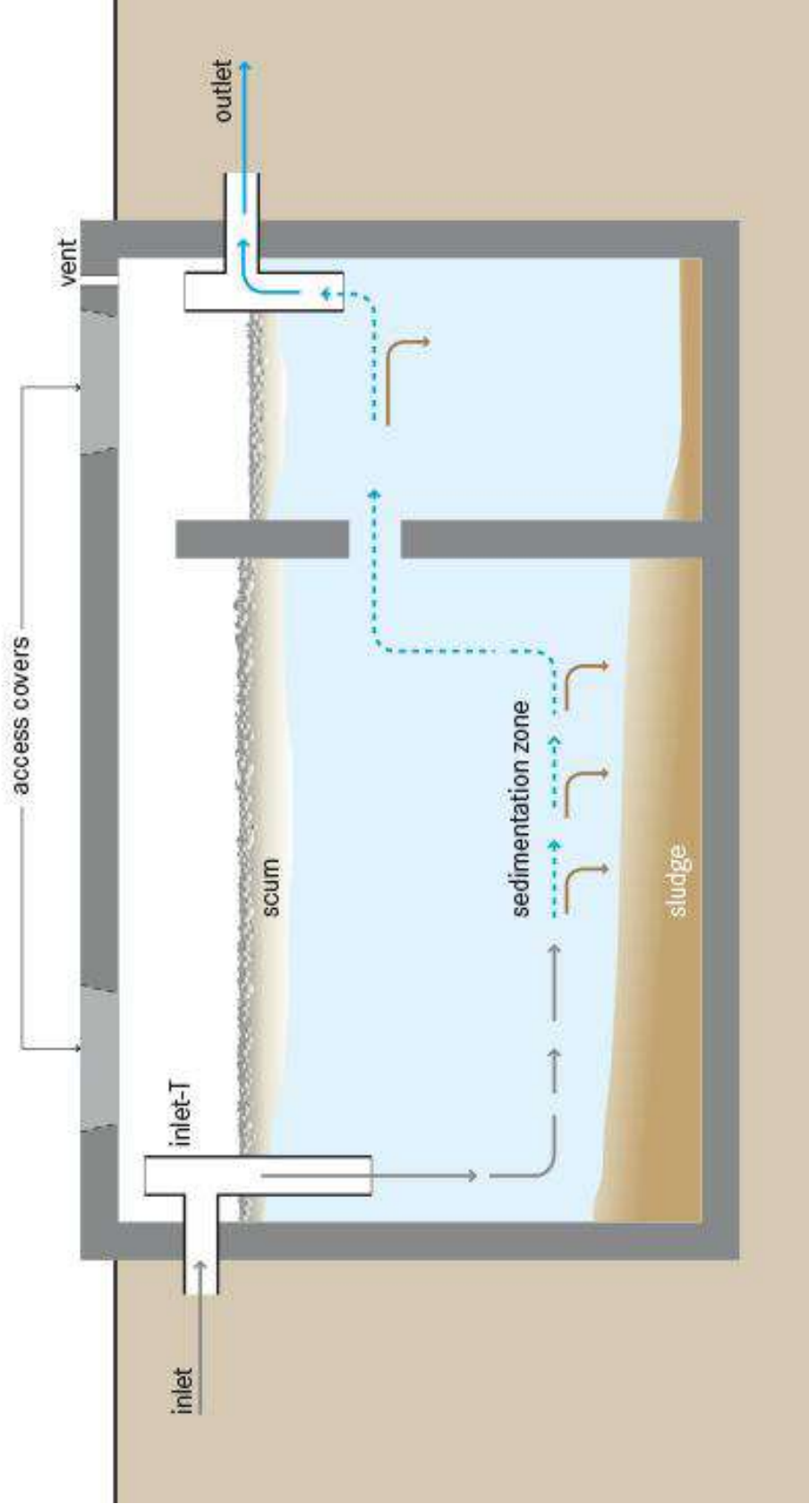
## Pit latrine





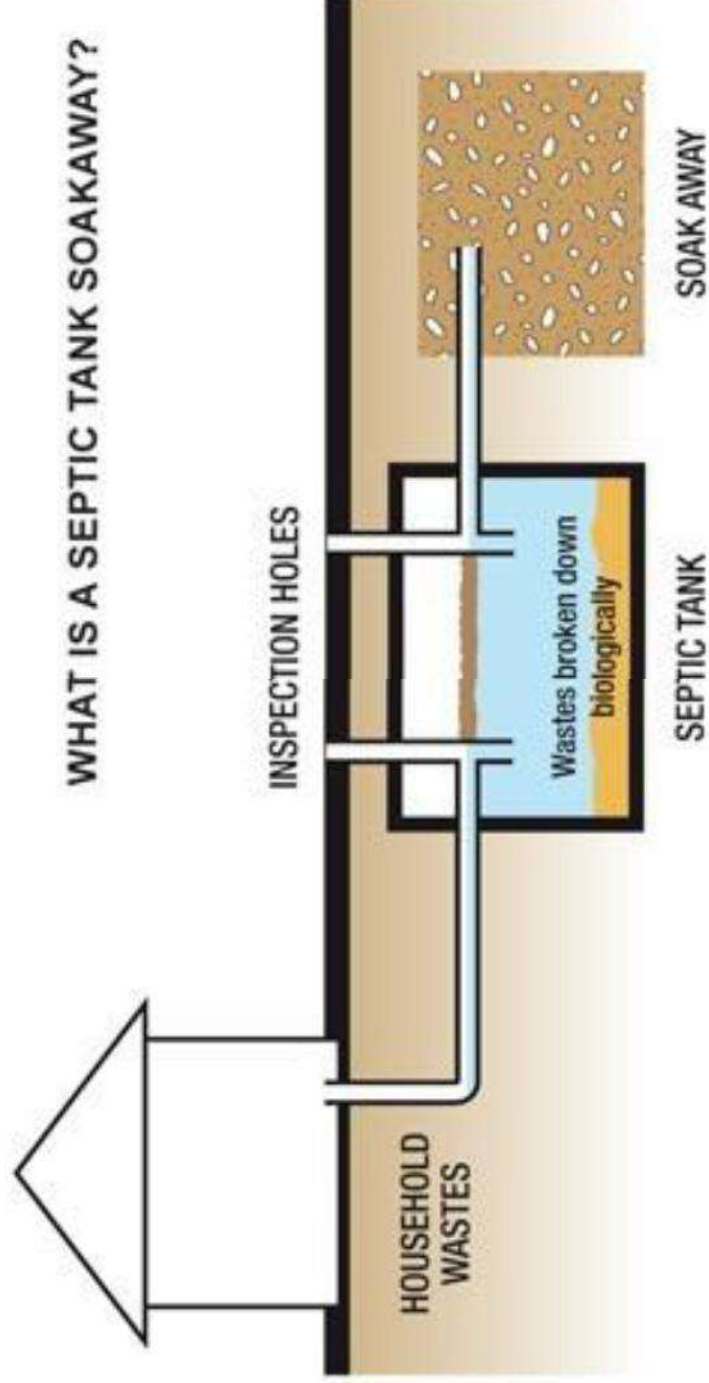
# Containment (cont.)

## Septic tank



# Containment (cont.)

Septic tank  
with soak away  
pit



## SIZES OF SEPTIC TANK

A-1. Recommended sizes of septic tanks for 20 users are given in Table 5.

**TABLE 5 RECOMMENDED SIZES OF SEPTIC TANK FOR 20 USERS**

No. of Users	Length	Breadth	Liquid Depth (Cleaning Interval of)	
			1 Year	2 Year
(1)	(2)	(3)	(4)	(5)
5	m 1.5	m 0.75	m 1.0	m 1.05
10	2.0	0.90	1.0	1.40
15	2.0	0.90	1.3	2.00
20	2.3	1.10	1.3	1.80

NOTE 1 — The capacities are recommended on the assumption that discharge from only WC will be treated in the septic tank.

NOTE 2 — A provision of 300 mm should be made for free board.

NOTE 3 — The sizes of septic tank are based on certain assumptions ( see 3.4 ), while choosing the size of septic tank exact calculations shall be made.

**TABLE 6 RECOMMENDED SIZES OF SEPTIC TANKS FOR RESIDENTIAL COLONIES**

No. of Users	LENGTH (2)	BREADTH (3)	LIQUID DEPTH (CLEANING INTERVAL OF)	
			1 Year (4)	2 Year (5)
(1)	(2)	(3)	(4)	(5)
	m	m	m	m
50	5.0	2.0	1.0	1.24
100	7.5	2.65	1.0	1.24
150	10.0	3.0	1.0	1.24
200	12.0	3.3	1.0	1.24
300	15.0	4.0	1.0	1.24

NOTE 1 — A provision of 300 mm should be made for free board.

NOTE 2 — The sizes of the septic tank are based on certain assumptions ( see 3.4 ) while choosing the size of septic tank, exact calculation shall be made.

NOTE 3 — For population over 100, the tank may be divided into independent parallel chambers for ease of maintenance and cleaning.

