General Information

Gulariya municipality is district headquarter of Bardiya comprising of 48,875 population. The municipality has achieved 100% ODF with every household having individual toilets with on site sanitation facility. A brief survey of the area has shown that the most common type of containment systems are single pit latrines. Households have claimed to de-sludge the containment units over a period of 3-4 years and the average sludge generation estimation is 3 m^3 per day from the households. However there are also no formal desludging service providers in the nearby area. Thus manual emptying of pit by local helmet group, the informal pit emptier, is common practice in the municipality.

Environment and Public Health Organization (ENPHO) in partnership with Practical Action Nepal and Gulariya municipality has established Faecal Sludge Treatment Plant (FSTP) under the SAFA and SWASTHA Gulariya project funded by UKAid. The objective of plant establishment is to demonstrate the proper management of faecal sludge in Mid-Western Region of Nepal. Recently the municipality has processed for procurement of desludging truck. It has been planned to provide desludging service and operate the FSTP through PPP model.

Faecal Sludge Treatment Plant at Gulariya, Bardiya, Nepal

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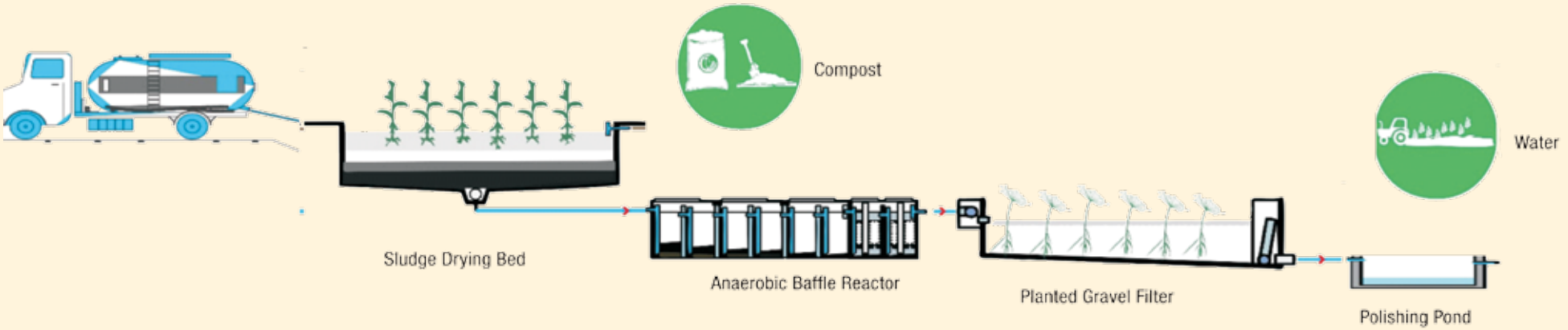
Treatment Process and Modules



Design Consideration and Size	
Design capacity	3 cum. per day
TSS loading	200 kg TS/sqm./year
Sludge strength	2500 mg/l
Modules Adopted	
1) Sludge Drying Beds	**7 Beds**
Surface Area	21 sqm. each (3m x 7m)
Filter Media	Coarse sand (depth 0.5m)
2) Settler + ABR	**1 Unit**
Wastewater flow	3.7 cum./day
Volume of settler	3.7 cum. (1.7m x 1.2m x 1.6m)
Influent/Effluent quality	BOD: 750 / 555 mg/l
Volume of ABR	4.6 cum.
Water Depth	1.60 m
Influent/Effluent quality	BOD: 555 / 162 mg/l
3) Planted Gravel Filter	**1 Bed**
Surface Area	28 sqm. (4m x 7m)
Depth	0.5 m
Filter Media	River Gravel
Effluent quality	BOD: 50 mg/l