REGULATORY FRAMEWORK FOR FSM

CAPACITY BUILDING ON FAecal SLudge AND SEPTAGE MANAGEMENT, RAJASTHAN
**FSM in Rajasthan: Timeline**

**2016**
- Challenges:
  - Identified towns (Tonk and Jhalawar)
  - Plant location identified, surveys undertaken
  - Formulation of Pilot plan, DPR & Bid documents
  - Module was rejected due to higher capex and opex (limited scope of replications)

**2017**
- Success:
  - Regrouping and defining scope of work and success parameters
  - Town level FSM approach was adopted; identified twin towns Phulera-Sambhar as pilot
  - Land acquired from ULB
  - Stakeholder consultations
  - Approval of Town FSM Plan, FSM Resolutions and Regulations
  - Tender floated for Phulera town

**2018**
- Default Solution:
  - Construction Started for Rajasthan’s 1st FSTP for Phulera-Sambhar
  - Construction of Lalsot FSTP and purchase and operations of desludging trucks
  - State FSM Policy approved by DLB and placed for cabinet approval
  - Work awarded for Khandela town
  - Approval by GoR State of the Comprehensive FSM Guideline (English and Hindi)
State FSSM Policy
Submitted for Cabinet Approval

State FSSM Guidelines
Approved from State Government

Model Faecal Sludge & Septage Management Plan
Town Level Regulatory Reforms

Model FSM Regulations

Regulations
Nagar Palika Mandal Phulera & Sambhar

Faecal Sludge & Septage Management Plan 2017

विनियमन
नगर पालिका मंडल
फुलेरा / साम्बर

फिकल स्लज
&
सेप्टेज मेंनेजमेंट
प्लान
2017

Model FSM Resolutions

संकल्प
नगर पालिका मंडल
फुलेरा

संकल्प
फिकल स्लझ
&
सेप्टेज मेंनेजमेंट
प्लान
2017

RESOLUTIONS
Nagar Palika Mandal Phulera

Faecal Sludge & Septage Management Plan 2017
1. Preparation of town Level FSM Plan, DPR & Bid process management

2. Construction supervision for Setting of treatment plant (low CAPEX & OPEX)

3. FSM Resolutions and Regulations approved from town municipal board
   - Licensing of truck operators
   - Dedicated FSM Cell and Committee
   - Schedule desludging and option of combined user fees with PHED water bills or other municipal services
   - Amendment of building bye laws

4. IEC, Training, Exposure Visits and Capacity Building
Limited awareness among the public, administration and service providers

Ambiguity in delineation of responsibilities and overlapping mandate

Lack of regulations to govern the FSSM process

No dedicated body to monitor and regulate the practices

Poor coordination and support among various stakeholders

Unavailability of an established system to ensure the adequate enforcement of the system
FSSM Resolution - Structure

1. Disposal of Faecal Sludge at Faecal Sludge Treatment Plant
2. Licensing of Septic Tank Cleaning Operators
3. User charges combined with water bill through PHED
4. Drafting and Adopting Septage Management Regulations
5. Changes in the building byelaws
6. Constituting the City Sanitation Committee and Cell
Approval of First FSSM Resolution

NOTICE

Subject: Disposal of Septic Tank/Soil Stagnation from sluicking of On-Site Sanitation Facilities (Kali, Septic Tanks, MC latrines, etc.) at the proposed FSSM Treatment Plant

As per the resolution passed in the Sambalpur/Mukherji Municipal Board Meeting dated ___/__/2017, it has been agreed that all FSSM facility sites for upgrading and modernization of the existing sanitation systems such as Kali, Septic Tanks, MC latrines, etc. within the jurisdiction of Sambalpur/Mukherji Municipality by potable and Municipal Septic tanks and decentralized systems, wherever, manually or through mechanical methods, should be safely transported and disposed at the proposed FSSM Treatment Plant in Mukherji (Incharge). If the said facility is operated, it will be the responsibility of the operating operator (Municipal or Private) to transport the septic tank/sludge to the treatment plant site. In case the operator is unable to transport the septage/soil or septic tank/sludge, the operator shall inform the Mukherji to ensure safe transport to the Treatment Plant for treatment. The resolution is in line with the Rajasthan Municipalities Act, 2009, Sections 128 and 130.