**TABLE 7 RECOMMENDED SIZES OF SEPTIC TANKS FOR HOSTELS AND BOARDING SCHOOLS**

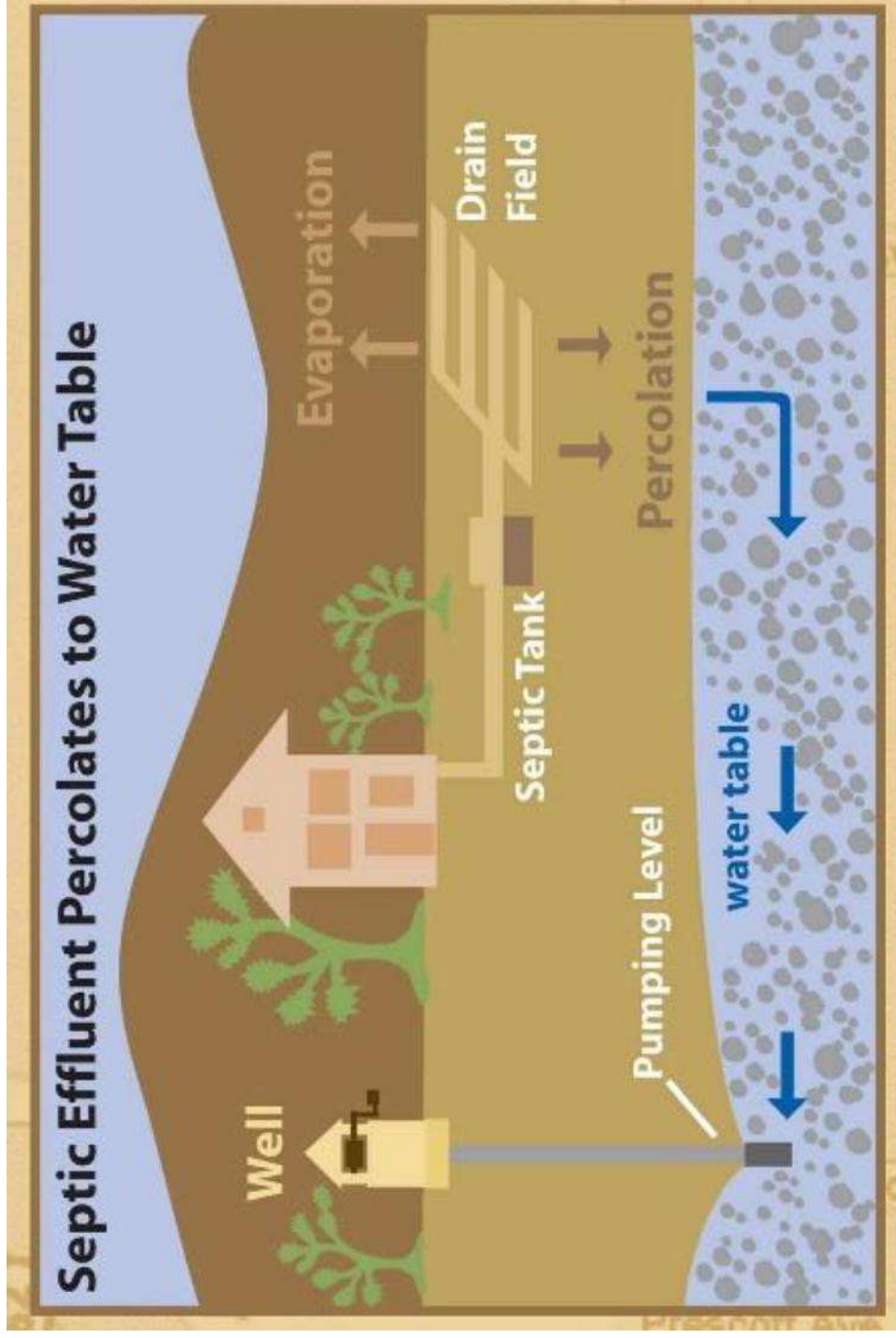
No. of Users	LENGTH (2)	WIDTH (3)	LIQUID DEPTH (D) FOR STATED INTERVALS OF SLUDGE WITHDRAWAL	
			Once in a Year (4)	Once in 2 Years (5)
(1)	(2)	(3)	(4)	(5)
	m	m	m	m
50	5.0	1.6	1.3	1.4
100	5.7	2.1	1.4	1.7
150	7.7	2.4	1.4	1.7
200	8.9	2.7	1.4	1.7
300	10.7	3.3	1.4	1.7

NOTE 1 — A provision of 300 mm should be made for free board.

NOTE 2 — The sizes of the septic tank are based on certain assumptions ( see 3.4 ), while choosing the size of septic tank exact calculation shall be made.

NOTE 3 — For population over 100, the tank may be divided into independent parallel chamber for ease of maintenance and cleaning.

# Pollution of water table through percolation



# Emptying and conveyance

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▶ Vacutug



▶ Small cesspool vehicle



STV registration with \_\_\_\_\_ NAC / Municipality / Municipal Corporation

Reference No. \_\_\_\_\_

In accordance with all the terms and conditions of the current \_\_\_\_\_ NAC's / Municipality's / Municipal Corporation's Regulations, the special permit conditions accompanying this permit, and all applicable rules, laws or regulations of Government of Odisha, permission is hereby granted to:

RTO REGISTRATION NUMBER \_\_\_\_\_  
TYPE OF VEHICLE \_\_\_\_\_  
CAPACITY: \_\_\_\_\_  
NAME OF OWNER: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_

(Please issue a separate permit for each of vehicle)

For the transportation of septage within ULB area and up to the designated site. This Permit is based on information provided in the STV operator Permit application which constitutes the Registration Certificate for STV. This Permit is effective for the period set forth below, may be suspended or revoked for Non-Compliance of conditions set forth in fecal sludge and septage management regulations, 2018. The original certificate shall be produced on demand of the authorized personnel of the ULB.

EFFECTIVE DATE: \_\_\_\_\_

CHECK IF RENEWED PERMIT

Permit is liable to be cancelled in case of violations of any Acts, Rules and Regulations relating to the operation of Septage System or in cases of safety protocols not being adhered to or in case of non-permitted disposals.

Note:

This registration certificate does not replace or supplement the requirements under The Motor Vehicle Act.

Signature of Commissioner / Executive Officer

Date: \_\_\_\_\_

Name of the applicant (owner of STV): \_\_\_\_\_

2. Nationality: Indian \_\_\_\_\_ Other \_\_\_\_\_

3. Address: as per STV Registration. \_\_\_\_\_  
Address for correspondence: \_\_\_\_\_

4. Registration Number \_\_\_\_\_ issued by authority \_\_\_\_\_ under (shop & establishment Act or registration with other competent authority) if any

5. Copy of PAN card of the Owner \_\_\_\_\_

6. Copy of Aadhaar card of the Owner \_\_\_\_\_ (Only in case of individuals)

7. Telephone No.: (O) \_\_\_\_\_ Mobile No \_\_\_\_\_ Email ID \_\_\_\_\_

8. RTO Registration No. of Vehicle: \_\_\_\_\_  
(Attach copy)

9. Vehicle Type: \_\_\_\_\_ (Cesspool Vehicle/Vacutug, etc.)

10. Vehicle Capacity: \_\_\_\_\_ (Liters)

11. Pollution certificate of the vehicle valid up to: \_\_\_\_\_  
(Attach copy)

11. Insurance of the vehicle valid up to: \_\_\_\_\_  
(Attach copy)

12. Fitness of the vehicle valid up to: \_\_\_\_\_  
(Attach copy)

13. Vehicle, whether fitted with GPS (Yes/No): \_\_\_\_\_

14. Processing fee INR \_\_\_\_\_ /- (Non-refundable)  
D.D. No. \_\_\_\_\_ Date \_\_\_\_\_ Bank \_\_\_\_\_

I/We certify that information given by me/us in column 1 to 14 are true to the best of my knowledge and belief. I also certify that I have read and understood the attached terms and conditions of RFA, all the regulations, policies and guidelines of septage and agree to abide by them. I agree that I will ensure safe disposal of sludge or septage at designated site. I agree that if any information given by me is found wrong the application for license will be liable for penalties / suspension / cancellation at any time.

No. of documents attached: \_\_\_\_\_ Signature(s) of applicant(s) \_\_\_\_\_ Date: \_\_\_\_\_

# Established faecal sludge treatment technologies

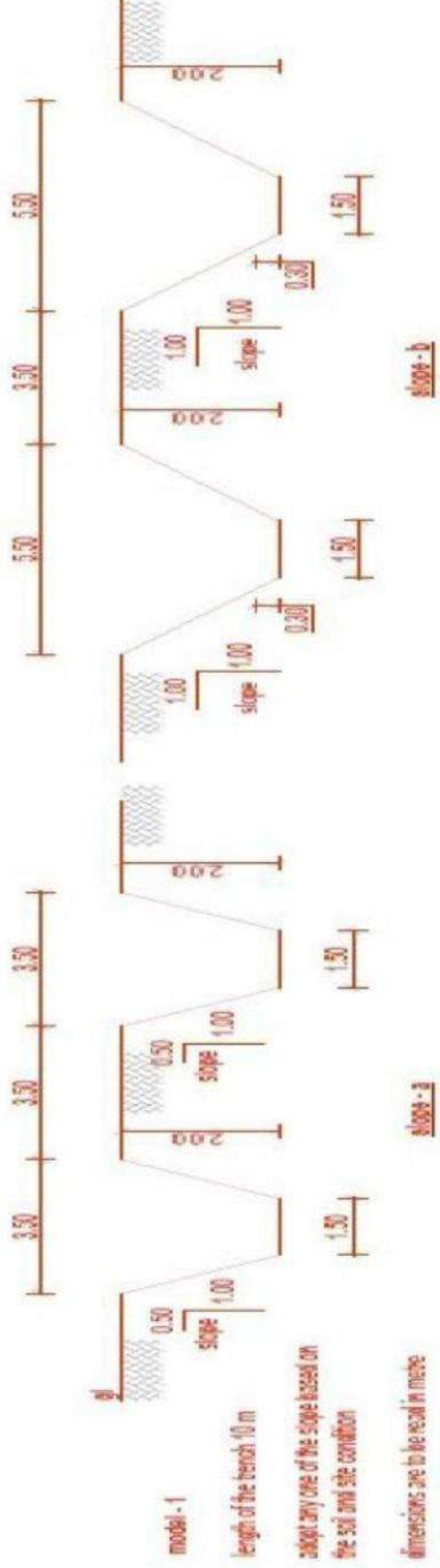


▶ Deep row entrenchment









Details/item	Measurements (m)
Top width of trench	3.5 m to 5.5 m
Bottom width of trench	1.5 m
Height/depth of trench	1 m to 2 m
Length of trench	10 m
Distance between two trenches	3.5 m
Side slope	0.5:1 to 1:1*

1. Legal permissions & approval from relevant authorities
2. Not flood prone or should be above recorded flood level
3. Not water-logged
4. Low water table
5. Soil type - should be porous and allow soak away
6. Reasonably flat
7. Sufficient buffer distance to habitable properties (200 m minimum)
8. Not close upstream of water intake, well, exposed aquifer (at least 2 km), no ground water
9. use for potable or contact or agriculture purposes etc downstream (of aquifer)
10. Accessible by vehicles (road strength, width, bridges, headroom, slope)
11. Tanker movement should not cause nuisance to neighbourhood
12. Compatible to adjacent and neighbouring properties usage
13. Close enough to allow logistics of sludge transportation
14. Minimum area required based on lifetime projection of need
  - a) Sampling boreholes shall be used to monitor ground water on periodic basis to ensure no contamination
  - b) On an annual basis, soil samples may need to be taken to check contamination of soils.
  - c) Stringent regulation and control of types of sludge disposed, to ensure no industrial, commercial or toxic sludges.



