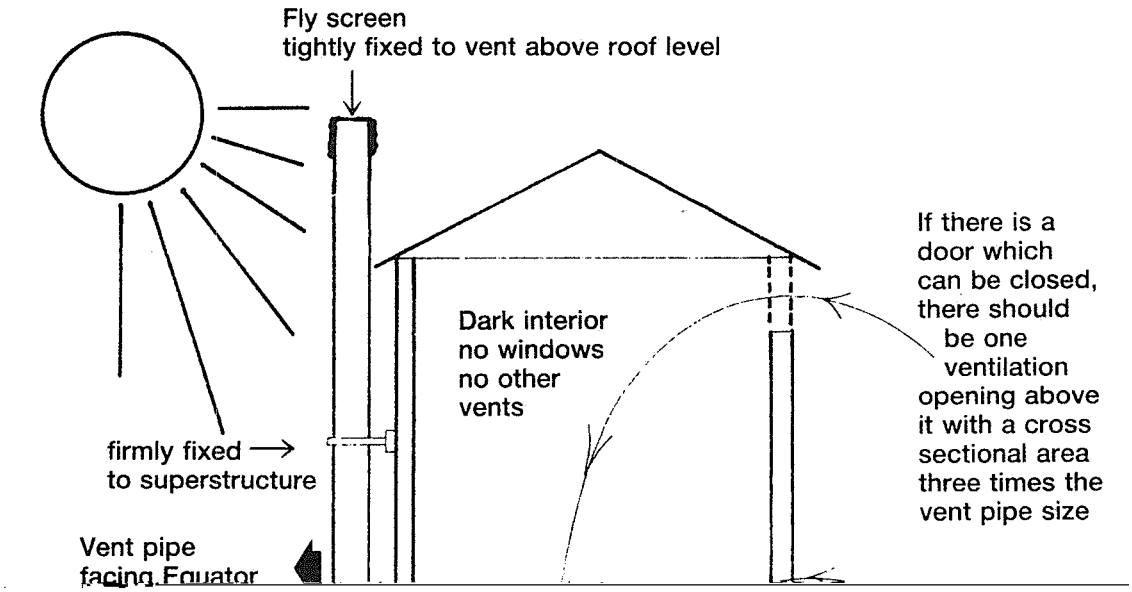
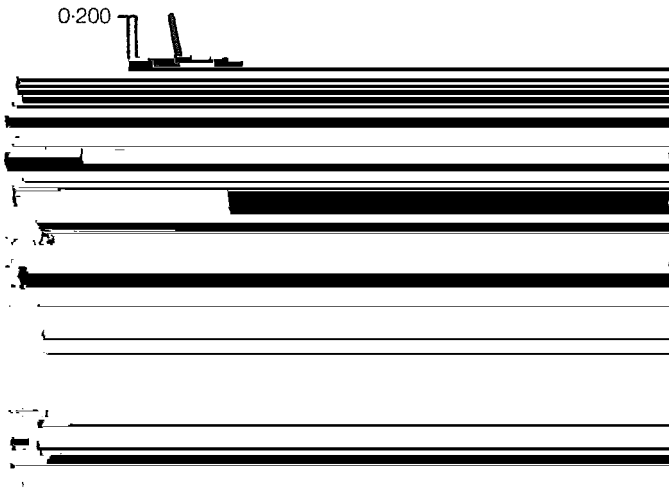

Fly screen
tightly fixed to vent above roof level
If there is a door which can be closed, there should be one ventilation opening above it with a cross sectional area three times the vent pipe size
Dark interior
no windows
no other vents
firmly fixed
to superstructure
Vent pipe
facing Equator

Dry latrines

Pit size

This will depend on how many people are using the latrine, what they use for anal cleansing and the height of the groundwater table.



A pit is considered full when the sludge inside has risen to within 0·5m of the slab. Because the sludge in the pit digests naturally over time, the rate of filling declines the longer the pit is used.

