Piduguralla City Plan for Faecal Sludge & Septage Management (FSSM)

Implementation of GO 134

JUNE 2019

This document is developed with the aim to bring sanitation improvements in the city with specific focus on FSSM. It is prepared with support from Administrative Staff College of India (ASCI) led consortium of Ernst & Young (E&Y) and University of Chicago (UChicago), the technical support unit on FSSM to Swachh Andhra Corporation, Government of Andhra Pradesh.
PREFACE

The National Urban Sanitation Policy launched during 2008 envisages that all Indian cities 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.

The overall goal of National policy is to transform Urban India into community-driven, totally sanitized, healthy and liveable cities and city specific goals include:

- Awareness Generation and Behaviour Change,
- Open Defecation Free Cities,
- Integrated City-Wide Sanitation,
- Sanitary and Safe Disposal, and
- Proper Operation & Maintenance of all Sanitary Installations.

The national policy on Faecal Sludge and Septage Management (February 2017) envisages that every Urban Local Body should take effective measures for managing the Faecal Sludge generated in the city. In line with the National Policy the state Government of Andhra Pradesh released the “Faecal Sludge and Septage Management Policy” together with Operative Guidelines for Urban Local Bodies in Andhra Pradesh (G.O.Ms.No.134 dated 31/03/2017) with a vision to sustain ODF and achieve ODF Plus i.e. total sanitation. The state policy is prepared with support from Administrative Staff College of India (ASCI) led consortium of Ernst & Young (E&Y) and University of Chicago, the technical support unit on FSSM to the Government of Andhra Pradesh. The consortium is also proving support to the state government in operationalising the GO 134. This document identifies the existing gaps in FSM value chain for the city and provides for gender inclusive interventions ensuring that women, urban poor, and vulnerable groups and communities have an equal role in the design, management and monitoring of the FSM ecosystem.

This document highlights the current sanitation situation in the city across FSM Value Chain. It also details recommendations /near to long term action plans through the following sections:

A. FSSM Situation Analysis
B. Shit Flow Diagrams
C. Step by Step Approach for Operationalising Faecal Sludge and Septage Management
D. Being Gender Inclusive and Sensitive
E. Strategic Behavioural Change Communication (SBCC)
F. Non - Sewered Sanitation (NSS) Cell
G. Action Plan and Financial Investment Plan
A. FSSM Situation Analysis

Piduguralla Municipality 5th largest ULB in the Guntur District in A.P., it is spread over an area of 31.63 Sq.kms with a population of 63,103 (2011 census). Piduguralla Municipality is located 83 Kms from Capital City and 63 Kms from District Head Quarters. It was established as Nagara Panchayat in the year 2005 and now it is Grade-II (Second Grade) Municipality.

The table below shows FSM specific data for the ULB from Census 2011; data collected by the ASCI led consortium and the latest information available on the Swachh Andhra Corporation website as of end of June 2019.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameter</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of the ULB</td>
<td>Piduguralla</td>
</tr>
<tr>
<td>2</td>
<td>Population (Census 2011)</td>
<td>63,103</td>
</tr>
<tr>
<td>2a</td>
<td>Estimated Population (As of 2019)</td>
<td>67883.68328</td>
</tr>
<tr>
<td></td>
<td>Annual Population Growth Rate (%)</td>
<td>0.947</td>
</tr>
<tr>
<td></td>
<td>No. of Households (Census 2011)</td>
<td>15597</td>
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<tr>
<td></td>
<td>No. of Households (Census 2019)</td>
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<tr>
<td></td>
<td>Average Size of House Hold</td>
<td>4.045842149</td>
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<tr>
<td>3</td>
<td>IHHT coverage for HHs as per census 2011</td>
<td>87%</td>
</tr>
<tr>
<td>4</td>
<td>Total No. of ODF vulnerable points</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>No of Households dependent on Community Toilets/Public toilets</td>
<td>0</td>
</tr>
<tr>
<td>5a</td>
<td>No of Men Dependent on Community Toilets/Public toilets</td>
<td>0</td>
</tr>
<tr>
<td>5b</td>
<td>No of Women Dependent on Community Toilets/Public Toilets</td>
<td>0</td>
</tr>
<tr>
<td>5c</td>
<td>No of CHILDREN (below 12 yrs age) dependent on Community Toilets/Public toilets</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Floating Population (consider as per SBM if no data is available)</td>
<td>1500</td>
</tr>
<tr>
<td>7</td>
<td>Total No of Community Toilets in the town</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Total No of Seats in Community Toilets</td>
<td>0</td>
</tr>
<tr>
<td>8a</td>
<td>Seats for Men</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Seats for Women</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Seats for Children</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Seats for Divyang</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Availability of Ramp</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Gender Segregated Entrances</td>
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</tr>
<tr>
<td>9</td>
<td>Total No of Public Toilets in the town</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Total No of Seats in Public Toilets</td>
<td>31</td>
</tr>
<tr>
<td>10a</td>
<td>Seats for Men</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Seats for Women</td>
<td>13</td>
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<td></td>
<td>Seats for Children</td>
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<tr>
<td></td>
<td>Seats for Divyang</td>
<td>0</td>
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<td></td>
<td>Availability of Ramp</td>
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<tr>
<td></td>
<td>Gender Segregated Entrances</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Total No of Municipal Schools</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Toilets constructed under Swachh Bharat Mission (2014 to till date)</td>
<td>1487</td>
</tr>
<tr>
<td>12a</td>
<td>IHHTs constructed since 2014</td>
<td>1483</td>
</tr>
<tr>
<td></td>
<td>No. of CTs constructed since 2014</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Public Toilet PTs constructed since 2014</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>No of ULB owned and Operated Desludging Trucks (septic tank TRUCKS owned by ULB)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No of Privately Operated Desludging Trucks giving their service in the city/town area</td>
<td>1</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>15</td>
<td>No. of Privately operated desludging trucks that have been registered and license is issued by municipal authorities</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Average Price Charged for Desludging PER TRIP</td>
<td>3000</td>
</tr>
<tr>
<td>17</td>
<td>Average no. of trucks of faecal sludge collected each day</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>No. of Insanitary (human excreta being discharged to open drains and water bodies) Toilets</td>
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<tr>
<td>19</td>
<td>Budget allocation for O&amp;M of Community Toilets (as per municipal budget book)</td>
<td>0</td>
</tr>
<tr>
<td>19a</td>
<td>Year 1</td>
<td>Year 2</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
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<tr>
<td>20</td>
<td>Sludge Generation (KLD)</td>
<td>43.37013098</td>
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</tbody>
</table>