Ramp construction



Inlet chamber



Settler cum  
thickening tank





# Faecal Sludge Treatment Plants



# Action Points

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- 1 Efficient cesspool operations with service provision and monitoring
- 2 Registration of cesspool vehicles
- 3 Dumping of sludge at designated site

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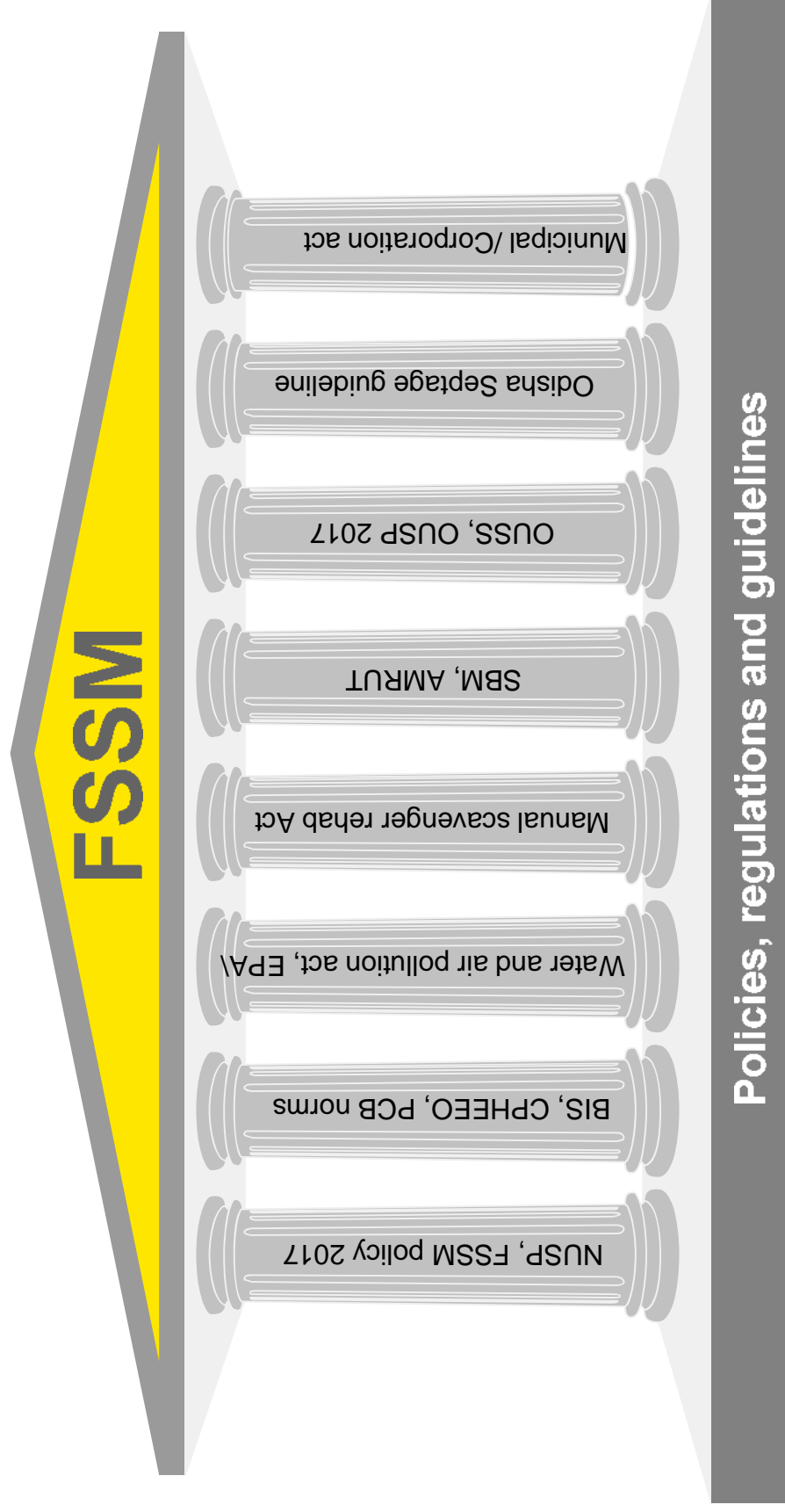
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3



# Snapshot of relevant policies, regulations, guidelines and missions





**VISION**  
All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women

# 4 Goals

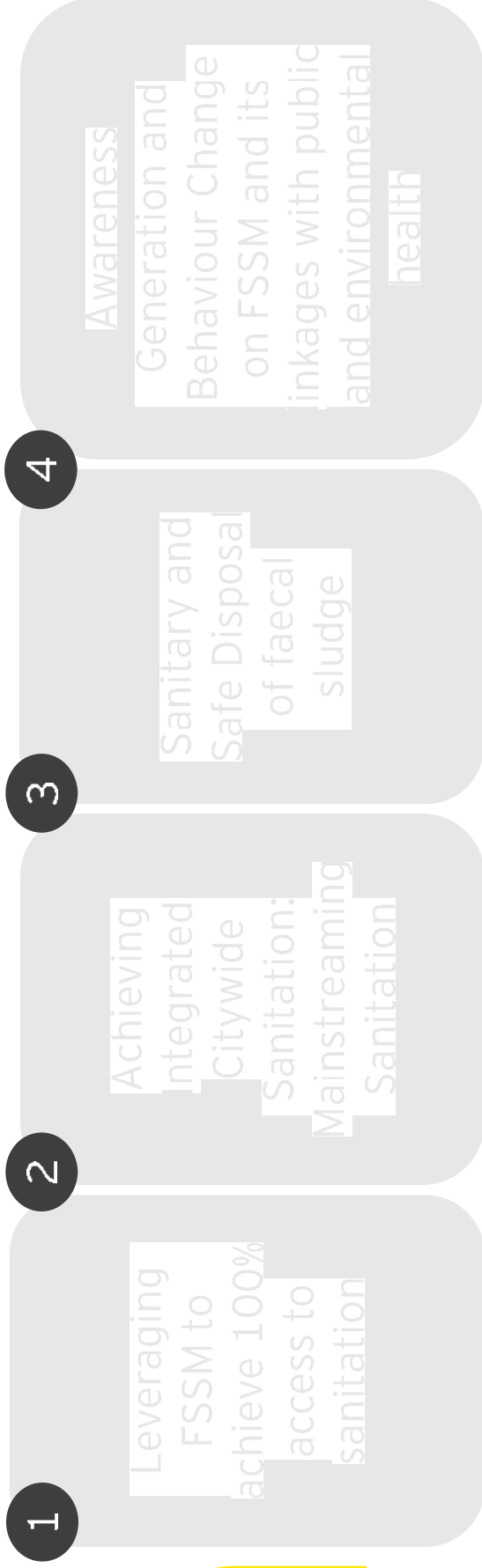
- 1 Awareness generation and behaviour change on sanitation and its linkages with public and environmental health
- 2 Access to and use safe and hygienic sanitation facilities and arrangements to eliminate OD
- 3 Sanitary and safe disposal of human excreta and liquid wastes from all sanitation facilities
- 4 Strengthening national, state, city and local institutions and mainstreaming thinking, planning and implementing measures related to sanitation in all sectors

# National Policy on FSSM

## VISION

All Indian cities and towns become totally sanitized, healthy and liveable and ensure sustenance of good sanitation practices with improved **Onsite Sanitation Services** together with FSSM to achieve optimum public **health** status and maintain clean **environment** with special focus on the **poor**

## 4 Milestones



## GOAL

All cities and towns in Odisha become totally clean, sanitized (safe), healthy, and liveable cities / towns that are managed by ULBs with citizen and stakeholder participation

## Outcome

Urban areas are Open-defecation free (ODF) and open discharge free (ODF+/++)

Solid waste is safely managed & treated

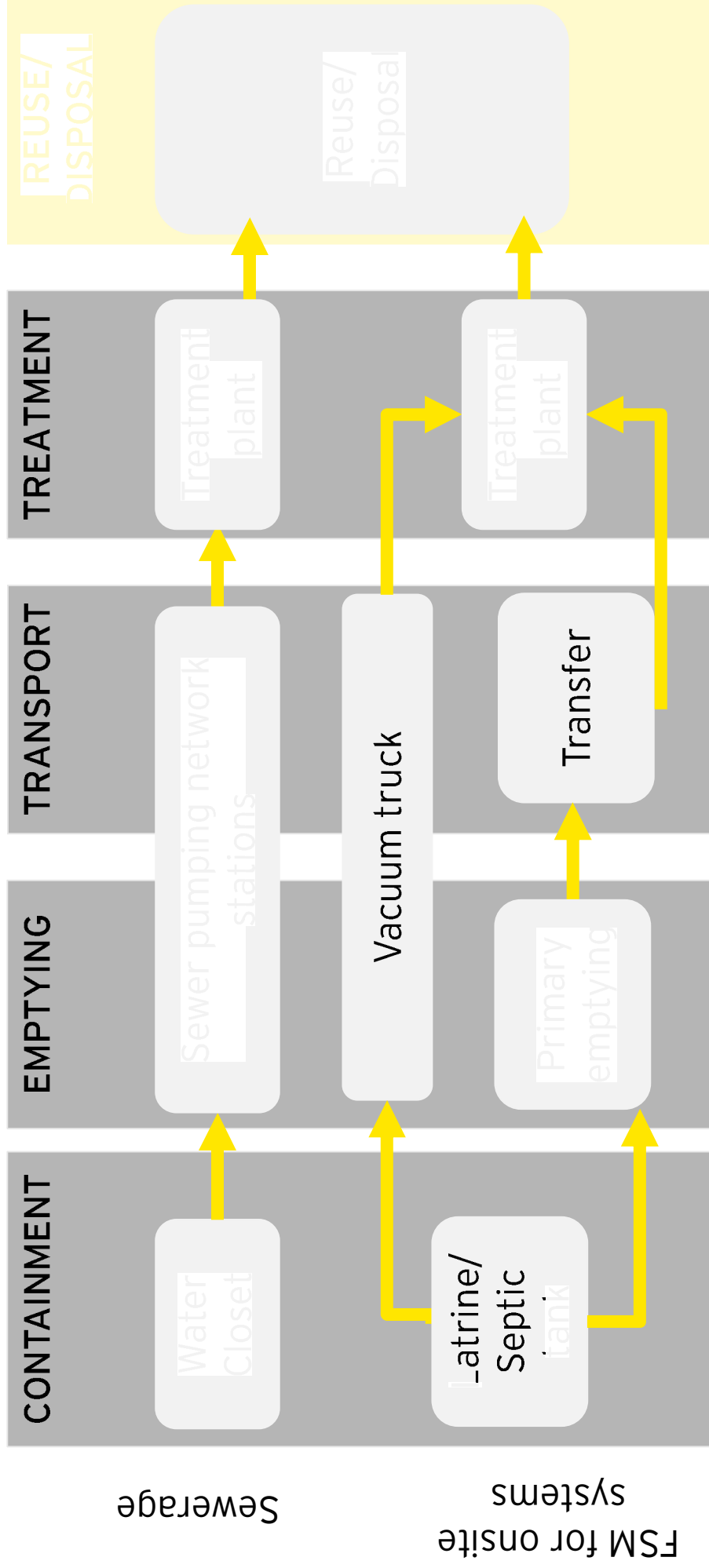
Sewage, septage / faecal sludge and liquid waste is safely managed, treated, and disposed

Safety standards and guidelines are followed in the physical handling and management of waste

