4TH WORLD WATER FORUM
Ecological sanitation in eThekwini (Durban), South Africa

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A city of contrasts
The urban edge
The sanitation challenge in 2000

• 200 000 families without basic sanitation
• 100 000 pit toilets filling or full
• No policy on basic sanitation for poor communities
• Health problems within these communities
Pit emptying challenges

- Many pits unlined and toilets subject to catastrophic collapse
- Pits constructed in inaccessible locations
- Pit contents not homogeneous
- Highly variable pit sizes
- High cost of emptying
Emptying the 100 000 existing pits

- The high cost ( $100 to $150 per pit) of emptying single pit toilets individually, made this approach uneconomic – given the cost of constructing new single VIP type toilets ( $200 to $400)
- A research project was initiated to determine how best to empty these toilets
- A solution that empties the pits in a 5 year cycle was chosen, to achieve the $100 per pit emptying cost. (excludes disposal cost)
Requirements for sanitation solution beyond the urban edge

- Cost competitive to construct and maintain
- Able to be emptied by households at an affordable cost
- Is environmentally sustainable
- Uses minimum amounts of water, if at all
- Is accepted by the communities who will use the technology
The long term solution

• Double pit urine diversion toilets
• Overall construction cost of approximately $600 per toilet
• Emptying is the responsibility of the household, with entrepreneurs already offering their services at $6 per chamber emptied
• Matched to level of water service
• Linked to extensive community education
UD toilet
Conclusion

• Over 40 000 of the UD type toilets have been constructed since 2003.
• Follow-up visits show that communities generally accept the technology and are capable of maintaining it
• The solution is affordable and appears to be sustainable - economically, environmentally and socially
• Many challenges remain!