A CASE STUDY

RURAL SANITATION BACKLOG IN
CHRIS HANI DISTRICT MUNICIPALITY,
SOUTH AFRICA

How full pits are dealt with
Categories of Municipalities

- 8 Metropolitan
- 44 District
- 283 Local
The Chris Hani District Municipality
Challenges

- Number of families with no basic sanitation?
- Where are they?
- Use Ventilated Improved Pit-latrines?
- What to do when the pit is full?
Aerial view of typical rural village
Homesteads spread around
How big is rural sanitation backlog in the CHDM?

- 94,000 families
- 914 villages
- Village size range: a few to 1,200 families
- Average village size – 100 families
Social Survey

- Groundwater Protocol
- VIPs not always possible
- Systems different from neighbour villages
- Time line
Constraints to rural sanitation

• Only sufficient water for drinking

• Ventilated Improved Pit-latrines (VIPs) - best option

• Full pits

• Social acceptability
Are sites suitable for VIPs?

• Geo-hydrologists – Groundwater Protocol

• Groundwater must be protected

• Groundwater - rural drinking water
Outhouses will transmit pollution three meters (10 feet) vertically and one meter (3 feet) laterally, in dry soil.
Elements of Ventilated Improved Pit-latrines

• Top structure
  • Slab
  • Pit
Pit size?

$3 \text{ m}^3$ with 500mm free-board
Not possible to dig pit due to:

- Rock
- Clay
- High water table

Use above-ground facility

- Urine diversion
- Composting toilet
What happens when the pit is full?

• Dig a new pit

• Move the top structure
Conclusion

• Logistics
• Groundwater pollution
• Technical
• Social
• Operation and maintenance

• MOVE TOP STRUCTURE RATHER THAN EMPTY PIT!!!