



Acceptance, use and maintenance of urine diversion dry toilet (UDDT) at eThekweni Municipality

Nosipho Mkhize, Myra Taylor, Kai M. Udert, Teddy Gounden, Chris A. Buckley





Background

- VUNA: Socio-economic boundaries
- Objectives:
 - (1) Explore the use, acceptance and maintenance of the UDDT
 - (2) Education programme to enhance the level of acceptance, use and maintenance of the UDDT.

Methods

- Mixed methods: qualitative and quantitative
- 3 rural areas situated at East, North and South of Durban in eThekweni
- Respondents age: 22 -63 years

Quantitative

- *40 households per area
- random selection
- *Questionnaire
- *Profiling

Qualitative

- *Homogenous groups
(maintainer, non-
maintainer, non-user)
- * 12 focus group discussions
- *121 participants

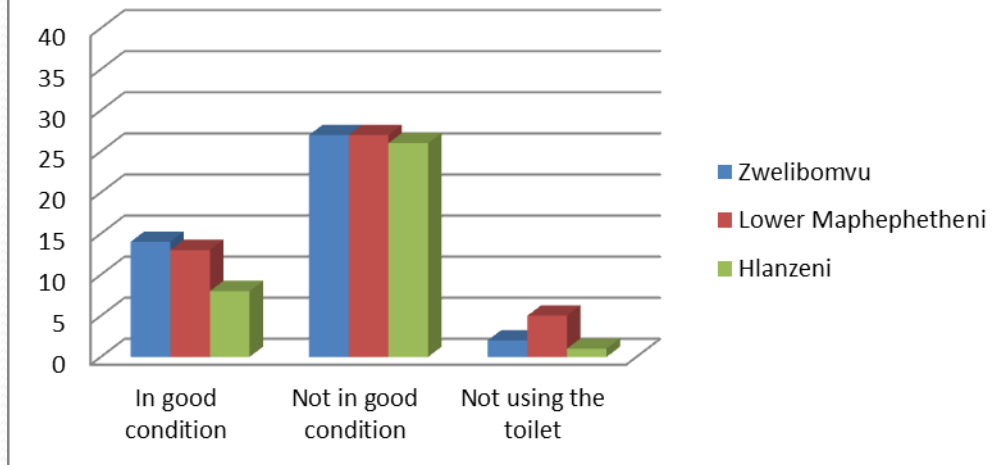
Qualitative

- * Purposive sampling
- *25 key informants
 - ward councillors
 - ward committee
 - Previous local facilitators

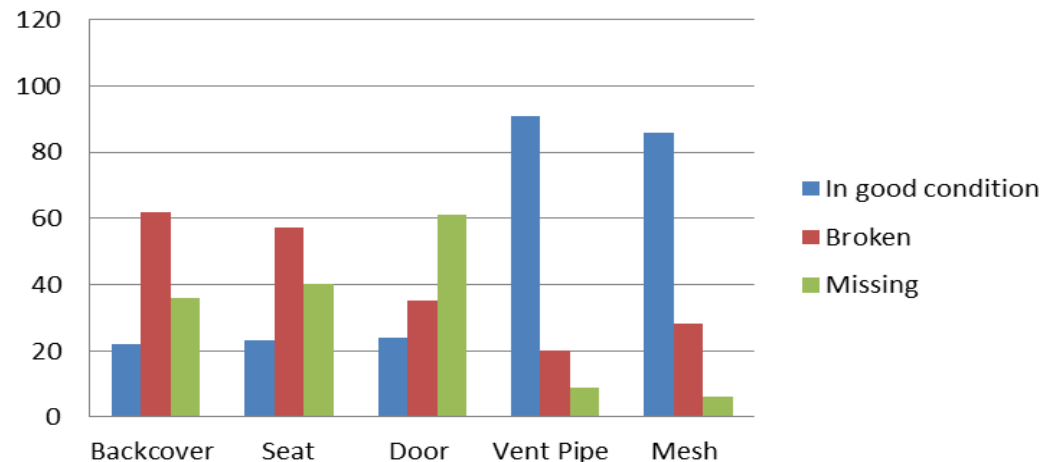
Quantitative results



Condition of the UDDT



Condition of UDDT Items



Qualitative results

- Acceptance:
 - acceptance low
 - aspire for flush toilet
 - role models
 - youth more accepting
 - silence about UDDT
 - mismatch of benefits



Results cont.