**A1-Containment:**

**Individual House Hold Toilets:** The coverage of individual household toilets in the ULB as per Census, 2011 was 87%. However, since the inception of Swachh Bharat Mission (SBM), which was launched on 02nd of October 2014, Govt. of Andhra Pradesh’s rapid and tireless efforts to eliminate open defecation in urban areas across the state resulted in construction of 1483 individual household Toilets out of 1838 eligible SBM applications in the town thereby increasing the IHHT coverage.

**Community Toilets (CT):** Currently, there are no community toilets in the ULB. Requirement for new CTs will be assessed by the ULB and constructed to avoid any slippage. At the same time, these toilets will be retrofitted/provided with, in case not available, gender segregated entrance, hand wash stations, universal access toilets, railing and ramp etc. as per the standards mandated by Swachh Andhra Corporation (SAC). Additional requirement for community toilets shall be estimated as per standard norm of having one seat for 35 men and one seat for 25 women. The operation and maintenance (O&M) of all the community toilets will be either outsourced to private organization or will be undertaken by ULB. In either case, these community toilets will be supervised by the ULB so that the service level standards will be strictly adhered to.

**Public Toilets (PT):** Currently, there are 04 public toilets in the town to cater to the floating population. Currently, these Public toilets have total number of 31 seats, with 18 seats for men and 13 seats for women. At the same time all of these toilets will be retrofitted/provided with, in case not available, gender segregated entrance, hand wash stations, universal access toilets, railing and ramp, etc as per the standards developed by ASCI led consortium and mandated by SAC. Additional requirement for public toilets shall be estimated as per standard norm of having one seat for 250 men and one seat for 200 women. The operation and maintenance of all the public toilets will be outsourced to private operators.

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1 Source: SAC dashboard, accessed in June 2019
organizations on pay-and-use model. ULB will supervise the O&M of all the public toilets and ensure that feedback machines, Menstrual Hygiene Management facilities, presence of caretaker, and all other service level standards will be strictly adhered to.

**Open Defecation & Open Urination:** Despite high coverage of individual toilets, CTs and PTs after implementation of Swachh Bharat Mission, there is a possibility of ODF slippage in 03 vulnerable spots owing to complex behavioural issues among these communities in the city. ULB will study the detailed reasons for OD practice, if occurs and take corrective measures towards sustaining ODF.

**Exclusive Toilets for Women:** Lack of gender segregated entrance, poor O&M of CT/PT, and lack of Menstrual Hygiene Management (MHM) facilities in the public and community toilets could possibly lead to slippage among women. In this context, the feasibility of constructing SHE toilets will be investigated by the gender subgroup2 under City Sanitation Task Force (CSTF). SHE toilet usually provides facilities such as western style toilet seats, a wash basin, a napkin-vending and incinerator unit, voting machine (for feedback on the cleanliness of the toilet), a baby feeding and diaper changing stations to give nursing mothers the much-needed privacy.

**Insanitary Toilets:** Even though there is good coverage of Individual Household toilets in the city, some of them may not be scientific resulting in the wastewater from toilets flowing directly into the open drains. These septic tanks do not qualify the definition of a hygienic toilet as set by both World Health Organization and Central Public Health and Environmental Engineering Organization. Not just eradicating the OD and sustaining it, it is also highly important to identify all the insanitary toilets and take appropriate actions in order to convert them into sanitary toilets. ULB will explore the options that extend financial support for the conversion of insanitary toilets to sanitary toilets.

