FAECAL SLUDGE MANAGEMENT
Sircilla, Telangana

Sircilla is the district headquarters for the district Rajanna Sircilla in the state of Telangana. Like 85%+ towns and cities in India*, Sircilla does not have a centralized sewage conveyance and treatment system. Households are dependent on on-site sanitation systems like septic tanks, single pits, and twin pits for disposing the waste from their toilets.

Until recently, the onsite sanitation systems were desludged, on demand, by privately run cesspool vehicles. The collected sludge would then be disposed off indiscriminately in fields, vacant lands and water bodies - leading to contamination.

About Sircilla

<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
<th>Households</th>
<th>Access to toilets</th>
<th>Underground Drainage System</th>
<th>Septic Tanks/Pits Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>130 kms north of Secunderabad</td>
<td>75,640*</td>
<td>22,401*</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

In February 2019, Sircilla was declared Open Defecation Free (ODF) - the second city in Telangana to get this status after Warangal. This effort helped the town receive the Cleanest City in South Zone (>50 K - 1 L) Award in the Swachh Survekshan 2019 Awards organised by The Ministry of Housing & Urban Affairs (MoHUA), under the aegis of Swachh Bharat Mission – Urban (SBM–Urban). To further improve sanitation in the town, the ULB is now working towards effective implementation of Faecal Sludge Management.

(*according to Census, 2011)
How Sircilla implemented FSM

In 2016, Sircilla was one of the towns selected by the Government of Telangana for preparation of a City Sanitation Plan (CSP); and GIZ was appointed (by the Commissioner and Director of Municipal Administration) to lead efforts. In March 2017, the City Sanitation Plan was finalized, through a local multi-stakeholder committee; the plan recommended FSM as a key solution to tackle liquid waste management.

The Municipality took up FSM as a key priority and formally engaged CDD Society to provide consultancy services to design and support the construction of a Faecal Sludge Treatment Plant (FSTP) in Sircilla.

March 2017
CSP for Sircilla finalised

July 2017
FSTP Proposal submitted

February 2018
Detailed Project Report submitted

May 2018
Work order issued for construction of FSTP

June 2019
Inauguration of the FSTP

May 2019
FSTP Commissioned

May 2018
Ground breaking ceremony at the FSTP site

Features of the FSTP

Nature-based – biological, gravity-based treatment, no chemicals, and minimum electricity (used only for conveyance of the sludge within the treatment plant)

Generates treated water (reusable for non-potable purposes) and compost as end products, reducing the need for Nitrogen and Potassium-enriched chemical fertilisers

No odour; aesthetically-pleasing facility

Low operation and maintenance; no skilled labour required

Safe and Hygienic Operations

Distance from town centre ~4 kms

Robust setup – can handle fluctuating inflow characteristics and quantities from different sources like pits, septic tanks and public toilets

CapEx: INR 1.6 Cr.
OpEx (Plant): INR 10lacs /annum
Collection and Transportation of Faecal Sludge

<table>
<thead>
<tr>
<th>4</th>
<th>4 - 9</th>
<th>9 - 12m³/day*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesspool Operators (privately owned and operated)</td>
<td>No. of trips per week, per operator</td>
<td>Quantity of faecal sludge generated - based on collection</td>
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</tbody>
</table>

*For 2025 - considering scheduled desludging and merger of neighboring villages, collection is expected to increase to 18m³/day.

Containment Systems (as per 2018 Swachh Bharat Mission data)

- **10%** (1,612 containments) Septic tank connected to open drain
- **50%** (8,106 containments) Fully lined tank (sealed) connected to an open drain
- **40%** (6,485 containments) Lined pit with semi-permeable walls and open bottom, no outlet
- **16,203** Total

Treatment Process at the FSTP

[Diagram showing the treatment process at the FSTP]

The FSTP at Sircilla
Operational Model

The O&M of this FSTP, has been tendered out to a service provider – Blue Water Company – a start-up in the FSM service arena. The collection of faecal sludge from households will remain the responsibility of the Municipality through private operators. The cost of operation and maintenance of the FSTP will be borne by the municipality. Sale of by-products, such as compost and pasteurized biosolids will serve as additional sources of revenue for the Municipality.

In collaboration with: