

Demonstration/
Resource Site

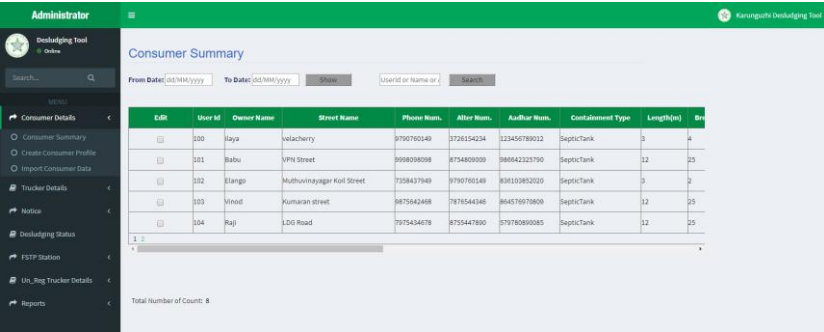
The FSTP site is being developed as an educational and resource centre through development of signages, brochures, and training of personnel.



Students from a local school visit the Karunguzhi Fecal Sludge Treatment Plant

Karunguzhi
Desludging
Tool

An application has been developed to implement a process of scheduled cleaning and emptying of household septic tanks by the Karunguzhi Town Panchayat.



A screenshot of the tool

Capacity
Building

Training for the Town Panchayat officers on FSM and training for desludging operators and masons has been planned.

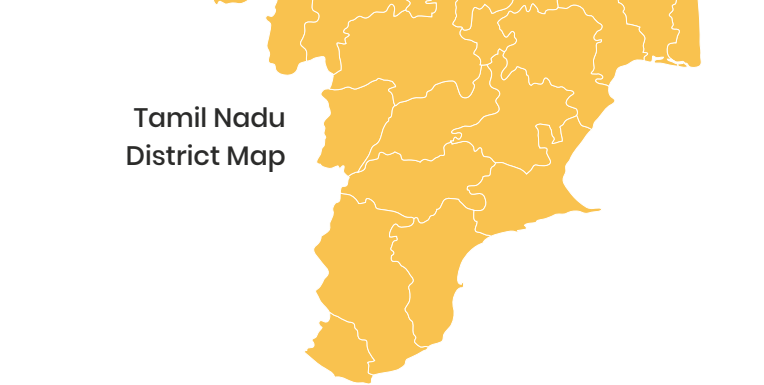


Drawings by school children on the importance of sanitation, World Toilet Day 2018



Sanitation awareness rally, World Toilet Day 2018

Behaviour Change
Communication



Karunguzhi

Kancheepuram District,
Tamil Nadu

Karunguzhi, a Grade I Town Panchayat in Kancheepuram District, Tamil Nadu was identified by the Government of Tamil Nadu to demonstrate septage management. A pilot Fecal Sludge Treatment Plant (FSTP) was constructed in Karunguzhi to serve the needs of Karunguzhi and the adjacent municipality of Maduranthagam.

