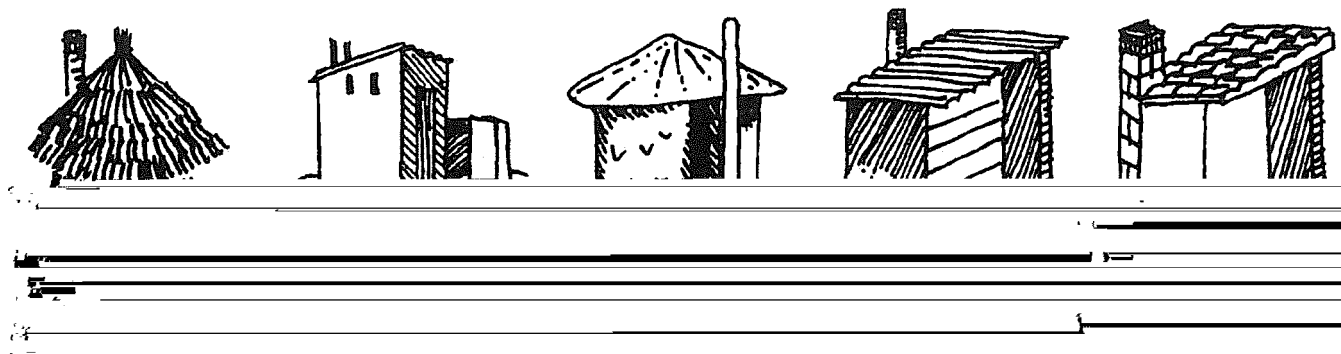


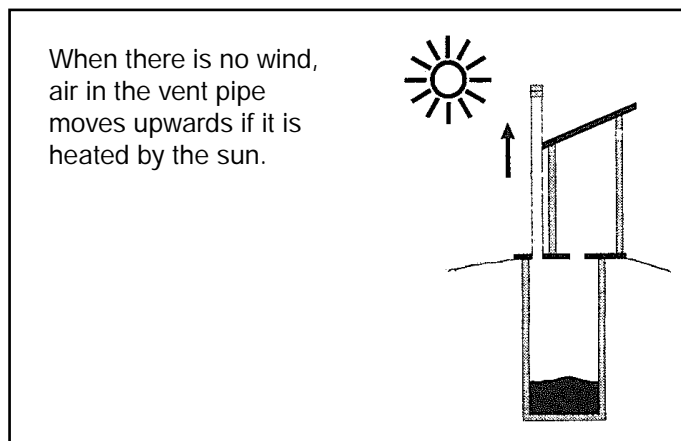
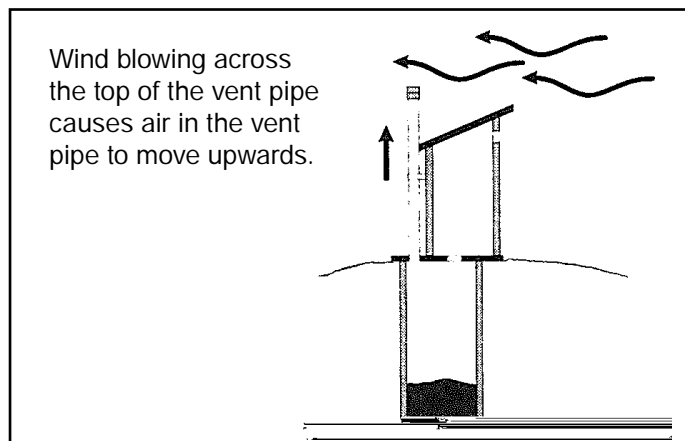
# 31. Latrine vent pipes

Ventilated improved pit (VIP) latrines are recommended for unsewered communities in Africa and elsewhere - wherever solid waste material is used for anal cleansing.

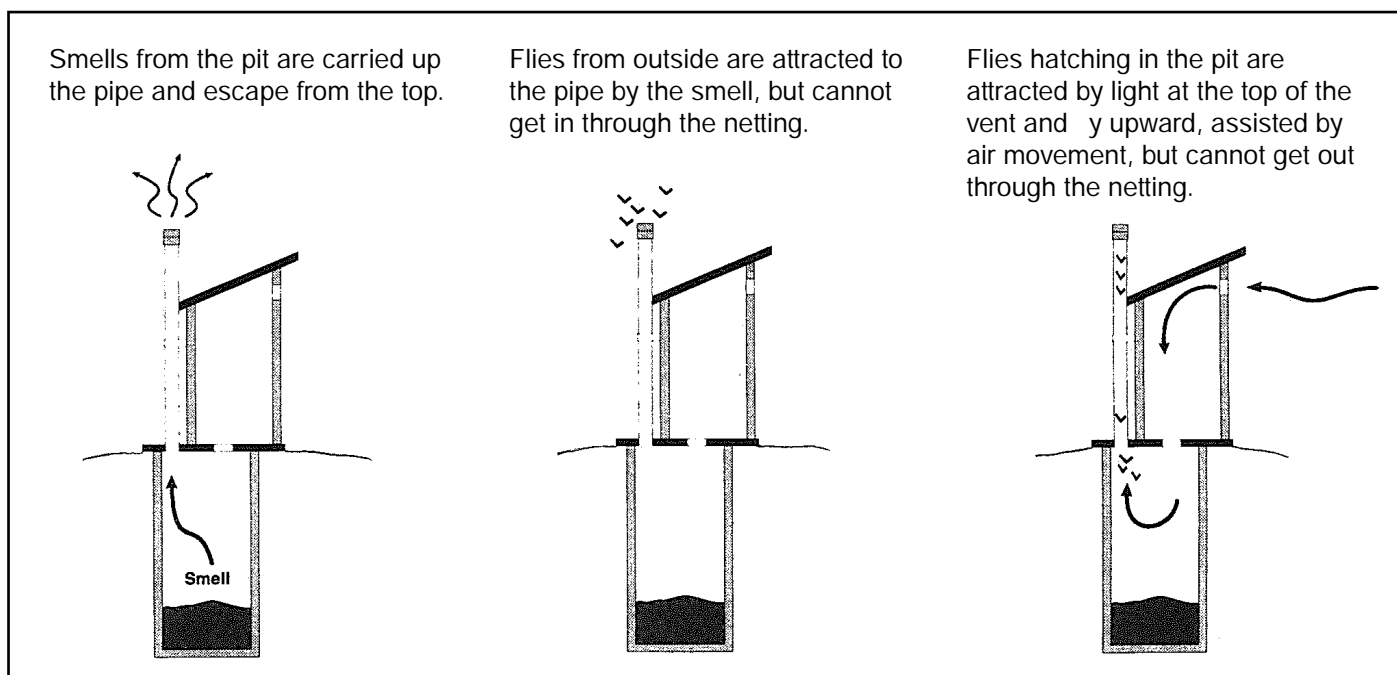
VIP latrines take various forms:



