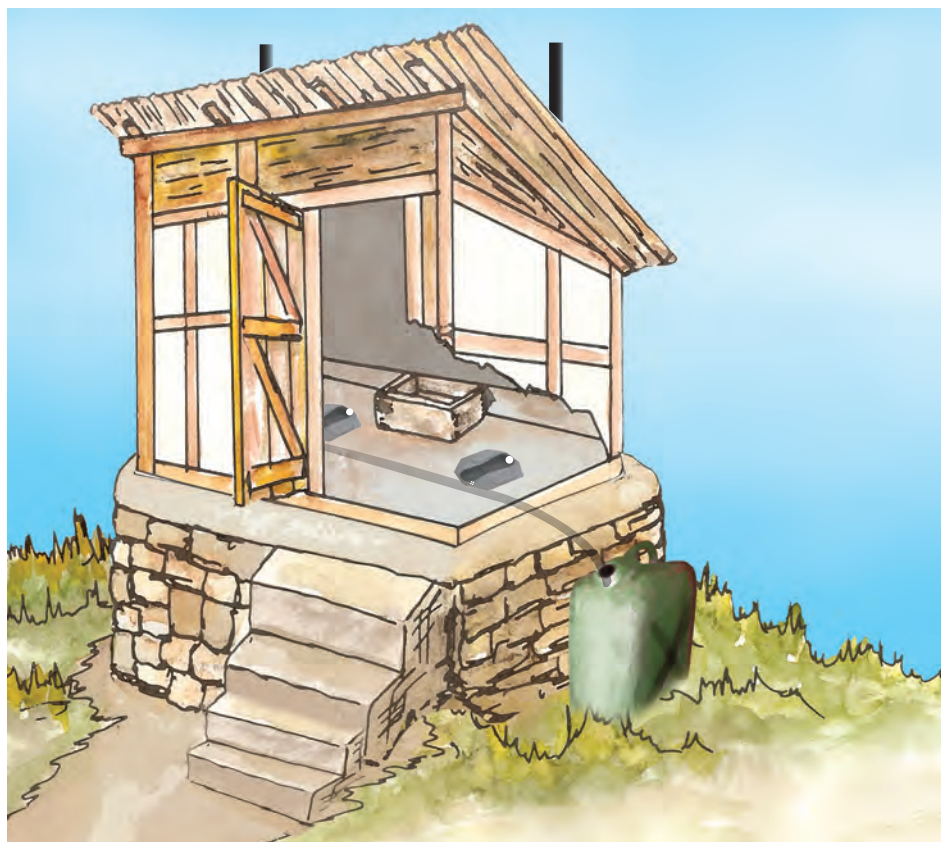




## **5. Composting toilets (ecological sanitation or EcoSan toilet)**



## 5.1 DOUBLE VAULT COMPOST TOILET WITH URINE DIVERSION



### Applicability

- Suitable if the household is interested in using the decomposed faeces and separated the urine as plant fertilisers.
- Does not require water. Therefore suitable for locations where there is scarcity of water or where the water supply is not always dependable.
- Suitable for hard-rock areas and high water-table areas because the whole structure is above ground-level. No risk of ground-water contamination.
- The alternating use of the two pits allows the toilet to be used continuously without any interruption.
- When the first pit becomes full, the drop-hole is closed and sealed and the second pit is put into use. When the second pit becomes full, the emptying hatch of the first pit is dismantled and the decomposed contents can be removed and safely used as a plant fertiliser. The emptying hatch is then re-closed and the pit put back into use while the second pit is sealed.

### Construction

1. **Walls:** Walls can be timber, ekra, bamboo mats or bitumen sheets.
2. **Roof:** The roof cover can be CGI sheet, wooden shingles, bamboo mats or bitumen sheets.
3. **Pits:** The pits can be made of stone masonry with cement mortar 1:6. The emptying hatches should be closed with stone masonry with mud-cement mortar to allow dismantling for removal of the pit contents.
4. **Vent-pipe:** The vent-pipe can be made of PVC or HDPE pipe 90mm diameter. The top of the vent-pipe must be fitted with a fly-screen.
5. **Superstructure:** The superstructure and roof must be firmly secured to the foundation to prevent damage by wind.



