

FEASIBLE SANITATION SYSTEMS FOR RURAL AND PERIURBAN AREAS

Rural areas

1. Arborloos.
2. Single-pit VIP latrines.
3. Urine-diverting alternating twin-vault VIV latrines ('eThekwini latrines').
4. Single-pit pour-flush toilets.
5. PF toilets + anaerobic digesters ('biogas toilets').

Greywater disposal/reuse options for 1- 5:

- (a) soakaways, or
 - (b) on-plot irrigation ("greywater gardens").
6. Totally/partially separate EcoSan toilet systems (with reuse of separated flow streams, including any beige waters).
 7. Simplified sewerage may also be feasible.¹

Periurban areas

1. Pour-flush (or low-volume cistern-flush) toilets plus *either* simplified (condominial) sewerage *or* low-cost combined sewerage with *either* discharge into a nearby conventional/trunk sewer *or* local treatment [in both cases wastewater treatment should be 'natural' treatment (i.e., waste stabilization ponds, constructed wetlands) plus aquacultural and/or agricultural reuse (and/or urban green space and/or forest/woodland irrigation)].
2. Alternating twin-pit VIP latrines.
3. Urine-diverting alternating twin-vault VIV latrines ('eThekwini latrines').
4. Alternating twin-pit pour-flush latrines.
5. PF toilets + anaerobic digesters ('biogas toilets').

Greywater disposal options for 2-5:

- (a) soakaway, or
 - (b) greywater drains plus 'natural' treatment and reuse, or
 - (c) stormwater drains modified to convey greywater.
- Options 2- 5 are feasible only if there is sufficient space for them and if they are cheaper than simplified or low-cost combined sewerage.
6. Community-managed sanitation blocks (if simplified or low-cost combined sewerage and individual-household on-site sanitation systems unaffordable).

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¹As used, for example, in rural Ceará, northeast Brazil - see:
<http://www.personal.leeds.ac.uk/~cen6ddm/SimpSew/SimpSewRuralCeara.pdf>.