Women and girls have access to safe menstrual hygiene management

Cities/towns do not discharge untreated waste (water and faecal waste) into the water bodies of Odisha

# Sanitation Value Chain



# Sources of finance

Sources available	Containment	Emptying/Transportation	Treatment/Disposal
Swachh Bharat Mission	✓	✓	✓
CSR	✓	✓	✓
State Finance Commission		✓	✓
Centre Finance Commission		✓	✓
OUIDF		✓	✓
State budget		✓	✓
AMRUT/Smart city		✓	✓
DMF		✓	✓
MP LAD/ MLA LAD (public assets)	✓	✓	✓

## FSSM Regulations

### Objective

- ▶ To ensure sustainability of FSSM

### Management and disposal of wastewater

- ▶ Management and disposal of wastewater from premises
- ▶ Design, construction and maintenance of containment units
- ▶ Desludging

### Fecal sludge emptying and transport

- ▶ Registration of cesspool vehicle
- ▶ Responsibility of cesspool vehicle operator
- ▶ Safety measures for desludging

### Septage treatment and disposal

- ▶ Treatment
- ▶ Responsibilities of the treatment plant operator
- ▶ Disposal

### Administration and enforcement

- ▶ Administration and enforcement
- ▶ Special inspection powers
- ▶ Violations and penalties

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4

5



Key source of advice for HHs for designing and construction of septic tank/ pit - Masons (84%)

Key source of information for HHs regarding cesspool vehicle service - ULB (74%), Hoarding, wall painting (9%)

HHs who have never cleaned their septic tank or pit latrine- 65%

Awareness on environmental and health impact of sludge disposal - 9%

HHs showed preference for non-mechanized service or self-cleaning - 50%

HHs's awareness about FSTP set up in the city - 1%



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Key source of advice for HHs for designing and construction of septic tank/ pit – Masons (97%)

Key source of information for HHs regarding cesspool vehicle service – ULB (23%), Hoarding, wall painting (20%)

HHs showed preference for non-mechanized service or self-cleaning – 1% and 38% have not decided their preferences yet

Awareness on environmental and health impact of sludge disposal – 20%

HHs who have never cleaned their septic tank or pit latrine- 43%

Key source of advice for HHs for designing and construction of septic tank/ pit - Masons (94%)

Key source of information for HHs regarding cesspool vehicle service - Hoarding (62%)

HHs who have never cleaned their septic tank or pit latrine- 71%

Awareness on environmental and health impact of sludge disposal - 69%

HHs showed preference for non-mechanized service or self-cleaning - 15%

HHs's awareness about FSTP set up in the city - 71%

Key source of advice for HHs for designing and construction of septic tank/ pit - Masons (84%)

HHs who have never cleaned their septic tank or pit latrine- 65%

HHs showed preference for non-mechanized service or self-cleaning - 50%

Key source of information for HHs regarding cesspool vehicle service - ULB (74%), Hoarding, wall painting (9%)

Awareness on environmental and health impact of sludge disposal - 9%

HHs's awareness about FSTP set up in the city - 1%

Key source of advice for HHs for designing and construction of septic tank/ pit – Masons (85%)

Key source of information for HHs regarding cesspool vehicle service – ULB (28%), Hoarding, wall painting (6%)

HHs showed preference for non-mechanized service or self-cleaning - 17% and 56% have not decided their preferences yet

Awareness on environmental and health impact of sludge disposal - 44%

HHs who have never cleaned their septic tank or pit latrine- 58%

Parameters	Balasure	Bhadrak
Key source of advice for HHs for designing and construction of septic tank/ pit – Masons	84%	83%
Key source of information for HHs regarding cesspool vehicle service – ULB, Hoarding, wall painting	33%, 37%	45%, 14%
HHs showed preference for non-mechanized service or self-cleaning and have not decided their preferences yet	21%, 42%	15%, 12%
Awareness on environmental and health impact of sludge disposal	54%	50%
HHs who have never cleaned their septic tank or pit latrine	44%	36%

Key source of advice for HHs for designing and construction of septic tank/ pit - Masons (63.5%)

Key source of information for HHs regarding cesspool vehicle service - Miking (TV, Radio) - 71%  
ULB (35%)

60% HH have not decided their preferences yet

Awareness on environmental and health impact of sludge disposal - 39%

HHs who have never cleaned their septic tank or pit latrine- 43%

### **National policy on FSSM 2017**

- *Generating awareness about FSSM & its linkages with public & environmental health amongst communities/ institutions including hazards from OSS liquid overflow*
- *Promoting mechanisms to bring about & sustain behavioural changes for healthy sanitation designs & practices, including responsibility to ensure safe containment and management of FSS by urban households including liquid effluent*
- *Developing a robust community engagement platform for continuous involvement of ULB & and support to FSSM activities being initiated by the state*

### **Odisha Urban Sanitation Policy 2017**

- *The causal linkages of sanitation with public & environmental health need to be made more explicit to citizens/communities/ institutions. ...The state will aim to generate demand for safe sanitation, especially among the un-served households.*
- *Citizens/communities/institutions & cities as a whole will be encouraged to play an active role in both behaviour change towards safe sanitation, & ensuring the adoption & use of safe technology to protect the environment.*

### **Odisha Urban Sanitation Strategy 2017**

*For safe management of sewage/FSS ULBs should engage with non-govt. stakeholders including the public through IEC campaigns & with private sector in infrastructure provision and O&M through PPP and also private informal sector in service delivery of FSSM at the city/ district levels.*

# Why IEC/BCC for FSSM

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To increase awareness on need for safe & desirable FSSM practices & its effect on public health/environment among community/stakeholders

To help raise consciousness on risks involved in untreated faecal waste, regulatory framework for proper construction, transportation & disposal

Strengthen key practices: Ensuring toilets constructed are as per design standards; Converting/Retrofitting existing insanitary toilets to sanitary toilets & supporting periodic desludging practice

To help demystify technology options (septic tanks, desludging options etc)

To help community to exercise their choice in the technology they opt for

To initiate dialogues at various levels on safe FSM practices

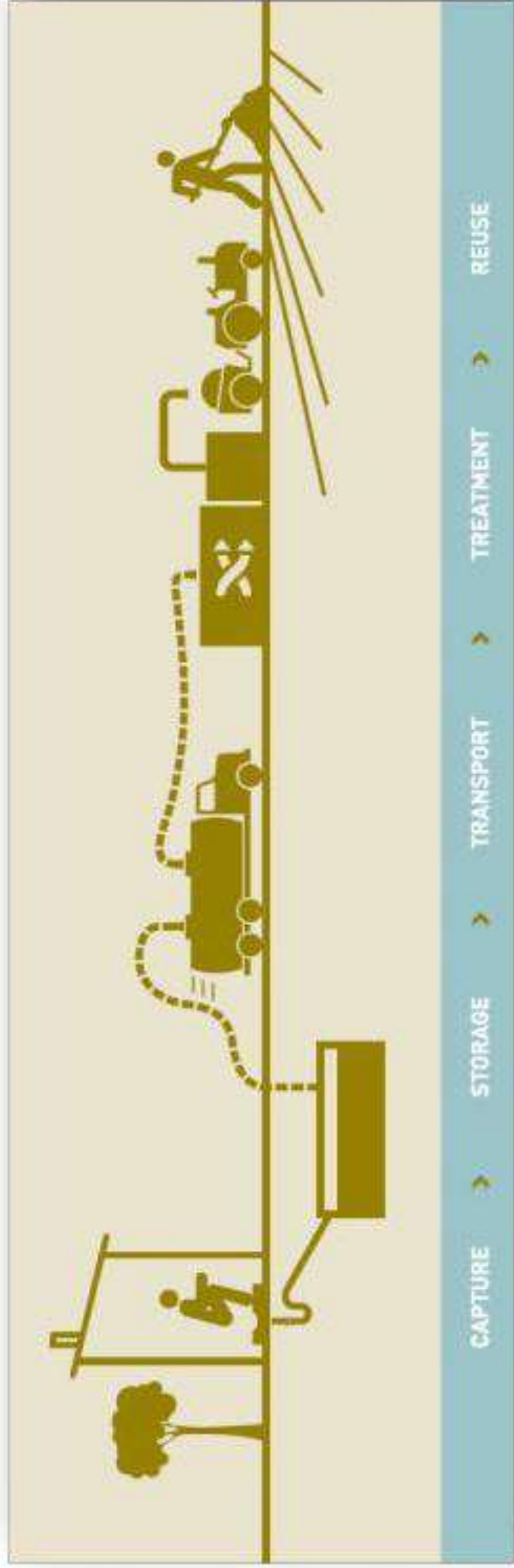
To raise demand for FSSM services in the city