**A2-Emptying and Transport:**

Overall, approximately 43.40 KLD of Septage is generated by population in the ULB. The town has no ULB operated trucks and 01 private operated desludging trucks. At present, the cleaning cycle varies based on the size of the tank and pit, which typically varies from 6 months to 8 years. The sludge emptied from the septic tanks of households is dumped in the open fields and open environment.

In general, only 1 desludging operations take place in the town daily i.e. about 03 KL of faecal sludge is being collected. It is also to be noted that the operators may not use any personal protective equipment till recent times due to lack of awareness on the health impacts. It is direct violation of the Prohibition of Employment as Manual Scavengers and their rehabilitation Act 2013 issued by the Supreme Court of India.

At the same time, a private operator charges Rs. 3000 per trip from their customers depending on the complexities involved in emptying. Therefore, it is explicit that the emptying and transportation operations in the city are demand based, unregulated and

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2 The role and functioning of CSTF gender sub-committee under section 1F.NSS Cell
3 Based on the studies carried out by the TSU team
4 Average size of the cesspool truck in ULBs is 3 KL
expensive. So, it is important that the financial viability of scheduled desludging\(^5\) is to be explored for the city with the licensed desludging operators in the city as per the G.O.Ms.No.134.

**A3-Treatment and Disposal/Re-use:**

Currently, as there is no faecal sludge treatment facility available in the city. The sludge emptied from the septic tanks of households is indiscriminately being disposed into natural storm water drains, agricultural fields and open areas in the periphery of the city. Such practice could cause serious health hazards especially diarrhoea and intestinal infections and also typhoid, cholera, hepatitis, polio, trachoma and other diseases that are transmitted through faecal pathogens via water.

A Faecal Sludge Treatment Plant (FSTP) of 15 KLD capacity is proposed in the ULB to scientifically treat the faecal sludge and septage currently being collected in the city.

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\(^5\) Scheduled desludging is described as a system of regular and periodic collection of faecal waste.
B. Shit Flow Diagrams

An excreta flow diagram (also often described as shit flow diagram, SFD) is a tool to readily understand and communicate visualizing how excreta physically flow through a town or city. It shows how excreta is contained or not contained as it moves from defecation to disposal or end-use, and the fate of all excreta generated. Below SFD shows the improved situation over the years because of state and city active interventions:

Shit-Flow Diagram of Piduguralla town

Source: ASCI - Nov 2017
C. Step by Step Approach for Operationalizing Faecal Sludge and Septage Management

Assessing service performance across each link in the sanitation value chain through a city level assessment shall always be the first step in planning process. The sanitation value chain considers the following 5 stages:

As policies and regulations already exist for ensuring toilet access, these operative guidelines focus on the last four stages of the value chain: collection and/or storage, transportation, treatment, and disposal or reuse.

The first step that ULB will undertake w.r.t to Collection is to assess all existing toilets and containment facilities in order to create a comprehensive database. Steps are listed below:

City level assessment of coverage of toilet and on-site sanitation facility using the existing database (like property tax module) or based on recent survey carried out under Swachh Bharat Mission (SBM).

The ULB will analyse data available on Census 2011 and Swachh Bharat Mission’s database to create city-specific database on toilet availability, type of toilet, data on toilet usage, patterns of slippage, containment typology (septic tank, pit latrine, soak pit, etc.), and its connection with waste water outlet. In absence of this data, the ULB shall gather information on the same. This information will be linked with property tax databases on e-governance platform. While this evaluation may require an extended timeline, ULB will develop a plan and timeline to be shared with and monitored by the state government.

ULB will keep updated database related to toilet availability and on-site sanitation through property tax assessment survey carried out from time to time.

ULB will evaluate existing containment units and other storage/treatment systems and modify (in case of variation) based on design mentioned in Annexure 1 of G.O.Ms.No.134 dated 31/03/2017.

Notices will be issued to all property owners whose containment facilities do not meet the standard septic tank design. National/state aid may be sought in order to financially support the conversion of non-scientific containment systems into sanitary toilets within a time frame of 45 to 60days from the date of issuing notice.

Identify insanitary toilets and convert them to sanitary latrines for safe collection and disposal of waste as per norms set out in Annexure 2 G.O.Ms.No.134 dated 31/03/2017.

All existing containment facilities will have access covers for each chamber, so that they can be easily opened during emptying process. Where such covers are not available, it will be made compulsory for all property owners to provide proper covers.

Pursuant to the previous four steps, ULB will take efforts to build the capacity of masons and builders to teach them how to construct proper toilets and refurbish improper already-built containment units. Details regarding the codes that will be followed are included in the next item.