➤ Use:

-97% are using the
UDDT

- children under 5yrs
discouraged to use
UDDT

*“I tell my grandchildren to use the
open space by our house to
defecate...I’m scared they might
fall inside” (female focus group
member)*



Results cont.

➤ Maintenance:

- repairing
- emptying
- role of children

➤ Design

- not accustomed to needs and reality



*“it’s (UDDT) too technical, having to make sure that the urine goes to which hole, it takes the **comfort** and **peace** that one should get when using a toilet” (Ward councillor)*

Different traits of maintainers and non-maintainers

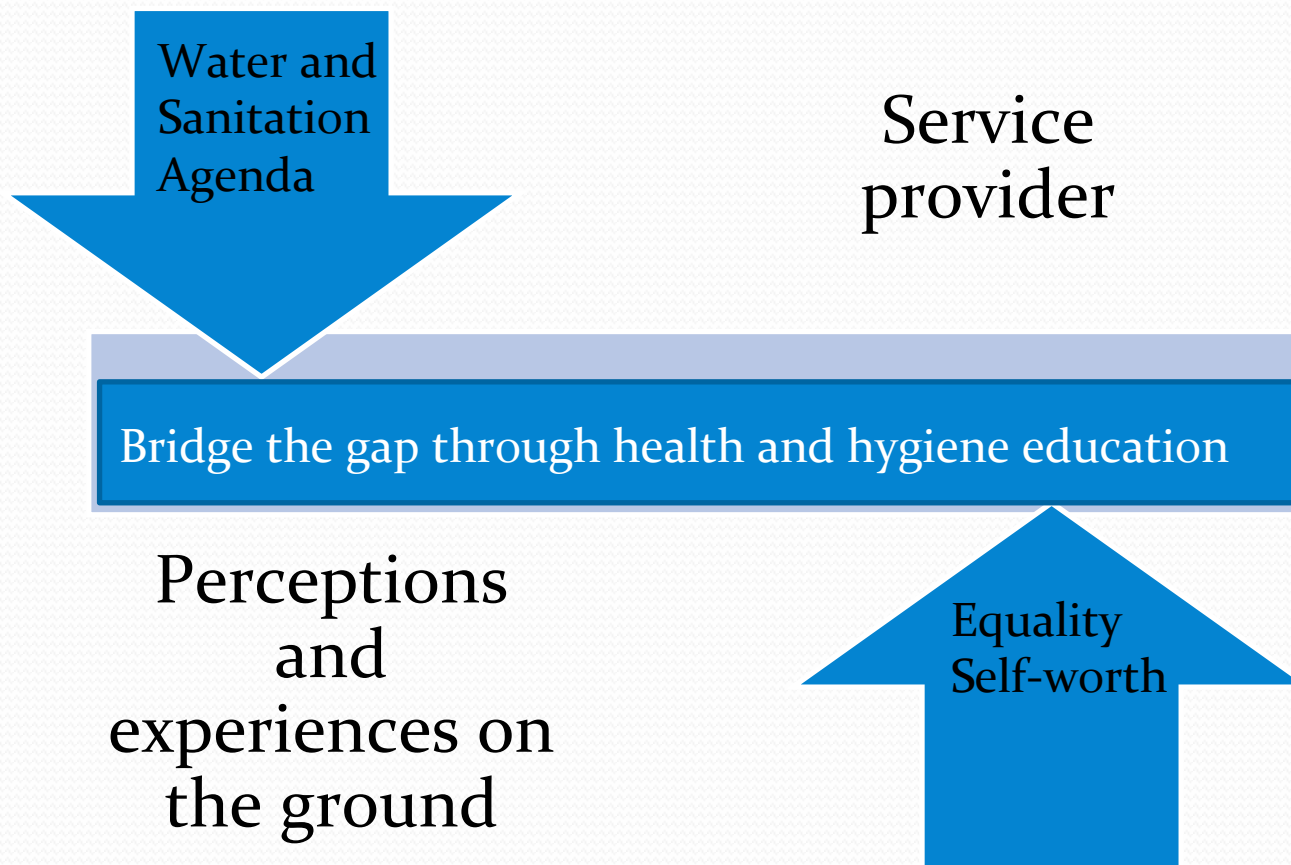
Maintainers

- small family
- information more detailed
- more children
- teamwork
- recipient- middle aged woman