Ventilation is provided in VIP's by a vent pipe with yproof netting at the top.



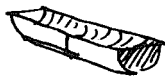
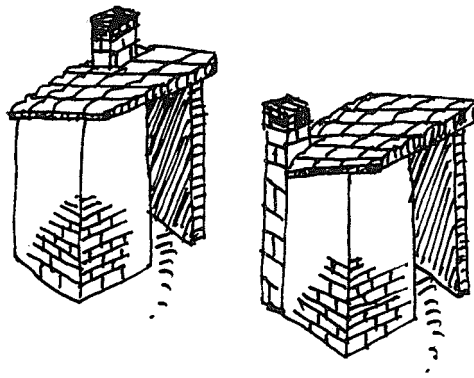
The upward movement of air in the vent pipe reduces nuisance from smells and insects.



## Materials for vent pipes

Asbestos cement  
pipes  
PVC and uPVC pipes

PVC pipes should preferably ha a

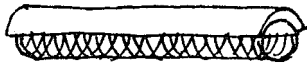


## More about locally-made vent pipes

### Plastered matting

Straight reeds, bamboo or wood poles about 10mm diameter are tied together with wire or string to make a mat 2.5m long by 1m wide.

- Roll the mat around green saplings to make a tube about 300mm diameter.
- Fix flyproof netting to one end.
- Lay on ground and plaster half the tube with a layer of cement mortar (one part cement, three parts sand, not too much water). Keep moist for four days, then allow to dry.
- Fix pipe to latrine wall, plastered part against wall.
- Plaster the other half.



### Anthill soil

- Knead anthill soil (like kneading dough to make bread).
- Make into large sausages about 100mm diameter and 900mm long.
- Make a sausage into a ring, which will be about 200mm inside diameter.
- Place ring in hole left in pit slab for vent pipe
- Drive short lengths of reed or thin bamboo vertically into the ring.
- Add another ring on top. Drive in reed or bamboo and continue to height of 2.5m.
- Fix flyproof netting at top.
- Smooth outside of pipe
- Apply a thin layer of cement mortar (1 part cement, 6 parts sand) to outside.



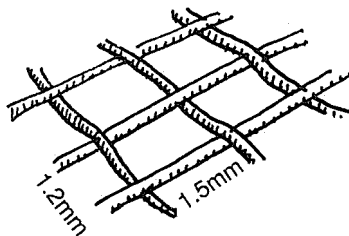
## Flyproof netting

### Size of mesh

The best size of mesh is 1.5mm x 1.2mm

Larger holes allow flies to get through.

Smaller holes restrict airflow.



The best material for flyproof netting is **PVC-coated glass fibre**, which lasts more than five years.

Cheaper material may fail because of corrosion and attacks by birds and small animals.

Stainless steel lasts longer but is very expensive.

### Fixing flyproof netting

For PVC or AC pipes sandpaper top of pipe so there is no sharp edge that will cut the netting

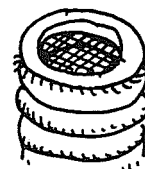
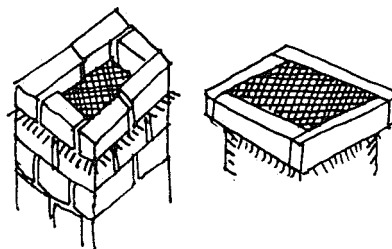
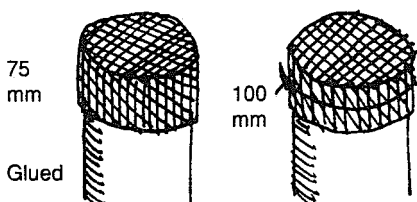
For bricks or blocks either build in or fix with pieces of wood.

For plastered sackcloth, sew netting to sackcloth before plastering

Fix to pipe with spray resin glue or tie round with galvanized wire or nylon string.

For plastered matting fix netting to matting tube with galvanized wire or nylon string before plastering

For anthill soil fix netting below the top 'sausage'



If the pit extends behind the