

## “Ventilated” Long Drop Design

### Ventilated improved pit

The ventilated improved pit latrine (VIP) is a pit latrine with a black pipe (vent pipe) fitted to the pit and a screen (flyscreen) at the top outlet of the pipe. VIP latrines are an improvement to overcome the disadvantages of simple pit latrines, e.g. fly and mosquito nuisance and unpleasant odours. The smell is carried upwards by the chimney effect and flies are prevented from leaving the pit and spreading disease. Despite their simplicity, well-designed single VIPs can be completely smell free, and more pleasant to use than some other water-based technologies. Flies that hatch in the pit are attracted to the light at the top of the ventilation pipe. When they fly towards the light and try to escape, they are trapped by the flyscreen and die. The ventilation also allows odours to escape and minimizes the attraction for flies.

To ensure that there is a flow of air through the latrine, there must be adequate ventilation of the superstructure. This is usually achieved by leaving openings above and below the door, or by constructing a spiral wall without a door. Covering the faeces with an absorbent decreases smell and discourages flies. These may include soil, sawdust, ash, or lime, among others. In developing countries, the use of absorbents in pit toilets is not commonly practiced.

The vent pipe should have an internal diameter of at least 110 mm (4¼") and reach more than 300 mm (12") above the highest point of the toilet superstructure. Typically, the pit is at least 3 metres (10') deep and 1 to 1.5 metres (3' to 5') in diameter, depending on the number of users. Deep pits can last up to 20 or more years.