Population¹
12,485

Area¹
6 sq.km

No. of Wards¹
15

Households¹
3,075

Distance from
Chennai
82.7kms

Households having
on-site sanitation
systems²
2,155

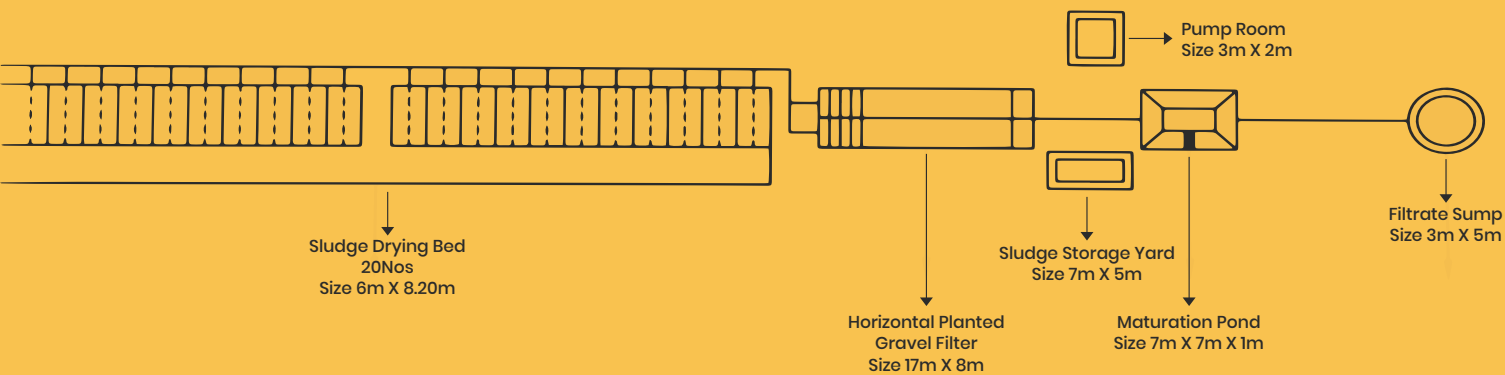
FSTP
operational since²
2017

Quantity of septage
to be treated²
23m³/Day

No. of loads per day²
**6 to 7 loads
of 3m³ each**

Sources: ¹Census 2011; ² Directorate of Town Panchayat

FSTP Layout



FSTP Cost:
Rs. 49 Million
(68,865 USD)

Fecal Sludge Treatment Plant

Tamil Nadu, the most urbanised state in India has 664 Urban Local Bodies out of which 528 are categorised as Town Panchayats. A Town Panchayat is a transitional area, i.e. an area in transition from rural to urban. To ensure 100% urban sanitation coverage, the state has decided to implement Fecal Sludge Management (FSM) in most town panchayats.

As per Census 2011, 40% of the households in Karunguzhi have Individual Household Latrines (IHHLs). A significant number of these households have never emptied their septic/holding tanks and only 3% of the households reported regular desludging. According to government sources, the number of households with IHHL has increased to 90% in 2018 because of the Swachh Bharat Mission (SBM). The first FSTP in the state was constructed in Karunguzhi as a pilot demonstration project.

The FSTP is built on 2 acres and is expected to treat septage collected from about 3,000 households in Karunguzhi, and about 7,000 households in Maduranthagam.

Treatment Process

Septage collected from households or commercial establishments will be processed through the following units of the treatment facility.



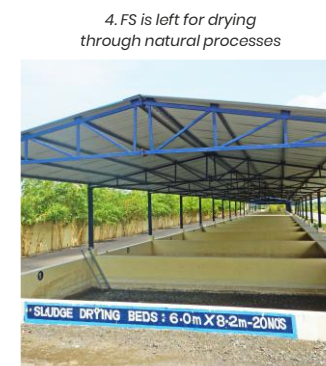
1. Emptying raw Fecal Sludge (FS) into the screen chamber



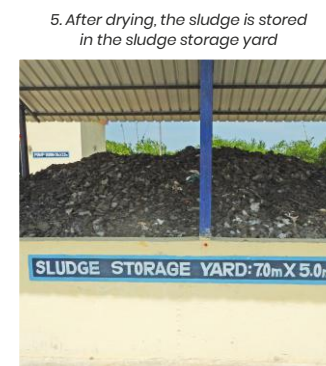
2. Bar screens remove floating debris and other coarse particles



3. FS enters the Sludge Drying Beds (SDBs) & undergoes solid-liquid separation



4. FS is left for drying through natural processes



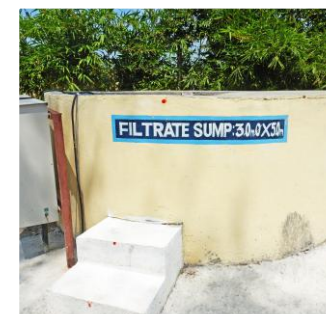
5. After drying, the sludge is stored in the sludge storage yard



6. The filtrate from the SDBs are conveyed to the Horizontal Planted Gravel Filter (HPGF) reducing the organic matter & nutrients



7. Pathogens are reduced through natural processes in the maturation pond



8. The treated effluent is collected in the filtrate sump



9. The treated water is reused for gardening



10. Co-composting of dried sludge with organic municipal solid waste

Re-use

The treated waste water is being reused for gardening within the premises. The dried sludge is being co-composted with organic municipal solid waste.

O&M Arrangement

Various steps are being taken to ensure sustainable Operation and Maintenance (O&M). The responsibility for O&M is being transitioned from a government department to a private player. A comprehensive service level agreement has been prepared to ensure requisite standards and safety of personnel are met.