As per G.O.Ms.No.134 dated 31/03/2017, ULB will undertake the following tasks w.r.t. Transportation, as currently these services are largely unregulated:

- Regulate operators by establishing a system of licensing, which will facilitate the enforcement of health and safety standards and the prevention of open dumping;
- Design a plan to conduct a system of scheduled emptying in which every containment facility is emptied at least every three years (with more frequent emptying for public accommodations, community/public toilets, and the like). This scheduled emptying will be contingent on having completed a detailed survey of individual containment facilities, and so may not be operationalized immediately; nevertheless, ULB shall develop plans to do so.
- Determine how many households use on-site containment systems and ascertain how much sludge they can contain in order to determine the amount of sludge that will be emptied every year (presuming a three-year emptying cycle for individual households and more accelerated cycles on an as-assessed basis for public and commercial facilities).
- Determine how many septic tanks /pits are emptied annually and what volume of sludge is disposed of at present by looking at actual on-ground practices.
- Determine the average price per emptying (and accounting for how it may differ based on volume and containment facility location) that operators are charging through Focus Group Discussions (FGD’s), and desludging research studies.
- Use the above data to determine as to how many trucks would be needed if septic tanks were emptied on a three-year basis and design a database for maintaining a register of containment facilities that are emptied.
- Create a registration system for private truck operators which permit them to legally empty septic tanks within the ULB. However, these permits will require that they adhere to safety and hygiene standards both in emptying and disposal (detailed below), establish certain regulated tariffs for emptying septic tanks and latrines, and require the use of receipts to track emptying and disposal. The permits and receipts required for this system are included in Annexure 3, 4, and 5 of G.O.Ms.No.134 dated 31/03/2017.
- Pursuant to this, ULB will establish a system for penalizing trucks that operate without valid permits/licenses.
- ULB will mobilize enough vehicles, either through public or private means, to support a three-year emptying system. This will be done in line with the growth in demand for emptying services, so that trucks are not left underutilized.
- ULB will extend financial schemes related support to desludging operators to fund their capital expenditure (CAPEX) and, Capital maintenance expenditure (CAPMANEX) which is the cost of repairing,
renewing, and replacing, refurbishing or restoring assets to ensure that desludging services continue to meet desired performance.

ICT tools will be used to monitor the FSM operations continuously.

At the same time, ULB will ensure that truck operators adhere to the following standard operating procedures while desludging:

- The septic tanks are not be emptied fully; Leaving small amount of sludge of around 1 to 2 inches in the septic tank to facilitate decomposing of incoming faecal waste.
- No fire or flame be used near the septic tanks as there may be inflammable gases inside septic tanks.
- Proper safety gear (including uniform, tools, and well-maintained vehicles) be used by the operator while desludging/emptying the septic tanks/Pits.
- Operators to clean the surroundings before leaving or after desludging so that residents not find their homes or surroundings dirty.

There are different technologies available for establishing Faecal Sludge Treatment Plant (FSTP) such as the plants established in Narsapur in Andhra Pradesh and Devanahalli in Karnataka.

W.r.t. Treatment, Disposal, and Reuse, ULB shall take the following steps in order to properly treat faecal sludge:

- ULB will not dispose the faecal sludge/septage collected from septic tank/pits without any treatment and ULB will comply with CPCB and APPCB norms before disposal of septage.
- ULB will assess the load of septage and assess the requirement of capacity for treatment plant. ULB will first try and

assess the possibility of setting up faecal sludge treatment facilities.

Reuse/disposal refers to the methods in which products are ultimately returned to the environment, as either useful resources or reduced-risk materials. The treated septage can be used as a soil enricher or as filling material at construction sites. ULB will carry out primary assessment for availability of market and demand for reuse.

Operators shall be forbidden by regulation to dispose-off sludge collected from the septic tanks or pits into fields, rivers, nalas, forests, etc. These regulations shall be enforced and violation shall be subject to advertised financial and/or legal penalties. These penalties will come into force as soon as there is a sanitary location for dumping faecal sludge.

ULB will first assess the possibility of sludge treatment at existing STP in the city or STP of nearby city through appropriate agreements with STP operators and receiving ULB. Similar to the cities like Tirupati and Anakapalli that have started making design changes to their STPs for co-treatment, proper tests and assessment will be carried out by STP operators before receiving faecal sludge/septage.

If STP is not feasible/available in the city or nearby that can receive the sludge, then ULB will plan for new faecal sludge treatment facility. Such a new faecal sludge treatment plant will be designed to cater to expected volumes of septage generated in urban local body and if faecal waste is expected from nearby rural areas or ULBs.

Input quality of the collected septage will be tested at the treatment facility for

gear that should be used while providing these services

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6The rules under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 provide for a comprehensive list of safety
checking presence of any metal or traces of industrial waste.

- The faecal sludge treatment plant will be operational during working hours only and a responsible person will be appointed in the facility to ensure that no industrial waste is unloaded in these facilities.

- Septage will be reused/disposed of only after it meets the parameters in Annexure 6 of G.O.Ms.No.134 dated 31/03/2017.

Steps to be taken w.r.t. identifying site for Faecal Sludge Treatment Plant:

- **Distance of treatment site:** Distance from emptying to delivering and accessibility of the treatment site are major issues. The transport of relatively small faecal sludge volumes on congested roads over long distances in large urban areas is financially unfeasible. A site that is too far away implies fewer trips per day, less revenue and more fuel costs to private operators.

- **Reliability of electricity:** It is also important to assess the availability and reliability of electricity (three phase connection) if treatment technology has mechanical operated parts; as in case of fluctuations it will increase treatment time and will affect optimal utilization of treatment capacity.