Proof of Clearing and Disposal

Each Operator has to carry Joint Certificates in prescribed formats (attached at Annexure A) from the Sambalpur/Mukherji Municipality, 48 hours of all necessary information and get it digested by the house owners 48 hours after the disposal of the wastewater, within which the operator has to fill a Joint Certificate and get it signed by the house owner and the treatment plant operator again.

Penalty

A Penalty of Rs. 10,000 is levied on every incident where an operator fails to dispose of this wastewater at a location other than the Treatment Plant (except in case of exceptional circumstances). The Sambalpur/Mukherji Municipality would monitor the operator to ensure compliance with these provisions, and any violation may result in legal action or penalties. The residents of Sambalpur/Mukherji are urged to be vigilant and report incidences of arbitrary disposal to the Sambalpur/Mukherji Municipality.

Exceptional Circumstances

In case the treatment plant is unable to accept the septage or septic tank from the tank operator due to overload of the treatment plant or unsuitable quality of septage/sludge, the operator will have to get the consent for rejection or seeking from the designated person at the treatment plant with the person’s signature. Under this condition, the operator has to disclose the waste at a designated location to be notified later.

Detailed provisions with regard to septic tank disposal, transport, disposal, and waste shall the part on the Sambalpur Municipal Sanitation Management Regulations that will be notified later.

(Narang Lal Narayan)
Chairman
Nagar Palika Mandal, Mukherji

(Nandini Jyotish)
Executive Officer
Nagar Palika Mandal, Mukherji
Approval of First FSSM Resolution

राजस्थान के पहले मल प्रबंधन प्लांट को फुटेरा नपा बोर्ड से मिली मंजूरी

राजस्थान के पहले मल प्रबंधन प्लांट को फुटेरा नपा बोर्ड से मिली मंजूरी। राजस्थान के पहले मल प्रबंधन प्लांट को फुटेरा नपा बोर्ड से मिली मंजूरी।

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## FSSM Regulation - Structure

<table>
<thead>
<tr>
<th>Septic Tank Design</th>
<th>Septic Tank Cleaning Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrangement of User Charges</td>
<td>Septage Transport and Disposal</td>
</tr>
<tr>
<td>Rules for FSSM Operators</td>
<td>Treatment and Reuse</td>
</tr>
<tr>
<td>City Sanitation Committee and Cell</td>
<td>Roles and Responsibilities of Stakeholders</td>
</tr>
<tr>
<td>Public Awareness and Stakeholder Engagement</td>
<td>Capacity Building and Training</td>
</tr>
<tr>
<td>Database, Reporting and Record Keeping</td>
<td>Helpline and Grievance Redressal</td>
</tr>
<tr>
<td>Service Level Benchmarks</td>
<td>Penalties for Non-Compliance</td>
</tr>
</tbody>
</table>
The eligibility criteria for Licensing of Desludging Operators

The eligibility criteria have been classified into three broad categories, namely:

1. Technical Criteria – Pertains to equipment quality, specification and condition
   - Leak-proof equipment – photographic evidence and random inspection – drive system (tractor specifications – engine, chassis, etc pump, hose, pipe, seals, tank, trailer chassis, etc)
   - Proof of vehicle maintenance in the last one-year
   - Adequate inspection equipment (such as sight gauge) and a well-stocked toolbox
   - Submission of detailed vehicle & equipment specification

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Components</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Tank Capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Vacuum Pump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Suction Hose Length</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>ISO Certified Company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Truck/Tractor Chassis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Max Power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Manufactured</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Administrative Criteria – Pertains to statutory and regulatory stipulations
   - Name and identity of the operator, driver and helper – Minimum two personnel per vehicle
   - Proof of ownership – Vehicle Registration (Commercial), Ricks for equipment, Insurance, etc.
   - Update PUC Certificate
   - Vehicle Fitness Certificate
   - Driver to have a valid driver's license (LMV – TR)
   - Certification after attending short-term course/training session on proper desludging operations as per operating manual

3. Health & Safety Criteria – pertains to hygiene and safety
   - Well-stocked First Aid/Medical Kit on every vehicle
   - Anti-septic Soap on the vehicle and at the designated parking office
   - Adequate Safety Equipment – Safety goggles or glasses with side splash protection
     Dust mask that fits over nose and mouth
     Clean rubber gloves
     Dedicated uniform with apron
     Work boots
     Battery operated torch

The criteria underlined are suggested as mandatory while others can be incrementally fulfilled over a period of 12 to 24 months, monitored during periodic review by the ULE.

