



Fig. 1: Project location

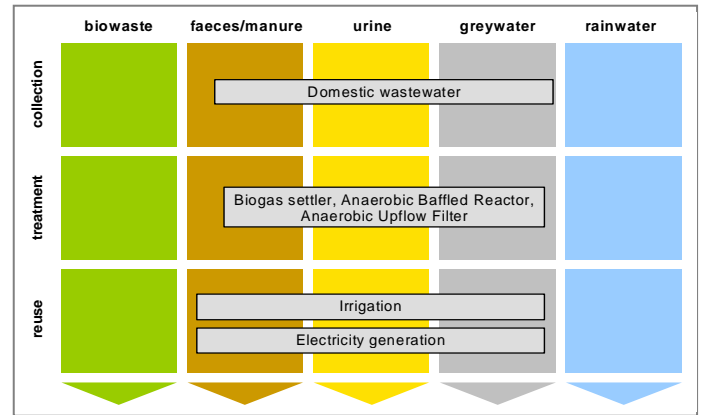


Fig. 2: Applied sanitation components in this project

1 General data

Type of project:

Decentralized wastewater management and re-use concept

Project period:

Start of Planning: 2008

Start of construction: 2009 onwards

Start of operation:

Project scale:

Decentralized wastewater treatment scheme for 300 + 240 households (stage I & II, respectively)

Address of project location:

Madha Housing Society, Badlapur, Dist. Thane, Maharashtra, India

Planning institution:

Ecosan Services Foundation (ESF)

Paradigm Environmental Strategies Ltd.

seecon gmbh

Executing institution:

Kulgaon Badlapur Municipal Council

Supporting agency:

Kulgaon Badlapur Municipal Council

2 Objective and motivation of the project

Inspired by the ongoing ecosan pilot project at “Adarsh Vidyaprasarak Sanstha’s College of Arts & Commerce, Kulgaon” in Badlapur town, the Badlapur Municipal Council has decided to promote decentralized sanitation concepts in Badlapur town on the large-scale. It was decided that 5 existing large-scale septic tanks at Mhada Housing Colony shall be replaced by decentralized wastewater treatment plants allowing for the reuse of the treated water.

3 Location and conditions

Madha Housing Colony is located in Badlapur town, in Maharashtra’s Thane district, about 68 kms from Mumbai, 34 kms from Thane and 10 kms from Ulhasnagar.

The wastewater from about 300 households (i.e. Cluster A) drains to a septic tank for treatment (see Fig. 3). But due to the desolate condition of the existing sewer system, a large amount of the wastewater does not even reach the treatment system. The septic tank itself is in bad condition as well, partially filled with solid waste dumped at the site.

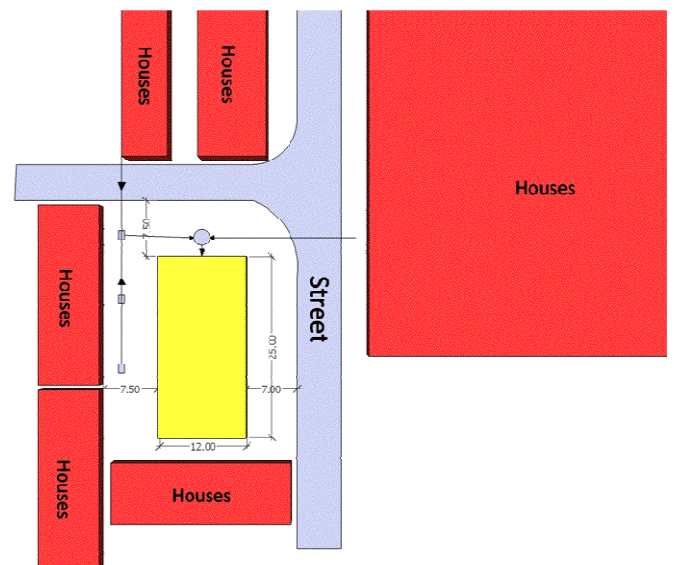


Fig 3: Layout map of „Cluster A“ of Madha Housing Society depicting location of houses and existing septic tank (yellow rectangle) (source: N. Zimmermann)

