

## VIP Pit Latrine<sup>1</sup>

A pit latrine is a hand dug pit over which is placed a platform with a hole in it. A person can squat over this hole and allow his stool to fall into the pit. Most have a shelter built around the pit for privacy.

A Pit Latrine is important because:

- Human wastes can cause many diseases.
- Stools in particular spread diseases by getting into drinking water, etc.
- Insects also breed on stools and then walk on food and household items.
- Building and using latrines is the safest way to prevent disease from human wastes.

Lack of use of Latrines is due to:

- Cultural beliefs
- Smell
- Flies
- Unwilling to share with others
- Fear of contact with feces
- Cost

VIP Latrines overcome the 2 disadvantages of traditional latrines of smell and attracting/breeding flies by:

- No door. The house is always dark. There is an entrance foyer with a short hallway. The entrance into the latrine proper is at the end of the foyer. This keeps the latrine dark. There is a vent pipe which eliminates odors from the house and prevents most flies from entering the pit.
- No cover is over the hole to encourage circulation which eliminates odors. Fresh air is drawn into the pit through the seat. The vent pipe is best dark in color and facing north. The sun causes the vent pipe to heat up setting up a convection current from the bottom of the pit upward. This carries the odors upward from the latrine. The odors from the pit pass out through the pipe.
- The top of the vent pipe is fitted with a fly screen. Flies are drawn to the vent pipe because of the
- odor but cannot enter. Any flies drawn into the pit enter through the seat.
- Indirect light is best inside the latrine, therefore windows should not allow direct light by the pit. Whitewashed walls lighten the inside but not with direct light. Flies lay their eggs in the pit. On leaving they are drawn towards the most direct light: the top of the vent pipe. They cannot escape because of the fly screen.

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<sup>1</sup> Source: Health for Life Manual for Primary Health Care at YWAM Perth and World Health Organization.

#### Location of latrine:

- 15-30 meters from sources of drinking water. The actual distance will depend on local conditions, such as soil characteristics, and groundwater depth and flow. When groundwater levels are high, or when the soil is too hard to dig, the pit latrine may have to be raised above ground level.
- 20 meters from nearest house.
- Downwind of living quarters.
- Be oriented north and south, not east and west.
- Vent pipe on north side of building in locations south of the equator and on south side of buildings north of the equator.
- Opening of latrine facing into the wind which allows better air flow.
- No nearby trees downwind of the latrine.
- Privacy.

#### Operation:

Regularly clean the slab with water and disinfectant to remove any excreta and urine. The door must always be closed so that the superstructure remains dark inside. The drop hole should never be covered as this would impede the airflow. Appropriate anal cleaning materials should be available for the latrine users. Non-biodegradable materials, such as stones, glass, plastic, rags, etc. should not be thrown into the pit, as they reduce the effective volume of the pit and hinder mechanical emptying.

Every month, the floor slab should be checked for cracks, and the vent pipe and fly screen inspected for corrosion or damage, and repaired if necessary. The superstructure may also need to be repaired (especially light leaks). Rainwater should drain away from the latrine. When the contents of the pit are 0.5 m below the slab, a new pit should be dug and the old one covered with soil. Alternatively, the pit could be emptied mechanically.

If several households use the latrine, arrangements have to be made to rotate the cleaning tasks, to avoid social conflicts. If pits are not emptied mechanically, they can be emptied manually, but only after their contents have been left to decompose for about two years. Otherwise, new pits must be dug when a pit is full.

#### Potential problems:

- The quality of the floor slab is poor because inappropriate materials were used in its construction, or because the concrete was not properly cured.
- Inferior quality fly screens are easily damaged by the effects of solar radiation and foul gases;
- Badly-sited latrines can get flooded or undermined.
- Children may be afraid to use the latrine because of the dark, or out of fear of falling into the pit (special children's latrines may be constructed with a smaller drop hole).

- If the superstructure allows too much light to come in, flies will be attracted to the light coming through the squat hole and may fly out into the superstructure, which can jeopardize the whole VIP concept.
- In latrines that rely on solar radiation for the air flow in the vent pipe, rather than on wind, odour problems may occur during the night and early morning hours.
- In hard soils it may be impossible to dig a proper pit.
- Pits should preferably not reach the groundwater level and must be 15–30 m from ground and surface water sources.
- VIP latrines do not prevent mosquitoes from breeding in the pits.
- VIP latrines cost more to construct than simple pit latrines and the community may not be able to bear the higher costs.
- Cultural resistance against handling human waste may prevent households from emptying their own pit latrines, but usually local labour can be hired to do the job.