Non-maintainers

- woman exploitation and undermining
- drinkers in the family
- lack information
- recipient migrated or deceased

Development of H&H education

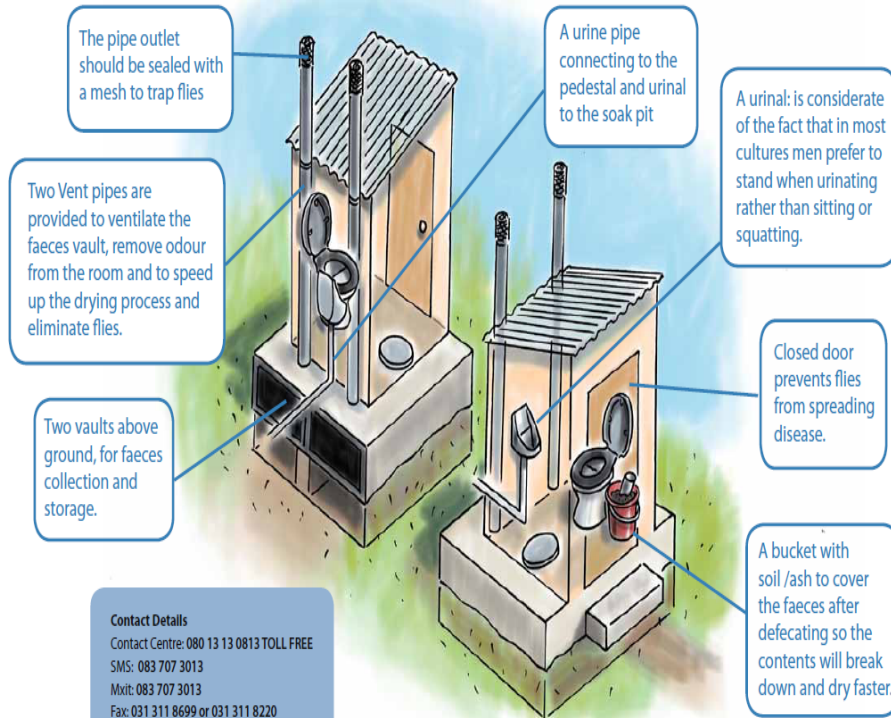


Issues addressed by education



- **Issues addressed by education**
- **why UDDT?**
- **benefits of UDDT**
- **function and importance of UDDT items**
- **cycle of faecal-oral contamination**
- **hand washing**

UDDT PHYSICAL STRUCTURE AND IMPORTANCE OF EACH ITEM



Contact Details
 Contact Centre: 080 13 13 0813 TOLL FREE
 SMS: 083 707 3013
 Mxit: 083 707 3013
 Fax: 031 311 8699 or 031 311 8220
 Email: eservices@durban.gov.za
 Website: www.durban.gov.za

WHAT IS A URINE DIVERSION DRY TOILET (UDDT)?