To decrease public resistance to FSSM projects

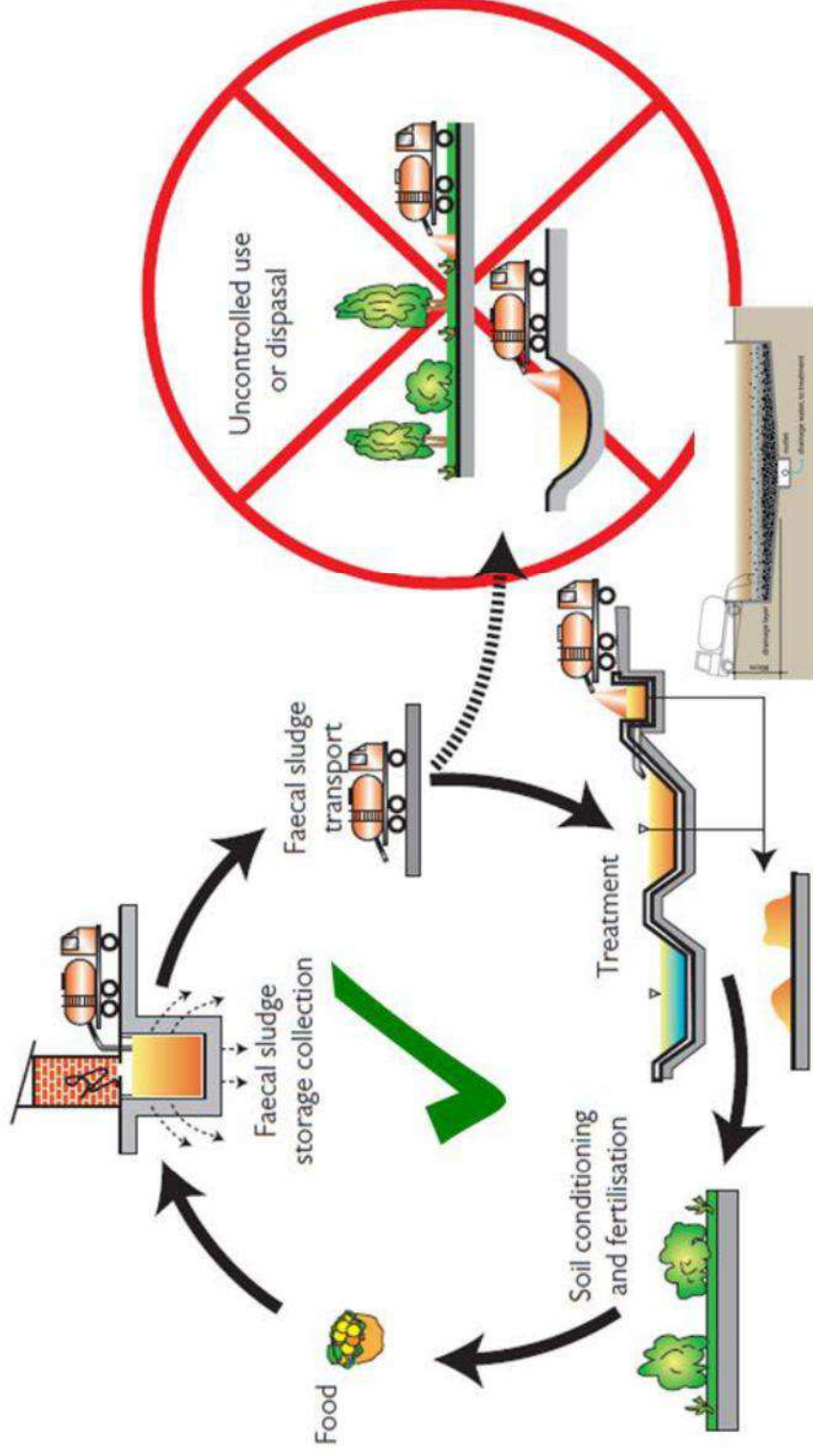


# FSSM Value Chain

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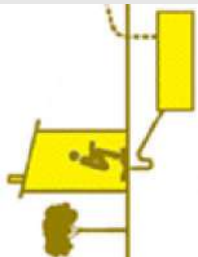


# FSSM Value Chain





Source: GiZ

# Community engagement in FSSM value chain

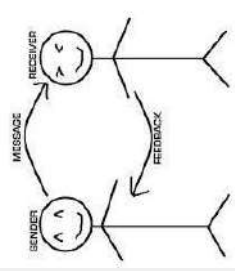
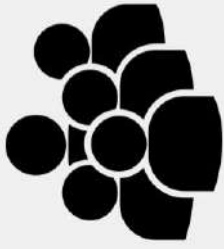

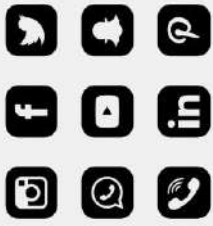
Stage	Actions	Target audience:	Key messages
<p><b>CAPTURE</b></p> 	<p>Construction &amp; usage of sanitary toilets (IHHL, CT)</p>	<ul style="list-style-type: none"> <li>Households</li> <li>Communities</li> <li>Community Based organisations (CBOs)</li> </ul>	<ul style="list-style-type: none"> <li>Hazards of OD</li> <li>Importance &amp; need for using toilet</li> <li>Provisions under the SBM</li> <li>Process &amp; ease of application</li> <li>O&amp;M of CT</li> </ul>
<p><b>CONTAINMENT</b></p>	<ul style="list-style-type: none"> <li>Safe containment by connecting toilets to septic tanks/pits</li> <li>Community involvement with technology options for on-site sanitation services</li> </ul>	<ul style="list-style-type: none"> <li>Households</li> <li>Communities</li> <li>Masons</li> </ul>	<ul style="list-style-type: none"> <li>Hazards of insanitary toilets</li> <li>Standard design &amp; construction of septic tanks</li> <li>Dos and Don'ts of building septic tanks</li> <li>Need for periodic inspection of tanks</li> <li>Technology options for on-site sanitation services</li> <li>Regulatory provisions for citizens/commercial establishments</li> </ul>

Stage	Actions	Target audience	Key messages
<p>EMPTYING &amp; TRANSPORTATION</p> 	<ul style="list-style-type: none"> <li>Desludge septic tanks/pits every 3 years through mechanized cesspool vehicles</li> <li>Stop emptying manually</li> </ul>	<ul style="list-style-type: none"> <li>Households</li> <li>CBOs</li> <li>RWAs</li> <li>Cesspool vehicle operators</li> <li>Institutions/commercial institutions</li> </ul>	<ul style="list-style-type: none"> <li>Desludge septic tanks/pits every 3 years. It prevents water borne diseases</li> <li>Desludge only through mechanized cesspool vehicles provided at subsidized rate by the ULB</li> <li>Rate &amp; ULB contact nos</li> <li>Cleaning of septic tanks by manual workers is illegal. It is not only undignified but also hazardous to their health</li> <li>Regulatory provisions for citizens/commercial establishments</li> </ul>

Stage	Actions	Target audience:	Key messages
<p>TREATMENT</p> 	<ul style="list-style-type: none"> <li>Local communities' acceptance of SeTP</li> <li>Being vigilant/aware about indiscriminate dumping &amp; the significance of septage treatment</li> <li>Being informed about the potential uses of treated septage</li> </ul>	<ul style="list-style-type: none"> <li>Local communities in the vicinity</li> <li>Households</li> </ul>	<ul style="list-style-type: none"> <li>Benefits of SeTP in the city on health &amp; environment</li> <li>Dispelling myths &amp; misconceptions</li> <li>Linking to the sanitation value chain</li> </ul>
<p>REUSE</p> 	<ul style="list-style-type: none"> <li>Overcome barriers of using treated FSS as compost, fertilizer etc.</li> <li>Usage of treated septage &amp; sharing experience</li> </ul>	<ul style="list-style-type: none"> <li>Farmers</li> <li>SHGs</li> <li>Nurseries</li> <li>Agro industries</li> </ul>	<ul style="list-style-type: none"> <li>Key benefits of using treated septage</li> <li>Place of availability, cost</li> <li>Options for business enterprises</li> </ul>

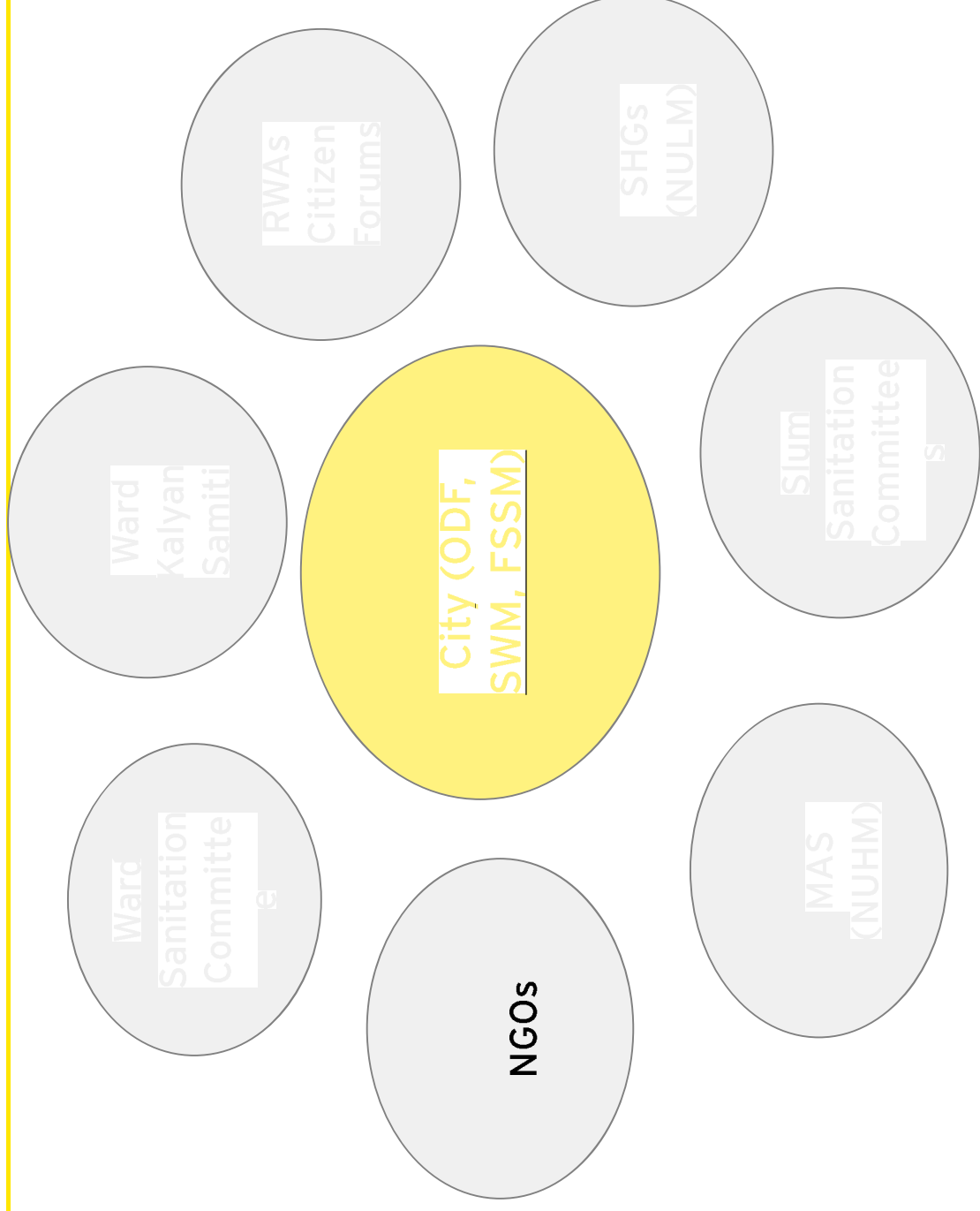


# Key communication channels

Channels	Audience	Features	Limitations
<p>Personal consultations</p> 	<p>Elected Council, opinion leaders (that not only relates to elected council)</p>	<p>Interactive, informal, face to face</p>	<p>Time and resource intensive</p>
<p>Community groups</p> 	<p>Advocacy groups, households, slums, women's self help groups/women groups</p>	<p>Participatory, low-cost mass media, more credible These channels has the possibility of institutionalizing the messages</p>	<p>Limited to a locality</p>
<p>Mass Media</p> 	<p>General public, all stakeholders, floating population</p>	<p>Large scale, create large awareness, can create strong recall value, more appealing</p>	<p>Expensive, limited exposure time so needs to be repeated</p>
<p>Social Media</p> 	<p>Mostly young and tech-savy audiences with access to internet devices</p>	<p>Dynamic, interactive, allows real time update</p>	<p>Reach is limited Need dedicated specialised HR</p>

# Community based institutions/structures to engage with in Sanitation

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# Key Communication Activities & Planning