Therefore the existing sewer lines and septic tanks at Cluster A and B (about 240 households) shall be augmented or replaced by decentralized treatment systems comprising of a settler, an anaerobic baffled reactor and an anaerobic upflow filter respectively. Stage-I of the project foresees replacement of the septic tank at Cluster A with a decentralized treatment system; Stage-II Cluster B shall follow after successful completion of the treatment and re-use system in Cluster A.

4 Project history

The project is in the construction approval stage; structural drawings, layout and bill of quantities (BoQ) are prepared and submitted for sanctioning.

5 Technologies applied

Treatment of domestic wastewater will happen in a decentralized treatment systems comprising a (biogas) settler, an anaerobic baffled reactor and an anaerobic upflow filter (see Fig 4).

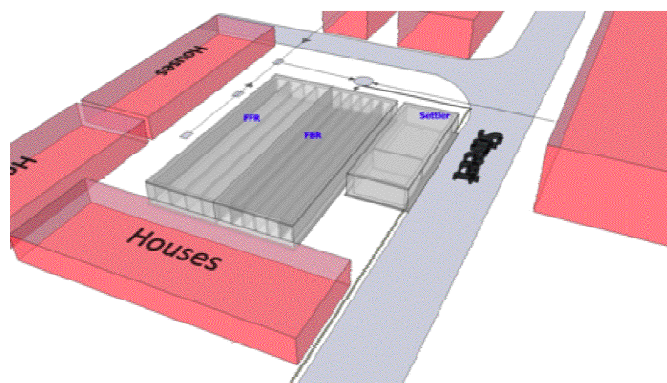


Fig 4: Proposed decentralized wastewater treatment scheme (source: N. Zimmermann)

6 Design information

Daily wastewater production is estimated to be about 200 m³ (i.e. 200,000 litres). The surface area for construction of all treatment steps is approx. 500 m².

7 Type and level of reuse

The treated water shall be reused for irrigation purpose at the site. Biogas produced in the process of anaerobic wastewater treatment will be collected and shall be converted into electricity via a (bio) gas generator; the electricity can be stored in an accumulator (battery) and be used on-site to bridge power cuts.

8 Further project components

(This section will be updated soon)

9 Costs and economics

A cost estimate suggests total project implementation costs of about INR 40 lakhs (i.e. approx. € 65,000).

10 Operation and maintenance

Operation and maintenance of the treatment facilities will be done by the Kulgaon Badlapur Municipal Council.

11 Practical experience and lessons learnt

As the project is in the planning and building permission phase and implementation is expected to happen in the year 2009 only, practical experiences, lessons learned and comments will be provided at a later stage.

12 Sustainability assessment and long-term impacts

With regards to long-term impacts of the project, the main expected impact of the project is improved treatment of the total domestic wastewater and the safe reuse of the treated water for irrigation purposes.

Table 1 depicts a preliminary assessment of the five sustainability criteria for sanitation (according to the SuSanA Vision Document 1) of this project.

Table 1: Qualitative indication of the sustainability of the system. A cross in the respective column shows assessment of the relative sustainability of project (+ means: strong point of project; o means: average strength for this aspect and - means: no emphasis on this aspect for this project).

Sustainability criteria:	collection and transport			treatment			transport and reuse		
	+	o	-	+	o	-	+	o	-
• health and hygiene	X			X			X		
• environmental and natural resources		X		X			X		
• technology and operation	X			X			X		
• finance and economics		X			X			X	
• socio-cultural and institutional		X			X			X	

13 Available documents and references

No documents are available at the moment.

14 Institutions, organisations and contact persons

Project owner:

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Case study of SuSanA projects

Madha Housing Society, Maharashtra,
India

SuSanA 2008

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