- It is a toilet that separates urine, and the faeces collects in a vault. The importance of separating urine and faeces is to (1) reduce odour (2) enable fast drying of faeces which makes handling of faeces more simple and hygienic (3) reduce environmental impacts; and (4) allow for the recovery of urine, which can be reused as fertiliser.
- The excreta inside the UDDT vault are dried with the help of natural evaporation and ventilation. The toilet requires no water for flushing. UDDTs can be successfully used in all climatic conditions and are most advantageous in arid climates where water is scarce and faeces can be effectively dried.

IN WHICH AREAS ARE THEY MOSTLY SUITABLE?

- Applications are typically found where connection to a sewer based sanitation system is not available or areas where water supplies are limited

QUESTION: Are UDDTs only found in South Africa?

ANSWER: No, but in many other countries in Africa and abroad



BENEFITS OF UDDT

- Safe on-site disposal of human waste
- No new pits required to be dug when full
- No need to move top structure when full
- UDDTs are also more resource efficient due to the reuse potential of the product

- UDDTs are waterless systems that are particularly suitable for conditions where water is scarce or expensive. It protects ground water.
- A double-vault UDDT can transform infectious faeces into a safe product ONLY if storage times are respected and the UDDT is operated correctly.
- Odourless and no flies which eliminates transmission of diseases.
- Decomposed contents are safer to handle when removing
- Waste decomposes before being exposed to surrounding soil which minimises water pollution since the faeces are safely contained in a sealed vault.

HOW DO I/WE MAINTAIN THE UDDT?

- Ensure that when sitting on the seat the urine goes in front and faecal matter drops into the back hole. Men use the urinal that is connected to the soak away pit.
- Pour soil / ash every time after defecating.
- Ensure that the lid is closed after defecation.
- **Remember to wash your hands with soap!**
- Use damp cloth when cleaning the floor or the seat to ensure that no water enters into the faecal vault.
- **Remember to wash your hands with soap!**
- When the first vault is full, move the toilet pedestal and place it over the second vault. By the time the second vault is full the waste in the first vault would be dry and safe to remove using tools provided. **Remember to wash your hands with soap!**
- Do not throw any solid waste inside the toilet.
- Do not pour detergents inside the toilet.

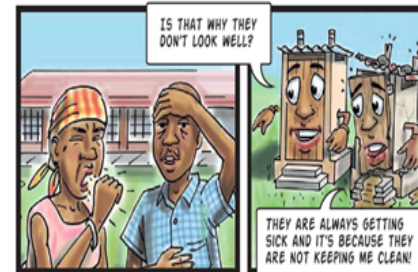
NOTE: Children need to be taught and be monitored by an adult on how to use the UDDT because it is important that (a) faeces do not fall into and clog the urine collection area in the front, and that (b) urine does not splash down into the dry area of the toilet.



WATER AND SANITATION



WHAT IS A UDDT TOILET?



Contact Details



Health and hygiene education

- 2 areas
- 1114 individuals reached



50 households

- 414
- Weekends
- Saturdays



8 schools

- 583
- 4 primary (grd 5 & 7)
- 4 high school (grd 8 & 9)



9 groups

- 117
- Community care givers, women's group and youth groups

Expectations and future target

Expected results

- more informed
- change of perception
- more children to use toilet
 - minimise open defaecation
- clean the toilet regularly
- regular hand washing after toilet use

Target group

- children
- teachers
- youth
- elders
- leaders
- influential individuals and groups

Summary

- poor use and maintenance of UDDT defeating the purpose
- comprehensive health and hygiene education is vital
 - informed by community
 - the EWS to provide regular updates
 - impart knowledge to local leaders
 - target everyone
 - use community health givers
- evaluate

Acknowledgements

BILL & MELINDA
GATES foundation



eawag
aquatic research ooo



Funding

eThekweni Water and Sanitation

University of KwaZulu-Natal
School of Nursing and Public Health
School of Agriculture
Pollution Research Group

Swiss Federal Institute of
Aquatic Science and Technology

Ngiyabonga!



Thank You
For your attention!



www.vuna.ch