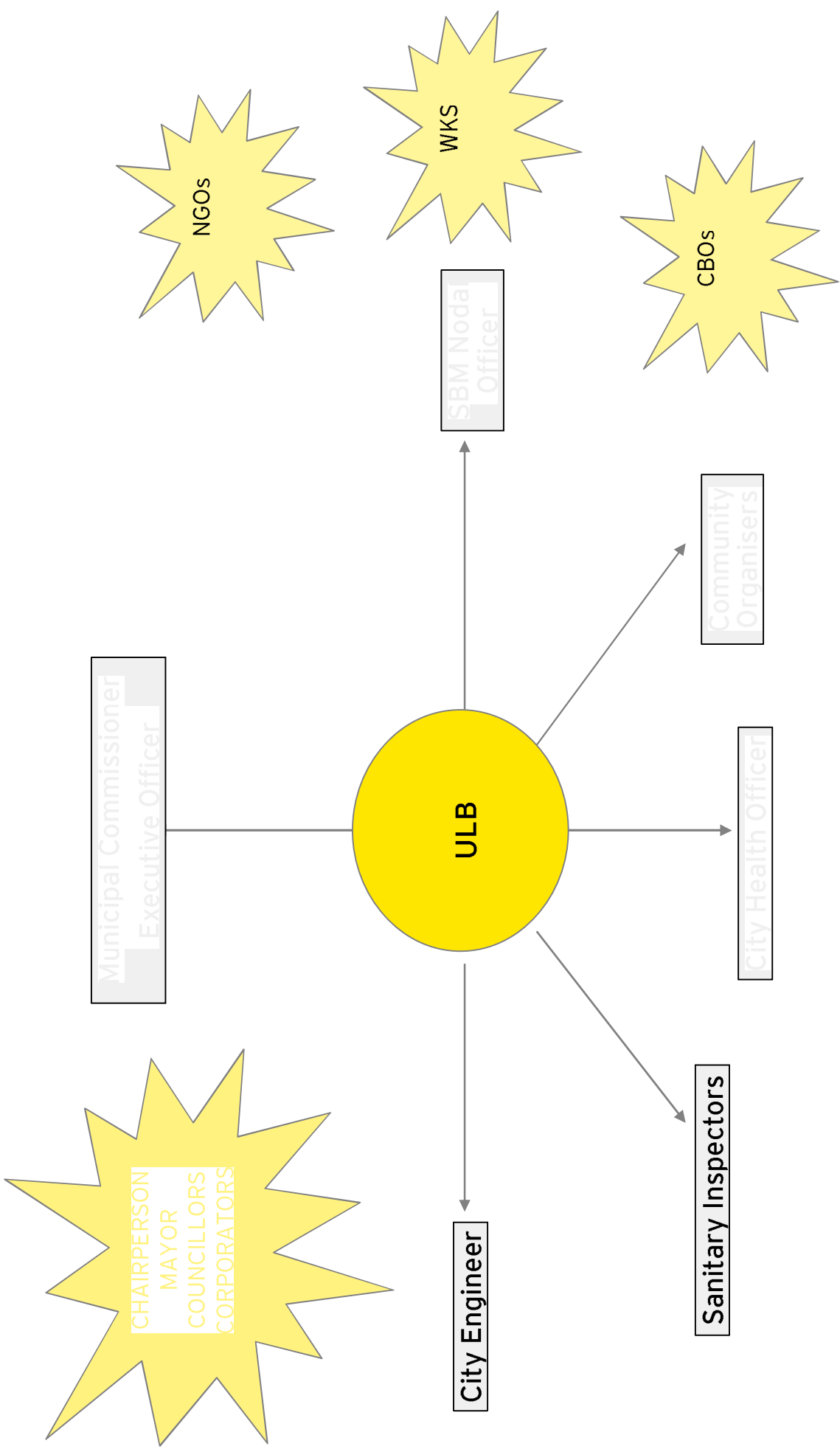
Stage	Communication Activities	Frequency
CAPTURE & CONTAINMENT	<ul style="list-style-type: none"> <li>◦ Interpersonal communication (IPC) through group meetings of CBOs (WSCs, MAS, Slum Committees)</li> <li>◦ Community mobilization drives in specific areas &amp; occasions (wards, slums)</li> <li>◦ Hoardings &amp; wall paintings in key vantage points</li> <li>◦ Simple Info. on application process &amp; building septic tanks (banner with key steps, leaflet with key steps)</li> <li>◦ Single window grievance redressal at ULB</li> </ul>	<p>Ongoing</p> <p>Ongoing</p> <p>Yearly</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>
EMPTYING & TRANSPORTATION	<ul style="list-style-type: none"> <li>◦ IPC through group meetings of CBOs (WSCs, MAS, Slum Committees)</li> <li>◦ Community mobilization drives in specific areas &amp; occasions (wards, slums, RWAs, citizen forums)</li> <li>◦ Hoardings &amp; wall paintings in in key vantage points</li> <li>◦ Orientation of cesspool operators</li> <li>◦ TV &amp; radio spots</li> </ul>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Yearly</p> <p>Yearly</p>

Stage	Communication Activities	Frequency
<b>TREATMENT</b>	<ul style="list-style-type: none"> <li>▫ Consultations with local community in the vicinity</li> <li>• Engagement with media to highlight key benefits of SeTP</li> <li>▫ IPC with CBOs highlighting key benefits of treatment</li> </ul>	<ul style="list-style-type: none"> <li>▫ Before SeTP begins</li> <li>▫ When SeTP starts</li> <li>▫ Ongoing</li> </ul>
<b>REUSE</b>	<ul style="list-style-type: none"> <li>• Consultations with farmers, SHGs &amp; agro enterprises</li> <li>• Highlighting key benefits of using treated septage</li> </ul>	<ul style="list-style-type: none"> <li>▫ When SeTP is functional</li> </ul>

# Monitoring & Evaluation

Output	Output Indicators	Monitoring Frequency	Monitoring personnel	Outcome
Production of communication collaterals (leaflet, posters, hoarding, wall painting, radio/TV spots)	No of materials produced & disseminated No of people who have received the material	Monthly		IHs aware about benefit of constructing standardised septic tank
Meetings & Consultations	No of meetings/consultations conducted No of participants in each meeting	Weekly/Monthly		IHs aware about benefit of standardised septic tank cleaning periodically & mechanically Cesspool service request increased from the baseline for cleaning of septic tank
No of sensitization/orientation conducted	No of sensitization/orientation conducted No of people participated			Properties resorted to mechanised cleaning Manual-cleaning of septic tank/pit is decreased

# Implementers at ULB level



# Capacity Building for IEC/BCC for FSSM

## For Whom?

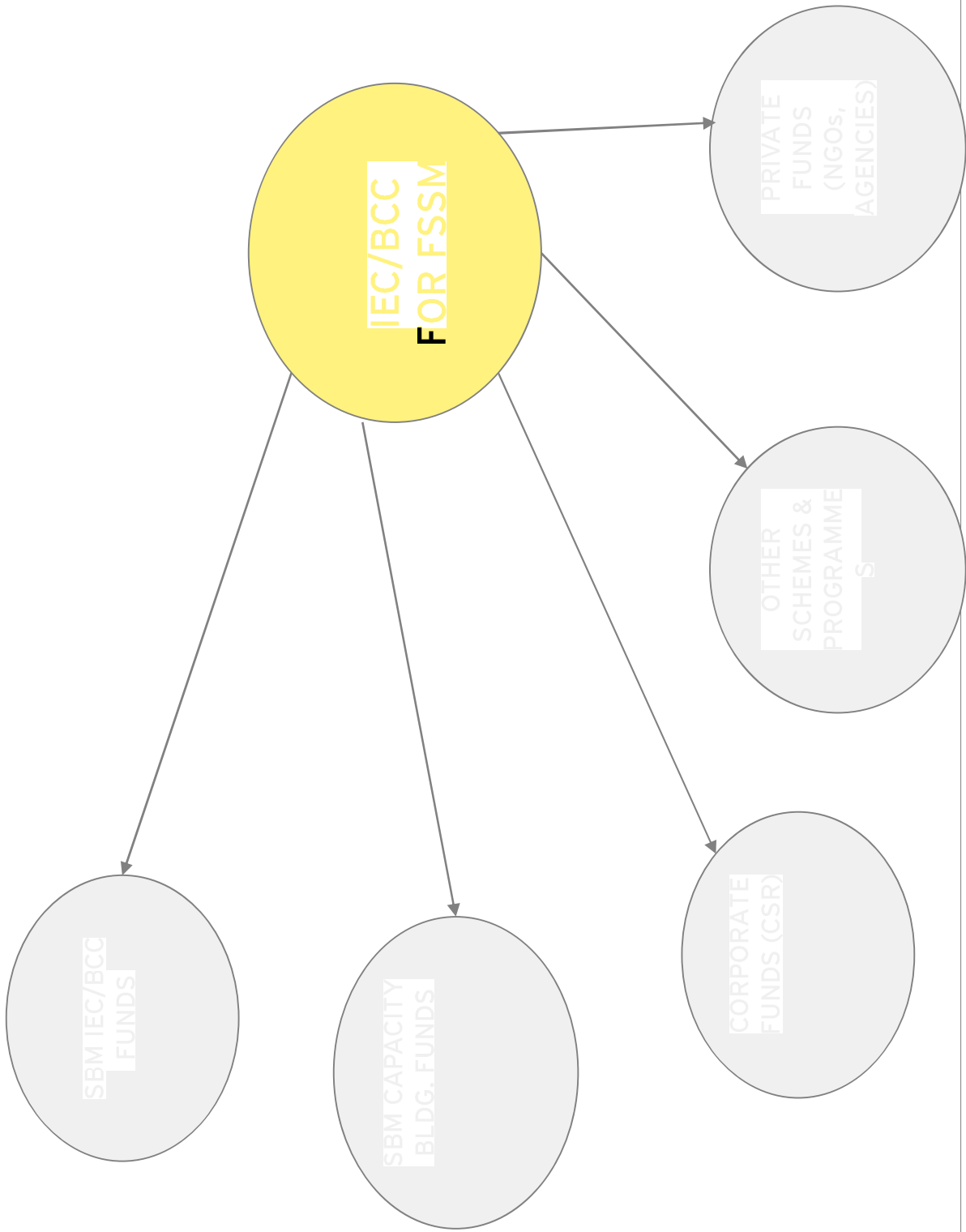
ULB LEVEL	OTHERS
<ul style="list-style-type: none"> <li>▲ Policy &amp; decision-making</li> <li>▲ Municipal Commissioner/Executive Officer</li> <li>▲ Elected representatives (Councilors &amp; Corporators)</li> <li>▲ Implementation</li> <li>▲ SBM nodal officer</li> <li>▲ City health officer</li> <li>▲ City engineer</li> <li>▲ Sanitary inspectors</li> <li>▲ COS</li> </ul>	<ul style="list-style-type: none"> <li>▲ NGOs working on ODF &amp; FSSM</li> <li>▲ CBOs (WSCs, WKS, SHGs, MAS)</li> <li>▲ Swacchagrahis</li> <li>▲ NGOs &amp; Communities looking after the O&amp;M of PT/CT</li> <li>▲ RWA, Citizen groups &amp; forums</li> </ul>