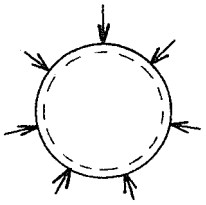
Recommended long-term accumulation rates per person per year:

a) below water level with biodegradable anal cleansing materials – 0·020m3 to 0·040m3

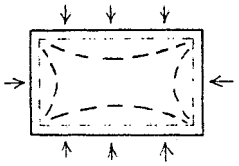
b) dry conditions with biodegradable anal cleansing materials – 0·040m3 to 0·060m3

Pit shapes

Round pits have stronger walls



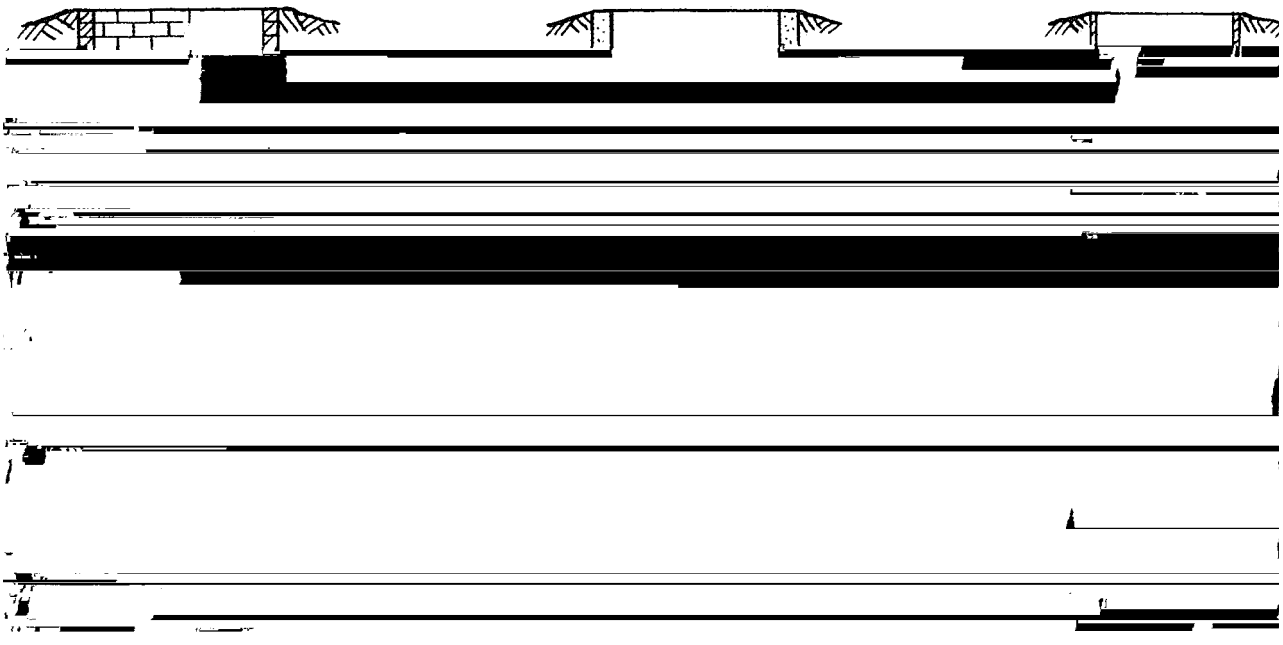
Rectangular pits are easier to dig but there is more danger of collapse.



Deep pits will last longer than shallow pits of similar volume.

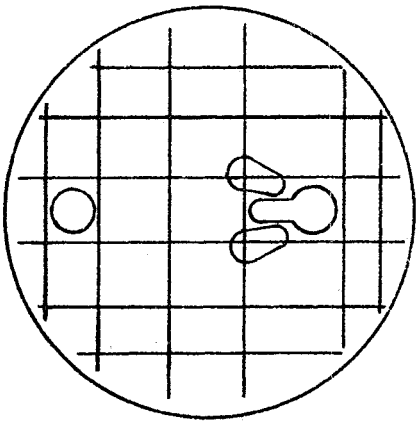
Pit linings

Many different materials can be used depending upon the ground conditions and local availability.