- **Neighbourhood:** A treatment site may generate objectionable odours. For this reason, it will be located at an appropriate distance from the residential areas and communities will be consulted during the process of designating land for a treatment plant.

- **Land availability:** Projects are often delayed because of non-availability or high price of land. ULB will identify the land bank for treatment facility. ULB will also explore the possibility of developing faecal sludge and septage treatment facilities near solid waste dumping sites or already existing sewage treatment plants in order to streamline disposal processes: effluent from FSTPs may be treated at an STP, and the treated sludge may be co-composted with solid waste.

**Geological Parameters:** Assessment of existing geological conditions on site including groundwater table, type of soil, flooding risk is always recommended to ensure that the structure can be safely constructed and sludge will not enter the environment through either porous soil or frequent floods.

W.r.t. Awareness generation and capacity building activities:

- **Awareness generation for residents:** Members of Resident Welfare Associations, community organizers, self-help groups and the general public will be sensitized periodically regarding the need for a safe faecal sludge management system including a 3-year desludging cycle. The health hazards associated with improper collection and treatment of waste, and the ill-effects of sewage discharge into fresh water/storm water drains will be explained to the residents. Sample material for awareness generation is in Annexure 5 of G.O.Ms.No.134 dated 31/03/2017. Awareness generation activities will be carried out at the beginning of introducing a scheduled service in all wards and then repeated periodically over the three-year cycle.

- **Capacity building for municipal staff:** Municipal Commissioners, Engineers, Health Officers, Sanitary Inspectors, and Sanitary Workers will be well trained in safe septage management and its best practices. This involves regular training sessions on safe collection, treatment and disposal. Information regarding standard septic tank design, the need for periodic inspection and desludging of septage, design of a treatment facility, tender
details for engaging licensed transporters, etc. will be disseminated widely to achieve a safe faecal sludge management system. Training will also be provided on safety standards.

**Capacity building for septage transporters/private vendors:** ULB will ensure all safety norms are clearly explained to the septage transporters. Private Operators and Transporters will be well trained in safe collection and transportation of sewage including vehicle design, process of desludging, safety gears and safe disposal at the nearest treatment facility.

**Gender Inclusivity:** It is crucial that ULB look at faecal sludge management through a lens considering gender, particularly concerning the empowerment of women and girls. Women will be equitably involved in the planning of faecal sludge management activities or the formation of local regulations, and any CSTF or sub-committee that discusses faecal sludge management will have a membership consisting of at least one-third women, at minimum.

**W.r.t. Record-keeping, Reporting, Monitoring and Feedback Systems (MIS), ULB shall consider below steps:**

- Recordkeeping requirements will be codified into the law governing the program. A sample manifest form is detailed out in **Annexure 5 of G.O.Ms.No.134 dated 31/03/2017**.
- The completed document or documents with signatures of the household/property, suction truck operator, and treatment plant operator will be submitted to the local government for their records. These documents would validate that the sludge collected from households is disposed of at proper treatment facilities.
- A database system such as the one discussed in access and collection will need to be developed and maintained.
- Where possible, GIS will be used to plan the route of suction emptier trucks and track emptying trucks for regular record keeping.
- Consumer grievance redressal system (PuraSeva) for faecal sludge management will be set up as part of ULB’s record keeping systems. An FSSM helpline number (different from the one set up by SAC) will be shared with residents.
D. Being Gender Inclusive and Sensitive:

Women are most often the users, providers, and managers of water and are the guardians of household hygiene. Studies reveal that when a water system breaks down, women, not men, will most likely be the ones most affected, for they may have to use other means to meet the household’s water and sanitation needs. Poor sanitation facilities for girls/women results in higher maternal mortality rates, and poor reproductive health. Hence, Women have a strong incentive to acquire and maintain improved water & sanitation facilities. So, it is important to collect gender segregated data on toilet usage, women headed households and understand sanitation vulnerabilities.

Women are also the key players in implementing improved hygiene behaviours. Because of these different roles and incentives, it is important to fully involve women in sanitation planning and decision making through forums like Gender Resource Centre, Gender Subgroup under CSTF etc so that public facilities can be user-centric with special focus on women, old, children and differently-abled. Ensuring that women and girls have an equal role in the design, management and monitoring of the sanitation ecosystem can be a strategic gender-mainstreaming practice that empowers women and girls while improving WASH outcomes in turn contribute to progress towards gender equality.

As WASH and gender equality are represented in Sustainable Development Goals (SDGs) 6 and 5, respectively, encouraging women entrepreneurs in sanitation, and ensuring sufficient budget allocation for gender mainstreaming contribute to the achievement of other sectoral goals across the development agenda.