## What?




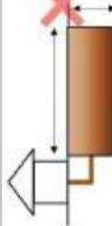
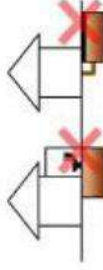

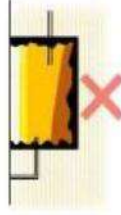

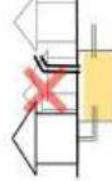
<ul style="list-style-type: none"> <li>▲ Orientation &amp; sensitization on FSSM linking to health &amp; environment; Association with ODF</li> <li>▲ Capacity Building workshops for key stakeholders</li> <li>▲ Field Visits &amp; Exposure Trips</li> <li>▲ Demonstration of FSSM value chain</li> <li>▲ Key communication skills on how to communicate ((focusing on benefits for community/citizens- what they will gain by practising a particular behavior ; Action points - what you want them to do; Grievance redressal- whom they should contact in case of problems)</li> </ul>
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# Budget Sources

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# Septic Tank and DON'Ts

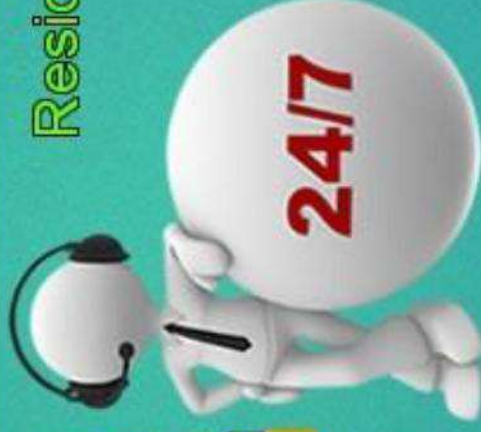
 <b>Dos</b>	 <b>DON'Ts</b>
<ul style="list-style-type: none"> <li>✓ Construct at least a two chambered septic tank</li> <li>✓ Partition wall should be constructed at a distance of 2/3 the length from the inlet</li> <li>✓ The 2 chambers should be interconnected above the sludge storage level by means of a pipe or square opening of diameter or side length not less than 75 mm</li> </ul>	 <ul style="list-style-type: none"> <li>✗ Do not construct a one chambered septic tank</li> <li>✗ Do not construct a partition wall at an inappropriate distance</li> <li>✗ Do not provide the interconnection at a level where the sludge or scum is formed</li> </ul>
<ul style="list-style-type: none"> <li>✓ The size of the tank should be as per Nagarpalika norms</li> </ul>	 <ul style="list-style-type: none"> <li>✗ Do not construct an oversized septic tank</li> </ul>
<ul style="list-style-type: none"> <li>✓ Always construct septic tank away from structure</li> <li>✓ If space not available, construct toilet over septic tank such that all chambers are accessible</li> <li>✓ Provide openable access covers to all chambers for inspection and desludging</li> </ul>	 <ul style="list-style-type: none"> <li>✗ Do not construct toilet above septic tank</li> <li>✗ Do not completely seal the septic tank from top</li> </ul>
<ul style="list-style-type: none"> <li>✓ Septic tanks should be constructed in materials such as brick, stone, concrete (cast in-situ) or be of pre-cast materials</li> </ul>	 <ul style="list-style-type: none"> <li>✗ Do not use a dug trench as septic tank</li> <li>✗ Tank should not leak</li> </ul>
<ul style="list-style-type: none"> <li>✓ The base or floor should be cement concrete and sloped upwards to the outlet</li> <li>✓ The floor and sides should be plastered with cement mortar to render the surfaces smooth</li> </ul>	 <ul style="list-style-type: none"> <li>✗ Do not keep the base level or slope downwards to the outlet</li> <li>✗ The inside surfaces of the septic tank should not be rough</li> </ul>
<ul style="list-style-type: none"> <li>✓ The inlet and outlet should be located at different levels</li> <li>✓ The inlet and outlets should be below scum level and above sludge level</li> <li>✓ Baffles or T junctions should be provided at inlet and outlet</li> </ul>	 <ul style="list-style-type: none"> <li>✗ The inlet and outlet should not be located at such levels where the sludge of scum collects</li> <li>✗ Inlet and outlet should not be at same level to prevent backflow or exit of scums</li> </ul>
<ul style="list-style-type: none"> <li>✓ Septic tank should be provided with ventilation pipes, the top being covered with mosquito proof wire mesh</li> <li>✓ The height of the pipe should extend at least 2 m above the top of the highest building within a radius of 20 m</li> </ul>	 <ul style="list-style-type: none"> <li>✗ Do not leave ventilation pipe unprotected from mosquitoes</li> <li>✗ Do not keep the ventilation pipe too short</li> </ul>



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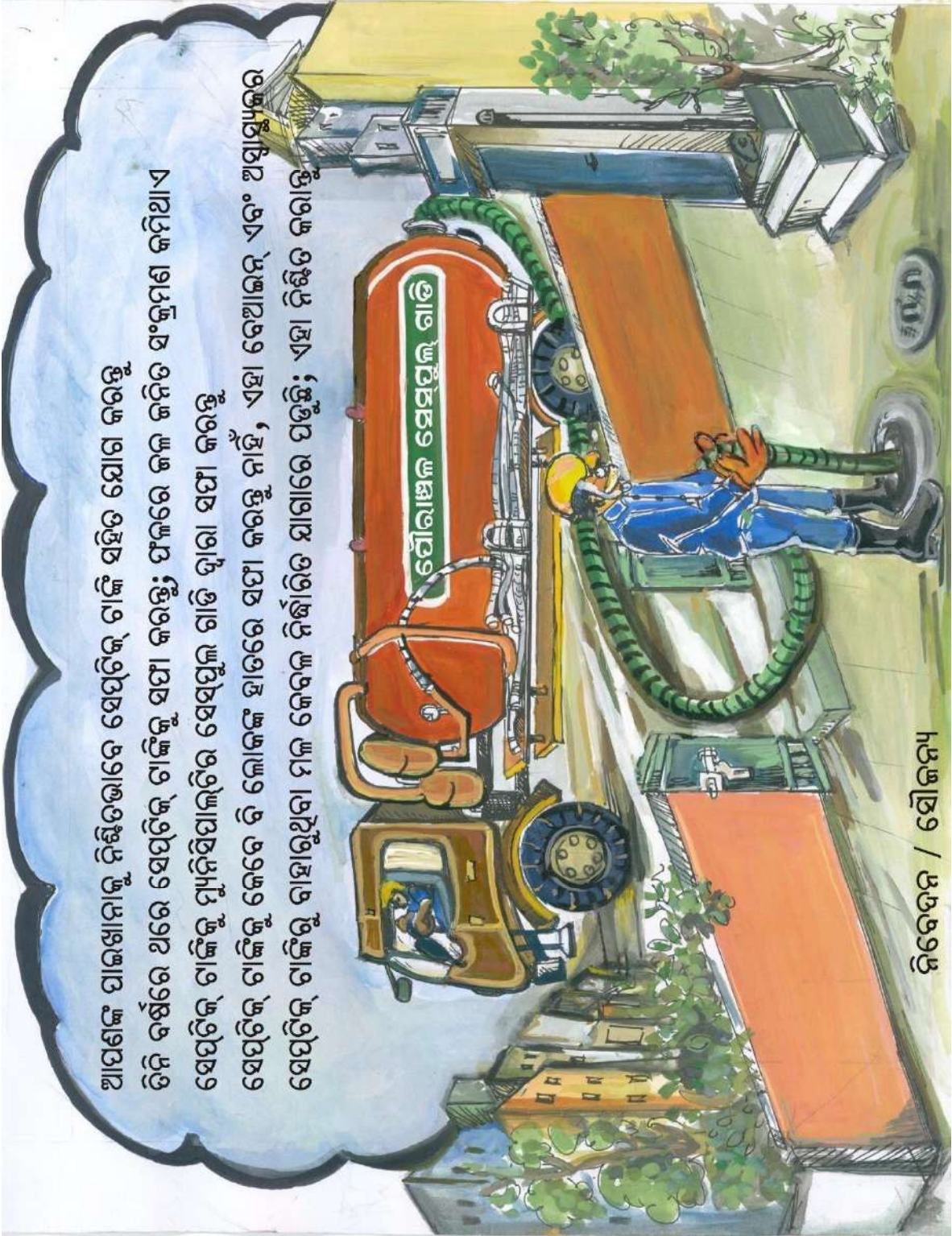
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ଆପଣଙ୍କ ପାଇଖାନାକୁ ନିଶ୍ଚିତଭାବେ ସେପ୍ଟିକ୍ ଟାଙ୍କି ସହିତ ଯୋଗ କରନ୍ତୁ  
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ନିବେଦନ / ସୌଜନ୍ୟ



# ପୁରୀ ମ୍ୟୁନିସିପାଲିଟି ଆପଣଙ୍କ ସେବାରେ

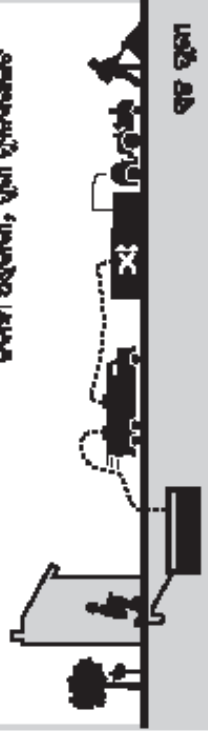
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ଯୋଗାଯୋଗ ନଂ: ୦୬୭୫୨-୨୨୨ ୯୭୭

କୌଣସି କାର୍ଯ୍ୟ ଉପରେ ପୁରୀ ଗତି କ୍ଷେତ୍ର  
ନିମ୍ନ ଅଧିକାରୀଙ୍କୁ ଖୋଜି କରନ୍ତୁ:

କାର୍ଯ୍ୟ ନିର୍ବାହୀ ଅଧିକାରୀ: ୯୪୩୮୨୫୫୯୭୭  
ଅତିରିକ୍ତ କାର୍ଯ୍ୟ ନିର୍ବାହୀ ଅଧିକାରୀ : ୯୪୩୩୭୦୨୮୯୨୨