## Toilet location, proper use and hygiene

1. This toilet can be located attached to or close by the house.
2. The separated urine is collected in a suitable container such as a 15-20 liters plastic jerry can and used as liquid manure. The container should be emptied every day or two and the urine diluted before use. Alternatively the outlet of the urine pipe can be connected to a soak-pit and the urine dispersed off into the soil.
3. A small amount of wood-ash or other suitable material like sand or saw dust should be added through the drop-hole after each use and the lid for the drop-hole replaced.
4. Once a week, sweep and clean the toilet floor (preferably using disinfectant), and clean the toilet surrounding area. Do not use excess water.
5. Once a month, clean the walls, door and ceiling.
6. Once every six months check the fly-screen on top of the vent-pipe and check the pipe is not obstructed.
7. Repairs should be carried out immediately.
8. The pit must not be used for garbage disposal.

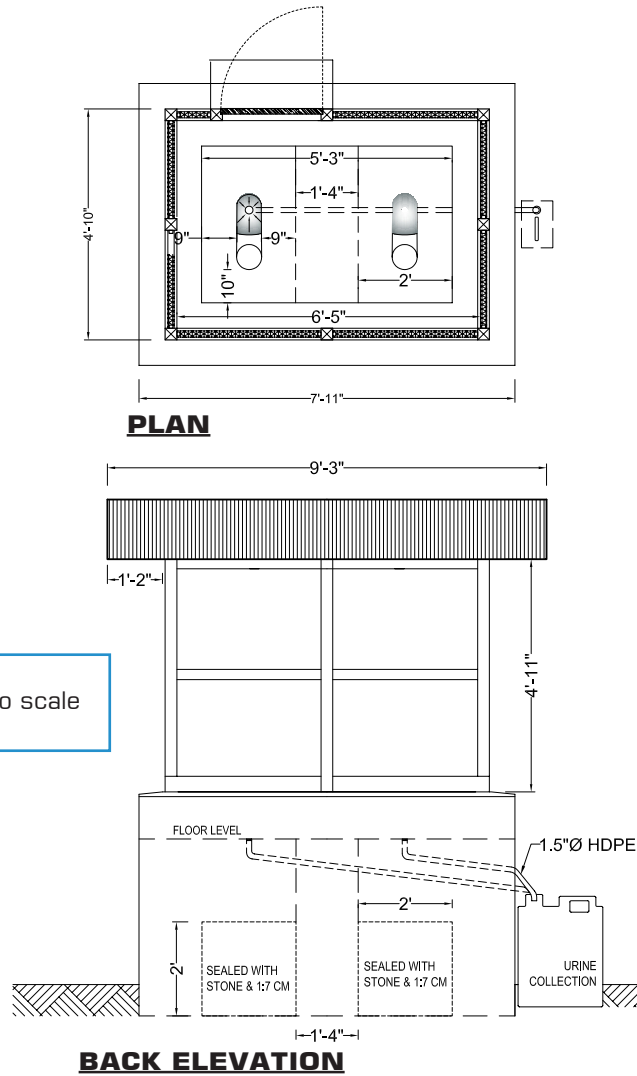
### Approximate material estimate

Sl. No.	Particular	Qty	Unit
1	Cement (50 Kgs bags)	12	bags
2	Eco-san squatting pan	2	No
3	Pipe 4" diameter (10'long)	3	No
4	Sliding bolt	2	No
5	Tower bolt	1	No
6	Handle	1	No
7	Nails	5	Kgs
8	Hinges	3	No
9	Timber	15	cft
10	Sand	80	cft
11	Gravel	30	cft
12	Stone	120	cft
13	Skilled labour	20	work-day
14	Unskilled labour	30	work-day

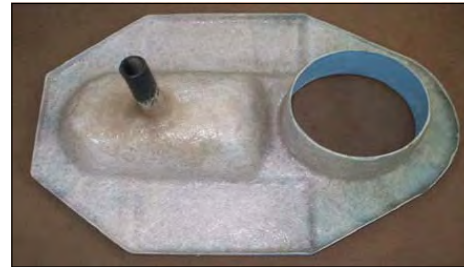
Approximate minimum cost excluding local materials and labour = Nu. 8000/-



## 5.1 Double vault compost toilet with urine diversion



Scale: Not to scale



FIBRE GLASS/ GRC ECOSAN PAN WITH LID