At every stage, conscious efforts will be made to include gender related aspects in the city sanitation plan. This means looking particularly at the needs of women as well as vulnerable groups (demographically vulnerable, disabled, elderly and the needs of children). Due to limited data availability on several indicators developed for gender lens, few sections within water supply and access to toilets sectors, participation of women in CSTF meetings etc. The following aspects shall be included in the CSP/FSSM plan after carrying out thorough research studies, surveys and stakeholder interviews in future and hence these shall be part of the action plan for the ULB’s CSP:

- Women or children or elderly involved in fetching water from public taps/wells.
- Average quantity of water carried for non-potable purposes including sanitation
- Issues faced by women/relevant groups in collecting water
- Level of access to household toilets among women, children, men and elderly/differently-abled
- Level of access to community toilets among women, children, men and elderly/differently-abled
- Level of access to public toilets among women, children and elderly/differently-abled
- Waiting times for use of IHHL or public sanitary conveniences
- Barriers to usage of IHHL or public sanitary conveniences
- Requirement of SHE toilets in the city
- Design integration in public sanitary conveniences for better accessibility and usage
- Slippage related to ODF - Frequency of incidence across all gender
- Issues that women PH workers
Insights on sanitation related diseases/common vectors/gender numbers on incidence
Homeless and their access to public toilets
Manual scavengers/drain cleaners and their rehabilitation
No. of latrine sanctions (SBM) issued to women
No. of seats available for differently-abled in public sanitary conveniences

Key MHM performance indicators are:
No of trainings/orientation programmes organised on MHM
ULB guidelines/plans developed and delivered to all schools
Percentage of IEC budget earmarked and utilised for MHM
Key IEC materials identified/adapted and shared with schools including private schools

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**Effective Menstrual Hygiene Management Framework**

- Access to, Knowledge and Information
- Access to safe menstrual absorbents
- Water, sanitation and hygiene infrastructure
- Access to safe disposal of used menstrual absorbents

**Results in:**
- Dignity for adolescent girls and women
- The ability of adolescent girls to stay in school during menstruation

**Societal, community, family and individual awareness**
**Informed and trained support for girls and women**
**Supportive policies, guidelines and behaviors**

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Sensitization of girls in high schools to safe menstrual hygiene practices
Percentage of women in ULB workforce across various levels
Maternity benefits to permanent/contractual PH workers

Menstrual hygiene is fundamental to the dignity and well-being of women and girls and an important part of the basic hygiene, sanitation and reproductive health services. Ensuring effective Menstrual Hygiene Management will result in women’s health, nutritional status and well-being, as well as their school enrolment and retention, potentially conferring long-term health, social, and economic benefits. In light of this, the ULB will undertake necessary measures to ensure effective Menstrual Hygiene Management in the city.

Below indicators on MHM in schools are monitored with feedback:
- Percentage of schools with separate functional toilet block for girls
- Percentage of schools implementing MHM education with adolescent girls as a part of curriculum
- Percentage of schools with MHM focal point teachers trained on MHM and the use of IEC material
- Percentage of schools that have formed adolescent councils to discuss MHM issues
- Percentage of schools with incinerators/facilities for disposal of menstrual waste
- Percentage of schools that stock/have provisions for sanitary napkins.
E. Strategic Behavioural Change Communication (SBCC):

At present, there are very few IEC campaigns aimed at creating awareness on FSM and mainstreaming gender and bringing about behavioural change amongst stakeholders in the city. These IEC campaigns are done through preparation of IEC material and dissemination of messages. SBCC differs from an IEC campaign in that it places the focus on effecting a change in the existing behaviour or inculcating new ones rather than merely focussing on dissemination of messages. The objective, expected outputs, and the focus area of SBCC campaign is presented below: The outputs, as described in the above fig., will result in creating the supportive environment for successful behaviour change to happen. These steps will translate into specific campaigns that support targeted IEC campaigns addressing specific behaviours in FSM and gender inclusion. This will involve

Strategic Behavioral Change Communication (SBCC): Overall Purpose

**OBJECTIVE**

ULB level strengthening to enable design, implementation, and evaluation of impactful social and behaviour change communication (SBCC) on FSM and Gender inclusion

**OUTPUTS**

- Identifying and understanding gaps in the septage management in the ULB based on the baseline data.
- Behaviour Change Studies and Mapping of target population
- Preparation of Communication Strategy and Action Plans
- Preparation and Testing of Communication Material
- Financial assistance in Roll-out of Communication Campaign in the ULB
- Impact Assessment Studies for the above.

**FOCUS AREAS**

- To prevent slippage of ODF in the town.
- Conversion of insanitary toilets to sanitary toilets.
- Scheduled Desludging of Septic Tanks.
- Training of Masons/Plumbers.
- Usage of Personal Protective Equipment for Sludge Operators.
- Occupational Safety, an introduction for the Government officials and the sanitary workers
- Safe Disposal of Septage at Faecal Sludge Treatment Plant for Sludge Operators.
- Building Regulations for households, for contractors and for the ULBs.
- Importance of gender resource center.
- Menstrual Hygiene Management.
- Proper Hygiene at Schools.

Inculcating new ones rather than merely focussing on dissemination of messages. Strategic Behaviour Change and Communications (SBCC) component, which ULB will employ, seeks to address the issue of behaviour change through a range of approaches, of which communication campaigns, targeted at appropriate segments, is an important part.