Alternative materials to consider are: ferrocement, masonry (with or without cement mortar), burnt clay ring, stabilised mud block etc.

Examples of latrine slabs



Reinforced Concrete

Concrete mix:

Cement – 24 litres (or 2/3 of 50kg bag)

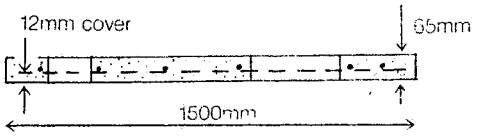
Sand – 48 litres

Gravel – 96 litres (6-20mm size)

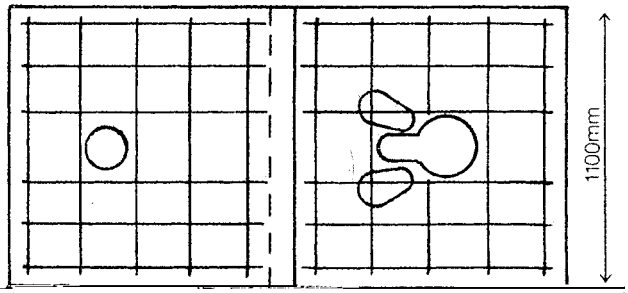
Water – 20 litres

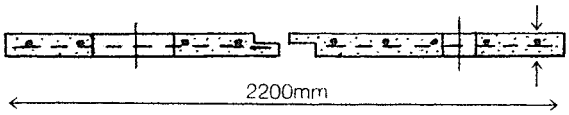
14m of 6mm Rebar

This slab weighs about 275kg and can be rolled into position.



A rectangular slab can be pre-cast in two pieces to reduce the weight approximately 180kg each.





Local Materials

other materials are difficult to acquire.

Unreinforced Concrete

A simple concrete domed slab without reinforcement is another alternative. No vent is needed but a close-fitting plug must be provided to control flies and odour.

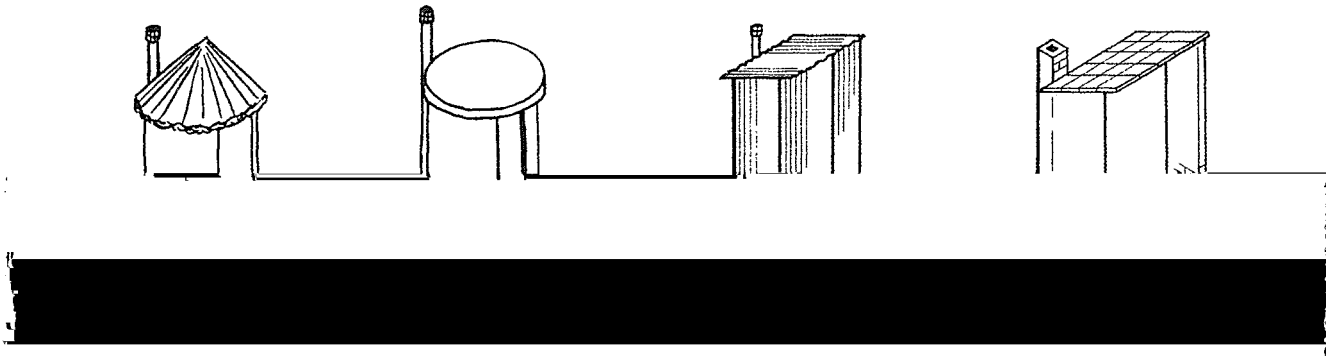
The shape of the slab can be made by mounding up earth within a circular former made from a strip of steel.

This type of slab requires 2/3 of a 50kg bag of cement, and weighs about 275kg.