ନିର୍ବାହୀ ଅଧିକାରୀ, ପୁରୀ ମ୍ୟୁନିସିପାଲିଟି



ପୁରୀ ମ୍ୟୁନିସିପାଲିଟି

# ମାଳ ପରିଚ୍ଛେଦନା (ଏଫ୍.ଏସ୍.ଏସ୍.ଏସ୍.ଏସ୍) କ'ଣ ?



- ❌ ପାଠକାଠା ମଧ୍ୟ ନାହିଁ ନାହିଁନି
- ✅ ଗୋଟିଏଟି ପାଠକାଠା କୋମ୍ପଲକ୍ସ କହିଲେ
- ✅ ପାଠକାଠା, ପୋଲିସ୍ ଓ ଅନ୍ୟାନ୍ୟ ସେବାଗୁଡ଼ିକ ପାଇଁନିଆର କୋମ୍ପଲକ୍ସ କହିଲେ
- ✅ ପାଠକାଠା ମଧ୍ୟ ପାଠକାଠା ପାଇଁନିଆର, ପାଠକାଠା ମଧ୍ୟ ଏକାକୀୟ ପାଠକାଠା କହିଲେ
- ❌ ପାଠକାଠାଗୁଡ଼ିକ ପାଠକାଠା, କୋମ୍ପଲକ୍ସ ନାମରେକରି କହିତ ଗୋଟିଏକାଠା କହିଲେ



- ✅ ପାଠକାଠା ଗୋଟିଏ ଗାଡ଼ି କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ
- ❌ ପାଠକାଠା ଗୋଟିଏକାଠା ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କହିଲେ



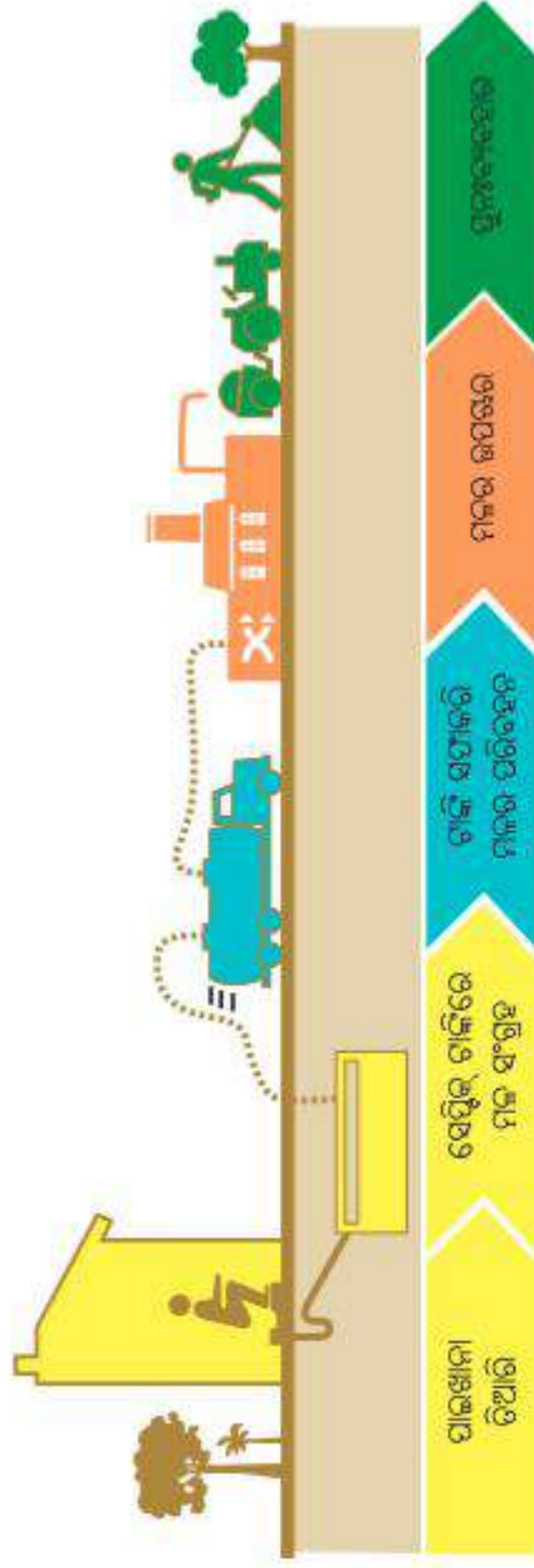
- ❌ ପାଠକାଠା ଗୋଟିଏ ଗାଡ଼ି କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ
- ✅ କୋମ୍ପଲକ୍ସ ଗୋଟିଏ ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କହିଲେ
- ❌ ପାଠକାଠା ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ
- ✅ କୋମ୍ପଲକ୍ସ ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ



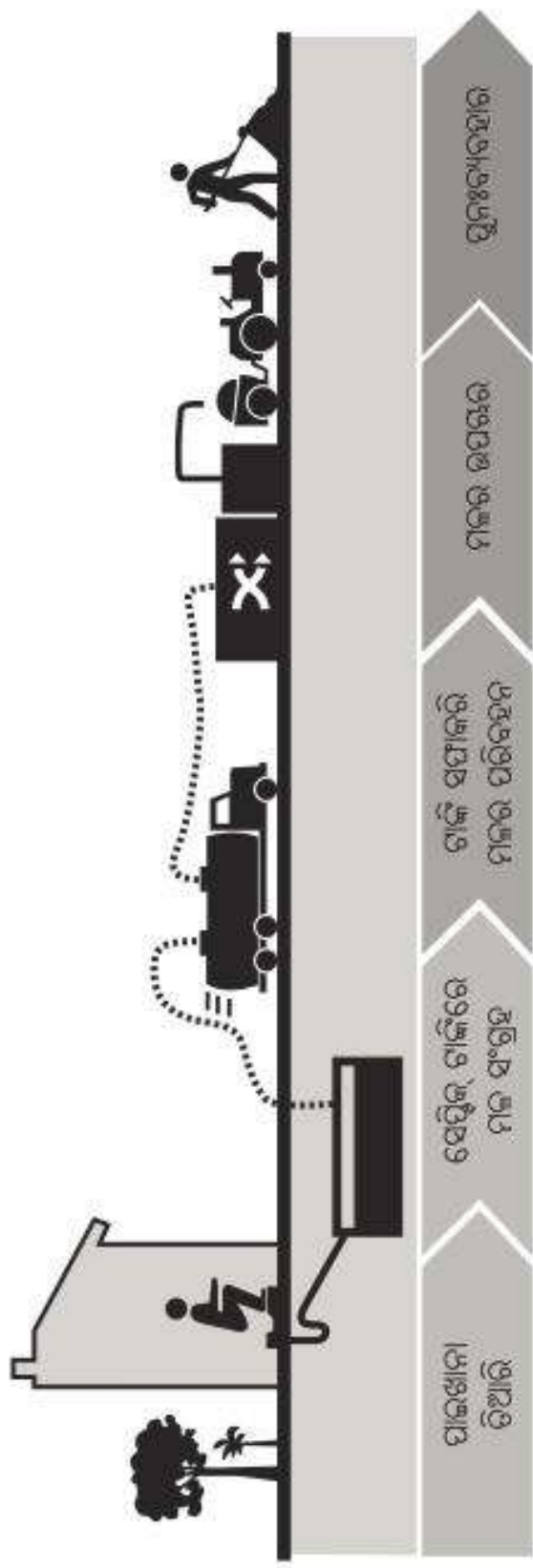
- ✅ କୋମ୍ପଲକ୍ସ ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ
- ✅ କୋମ୍ପଲକ୍ସ ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ
- ✅ କୋମ୍ପଲକ୍ସ ଗୋଟିଏକାଠା କୋମ୍ପଲକ୍ସ କୋମ୍ପଲକ୍ସ କହିଲେ



# ମାଳ ପରିଷ୍କଳନା (ଏସ୍.ଏସ୍.ଏସ୍.ଏସ୍)



# ମାଳ ପରିଚ୍ଛେଦନା (ଏଫ୍.ଏସ୍.ଏସ୍.ଏସ୍.ଏମ୍)



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<http://swachhbharatmission.gov.in/sbmcms/writereaddata/images/pdf/technical-notes-manuals/SHACS.pdf>

Guidelines for community engagement under SBM Urban

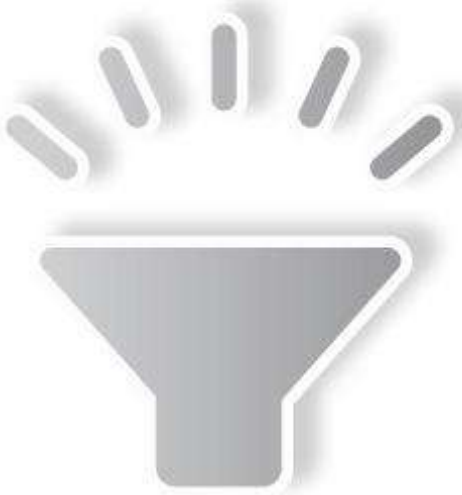
<http://www.swachhbharaturban.in/sbm/home/lib/content/Community%20Engagement%20Guidelines.pdf>

National Policy on FSSM

<http://www.swachhbharaturban.in:8080/sbm/content/writereaddata/FSSM%20Policy%20Report%2023%20Feb%20Artwork.pdf>

# Radio spot on cesspool operation

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# Action Points

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- 1 IEC/BCC campaigns on cesspool operations
- 2 IEC/BCC campaign on stopping manual emptying of sludge



Sanitation overview in Odisha on the perspectives of FSSM

FSSM value chains - concepts and practices

FSSM state and national policies, institutional framework in Odisha

Preparation of implementation plan for JEC/BCC activities

Roles and responsibilities of ULB in FSSM implementation

5



EXECUTIVE  
OFFICER/COMMISSIONER

ACCOUNTS SECTION

TAX SECTION

NODAL PERSON FOR  
CESSPOOL OPERATION/STORE  
KEEPER

Sr. DEALING ASSISTANT

CESSPOOL OPERATOR

SBM NODAL/MIS

council

SANITARY INSPECTOR

ACCOUNTS SECTION

ENFORCEMENT OFFICER/ DY  
COMMISSIONER

MECHANICAL ENGINEER/  
WORKS DEPARTMENT

HEALTH OFFICER

Responsibility	No Activities
	-
	3
	-
	-
	-

Responsibility	No Activities
	7
	15

No Activities	Responsibility

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No Activities	Responsibility

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No Activities

Responsibility

No Activities

Responsibility

No Activities		Responsibility
-		
-		
-		
-		
-		



Responsibility	No Activities
	7



No	Activities	Responsibility
26	Repairing of ULB run cesspool trucks, requisition to	Mechanical Engineer/

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No Activities

Responsibility

council

# Action Points

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1

Streamlining cesspool operations

2

Registration of cesspool vehicles

3

Dumping of sludge at designated site

4

BCC activities to ensure mechanical cleaning

