

General Information

ENPHO with support from the Mahalaxmi Municipality, BORDA and CDD Society established Faecal Sludge Treatment Plant (FSTP) primarily to treat the faecal sludge (FS) generated from emergency toilets at the camp sites and earthquake affected households. The pre-fabricated treatment plant was constructed within 45 days in 300 m² land area provided by the local NGO, Saligram Orphanage. The treatment plant is based on gravity flow system and have reuse potential in the existing vegetable farmland. Currently the FSTP is also receiving FS from the normal households. The private operators bring FS from neighbouring municipalities, around 10-12 km away.

The promising results of the treatment efficiency, the emerging demand and the self-sustaining potential of this type of treatment plant indicates the relevance and hence the importance of scaling up of these types of systems in the rapid and haphazard urbanization context like of Kathmandu.

Design Description

Design capacity	6 cum. per week
TSS loading	200 kg TS/sqm/year

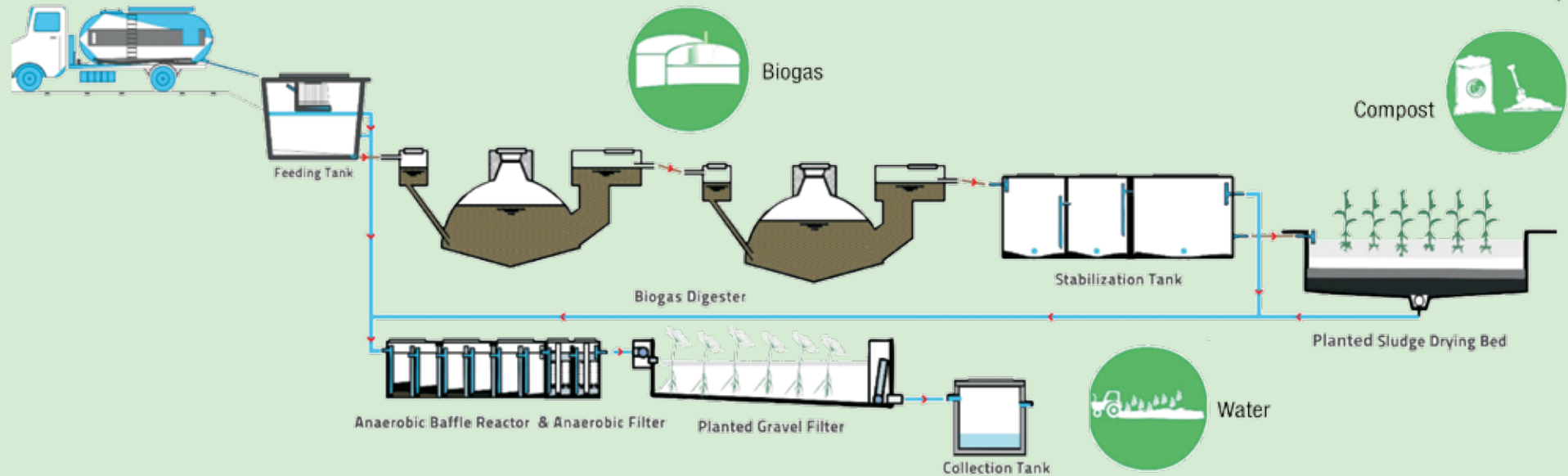
Modules Adopted

Feeding tank	1 unit (4 m ³)
Biogas Digester	2 unit (6 m ³ each)
Stabilization tank	1 unit (10 m ³)
Planted SDB	3 unit (20 m ² each)
Settler, ABR & AF	1 unit (10 m ³)
Planted Gravel Filter	1 unit (15 m ²)
Collection Tank	1 unit (4 m ³)

Faecal Sludge Treatment Plant at Lubhu, Nepal



Treatment Process and Modules



Treatment efficiency and current status

Parameters	Unit	76 days of operation			152 days of operation		
		In	Out	Removal (%)	In	Out	Removal (%)
pH	-	7.9	8.1	-	7.3	7.5	-
Electrical conductivity	µS/cm	11840	5280	55	8370	2590	69
Total Solids	mg/L	5554	1590	71	4911	1064	78
Volatile Solid	mg/L	2206	536	76	2172	319	85
Total Alkanity as CaCO ₃	mg/L	4390	2615	40	3730	319	91
Total Phosphorus	mg/L	107	29	73	93	19	80
Total Nitrogen	mg/L	1384	612	56	1003	275	73
Total Kjeldahl Nitrogen (TKN)	mg/L	1384	612	56	1002	274	73
Chemical Oxygen Demand (COD)	mg/L	5244	492	91	3120	280	91
Potassium (K)	mg/L	299	200	33	407	141	65
Helminthes	Present/ Absent	Absent					
E.coli	CFU/mL	Too Numerous To Count					