The licensed operator shall be expected to:
- Should always carry a copy of the license and present the license to each household before beginning the cleaning service
- Only dispose the collected Septage/Faecal Sludge at the Treatment Plant
- Strictly adhere to safety and hygiene protocol as per the Operators Manual (to be notified soon)
- Follow the standard operating procedure as per the Operators Manual (to be notified soon)
- Keep a record of all desludging operations and regularly submit copies of Job Cards to the Municipal office as per the process detailed out in the Samithi Phulera Septage Management Plan

Sample Job Card Format

Name of the City Date Time 

1. Basic Information (must be completed by the septic tank emptier)
   a. Name of the company
   b. Address
   c. Contact number
   d. Contact person
   e. Email

2. Generation of septage (to be filled by households)
   a. Household name
   b. House number
   c. Contact number
   d. Address
   e. Date of collection

3. Information about the wastewater emptier (vehicle)
   a. Name of Operator(s) (Driver & Helper)
   b. Parental Name
   c. Vehicle Number

4. Acceptance of Septage by FSTP operator
   Name of the operator
   Date

5. Acceptance of Job Card by Samithi Phulera Municipal Council
   Date
   Signature of authorized official and title

The undersigned hereby certifies to the accuracy of the source and type of collected Septage identified above and subject to the manifest.
# Phulera – FSTP Progress

<table>
<thead>
<tr>
<th>Plant Capacity</th>
<th>Technology</th>
<th>CAPEX (Cr.)</th>
<th>OPEX (Cr.-5 Year)</th>
<th>Status</th>
<th>Date of Commencement</th>
<th>Date of Completion</th>
<th>Physical Progress</th>
<th>Financial Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 KLD</td>
<td>Unplanted Drying Bed</td>
<td>2.89</td>
<td>0.44</td>
<td>Construction Commenced</td>
<td>10.06.2018</td>
<td>09.03.2019</td>
<td>54.31%</td>
<td>24.29%</td>
</tr>
</tbody>
</table>

- **Store Room : BM Wall Works**
- **ISAF: centring shuttering for wall**
- **Sludge Drying Bed: Top View**
- **Labour Camp at Site**
- **Sludge Storage House**
- **Roof beam for SSH**
## Lalsot – FSTP Progress

<table>
<thead>
<tr>
<th>Plant Capacity</th>
<th>Technology</th>
<th>CAPEX (Cr.)</th>
<th>OPEX (Cr.-5 Year)</th>
<th>Status</th>
<th>Date of Commencement</th>
<th>Date of Completion</th>
<th>Physical Progress</th>
<th>Financial Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 KLD</td>
<td>Unplanted Drying Bed</td>
<td>3.97</td>
<td>0.42</td>
<td>Construction Commenced</td>
<td>20.09.2018</td>
<td>19.06.2019</td>
<td>41.68%</td>
<td>13.28%</td>
</tr>
</tbody>
</table>

- **Sludge Storage House**
- **Sludge Drying Beds**
- **Retaining Wall EF Section**
- **Planted Gravel Filter**
- **PGF & ISAF**
Summing Up

Commenced
- State FSSM Policy & Guidelines
- Fecal Sludge & Septage Management Plan
- Town Level FSM Reforms
- Setting up Sanitation Committee at ULBs
- Feasibility Study on co-treatment for three towns

On going
- Construction of Fecal Sludge Treatment Plants (FSTP)
- Setting up Sanitation Cell at ULBs
- Business Model for Cost Recovery
- Licensing of Private Operators for Desludging Operations

To be Commenced
- IEC Activities for Community Awareness and Participation
- Training and Capacity Building Program for Stakeholders
- Database creation for scheduled desludging
THANK YOU...