Communication through media platforms and other forms such as workshops, FSM conferences, etc. Besides, these campaigns will emphasize on incorporating gender lens to deal with the taboo / stigma around the participation of all genders. ULB will devise SBCC campaigns to improve the perceptions on menstrual and reproductive health of women, and women workers and stakeholders in the FSM value chain.
ULB will ensure SBCC campaigns will also incorporate nudges\(^7\) where appropriate. The nudges will be in the form of interactive experiences, created to facilitate behaviour change. The idea behind using nudges will be to make the ‘new behaviours’ a part of the individual’s or community’s ‘unthinking behaviour’, so much so that the changed behaviour happens on autopilot – which, incidentally, is what a BCC campaign really wants.

The ULB’s SBCC campaigns will address a wide constituency of engineers, city administrators, policymakers, and citizens. This will require exposure to, and the cultivation of credibility about the new Septage management systems as viable and desirable. This will be achieved through exposure visits to other cities and countries, as well as strong audio-video material to powerfully communicate gender related issues, MHM, school sanitation and effective FSM in the city.

**F. Non-Sewered Sanitation (NSS) Cell:**

In order to achieve the stated objectives in the vision, Non-Sewered Sanitation Cell will be established by the ULB. NSS cell consists of a three-member team comprising assistant engineer/EE, IT engineer/MIS Officer and sanitation officer for effective implementation of FSM in the city.

This cell would be responsible for:

- Planning, designing, implementing and monitoring NSS/FSM related interventions for enhancing overall sanitation.
- Initiating actions for sustaining ODF status
- Promoting pro-poor and inclusive sanitation strategies
- Managing FSSM Helpline that will be established at the ULB

\(^7\)A nudge is a technique used by choice architects in order to change someone’s behaviour in a very easy and low-cost way, without reducing the number of choices available. We often see it described as “non-enforced compliance”.
Facilitating procurement of goods and services in support of stated interventions
Implementation of regulations and tracking Service Level Agreements
Coordinating City Sanitation Task Force (CSTF) meetings and monitoring implementation of city sanitation plan (CSP)
Implementation of the recommendations made by CSTF
Developing the financial operating plan for NSS and advocate for budgets
Organizing capacity building of stakeholders by engaging specialized agencies/ institutions
Advocacy of safe sanitation practices through public consultations and behaviour change communication campaigns.

NSS/FSM cell will coordinate agreed activities on a day to day basis and report the progress that will be achieved to the Commissioner on a weekly basis. The minutes of meeting will be submitted to the office of Municipal Commissioner.

Roles and Responsibility of CSTF:
The first goal of a City Sanitation Task Force is to oversee the development of a “City Sanitation Plan” (CSP), if a ULB does not already have one. Once a CSTF exists, a nodal officer should be appointed for the coordination between the City Sanitation Task Force and the ULB with regards to the development of the City Sanitation Plan.

CSTF meetings should be held on a regular basis, during which status reports on progress in developing the CSP should be provided. During this process, City Sanitation Task Force members should actively solicit the view of city residents in order to create the best possible plan.

While ULB councils will provide the final binding approval for a CSP, the approval of the CSTF is a prior necessity. Once a City Sanitation Plan is passed, the CSTF’s duties shift to monitoring and assisting with the implementation of the CSP. This includes the following elements:

- Coordinating and managing the implementation of sanitation programs on a city-wide basis
- Generating awareness of the City Sanitation Plan and its concrete subcomponents by developing IEC campaigns
- Supporting the ULB’s planning process and facilitating the collection of relevant sanitation-related demographic and infrastructural data
- Monitoring the progress of CSP implementation and providing inputs and feedback to ULB on the progress of CSP implementation
- Planning and coordinating capacity building and training exercises (or attendance at out-of-city events) conducted by various state and national agencies

How should a CSTF function?
A well-functioning CSTF should meet at least once a month during the beginning of its existence in order to gather momentum and set the agenda; thereafter, it should meet at least once every two months. The same nodal officer deputized to spearhead the CSP process will be responsible for organizing and coordinating CSTF meetings.

One week before every City Sanitation Task Force meeting, the ULB should send invitation letters with an attached agenda to all CSTF members. These letters should share the knowledge of all sanitation progress that has happened since the last meeting and communicate expectations and goals from the planned meeting.
Minutes of the meeting should be circulated within a week of every meeting clearly summarizing all the CSTF’s discussions, decisions, and action points. In addition, the minutes should assign responsibilities to CSTF members or ULB officials as needed to ensure sanitation goals are met.

In addition, after the meeting, an “Action Taken Report” should be prepared as well detailing the accomplishments that have been achieved since the last meeting. This report should compare the accomplishments to commitments made at the previous meeting and note the reason for a shortfall, if any exists.

**Gender Subcommittee Role:**

It’s crucial for the CSTF to look not only at city sanitation through an infrastructure or public health lens, but also from a standpoint of gender equity and empowerment of women by focusing on four aspects through Gender Subcommittee:

1. **Equitable access to public and community toilets:** All CTs and PTs should, wherever possible, be gender-segregated and possess separate entrances for men and women. Inside the toilet, conditions should be equitable in each section.

2. **Ensuring the availability of adequate hygiene facilities for boys and girls at schools:** All schools – both primary and secondary – should possess separate toilets for boys and girls. Additionally, secondary school girls’ toilets should provide menstrual hygiene facilities and information.

