



DEWATS at Mozari Village (Part-A), Amravati, Maharashtra

PROJECT BRIEF

Villages under the Mozari Development Plan (MDP) at Amravati District in Maharashtra have been guided by Rastrasant Tukdoji Maharaj on the importance of sanitation, liquid & solid waste treatment & cleanliness of villages, in "GramGita". Even today sanitation facilities are still largely neglected in most of the villages.

4 of the 6 villages included in the Mozari Development Plan, located along Surya Ganga River, are polluting the river by discharging their wastewater directly into the river and affecting downstream users. To fulfill RastraSant's dream of clean villages, the Government has taken initiative to start a liquid waste treatment project in the 6 villages included under Mozari Development Plan.

PROJECT OUTCOMES

- To meet wastewater treatment and reuse regulatory norms of the Pollution Control Board
- To protect the Surya Ganga river from direct pollution
- To treat and reuse the wastewater for non-human contact purposes

SYSTEM IN BRIEF

The wastewater is conveyed to treatment unit through open drains. Treatment system consists of 4 modules:

1. **Settler** - a sedimentation tank for retaining articles by settling, over a specific time frame
2. **The Anaerobic Baffled Reactor** - ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
3. **The Anaerobic Filter** - comprises of filter bed for treatment of dissolved organic matter. Wastewater comes in contact with active bacterial mass, which grows on filter material.
4. **Planted Gravel Filter**: is used as tertiary treatment unit where aerobic and facultative degradation of dissolved organic occurs.

SALIENT FEATURES

Source: Domestic sources from Mozari Village (Part –A)

Design Capacity: 80 m³/day

Peak Flow: 10 hours

Influent Quality: BOD: 300 mg/l
COD: 600 mg/l

Effluent Quality: BOD: <30 mg/l
COD: <60mg/l

Efficiency: BOD – 90.00%
COD – 90.00%

Kind of Project: DEWATS for domestic wastewater

Funding Agency: Divisional Commissioner, Amravati GoM

Executed By: Sainath Infraland Pvt. Ltd. Amravati

Supporting Agency: CDD Regional Office, Nagpur

Construction Period : 12 Months

Construction start date : January 2015

Construction end date : December 2015

Current status: Commissioned & operational

Construction Cost: Rs. 47.96 Lakhs

Operation Cost: Rs. 25,000 p.a.

MODULES ADOPTED

Settler & Screen Chamber

Volume: 53.17 m³, 6.0 m³

Area of Construction: 35.63 m², 5.39m²

Anaerobic Baffled Reactor + Anaerobic Filter

Volume: 124.2 m³

Area of Construction: 89.54 m²

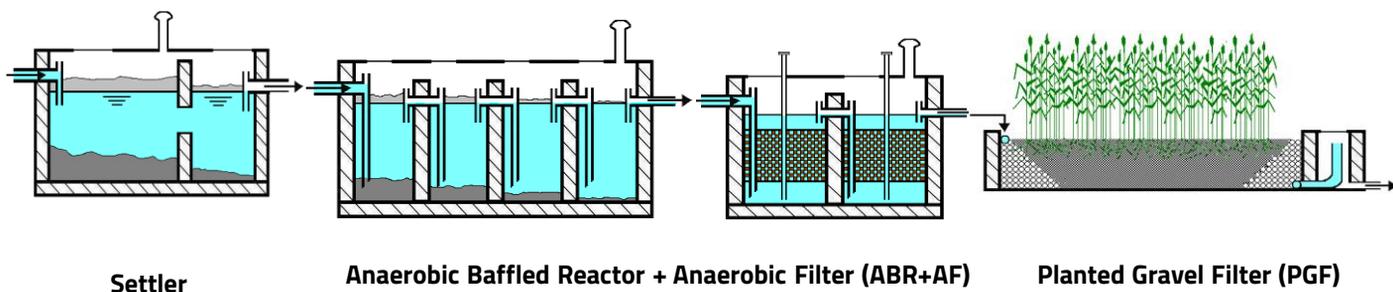
Planted Gravel Filter

Volume: 162 m³

Area of Construction: 279.6 m²

Total Area: 410.16 m²

PROCESS FLOW DIAGRAM



OPERATION AND MAINTENANCE

The wastewater treatment plant is operated and maintained at the village level by the Gram Panchayat.

A regular schedule is followed for maintenance - periodic checking and removal of sludge in the baffle reactor.

Regular harvesting of plants is done in the Planted Gravel Filter. The filter media is washed once every 4-5 years.

The processing of Solid Waste is the responsibility of Gram Panchayat and the Gram Panchayat manages the waste at the village level.

REUSE OPTIONS

Treated wastewater is safely disposed off in a nearby natural stream.

LEARNINGS

- To ensure successful implementation of a decentralized project at the village level, social interventions need to be carried out as well.
- DEWATS is very effective treatment technology for treating greywater at the village level.
- Effective coordination with multiple Government agencies for successful implementation of the project.
- Effective solid waste management system is required for the DEWATS installed for open channel flow.

PERFORMANCE OF DEWATS™

Sample points	COD mg/l	BOD mg/l
Date of sampling: 27/04/2017		
ABR+AF Outlet	355	162
PGF Outlet	80	14