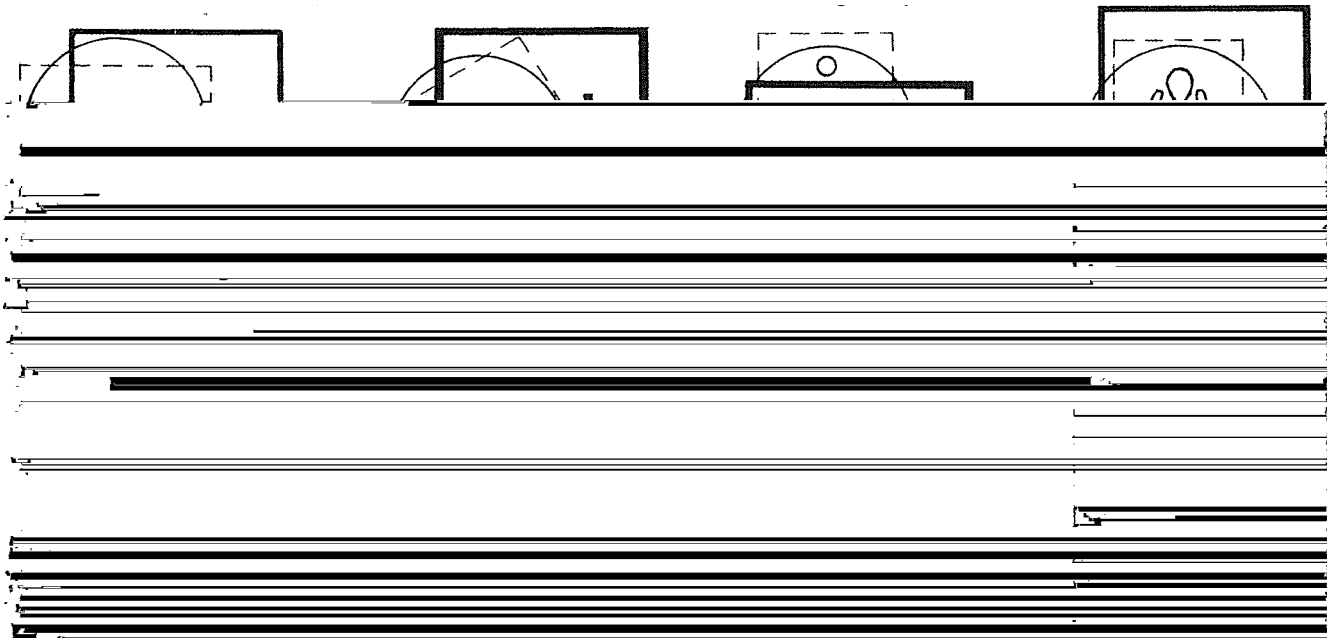
Dry latrines

Superstructures

A superstructure can be built from locally available material eg:



It may be of various shapes and orientation with a round or rectangular pit and slab:



Vents

Brick chimney – constructed as part of the superstructure, either in one corner or centre of external wall. 180mm to 230mm internal diameter.

Cement plastered hessian over chicken wire frame. 200mm to 250mm internal diameter.

Cement plastered split bamboo or reeds. 200mm to 250mm internal diameter.

UV Resistant Plastic or Asbestos Cement Pipe. 100mm to 150mm diameter.

(In each case the larger vent size should be used if mean wind speed is below 3m/sec)

Fly screens

A screen is required at the top of the vent to stop flies entering and escaping from the pit. Flies which are attracted by the light will die as they try to pass the screen and will then fall back into the pit. To minimise losses in the air flow the openings in the screen should not be smaller than 1.2mm by 1.5mm.

Ordinary mosquito wire will corrode very quickly because of gases in the pipe. PVC coated glass fibre, or for extra life, stainless steel should be used.

(For more information on vents and screens read TAG Technical Note No 6, Ryan and Mara, 1981)

For further information:

Wagner, E.G. and Lanoix, J.N. *Excreta disposal for rural areas and small communities,* WHO Monograph 39, Geneva 1958. (Under revision).

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