3. **Menstrual Hygiene Management:** The subcommittee should focus on IEC activities related to MHM more broadly, not only in schools, but in all parts of the community. This may involve putting incinerators and dispensers in the women’s section of PTs and CTs if it’s appropriate or needed for a community.

4. **Ensuring women’s voices are heard:** In some ULBs, it may be the case that the majority of loud or influential voices are men’s voices. However, men are only part of the population – the gender subcommittee should ensure that the voices, opinions, and insights of women are taken into consideration for all decision making.
### G. Action Plan and Financial Investment Plan:

<table>
<thead>
<tr>
<th>Action Point</th>
<th>Description</th>
<th>Immediate (within 1 year)</th>
<th>Short Term (2-3 Years)</th>
<th>Medium Term (3-5 Years)</th>
<th>Long Term (5-10 Years)</th>
<th>Total (in Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction of community toilets for HHs with no place for construction of SBM IHHL</strong></td>
<td>Conduct study to assess the demand for new community toilets</td>
<td>Lump Sum Rs. 5,00,000</td>
<td>Based on the results of the study</td>
<td>Based on the ULB requirement</td>
<td>Based on the ULB requirement</td>
<td>0.05</td>
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<tr>
<td>Construction of new community toilets</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Operation and Maintenance of community toilets</td>
<td>Cost for O&amp;M of one CT unit is Rs. 8000</td>
<td>Total O&amp;M Cost is Rs. 26,88,000</td>
<td>Total O&amp;M Cost is Rs. 40,32,000</td>
<td>Total O&amp;M Cost is Rs. 67,20,000</td>
<td>1.48</td>
<td></td>
</tr>
<tr>
<td><strong>Construction of PTs for floating population</strong></td>
<td>Conduct study to assess the demand for new public toilets</td>
<td>Lump sum Rs. 3,00,000</td>
<td></td>
<td></td>
<td></td>
<td>0.03</td>
</tr>
<tr>
<td><strong>School Toilets</strong></td>
<td>Construction of New PTs</td>
<td>Based on the results of the study</td>
<td>Based on the ULB requirement</td>
<td>Based on the ULB requirement</td>
<td>Based on the ULB requirement</td>
<td>To be estimated</td>
</tr>
<tr>
<td>Infrastructure development and construction of new toilets in schools</td>
<td>Conduct a study on the infrastructure gaps and the requirement for building new toilets</td>
<td>Based on the study and requirement</td>
<td>Based on the study and requirement</td>
<td>Based on the study and requirement</td>
<td>Based on the study and requirement</td>
<td>To be estimated</td>
</tr>
</tbody>
</table>

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8 Action Plan and Financial Investment Plans (based on current value) have been prepared with an objective of taking the city towards becoming a model sanitation city and in line with the national and global best practices.

9 The city can identify sources of fund as appropriate.
<table>
<thead>
<tr>
<th>Action Point</th>
<th>Description</th>
<th>Cost in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Immediate (within 1 year)</td>
</tr>
<tr>
<td><strong>MHM in Municipal High Schools</strong></td>
<td></td>
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<tr>
<td></td>
<td>Establish MHM equipment in the relevant schools</td>
<td>Estimated cost for the study – Rs.3,00,000</td>
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<tr>
<td></td>
<td>City level MHM training and workshops – Rs.50,000 per annum</td>
<td>City level MHM training and workshops – Rs.50,000 per annum</td>
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<tr>
<td></td>
<td>Expense on sanitary pads per annum – Rs.1200 per girl student</td>
<td>Expense on sanitary pads per annum – Rs.1200 per girl student</td>
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<td></td>
<td>MHM equipment for High Schools - Rs.50,000 per school</td>
<td></td>
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<tr>
<td></td>
<td>Conversion of Insanitary toilets to sanitary toilets</td>
<td>Number of insanitary toilets- Study to be conducted – Rs.5,00,000</td>
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<tr>
<td></td>
<td>Cost for construction of one septic tank – Rs.7,000</td>
<td></td>
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<td></td>
<td>Establishment of FSTP (Co-treatment at existing STPs be explored)</td>
<td>Construction cost Rs. 1 Cr - 1.5 Cr (Based on technology and capacity)</td>
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<td></td>
<td>O&amp;M Cost per annum - Rs.10,00,000</td>
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<tr>
<td>Action Point</td>
<td>Description</td>
<td>Cost in Rs.</td>
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<tr>
<td></td>
<td>Immediate (within 1 year)</td>
<td>Short Term (2-3 Years)</td>
</tr>
<tr>
<td>Gender Inclusivity</td>
<td>Build capacities of key stakeholders to monitor Faecal Sludge Management</td>
<td>Total cost is Rs.1.1-1.6Cr</td>
</tr>
<tr>
<td></td>
<td>IEC and capacity building activities Rs 7,50,000 per annum</td>
<td>Total Cost is Rs15,00,000</td>
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<tr>
<td></td>
<td>Detailed study to be conducted and develop action plan for data gaps identified under gender inclusivity</td>
<td>One time cost for study- Rs. 15,00,000</td>
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</table>